

FINAL ENVIRONMENTAL ASSESSMENT

TAR CREEK SECTION 111 PROJECT MINE SHAFT PLUGGING MINE SHAFTS NUMBERS 37 AND 57 PICHER, OKLAHOMA



US Army Corps
Of Engineers
Tulsa District

NOVEMBER 2004

FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, including guidelines in 33 Code of Federal Regulations, Part 230, the Tulsa District has assessed the environmental impacts of plugging abandoned mine shafts numbers 37 and 57 within the boundary of the Tar Creek Superfund Site in Ottawa County, Oklahoma. The Corps of Engineers has been given the authority under Section 111, Energy and Water Development Appropriations Act of 2004 (PL 108-137) to implement demonstration projects determined by the Secretary of the Army to be necessary to address lead exposure and other environmental problems related to historical mining activities in Ottawa County, Oklahoma. The Corps of Engineers has identified several hazardous mine shafts to be plugged under this appropriation. This project involves the fill and closure of two abandoned vertical mine shaft openings in the Picher, Oklahoma area. This assessment was prepared in accordance with U.S. Army Corps of Engineers Regulations, Part 230, Policy and Procedures for Implementing the National Environmental Policy Act. It has been determined from the enclosed Environmental Assessment that the project will have no significant adverse effects on the natural or human environment. Therefore, an environmental impact statement will not be prepared.

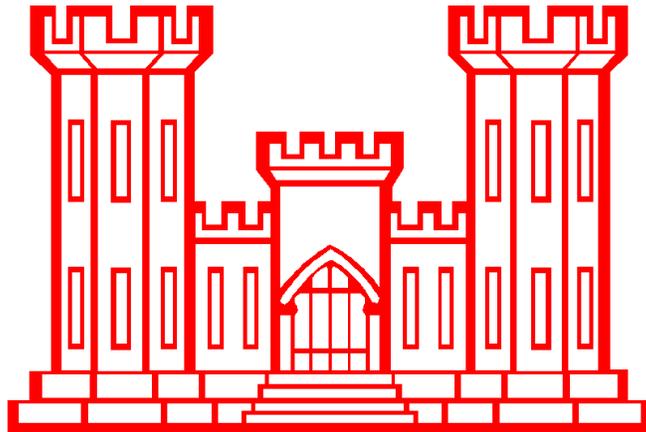
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Enclosure
Environmental Assessment

FINAL

**Environmental Assessment for
Tar Creek Section 111 Project
Mine Shaft Plugging
Mine Shafts Numbers 37 and 57
Picher, Ottawa County, Oklahoma**



**U.S. Army Corps of Engineers
Southwestern Division
Tulsa District**

November 2004

ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment (EA) evaluates the effects of filling and closing two abandoned hazardous vertical mine shafts in the Tar Creek Superfund Site, Ottawa County, Oklahoma. This EA will facilitate the decision process regarding the proposed action and alternatives.

<i>SECTION 1</i>	<i>AUTHORITY, PURPOSE, AND SCOPE</i> provides the authority for the proposed action, summarizes the project purpose, provides relevant background information, and describes the scope of the EA.
<i>SECTION 2</i>	<i>ALTERNATIVES</i> examines alternatives for implementing the proposed action.
<i>SECTION 3</i>	<i>PROPOSED ACTION</i> describes the recommended action.
<i>SECTION 4</i>	<i>AFFECTED ENVIRONMENT</i> describes the existing environmental and socioeconomic setting.
<i>SECTION 5</i>	<i>ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION</i> identifies the potential environmental and socioeconomic effects of implementing the proposed action and alternatives.
<i>SECTION 6</i>	<i>RESTORATION PLAN</i> summarizes mitigation actions required to enable a Finding of No Significant Impact for the proposed alternative.
<i>SECTION 7</i>	<i>FEDERAL, STATE, AND LOCAL AGENCY COORDINATION</i> provides a listing of individuals and agencies to which a notice of availability of the FONSI will be sent.
<i>SECTION 8</i>	<i>REFERENCES</i> provides bibliographical information for cited sources.
<i>SECTION 9</i>	<i>APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS</i> provides a listing of environmental protection statutes and other environmental requirements.
<i>SECTION 10</i>	<i>LIST OF PREPARERS</i> identifies persons who prepared the document and their areas of expertise.
<i>APPENDICES</i>	<i>A</i> Coordination <i>B</i> Cultural Resources Coordination

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**FINAL
ENVIRONMENTAL ASSESSMENT
TAR CREEK SECTION 111 PROJECT
MINE SHAFT PLUGGING
MINE SHAFTS NUMBERS 37 AND 57
PICHER, OKLAHOMA**

SECTION 1.0 AUTHORITY, PURPOSE, AND SCOPE

This study is being conducted under authority of Section 111 of the Energy and Water Development Appropriations Act of 2004 (Public Law 108-137). The Corps of Engineers has been given authority under this Act to implement demonstration projects determined by the Secretary of the Army to be necessary to address lead exposure and other environmental problems related to historical mining activities in Ottawa County, Oklahoma. The Corps of Engineers has identified several hazardous mine shafts to be plugged under this appropriation. The purpose of this assessment is to address a project to fill and plug two of those abandoned vertical mine shafts near Picher, Ottawa County, Oklahoma (Figure 1.0).

