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**NORTHERN CHEYENNE TRIBE OF THE
NORTHERN CHEYENNE INDIAN RESERVATION**

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NORTHERN CHEYENNE TRIBE OF THE NORTHERN CHEYENNE INDIAN RESERVATION

FINAL FINDINGS OF FACT

I. BACKGROUND

A. Introduction

This document contains the factual findings which the United States Environmental Protection Agency (EPA) considers to be relevant to EPA's decision approval of the Northern Cheyenne Tribe's (Tribe) application to be treated in a similar manner as a state (TAS) for purposes of establishing water quality standards and issuing certifications under Clean Water Act (CWA) §§ 303(c) and 401, respectively. Specifically, these findings provide the factual basis for EPA's determination that the Tribe has demonstrated inherent Tribal authority to administer the CWA §§ 303(c) and 401 programs for all surface waters within the borders of the Northern Cheyenne Reservation as established by Executive Orders of November 28, 1884 and March 19, 1900.

In particular, this document sets forth the findings of fact EPA considers relevant to EPA's determination that the Tribe has demonstrated inherent Tribal authority under the test established in *Montana v. United States*, 450 U.S. 544 (1981), to administer the CWA §§ 303(c) and 401 programs for all surface waters within the borders of the Northern Cheyenne Reservation as established by Executive Orders of November 28, 1884 and March 19, 1900. Specifically, the remaining section of Part I presents factual findings describing the water resources of the Northern Cheyenne Reservation over which the Tribe asserts authority. Part II of the document contains the factual findings which support EPA's determination that nonmember activities which occur or may occur on the Northern Cheyenne Reservation can result in the degradation of water quality and thereby threaten or have direct effects on the political integrity, economic security, health or welfare of the Tribe that are serious and substantial. Part II is divided into two sections. The first section provides findings of fact relating to the types of nonmember activities which occur or may occur on the Reservation and the nature of actual and potential impacts to water quality that have resulted or may result from such activities. The second section contains findings of fact relating to the Tribe's interests in, and uses of, the Reservation waters and the manner in which degraded water quality can threaten or have direct effects on the political integrity, economic security, health or welfare of the Tribe that are serious and substantial.

B. Water Resources on the Northern Cheyenne Indian Reservation.

The Northern Cheyenne Indian Reservation contains two major drainages: the Tongue River drainage on the east and the Rosebud Creek drainage on the west. There are many perennial, intermittent and ephemeral streams on the Reservation that are tributaries to these two main water bodies. Attached to the Tribe's application is a map showing the extensive nature of

the tributaries and the Rosebud Creek and Tongue River watersheds throughout the Reservation. A small portion of the Sarpy Creek drainage is located in the northwest corner of the Reservation, flowing north.

The general topography of the region is varied with long narrow ridges, extensive hillsides and generally narrow flood plains. The Reservation is within the unglaciated portion of the Missouri Plateau of the Northern Great Plains Province. The central portion of the Reservation is an upland plateau, which rises 800 to 1000 feet above the surrounding terrain, and is underlain by relatively flat-lying beds of the Fort Union Formation. This upland plateau has been deeply dissected by the Tongue River, Rosebud Creek and their tributaries.

The climate of the Reservation is continental and semi-arid. The mean annual precipitation ranges from 10-14 inches in the lower elevations, to 15-19 inches in the higher elevations. About half of the annual precipitation occurs from April to June.

Wetlands are identified along the entire stretch of the Tongue River as it borders the Reservation and many are included in the U.S. Fish and Wildlife Service's National Inventory of Wetlands. There are also a number of ox-bow areas which often contain standing flood waters within the abandoned river channel along the Tongue River. Most of the wetlands on the Reservation are "lotic" ecosystems, which are running water habitats supporting trees such as dogwood, chokecherry, juniper, cottonwood, aspen and willow (lotic wetland ecosystems on the Reservation have been further classified as Palustrine and Riverine based on the Cowardin Classification system utilized in the U.S. Fish and Wildlife Service's National Inventory of Wetlands). Lotic ecosystems are found predominantly along the Tongue River and Rosebud Creek. There are also some "lentic" ecosystems on the Reservation. Lentic systems are temporary pools of water that dry up in the late summer and are important to migratory bird species. The Reservation contains approximately 20,000 acres of wetlands, which support 70% of the wildlife. The Tribe finalized a Wetlands Conservation Plan which was approved and adopted by the Tribal Council as the *Tribal Aquatic Lands Protection Ordinance* in October of 2002.

The Tongue River is the primary water source for the eastern portion of the Reservation. The headwaters of the Tongue River are located in the Bighorn Mountains of Wyoming. The River flows north into Montana for approximately 265 miles eventually flowing into the Yellowstone River near Miles City, Montana and ultimately into the Missouri River. Major tributaries to the Tongue River located on the Reservation include Logging Creek and Cook Creek. Flow from these tributaries into the Tongue River is seasonal. Other on-Reservation tributaries to the Tongue River include Tie Creek, Pawnee Creek, Kely Creek, Stebbens Creek and Reservation Creek. The area drained by these creeks is generally east sloping towards the Tongue River and opposite the Rosebud Creek drainage to the west. Logging Creek is supported by both surface water runoff and groundwater discharge. Tie Creek contributes flow directly to the Tongue River, draining an area entirely within the boundaries of the Reservation. Logging, Pawnee and Kely Creeks collectively drain an area of about 95 square miles entirely within the Reservation and flow into the Tongue River. Stebbens and Reservation Creeks have a combined

watershed area of about 50 square miles which is within the Reservation boundaries and flows into the Tongue River.