The National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190) requires all Federal agencies to address the environmental impacts of any major Federal action on the natural and human environment. Guidance for complying with the NEPA is contained in Title 40 of the Code of Federal Regulations (CFR), Parts 1500 through 1508, and in Engineering Regulation (ER) 200-2-2, *Procedures for Implementing NEPA*. This environmental assessment was developed to assure that the proposed project complies with the intent of NEPA.

SECTION 2.0 ALTERNATIVES

Alternatives included a No Action plan, which would retain existing conditions and the open hazardous mine shafts, numbers 37 and 57, and a Proposed Action plan, which proposes to fill and plug the two open mine shafts.

2.1 No Action Alternative

The Council on Environmental Quality (CEQ) regulations implementing the provisions of the National Environmental Policy Act of 1969 (NEPA) require Federal agencies to consider a "no action" alternative. These regulations define the "no action" alternative as the continuation of existing conditions and their effects on the environment, without implementation of, or in lieu of, a proposed action. This alternative represents the existing condition and serves as the baseline against which to compare the effects of the proposed alternative. The no action alternative would retain the existing condition and would not result in any project-related environmental impacts or loss of habitat. The effects of residual chat, open mine shafts, and subsidence features would remain or worsen at both mine shaft locations. Both mine shafts are extremely hazardous and health and safety would continue to be of concern with the open vertical mine shafts.

2.2 Action Alternative

Only one action is proposed under this project and that action is the closure of abandoned mine shafts numbers 37 and 57. The proposed action is addressed in Section 3.0.

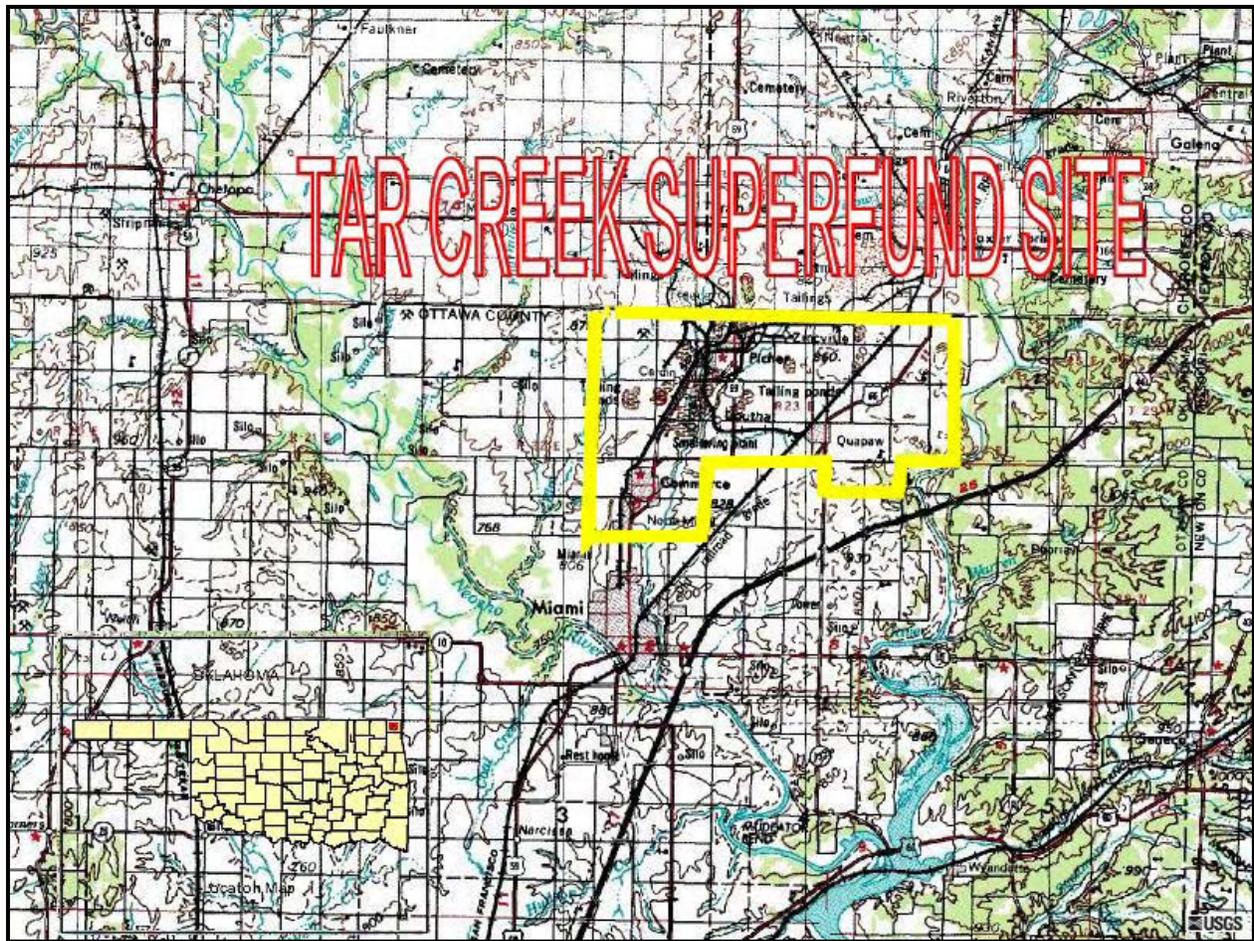


Figure 1.0 Vicinity Map.

SECTION 3.0 PROPOSED ACTION

The proposed action entails the permanent closure of open mine shafts numbers 37 and 57 near Picher, Oklahoma.

3.1 Mine Shaft Number 37.

Shaft number 37 is located in Section 17, Township 29N, Range 23E, on the Piokee lease (Figure 3.1). It is an open vertical shaft that is partially filled with debris (Photo 3.1). The mine depth ranges from 140 to 205 feet.

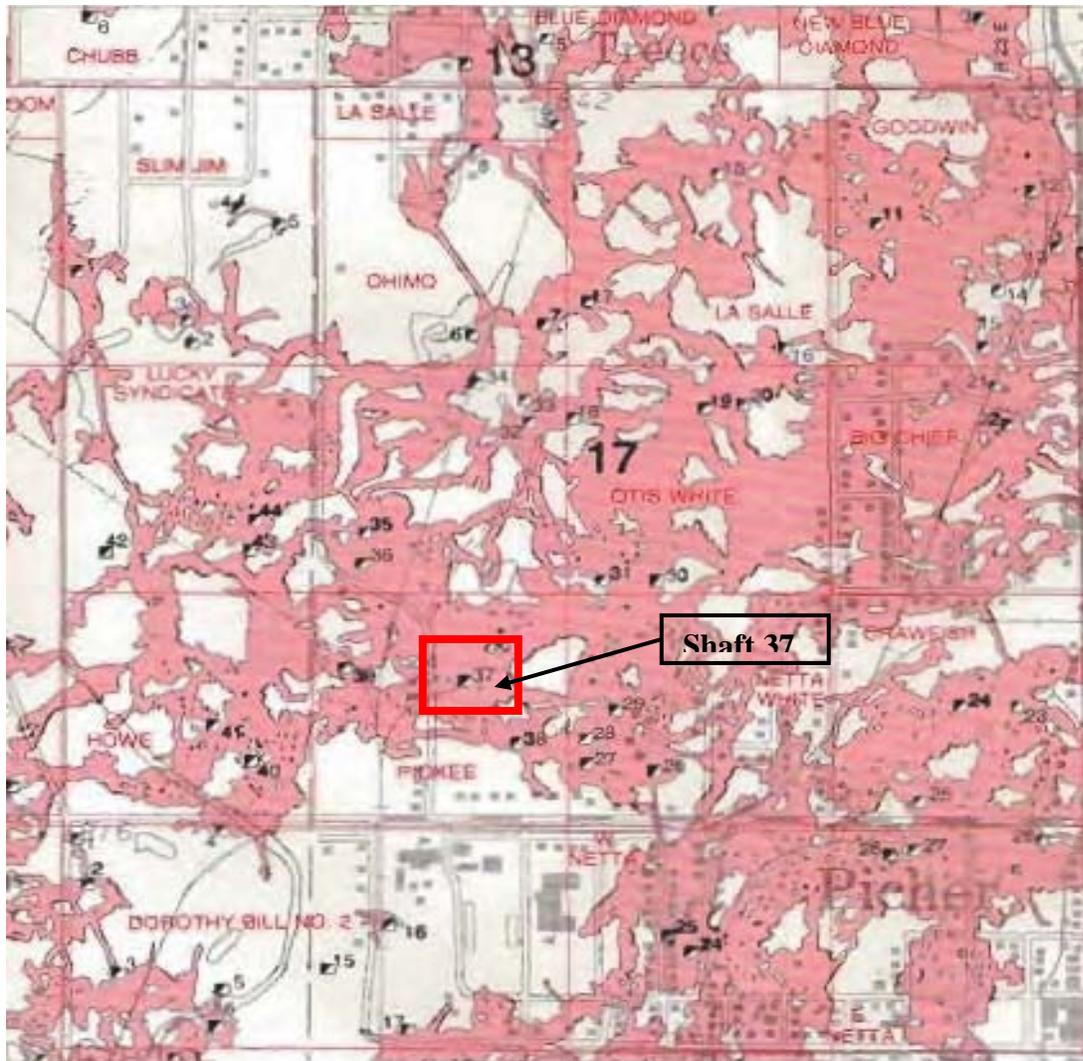


Figure 3.1. Mine Shaft 37.