Rosebud Creek serves as the primary water source for the western side of the Reservation where some of the best lands for irrigation are located. The headwaters for Rosebud Creek are located on the Crow Indian Reservation, to the west of the Northern Cheyenne Indian Reservation. Rosebud Creek flows easterly off the Crow Indian Reservation, turns north onto the Northern Cheyenne Indian Reservation, then continues north, emptying into the Yellowstone River east of Forsyth. Rosebud Creek drains the western part of the Reservation and receives flow from surface water runoff and groundwater input, mostly from within the Reservation.

The Rosebud Creek watershed area at the southern boundary of the Reservation is slightly over 100 square miles and about 640 square miles at the northern boundary of the Reservation, a distance of about 30 miles. The watershed receives about 15 inches of average annual precipitation and produces average annual flows of 6,850 acre-feet at the northern boundary and 25,000 acre-feet at the southern boundary of the Reservation.

Two major tributaries to Rosebud Creek include Lame Deer Creek and Muddy Creek, which flow throughout most of the year. At its confluence with Rosebud Creek, Muddy Creek has a watershed area of about 103 square miles. Lame Deer Creek produces a flow of about 5,620 acre-feet per year from a watershed area of about 82 square miles. There are a number of other tributaries to Rosebud Creek whose watersheds are either wholly or partially within the Reservation, including Trail Creek, Upper Dry Creek, Skunk Creek, Corral Creek, Greenleaf Creek, Ryegrass Creek, Indian Coulee and Black Spring Coulee. Ryegrass Creek, Greenleaf Creek and its tributary Miller Creek collectively drain about 33 square miles of land before exiting the Reservation and discharging to Rosebud Creek off the Reservation. Similarly, Black Spring Coulee and Lynch Coulee have watersheds totaling about 28 square miles, with a significant portion of those watersheds draining Reservation lands.

II. FINDINGS OF FACT REGARDING NONMEMBER ACTIVITIES THAT MAY BE SUBJECT TO A CONSENSUAL RELATIONSHIP WITH THE TRIBE OR THAT MAY THREATEN OR HAVE SOME DIRECT EFFECT ON THE POLITICAL INTEGRITY, ECONOMIC SECURITY, HEALTH OR WELFARE OF THE NORTHERN CHEYENNE INDIAN TRIBE.

The Northern Cheyenne Reservation is comprised of approximately 444,775 acres with the following approximate allocation of land status: 98.7% of the lands are held by the United States in trust for the Tribe or Tribal members; 0.6% are Tribal member-owned fee lands; and 0.7% are nonmember-owned fee lands. Nonmember fee lands on the Reservation are scattered primarily along Rosebud Creek and its tributaries, Lame Deer Creek and Muddy Creek, and along the Tongue River. Nonmember activities on the small number of fee lands that are scattered along the main streams of the Reservation may impact adjoining Tribal or Tribal member lands and/or Reservation waters.

This section discusses factual findings regarding existing and potential nonmember activities that may be subject to a consensual relationship with the Tribe or that may threaten or have some direct effect on the political integrity, economic security, or health or welfare of the Tribe. Although the document focuses on nonmember activities for purposes of setting forth the findings of fact relevant to a Montana test determination, EPA does not intend to imply that these types of water quality impacts are limited to nonmember activities.

A. Findings of Fact Regarding Existing and Potential Future Nonmember Activities That May Be Subject to a Consensual Relationship With the Tribe or That May Affect the Quality of Surface Water on the Northern Cheyenne Indian Reservation and thereby Threaten or Have Some Direct Effect on the Political Integrity, Economic Security, or Health or Welfare of the Tribe

1. Agricultural Activities

Agriculture is a significant industry on the Northern Cheyenne Reservation. In addition to Tribal members conducting agricultural activities throughout the Reservation, there are also nonmembers conducting agricultural activities on Reservation fee lands. Additional agricultural activities may occur on Reservation lands in the future. The following is a general description of the types of potential water quality impacts that can result from agricultural activities on the Northern Cheyenne Reservation.

Agricultural activities can increase water turbidity, erosion, sediment transport and deposition of fine sediments along streambeds and banks of Reservation waters. Turbidity and fine sediment can negatively affect aquatic life on Reservation waters by impairing primary productivity, by interfering with sight feeding of fish, by smothering fish eggs and insect life, and by reducing or degrading the habitat available for food organisms and fish spawning. Sedimentation can also reduce streambank vegetation and accelerate erosion. Aquatic life growth rates may be affected and fish populations may decline.

Agricultural runoff, by carrying constituents such as manure, can degrade the quality of Reservation waters by increasing the levels of bacteria and nutrients (primarily nitrogen and phosphorus). These nutrients can stimulate undesirable increased growth of vegetation in Reservation streams. High concentrations of phytoplankton (microscopic plants) or large plants are known to result in undesirable changes in water quality on a daily or seasonal basis. For example, excessive vegetation may result in very low levels of dissolved oxygen during dark hours when photosynthesis does not occur but respiration continues. High nutrient levels can also encourage a shift in the species of phytoplankton, encouraging the bluegreen algae typical of eutrophic (over-enriched) water bodies. This may result in seasonally low dissolved oxygen concentrations and production of plant toxins that can lead to fish mortality in Reservation waters and harm to livestock and other animals. Plant toxins may affect recreational uses of the water as well.