Photo 3.1. Mine Shaft 37.

3.2 Mine Shaft Number 57.

Shaft number 57 is located in Section 29, Township 29N, Range23E, on the Admiralty #3 lease (Figure 3.2). It is an open vertical shaft that is partially filled with water and debris (Photo 3.2). There is a collapse around the shaft and the mine depth ranges from 55 to 210 feet.

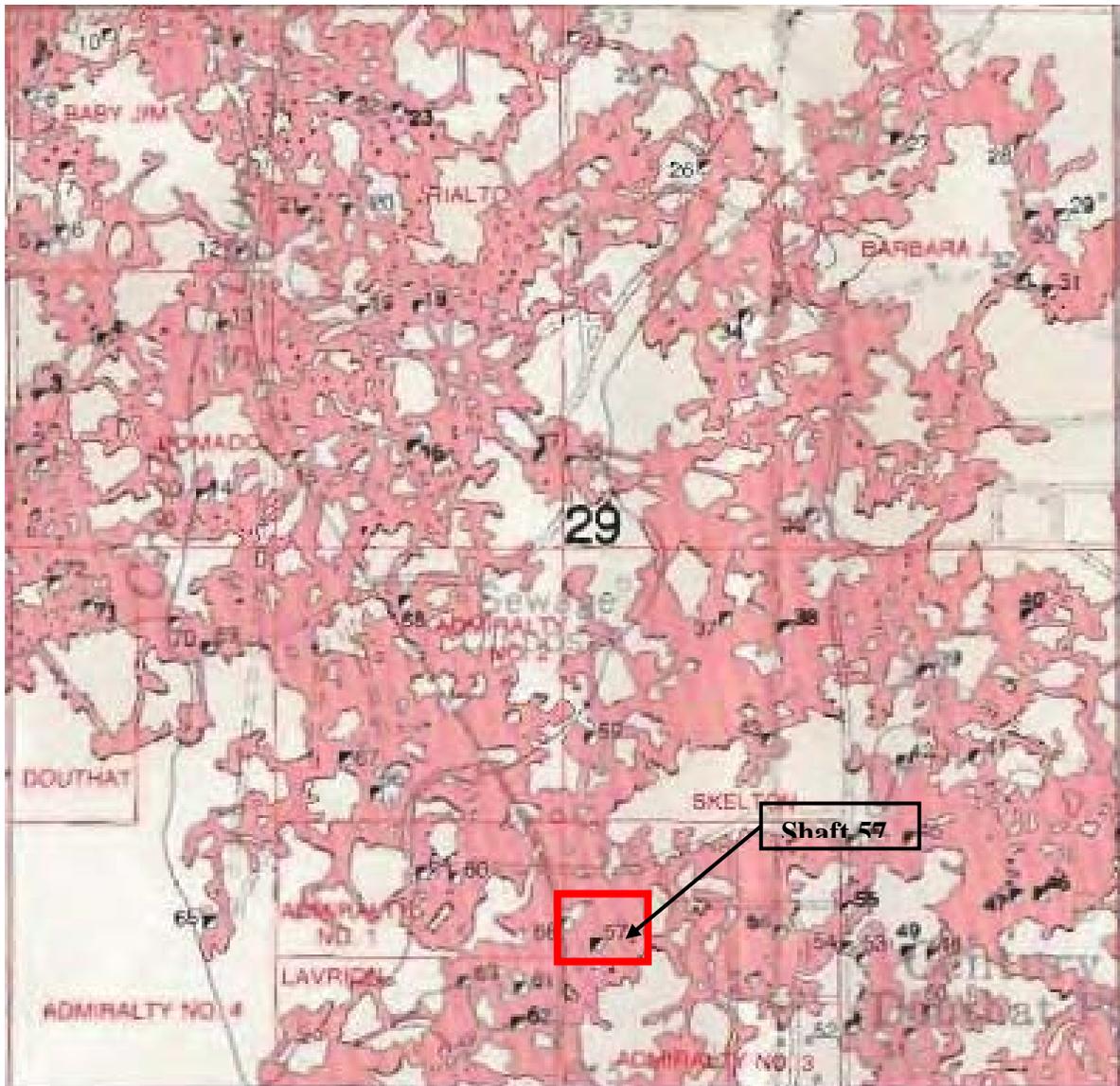


Figure 3.2. Mine Shaft 57.



Photo 3.2. Mine Shaft 57.

3.3 Description of Work

This project consists of clearing each work site, excavating each shaft for placement of fill and concrete plug, backfilling over the plug, and grading, shaping, and reconditioning the site. The mine shafts will be closed and plugged according to all local, State, and Federal regulations. Adequate and appropriate safety will be a major consideration during all phases of construction.

Site preparation for each mine shaft will include clearing and grubbing only to the extent necessary to perform excavation, embankment, borrow and other work required. Clearing will include the felling and disposal of trees, brush, and other vegetation within the construction limits. The construction limits for each mine shaft includes only that area required to accomplish the closure of each shaft. Trees felled within the construction limits will be felled into the area to be cleared so as not to damage trees outside the construction limits. Care will be taken near the construction limits so as to not damage existing trees, vegetation, structures or utilities which are outside the clearing limits. Photo 3.3.1 is a picture of mine shaft 58 which is adjacent to mine shaft 57. It has been previously closed. It is shown to provide an example of a previous mine shaft closure and to illustrate that very little disturbance occurs outside the construction limits.

Excavation will be accomplished to provide access for placement of the material, placement of the plug and to locate competent bedrock on which to set the concrete plug and/or to remove wooden cribbing as much as possible. The maximum depth required for excavation will be 20 feet, resulting in an excavation cone of approximately 40 feet. Should competent bedrock be encountered at a depth less than 20 feet, excavation could be to a lesser depth.

Initial fill for plugging each shaft will be bull rock or comparable waste concrete or rock obtained from the site or nearby borrow source (Photos 3.3.2 and 3.3.3). Bull rock is defined as the clean, semi-graded, mine-waste stone with a size ranging from three inches (3") to twenty-four inches (24") in diameter. The initial fill will be placed into the shafts lower portion, to above the roof of the mine. After the initial fill other non-degradable fill material including bull rock and chat will be used to fill the shaft to within 10 feet of the top of the limestone. Any water in the shaft which will interfere with placement of a 10 foot thick concrete plug will be evacuated. A 10 foot thick, 4000 psi, concrete plug will be placed near the upper 10 feet of the limestone bedrock and within the limestone lined shaft.

After placement of the plug, the remaining vertical openings will be backfilled with excavated material and on-site bull rock and chat that is located adjacent to the shafts. The upper two feet of the shaft will be filled with the same material as is adjacent to the shaft. The transition between the disturbed areas and the undisturbed areas will be graded to the existing contour with no abrupt slope changes to eliminate the possibility of ponding and erosion.

After completion of the plugging activities at each shaft, a 3 foot x 3 foot concrete pad having a minimum thickness of 4 inches shall be placed over the location of each shaft. A brass cap will be imbedded in the concrete pad to indicate that this is a plugged shaft. The brass cap will have the mine shaft number based on Oklahoma Geological Survey Circular 88 and the date of plugging stamped into it.

The permanent closure of mine shafts 37 and 57 would have no negative long-term environmental impacts and would have positive health and safety impacts. Mine shaft number 37 is located less than 1,000 feet from Picher Cardin Junior/Senior High School. Construction activities would cause minor temporary disturbance from noise and the operation of heavy equipment to the biological resources in the vicinity of the two mine shafts. However, these impacts would disappear with project completion.

SECTION 4.0 AFFECTED ENVIRONMENT

Mine shafts 37 and 57 are a component of the 40 square-mile Tar Creek Superfund Site. The Tar Creek Superfund Site was listed on the EPA National Priorities List in 1983. In 1993 the Tar Creek Superfund Site was moved to the top of the National Priorities List, making it the highest-ranking Superfund site in the nation. The Tar Creek site encompasses the Oklahoma portion of the Tri-State Mining District of northeastern Oklahoma, southeastern Kansas, and southwestern Missouri. It includes communities in Ottawa County outside the mining area

that are also contaminated with mining waste. The towns of Picher, Cardin, Commerce, North Miami, and Quapaw are part of the Tar Creek Superfund Site.

The mining and milling of lead and zinc ore left approximately 300 miles of underground tunnels, millions of tons of tailings (generally the tailings with the consistency of gravel are called chat), more than 1,320 mine shafts, and thousands of drill holes in Oklahoma's part of the Tri-State Mining District. The mine tailings are deposited in hundreds of piles and in sediment retention ponds near the residential communities and in undeveloped urban and rural areas. Some piles are as high as 200 feet and contain lead and other heavy metals.

4.1 Location

The two sites are located near the community of Picher, Ottawa County, in the northeastern corner of Oklahoma.

4.2 Climate

Ottawa County has a temperate, continental climate characteristic of the southern prairie plains where they merge with the southwestern extension of the Ozark Plateau. The elevation in the Picher area is around 800 feet National Geodetic Vertical Datum.

Changes between the seasons are gradual, but the characteristics of the seasons are fairly well defined. The winter season ranges from cold to moderate; there are many sunny days between storms. Snow rarely covers the ground for more than 3 or 4 days at a time. Spring is the season when the weather is most variable and when the largest amount of rainfall of high intensity occurs. Summers are generally hot, but the nights are cool. In the fall there are long periods of pleasant days interspersed with spells of moderate to heavy rains. Tornadoes are infrequent but can occur in the area.