Pesticide use (including, for example, herbicides, insecticides and fungicides) for

agricultural activities can cause increased loadings of toxic contaminants in runoff as a result of irrigation or precipitation or both. Depending on the concentrations, these loadings may cause direct mortality or reduction of growth and reproduction in fish and invertebrates. Tribal members may also face increased health risks from exposure to herbicides and pesticides present in fish flesh or drinking water taken from Reservation water bodies or from ingestion of wildlife that feed upon aquatic plants or animals.

Diversion of surface or groundwater for agricultural uses, which is then returned to surface water bodies, can result in harmful effects on water quality and the integrity of aquatic communities by adding pollutants, increasing stream temperatures and by the loss of physical habitat for fish and other aquatic life in Reservation waters. Associated increased stream temperatures may exceed levels necessary for optimal growth, cause direct mortality, or prevent successful spawning and survival of coldwater fish.

2. Timber Activities

Logging activities, including timber sales, have been conducted by nonmember companies on both fee and trust lands on the Northern Cheyenne Reservation. These activities are regulated by the Tribe through leases or contracts, or by ordinances and management plans, which may be relevant to the establishment of consensual relationships with the Tribe. The Tribe's Amended Constitution sets forth the Tribal government's authority to issue leases for the use of Tribal lands, with the approval of the Secretary of the Interior. Amended Constitution and Bylaws of the Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Art. IX, Sect. 3(a). There have been a variety of timber activities by nonmembers on trust lands including: road construction, timber sales, logging and operation of the Tribal sawmill by outside contractors. Logging activities by nonmembers on the Reservation may occur again in the future.

As a general matter, timber harvesting can increase water turbidity, erosion and deposition of fine sediments on stream and lake bottoms. Turbidity and fine sediment can negatively affect aquatic life on Reservation waters by impairing primary productivity by interfering with sight feeding of fish, by smothering fish eggs and insect life, and by reducing the habitat available for food organisms and fish spawning.

3. Livestock Grazing Activities

There are nonmembers on the Northern Cheyenne Reservation conducting livestock grazing activities on private or leased lands. The Tribe's Amended Constitution and Bylaws contains a specific provision authorizing the Tribal Council to issue grazing permits covering Tribal lands. Amended Constitution and Bylaws of the Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Art. IX, Sect. 3(b). Livestock grazing activities by nonmembers on Reservation lands may also exist in the future.

As a general matter, livestock grazing can degrade water quality by increasing soil erosion, altering stream banks and surrounding habitat, destroying native vegetation and riparian

areas, raising water temperature and increasing turbidity, sediment levels and fecal contamination of surface waters. The result of increased turbidity and sediment deposition can be a lower growth rate of fish from loss of food resources and/or elimination or significant reduction of spawning success in streams. Fish populations in both the streams and water bodies to which they are tributaries may decline.

4. Water Diversion and Construction Activities

Water diversion and construction activities by nonmembers can degrade water quality on the Reservation. There is a wide range of types of potential construction activities which may result in water quality degradation. In addition, there are specific examples of past construction activities by nonmembers on nonmember-owned fee lands which have in fact, resulted in water quality degradation.

For example, during the spring of 2000, a construction firm under contract with the Montana State Department of Transportation, began construction of a gabion wall structure adjacent to Rosebud Creek and on nonmember fee lands located in the western part of the Reservation. As part of the highway construction activities, the company entrenched a diversion ditch outside of the construction right-of-way in order to dewater Rosebud Creek.

In 2001, EPA filed a federal enforcement action against the construction firm and the Montana DOT for violating CWA §§ 301 and 404 by placing fill into Rosebud Creek and adjacent wetlands without a permit. In the context of this enforcement case, EPA found that Rosebud Creek, its adjacent wetlands, and its side channels and tributaries which were impacted by the activities provide various functions and values, including: wildlife habitat for waterfowl, raptors, and other birds; deer, elk and other mammals and fish; water quality enhancement; food chain support; ground water recharge and discharge; flood conveyance, storage or peak attenuation; recreation and aesthetics. In addition, the U.S. Fish and Wildlife Service stated, “[s]uitable spawning habitat is limited in Rosebud Creek and most of the trout are forced to migrate to tributary streams to spawn” and that by virtue of the violation, including incorrect installation of the gabion, Rosebud Creek was dewatered for about 20 meters, completely blocking all upstream and downstream fish migration. Robbin Wagner, USFWS letter to Barbara Burkland, USEPA, Oct. 29, 2001.

The road construction activities violated conditions of the Corps of Engineers’ Nationwide 23 permit because: (1) erosion and siltation controls were not used and maintained in effective operating condition during construction; (2) indigenous aquatic life migration through the area was substantially disrupted; (3) no measures were taken to minimize soil disturbance by heavy equipment; and (4) passage of normal and high flows were impeded and relocated in a manner other than that shown in the plans and specifications upon which the Corps permit was authorized. The diversion and dewatering activities caused adverse impacts, increasing turbidity in Rosebud Creek for 6-7 months. The Tribe relies on Rosebud Creek as the main source of water supply, and for irrigation and stock water for the western part of the Reservation. The increased turbidity to the stream affected use of the stream for these and other purposes and the

dewatering affected the fishery resources and aquatic habitat of the stream.