The average annual temperature is 57.3 ° F. Temperatures range on the average from 33° in January to 79.4° in July. The average annual precipitation is 44.6 inches. About 31 percent of the precipitation comes in spring; 29 percent in summer; 26 percent in fall; and 14 percent in winter. Winds are generally from the south, but in midwinter northerly winds predominate. The average annual snowfall is about 12 inches and covers the ground with at least two inches an average of 13 days per year.

4.3 Social and Economic Conditions

Lead and zinc mining came to northeastern Oklahoma near Peoria, Ottawa County, in 1891. At one time the Tri-State Mining District, which includes the Picher Mining Field, was the leading United States producer of lead and zinc, supplying nearly 27 percent on the nation's lead and zinc products. During the peak mining years of 1907 through 1946, almost two million tons of lead and zinc were mined in the area at a value of more than \$202 million. By the time the last mining company closed in 1970, the Picher Mining Field had produced 1.7 million tons of lead and 8.8 million tons of zinc.

But what once brought economic prosperity to the far northeastern corner of Oklahoma soon led to a legacy of human health and environmental calamity. The mining and milling of lead and zinc ore left approximately 300 miles of underground tunnels, 165 million tons of tailings (chat), over 1,320 mine shafts, and thousands of drill holes in the Oklahoma portion of the Tri-State Mining District alone. Tangible natural resource threats were first realized in 1979 when metals-laden mine water began discharging to surface streams in the Tar Creek watershed. The 40 square-mile site was added to the first National Priorities List when Congress created the Superfund program in 1983, and remediation efforts followed primarily to address the mine water discharges.

In 1993 the EPA moved the Tar Creek Superfund Site to the top of the Superfund National Priorities List making it the highest ranking Superfund site in the country. In an effort to assume a more vital leadership role in attacking the myriad environmental, health, and safety problems associated with the nation's highest-ranking Superfund site, Oklahoma Governor Frank Keating formed the Tar Creek Superfund Task Force on January 26, 2000 which was charged with developing a comprehensive remediation plan for the area.

U.S. Census Bureau data from the 2000 Census indicates that an estimated 1,640 persons live in Picher, Oklahoma, and an estimated 33,194 persons live in Ottawa County, Oklahoma. The racial makeup of the City of Picher is 77.13% Caucasian, 13.78% Native American, 1.4% Hispanic, 0.18% Pacific Islander, 0.12% Asian, and 8.78% from mixed races. The racial makeup of Ottawa County is 74.1% Caucasian, 16.5% Native American, 3.2% Hispanic, 0.6% African American, 0.3% Asian, 0.1% Pacific Islander, 1.5% from other races, and 3.8% from two or more races.

According to the 2000 Census approximately 616 people are in the labor force in Picher and 15,110 people in Ottawa County. Almost half the workforce of Picher is employed in either the manufacturing industry or in the educational, health, and social services industry. An additional 20.9% of the workforce is employed in the retail trade industry and the construction industry. In Ottawa County persons working in the educational, health, and social services make up 23.9% of the workforce. An additional 17.7% of the workforce is employed in the manufacturing industry while arts, entertainment, recreation, accommodation, food services and retail trade make up 20.8%.

The median household income in the 2000 Census was \$19,722 for Picher, and \$27,507 for Ottawa County. The State of Oklahoma median household income for that year was \$33,400. The per capita income for Picher was \$10,938; for Ottawa County was \$14,478; and for the State of Oklahoma was \$17,646.

4.4 Executive Order 12898

Executive Order 12898 requires each Federal agency to make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

Under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect serves to heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population.

Low-income populations in an affected area are identified with the annual statistical poverty thresholds from the Bureau of the Census Reports on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

Minorities are comprised of individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

Minority populations are identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native American), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.

Disproportionately high and adverse human health effects: When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable: (a) Whether the health effects, which may be measured in risks and rates, are significant or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death; and

(b) Whether the risk or rate of hazard exposure by a minority population, low-income population, or Indian tribe to an environmental hazard is significant and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and (c) Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

Disproportionately high and adverse environmental effects: When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable: (a) Whether there is or will be an impact on the natural or physical environment that significantly and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment; and (b) Whether environmental effects are significant and are or may be having an adverse impact on minority populations, low income populations, or Indian tribes that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group; and (c) Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

4.5 Executive Order 13045

On 21 April 1997, President Clinton issued Executive Order 13045 (EO 13045), Protection of Children From Environmental Health Risks and Safety Risks, which notes that children often suffer disproportionately from environmental health and safety risks, due in part to a child's size and maturing bodily systems. The executive order defines environmental health and safety risks as risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breath, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to). Executive Order 13045 requires Federal agencies, to the extent permitted by law and mission, to identify and assess environmental health and safety risks that may affect children disproportionately. The Order further requires Federal agencies to ensure that its policies, programs, activities, and standards address these disproportionate risks. Executive Order 13045 is addressed in this NEPA document to examine the effects this action will have on children.