Another example of nonmember construction activity affecting Reservation water quality occurred during the spring and summer of 2003 when a diversion dam was built in association with the Berringer Ditch, which is located on Reservation fee lands bordering the Tongue River. The Tongue River was impacted by bank sloughing resulting from the installation of a new irrigation intake. The diversion dam flooded the surrounding trust lands and adversely affected the quality of water used for irrigation and stockraising. The failure of the ditch caused significant turbidity and erosion and other damages affecting the surrounding lands. Approximately 45 feet of the bank of trust property caved in upstream of the diversion, and as much as 70-80 feet of the bank caved in on the trust property located downstream of the diversion. The heavy equipment which was operated in the River to repair the diversion caused additional turbidity and disturbances to the surrounding trust lands and the habitat in the area.

5. Homesite Use, Businesses, Schools and Churches

There are a number of homesites located on nonmember fee lands on the Reservation. There are also nonmember-owned and operated businesses located on fee lands on the Reservation, including a grocery store, eating establishment and small convenience store. There are nonmember-owned or operated schools and churches located on fee lands within the Reservation. They are located principally in Lame Deer, with some churches and two schools located in outlying communities, including the St. Labre Indian School located along the Tongue River.

Improper operation of septic systems at homesites, businesses, schools and churches located on nonmember fee lands may result in fecal contamination of Reservation waters. Fecal coliform is an indicator of health risks resulting from human waste, and diseases may pass to human populations that drink, bathe in, or otherwise come into contact with contaminated Reservation waters.

Generally, increases in loadings of ammonia, chlorine, and oxygen-demanding substances (BOD) may result from improper operation or accidents occurring at sewage disposal facilities discharging into Reservation waters. These pollutants can be toxic to aquatic life, affecting growth and survival rates.

Ammonia and its breakdown products may also serve as nutrients for excessive plant growth and as sources of oxygen demand, which can lower oxygen levels in Reservation waters.

Chlorine has direct toxicity to aquatic life at very low levels and may directly affect the growth, reproduction and survival of aquatic life. Increases in BOD loading can result in reduced oxygen levels, which affect aquatic life survival, growth and productivity.

6. Energy Resource Development

The Reservation contains significant coal, coalbed methane and oil and gas resources on both trust and fee lands. Great Northern Properties, a private company and the largest holder of coal mineral rights in the nation, holds the subsurface mineral rights to approximately 110 million tons of recoverable coal on the Reservation. The surface lands associated with these subsurface coal holdings lie within the Tongue River watershed on the Reservation and comprise approximately 5,440 acres of land held in trust for the Tribe.

Potential impacts to water quality from energy resource development include: increased turbidity associated with runoff from disturbed soils and settling of coal dusts and discharges of waters high in sodium, total dissolved solids, and bicarbonates from coal seam dewatering activities. There is also a potential for coalbed methane development on the Reservation, which could result in surface discharges of water with high sodium adsorption ratio (SAR) and electrical conductivity (EC). Elevated SAR levels can be of concern for irrigated agriculture because of the potential to cause soil dispersion, which may result in the loss of soil permeability and negative effects on irrigated crops. Elevated EC levels can be of concern because irrigation water that is high in salinity can be toxic to irrigated crops.

B. Findings of Fact Regarding Tribal Interests in, and Uses of, Waters of the Reservation and the Manner in Which Existing and Potential Future Nonmember Activities May Threaten or Have Some Direct Effect on the Political Integrity, Economic Security, or Health or Welfare of the Northern Cheyenne Tribe

The Clean Water Act and subsequent amendments call for the maintenance and restoration of the physical, chemical and biological integrity of waters of the United States. Water quality standards are provisions of state or tribal law which consist of designated uses, water quality criteria to protect those uses, and an antidegradation policy. Water quality standards serve the dual function of establishing water quality goals for specific waterbodies and serving as the regulatory basis for water quality-based treatment controls and strategies. The objective of the Act, maintenance and restoration of the integrity of the nation's waters, is directly related to water quality standards that are intended to ensure the full protection of all existing uses and designated uses identified by states and tribes. Designated beneficial uses typically include, but are not restricted to: domestic water supply; agriculture; recreation; fish and aquatic life; wildlife; industrial and navigational uses.

Tribal water quality standards are intended to protect the beneficial uses and water quality of Reservation streams, rivers, and associated tributaries and springs.¹ In addition to designated

¹ The Tribe is currently concluding a public review and comment process on proposed revisions to the Tribal water quality standards that were adopted by Tribal Ordinance in June of 2002. The Tribal water quality standards establish water quality goals and levels of protection

uses and criteria, water quality standards include antidegradation provisions which protect all existing uses of surface waters regardless of whether such uses are actually designated in water quality standards. Antidegradation requirements also serve to maintain and protect high quality waters, unless the Tribe finds that allowing lower water quality water quality is necessary to accommodate important economic or social development in the area in which the waters are located, and waters that constitute an outstanding national resource. Further, antidegradation requirements can be utilized by tribes and states to maintain and protect the quality of surface waters that provide unique cultural or ceremonial uses.

The Tribe asserts that water is the most significant resource necessary for the survival of the Northern Cheyenne Tribe and its members and that the water resources on the Reservation are essential to the health and welfare, cultural, political and economic survival of the Tribe and its members, and to the pristine setting and natural beauty of the Reservation. The Tribe further asserts that water quality degradation may impact many Tribal activities and interests and ultimately threaten or have some direct effect on the political integrity, economic security, health or welfare of the Tribe.

The direct links between water quality and important Tribal interests are described in the Tribal Water Code:

The management and protection of water is a central attribute of tribal sovereignty and is vital to the health and welfare of the Reservation residents and to the vitality of the Reservation economy and environment, and

The water resource has cultural, spiritual, social, environmental and economic values that require protection and must guide the appropriate use and management of all resources in the watershed and drainage basins of the Reservation.

Northern Cheyenne Water Code, Ch. 1(B)(1) & (2).

1. Tribal Domestic and Municipal Drinking Water Supplies

The Northern Cheyenne Tribe relies heavily on its water resources. Having good quality water is essential to the health and welfare of the Tribe which uses the Reservation waters for both domestic and municipal drinking water supplies. There are over 200 drinking water supply wells on the Reservation. Nearly fifty percent of these wells are in an unconsolidated alluvial

for a range of designated uses, including cold, cool and warmwater aquatic life; primary and secondary contact recreation; public water supply; wildlife; agriculture; wetlands and cultural uses of the water. EPA review and approval or disapproval of the Tribe's water quality standards is a separate Agency action from EPA's action on the Tribe's TAS application. The Tribe's TAS application must be approved for the Tribe to be eligible to administer the water quality standards program and for EPA to act on any submitted Tribal water quality standards.

aquifer proximal to major drainages.

The Tribal Utilities Commission owns and operates five community water systems on the Reservation. The Lane Deer water system serves approximately 770 connections and draws water from five alluvial wells with an average depth of approximately 88 feet. The Busby community water system serves about 116 connections and draws water from two wells that are 260 and 280 feet deep. The Muddy Cluster water system serves approximately 50 connections and draws water from a well that is about 125 feet deep. The Ashland community water system serves approximately 38 connections and draws water from a new well that is 110 feet deep. The Birney water systems serves 25 connections and draws water from a 80 foot deep well. Those residential homes not connected to one of the district water systems contain an individual supply well. The average domestic water use on the Reservation is 0.581 million gallons per day.

The quality of water in domestic water supplies located on the Reservation can have direct effect on the health and welfare of tribal members. Drinking water wells can potentially become contaminated by: point source discharges; nonpoint sources discharges; and a hydrological connection to contaminated groundwater. Degradation of water quality in domestic water supplies can threaten human health by exposure to disease and/or toxic materials through drinking water, cooking or bathing uses and may thereby threaten or directly affect the health, welfare, economic security and political integrity of the Tribe and Tribal members.

2. Tribal Agricultural Interests

Agriculture is a significant industry on the Northern Cheyenne Indian Reservation, providing food and economic support to the Tribal government and Tribal members. Approximately 11,799 acres of Reservation land are dryfarmed and 1,794 acres are irrigated. An additional 62,000 acres of arable lands have been identified for potential future irrigation. The primary crops are hay, wheat, barley and small grains.

An irrigation development study of the Rosebud Creek and Tongue River drainages was recently conducted for the purpose of exploring the expansion of existing farmed areas for the benefit of the Tribe. The study indicates that:

A long range plan for the Northern Cheyenne Indian Reservation could incorporate an extensive irrigation system approaching 10,000 acres depending on available water supplies. However, projected water demands were not specified. Water from the Tongue River on the eastern side of the reservation could be used to supply a series of center pivots, big gun, and side roll systems. A series of wells along Rosebud Creek could serve various irrigation systems in those areas. Irrigation in the central portion of the reservation is also a possibility to be investigated. Mobile irrigation systems may be implemented where topography and field shape are appropriate as these systems are economical, efficient, and require less operation and maintenance than manually moved irrigation systems.

2002 Report at 6-36, citing MSE-HKM Engineering 1995.

The Tribe asserts that the very livelihood of the Tribe and its members, as well as their cultural survival, is dependent on the continuing availability of good quality water to sustain the agricultural industry on the Reservation. Degraded water quality can affect the soils and the crops, thus impairing the Tribe's ability to conduct agricultural activities on the Reservation and may thereby threaten or directly affect the political integrity, economic security, health or welfare of the Tribe and Tribal members.

3. Tribal Ranching Interests

Cattle ranching is another significant industry on the Northern Cheyenne Indian Reservation, which provides food and economic support to the Tribal government and Tribal members. Tribal members collectively own an estimated 13,000 - 15,000 head of cattle. Approximately 391,852 acres are considered rangeland with an estimated capacity of 102,000 animal unit months.

The Tribe asserts that the very livelihood of the Tribe and its members, as well as their cultural survival, is dependent upon the continuing availability of good quality water to sustain the ranching industry on the Reservation. The quality of surface water has a direct effect on the viability of the ranching industry on the Reservation. Degraded water quality may impair the health of the animals directly consuming the water, which can in turn, have an economic effect on the viability of the industry and may potentially be harmful to humans who subsequently consume the affected animal flesh. Degraded water quality can impair the Tribe's ability to conduct ranching activities on the Reservation and may thereby threaten or directly affect the political integrity, economic security, health or welfare of the Tribe and Tribal members.