4.6 Natural Resources

4.6.1 Terrestrial

The eastern part of the Oklahoma portion of the Picher Field is situated on the west edge of the Ozark Plateau Physiographic Province. The Ozark Plateau is a broad, low structural dome lying mainly in southern Missouri and northern Arkansas. However, the main part of the Picher Field is within the Central Lowland Physiographic Province. This province is characterized by a nearly flat, treeless prairie underlain by Pennsylvanian shales.

The rock formations exposed at the surface in the mining field include Mississippian and Pennsylvanian units that are nearly flat, with a low regional northwestward dip of about 20-25 feet per mile. Cambrian and Ordovician formations, primarily dolomite and chert with some sandstone and minor shale, are encountered only in deep drill holes and water wells in this area.

Mississippian rock units, principally the Boone Formation, are the host for most of the ore deposits. The Boone Formation is composed of fossiliferous limestone and thick beds of nodular chert. Significant quantities of mill-waste material were generated by milling of the lead-zinc ores. The discarded mill-waste material, chiefly composed of chert fragments 0.75 inches or less in diameter is referred to as chat. An inventory of tailings piles, former tailings piles, and former tailings ponds indicates there are 146 former chat-pile sites and 119 existing chat piles that occupy about 1,200 acres. Approximately 900 acres are overlain by chat piles. There are approximately 75 million tons of chat piled throughout the Tar Creek Superfund Site.

The streams that traverse the mining field, which are only slightly incised below prairie level, flow southward to the Neosho River. Elm Creek, on the western edge of the field, and Tar Creek are the principal streams in the main productive part of the field.

Topographic relief in the area is relatively small. The lowest point, south of Commerce, is about 780 feet National Geodetic Vertical Datum (NGVD). The average elevation is around 830 feet NGVD, and the highest point is about 900 feet NGVD.

Tar Creek is located within the Prairie Parkland Province (Bailey, 1980). Vegetation in this province is characterized by intermingled tallgrass prairie, with groves and strips of deciduous trees. This province covers an extensive area of about 218,200 square miles from Canada to Oklahoma, with alternating prairie and deciduous forests. Trees are commonly found near streams. Tallgrass prairie species are the dominant prairie vegetation. Most are moderately tall and usually grow in bunches. The dominant species include big bluestem, little bluestem, switchgrass, and Indian grass, along with many species of wildflowers and legumes. In many places where grazing and fire are controlled, deciduous forest is encroaching on the prairies. The upland forest in this area is dominated by oak and hickory. On floodplains and moist hillsides it includes eastern cottonwood, black willow, and American elm.

Prior to lead and zinc mining the project area was mainly upland timber and native grassland. Extensive ground coverage of chat left behind from mining operations resulted in the topsoil in the area being in very poor condition. The chat material is essentially devoid of organic content and will not support vegetation. As a result vegetation at both mine shaft sites is very sparse or of poor quality (Photo 4.6.1 and 4.6.2).



Photo 4.6.1 Ground cover at Mine Shaft 37.



Photo 4.6.2 Ground cover at Mine Shaft 57.

4.6.2 Soils

According to the US Department of Agriculture Soil Survey for Ottawa County, Oklahoma, both mine shafts are located in soils classified as Mine pits and dumps (Mp). This miscellaneous land type consists of piles of rock and chat from zinc and lead mines. The larger piles cover 40 acres or more, and some are over 200 feet tall and can be seen for miles.

In some areas there is only a thin covering of rock and chat. In many places drainage ways are blocked by rock and chat and nearby areas are ponded or made swampy. Seepage from these areas makes nearby soils, which are otherwise well drained, wet in many places. Most areas of this soil type are without vegetation. This miscellaneous land type has little value for agriculture. In some areas it has minor value for wildlife.

4.6.3 Prime Farmland

Soil that is prime or unique farmland as defined in the Farmland Protection Policy Act is classified as prime farmland. According to the U.S. Department of Agriculture, it is soil that is best suited for producing food, feed, forage, fiber, and oilseed crops. The Mine pits and dumps (Mp) classified soils are not classified as prime farmland.

4.6.4 Wild and Scenic Rivers

There are no streams within the project area that are classified as wild and scenic pursuant to the Federal Wild and Scenic Rivers Act, Public Law 90-542.

4.6.5 Aquatic and Wetlands

Lytle Creek runs through the area just west of mine shaft 57 but is outside the immediate project area and would not be affected by the closure of mine shaft 57.

A small wetland area is adjacent to mine shaft 37 on the south side but it will not be impacted by the closure of mine shaft 37 (Photo 4.6.5.1). The actual project footprint would be very small. An example of a completed mine shaft closure that illustrates the small size of the footprint of a mine shaft closure is at Photo 4.6.5.2.