4. Tribal Timber Interests

Approximately 147,000 acres of the Northern Cheyenne Indian Reservation is forested and about 103,657 of those acres are commercially viable. The majority of the trees are Ponderosa Pine. The management of forest resources is particularly important to the Tribe's economic interest in timber sales. In 1985, the Tribal Council chartered the Northern Cheyenne Timber Association, which specifies the Tribe's goals with regard to timber management, including:

Promote a fair and equitable compensation to the Tribe and allottees for the development of Northern Cheyenne timber resources.

Protect and promote the interests of tribal members involved in the timber industry on the Northern Cheyenne Reservation.

Provide employment to qualified members of the Tribe in all categories of employment in the timber industry.

Provide members of the Tribe with skills necessary for employment and promotion to supervisory and managerial positions.

Promote, develop and operate tribal member businesses related to the timber industry.

Preserve and protect tribal cultural resources.

Facilitate the marketing of timber resources, and identification of such markets.

Advise and work with the Bureau of Indian Affairs and the Tribe to develop the full potential benefits attainable from the management and development of Northern Cheyenne timber resources.

2002 Report at 6-54 and 6-55.

Under the federal National Indian Forest Reservation Management Act of 1990, the Northern Cheyenne Reservation was classified as a Category 1 Reservation, or a major forested Reservation comprised of more than 10,000 acres of commercial timberland in trust or one having more than 1.0 MMBM harvest of timber products annually. In 1999, the Tribe and BIA developed a Forest Management Plan which represents a comprehensive statement of forest management policies and procedures for the time frame of 1998-2007.

Timber sales on the Reservation are held periodically, and a Tribal lumber mill operates periodically. The economy of the Reservation has been strongly dependent on the success of logging and milling operations. Based on the Landsat Thematic Mapper Satellite Imagery (30m resolution), there are 3,071.85 acres of hardwood forest on the Reservation. Water quality may be important to the protection of this riparian timber resource. Degraded water quality could affect the growth and propagation of trees in this riparian forest ecosystem on the Reservation, thus threatening or directly affecting the political integrity, economic security, health or welfare of the Tribe and Tribal members.

5. Tribal Recreational Interests

There are many outdoor recreational activities on the Northern Cheyenne Indian Reservation including hunting, fishing, hiking, horseback riding and plant and berry gathering. The main fisheries are Rosebud Creek and the Tongue River. The developed recreational area on the Reservation is Crazy Head Springs which consists of four spring-fed ponds located on the divide between Lame Deer and Ashland. Picnic and camping facilities are available and fish are stocked in the springs. Other recreational areas with minimal facilities include: Lost Leg Lake; Ice Wells Picnic Area; Green Leaf, Red Nose and Parker Ponds; Morning Start, Garter Peak and Badger Peak Lookouts; Kenneth Beartusk Memorial PowWow Grounds; Buffalo Jump; Indian Chief Two Moons Historic Monument; and Busby Race Track (White River Recreation Site). There are also a number of parks on the Reservation.

The quality of surface water has a direct effect on the recreational activities occurring on the Reservation. Recreational uses such as swimming, wading or fishing, may include bodily contact with or inadvertent consumption of the water. Degraded water quality may pose a threat of disease to humans engaging in such activities. Recreational uses involving animals, such as fishing, hunting, bird watching and other wildlife observation can all be impaired if degraded water quality has a negative health effect on the animals and their ecosystems. Overall, degraded water quality may pose a threat of disease to people engaging in recreational activities; impairment to animal and plant health; loss of aesthetic pleasure; and a negative effect on the economic benefits derived from water-based recreational activities. Degraded water quality can impair the Tribe's interest in conducting recreational activities on the Reservation and may thereby threaten or directly affect the political integrity, economic security, health or welfare of the Tribe and Tribal members.

6. Tribal Traditional, Subsistence and Cultural Use Interests

Reservation waters have a strong cultural significance to the Northern Cheyenne people. The Tribe considers springs, rivers, swamps and ground water as living beings with spirits. The plants, animals, birds and fish, all of which are dependent on the water resources of the Reservation, each have cultural significance and meaning as well. Surface water is considered to be alive, ever moving, with spiritual qualities. Springs are the homes of spirits. Offerings are commonly left at springs today. According to the 2001 Northern Cheyenne Reservation Survey on Traditional Economy and Subsistence, over 97% of the people believe that springs have spiritual value and over 90% recognize the importance of water to their social, economic and spiritual way of life. Surface water used for cultural and religious practices involves contact and ingestion of water. Water quality may have a direct effect on tribal traditional and cultural uses such as tribal ceremonies, use of sweat lodges, direct consumption of the water and/or consumption of plants or animals dependent upon the water and other traditional and cultural uses of the water.

The riparian areas and wetlands of the Reservation support many of the plants and animals that are important for food, medicinal and cultural purposes. According to studies on Reservation plants that have historically provided medicinal or food value to the Tribe, a proportion of these plants are hydrophytic and are thus located within wetland or riparian habitats. Wetlands are identified along the entire stretch of the Tongue River as it borders the Reservation. The intermixing of degraded waters with wetlands and ox-bow areas may impact wildlife and riparian plants, which are critical to the culture and religion of the Tribe and for subsistence and recreational purposes. The wild plants and animals of the Tongue River region contribute to Northern Cheyenne subsistence. About 57% of Birney residents and 84% of Ashland residents supplement their income by hunting, fishing and gathering wild plants and herbs. The Tongue River valley contains many edible plants and supplemental food sources for the Tribe. Income from selling the pelts of badger, beaver, coyote and river otter is also important to the economic base of Tribal members living along the Tongue River. There are also 170 plants with documented traditional Tribal cultural uses. The Tribe documents that at least 31 of these are wetland plant species as per U.S. Army Corps of Engineers and U.S. Fish and

aquatic-dependent wildlife, fisheries and species habitat. Wildlife inhabits all parts of the Reservation and is culturally and economically significant to the Tribe. Among the various types of wildlife in the area are: whitetail deer; mule deer; antelope; elk; prairie dogs; buffalo; black bear; cougar; jackrabbits; cottontails; pine squirrels; beaver; muskrat; mink; coyotes; various species of reptiles and amphibians; and many types of game and non-game birds. Prairie dog towns provide habitat for many vertebrate species, including rare or endangered species such as the burrowing owl, mountain plover and black-footed ferret.

The woody vegetation on the uplands of the Reservation consists mostly of Ponderosa Pine. White cottonwood trees predominate along the streams. Grasses dominate lower elevations with bluestem (western) wheatgrass and blue grama being the most common. The predominant shrub is big sagebrush, but broom snakeweed, silver sagebrush, fringed sagebrush and skunkbrush are also common. All of these ecosystems provide important habitat for fish and wildlife species. The wildlife on the Reservation is dependent upon water quality in a number of different ways, including: the animals directly drink and come into contact with the surface water; they feed upon animals and plants which are dependent upon good quality water; and they use riparian areas and wetlands for forage and shelter. The area along the Tongue River includes about 2,584 acres of riparian hardwood forest and 2,159 acres of riparian grasslands and provides excellent habitat for a wide variety of species.

A bird inventory for the Northern Cheyenne Reservation identified over 114 bird species. In addition to waterfowl, raptors and upland game birds, many passerine birds were observed on the Reservation. The Reservation is located within the Central Flyway, which contains important migration corridors. A large variety of ducks, geese and shorebirds use riparian-wetland habitats within the region for nesting and migration stopovers. Upland game birds on the Reservation include: sharp-tailed grouse, sage grouse, Hungarian partridge, ringneck pheasant, turkey and mourning doves. Raptors on the Reservation include: bald and golden eagles; peregrine falcons; harriers; American kestrels; red-tailed hawks; sharp skinned hawks; northern goshawks and turkey vultures.

Streams on the Reservation contain approximately 32 different fish species, including smallmouth bass, walleye, sauger, northern pike, channel catfish, and the only population of rock bass in Montana. The Tribe has a fishery-enhancement program. Fishing and hunting provide an important food source for Tribal members and are also important for recreational purposes and the economy of the Reservation.

The protection of wildlife, habitats and species diversity directly affects the quality of life for Tribal members. Water quality degradation may not only impair wildlife, but also negatively impact the health of tribal members who consume the wildlife. Tribal members consume wild game and native plants for subsistence, dietary supplementation, medicinal and cultural practices. A healthy and viable wildlife population may also enhance the Tribe's economic interests in tourism or hunting.

The protection of water quality for fish, plants and other aquatic life in surface waters

Wildlife Service wetland plant species identification standard methods. There are at least 81 separate ceremonial uses for these plants; 184 medicinal uses; 67 industrial uses and 94 subsistence uses. According to the 2001 traditional economic and subsistence survey, approximately 89% of the people reported gathering plants for food and over 84% gathered plants for medicines or ceremonies.

Game animals as well as predators have Tribal ceremonial functions in cultural activities such as the Sun Dance. They also provide a source of traditional foods which are important in the Northern Cheyenne diet and in their ceremonial life. The buffalo is a pivotal symbol of the Cheyenne ethnic identity as Indians. Fish are used for food offerings. Degraded water quality can impact the health and viability of animal populations resulting in potential impacts to the Tribe's cultural uses, including animal consumption.

Protecting the environment of the Reservation is viewed not only as a spiritual responsibility, but also as being necessary to ensure the survival of the Northern Cheyenne as a people. There are spiritual and cultural ties between the Northern Cheyenne and waters of the Reservation, including waters of the Tongue River region. The Tongue River region has important cultural significance for the Tribe as a sanctuary and homeland. Not only do the Northern Cheyenne have a spiritual relationship with the plants and animals growing along the Tongue River and the River itself; they recognize spirit persons who inhabit the valley, including in the waters themselves. Important ceremonial and religious activities such as fasts, sweats, Sun Dance, food and cloth offerings, Native American church meetings, and various other ceremonies of religious significance continue to be held in the Tongue River Valley. The people of Birney Village, one of the most traditional settlements on the Reservation, have a close relationship to the Tongue River region. They pray towards the River and fast in the hills overlooking the Tongue River. Birney Village residents use the river for watering horses, watering gardens and washing hides. Basic wild food plants are dependent on the water resource. Medicinal and ceremonial plants are collected along the banks of the River.

The quality of surface water on the Reservation is intertwined with the Tribe's spiritual and cultural interests and traditional uses. Protective water quality is an essential component to the Tribe's spiritual and cultural interests in the health of waters, plants, animals, people and the overall Reservation ecosystem. Traditional uses and religious practices involve direct contact with surface water; consumption of water as well as plants and animals dependent upon the water; and exposure through use of sweat lodges and other Tribal ceremonies involving water. Subsistence activities such as plant and berry gathering can likewise be affected if poor water quality impairs plant growth and the overall health of the ecosystem. Degraded water quality on the Reservation can impair the Tribe's ability to engage in important cultural and traditional uses and may thereby threaten or directly affect the political integrity, economic security, health or welfare of the Tribe and Tribal members.

7. Tribal Wildlife and Fisheries Interests

The quality of Reservation waters is essential to the viability, productivity and survival of

may directly impact Tribal health and welfare by enabling aesthetic, educational, cultural, scientific, recreational and healthy consumption goals to be achieved. In addition, protection of water quality to support fish and other aquatic resources may enhance fish and plant harvest, thus directly affecting Tribal political and economic interests. The quality of surface water on the Reservation directly affects aquatic and aquatic-dependent wildlife and fisheries, which in turn, may threaten or directly affect the political integrity, economic security, health or welfare of the Tribe and Tribal members.

8. Tribal Water Rights and Water Code

The Northern Cheyenne Tribe and the State of Montana negotiated a Water Rights Compact on June 11, 1991. The United States Congress approved and ratified the Water Rights Compact by legislation on September 30, 1992. Northern Cheyenne Indian Reserved Water Rights Settlement Act of 1992 (Pub. L. 102-374, 106 Stat. 1186, as amended, Pub. L. 103-263 (May 31, 1994)). The Tribe's Compact water rights were entered as a decree by the Montana Water Court on September 26, 1995, as amended on October 18, 1995.

The Water Rights Compact sets forth the quantity, attributes and the administration of the Tribe's water rights, as well as other matters necessary for settlement. Under the Compact, the Tribe has water rights in Rosebud Creek, the Tongue River and all their tributaries on the Reservation. Specifically, the Tribe has an allocation of 32,500 acre-feet per year of water in the Tongue River Basin, including a direct flow right of 12,500 acre-feet and a right of 20,000 acre-feet per year from a combination of water stored in the Tongue River Reservoir and exchange water. The Tribe has a water right of up to 21,330 acre-feet per year in Rosebud Creek and its tributaries. The Tribe also has a Tribal Water right to 30,000 acre feet in the Big Horn Reservoir located on the Crow Indian Reservation and a separate contractual right of an additional 7,500 acre feet of water in the Tongue River Reservoir.

The Water Rights Compact provides that the Tribe maintains exclusive administration of the Tribe's water rights. Under the terms of the Compact, the Tribal Water Right may be used by the Tribe or persons authorized by the Tribe. The Tribe also has the authority to use or permit others to use the Tribal Water Right and to condition the use of the water right. When the Tribe permits use of the water right, under the Compact, the Tribe must protect the water quality associated with that use.

The Water Rights Compact provides that the Tribe will administer and manage the Tribal water right in accordance with a Tribal Water Code. The Tribal Water Code was approved by the Department of the Interior on October 9, 2001. Under the Tribal Water Code, the Tribe regulates all uses of the Tribe's water right. The Tribal Water Code sets forth the Tribe's authority to protect, through permitting or control measures, all Reservation waters under Tribal law. The Tribe has also adopted and is currently in the process of amending Tribal water quality standards under Tribal law. The Tribe has not submitted their Tribal standards to EPA for federal approval. The Tribally-adopted water quality standards apply to all waters on the Reservation under Tribal law.

Water marketing entails transferring water for fixed periods of time without relinquishing any water right held by the offeror. The Tribe has large water resources at its disposal by virtue of its early priority and federally-reserved water rights. Water marketing of Reservation waters by the Tribe is a source of great potential benefit. The Tribe may elect to market water sources, including the diversion of 32,500 acre-feet from the Tongue River for any beneficial use and 19,530 acre-feet from Rosebud Creek for any beneficial use subject to the constraint that diversion and use do not adversely affect other water right holders of priority June 30, 1973 and earlier. The Tribe has the right to market water both on and off the Reservation pursuant to the terms of the Compact, except that the Tribe shall not transfer water naturally arising in Rosebud Creek or its tributaries for use off the Reservation. The Tribe may enter into referral agreements with regard to any waters under the Tribal Water Right. Potential markets for the Tribe's water include: power production; mining; energy; municipal use; irrigation and other industrial uses. Degraded surface water quality may affect the Tribe's use of its decreed water rights, including potential impairment of the Tribe's ability to pursue water marketing for some of these uses thereby threatening or directly affecting the political integrity or economic interests of the Tribe.

C. Conclusion

In conclusion, the factual findings in this document set forth the nonmember activities which occur or may occur on the Reservation, the actual and potential adverse effects these activities may have on surface water quality and the Tribal interests in, and uses of, the Reservation waters which may be affected by degraded water quality. All of these findings support EPA's determination that the Tribe has demonstrated that nonmember activities which occur or may occur on the Reservation threaten or have direct effects on the political integrity, economic security, health or welfare of the Tribe that are serious and substantial. Thus, the Tribe has demonstrated inherent Tribal authority pursuant to the *Montana* test, to administer the CWA §§ 303(c) and 401 programs.