Photo 4.6.5.1 Wetland adjacent to Mine Shaft 37.

Although mine shaft 37 is adjacent to a small wetland area the closure would not impact the wetland. Also, U.S. Army Corps of Engineers policy in accordance with Regulatory Guidance Letter 85-07 for Superfund Projects is that environmental response actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) do not require authorization under Section 404 of the Clean Water Act. Closure of mine shafts numbers 37 and 57 qualify as CERCLA response actions under this policy. Therefore, the project is not subject to regulation pursuant to Section 404 of the Clean Water Act, and a Department of the Army permit is not required.



Photo 4.6.5.2 Example of small footprint of closed Mine Shaft 56 which is adjacent to Mine Shaft 57.

4.6.6 Fish and Wildlife

Fish habitat within the two vertical mine shafts is non-existent.

Several species of amphibians, reptiles, and birds occur in the vicinity of the two mine shafts.

Mammals most likely to occur in the area include species such as whitetailed deer (*Odocoileus virginianus*), fox squirrel (*Sciurus niger*), coyote (*Canus latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), striped skunk (*Mephitis mephitis*), and cottontail rabbit (*Sylvilagus floridanus*).

4.7 Threatened and Endangered Species

Federally listed species that could occur in Ottawa County include the endangered gray bat (*Myotis grisescens*), endangered Ozark big-eared bat (*Corynorhinus townsendii*), endangered American burying beetle (*Nicrophorus americanus*), endangered winged mapleleaf mussel (*Quadrula fragosa*), the threatened bald eagle (*Haliaeetus leucocephalus*), threatened Neosho madtom (*Noturus placidus*), threatened Ozark cavefish (*Amblyopsis spelaea*), and threatened piping plover (*Charadrius melodus*).

The gray bat was listed in 1976. It is a medium sized bat with a wingspan of 10 to 11 inches and a total length of 4 to 5 inches. It has grayish brown fur and is the only bat within its range with unicolored dorsal hair. The bat roosts almost exclusively in caves year-round and has very specific requirements. They are generally limited to limestone caves, and have specific temperature requirements.

The Ozark big-eared bat was listed 1973. It is a medium sized bat with large ears. Its snout has prominent lumps and its fur ranges from light to dark brown. It is found in caves, cliffs, and rock ledges associated with oak-hickory forests of the Ozarks. They forage along the edges of upland forests for insects.

The American burying beetle was listed in 1989. It is the largest of the burying beetle species reaching a length of 1 to 1 ½ inches. It is a relatively robust beetle having a shiny black elytra with four orange-red spots. It also has a large orange-red spot on the pronotum which is indicative of the species. The habitat requirement for the American burying beetle is not fully understood and it is considered a habitat generalist.

The winged mapleleaf mussel was listed in 1991. Originally it existed in 13 states in river and stream tributaries to the Mississippi River. Today it is found in one river, the St. Croix River, in Minnesota and Wisconsin. It is found in riffles with clean gravel, sand, or rubble bottoms and in clear, high quality water.

The Neosho madtom was listed in 1991. It has features characteristic of all North American catfish, including scaleless skin and a relatively large head with sensory barbels. Adult Neosho madtoms average less than three inches in length. They have a brownish midline stripe and an overall mottled appearance. The preferred habitat of adult Neosho madtoms is shallow riffles with loose, incompact gravel bottoms. They are occasionally found in areas with sandy bottoms covered with leaf litter.

The Ozark cavefish was listed in 1984. It is a small, (2 to 2 ¼ inches), blind, pinkish-white fish that lives in cave streams and springs within the Springfield Plateau in Arkansas, Missouri, and Oklahoma.

The bald eagle was listed in 1967. Bald eagles prefer large trees or high cliffs along large waterways for perching, foraging, and nesting purposes. It forages for fish, waterfowl, and carrion along lakes and waterways.

The piping plover was listed in 1985. It is a small shorebird about seven inches long with a wingspan of 15 inches. Adults have sand-colored upper parts with white undersides and are easily distinguished by their bright orange legs. This species migrates across the eastern ¾ of Oklahoma during the spring and fall utilizing sandy shorelines on lakes and sandbars along the major river systems for forage and resting areas.

4.8 Cultural Resources

In accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, consultation was initiated in 2004 with the Oklahoma State Historic Preservation Office (SHPO). The Picher-Cardin mining area is potentially a historic district eligible for listing on the National Register of Historic Places. Numerous historic structures related to the historic mining activities in the area are present within the Picher Field project area. These structures may include, but are not limited to, processing towers, mine shafts, foundations, structure footings, and chat waste piles. Many or all of these historic features or structures may be contributing elements to a potential National Register historic district. Consultation for the general Tar Creek area, specifically relating to the Picher Field, was also initiated with appropriate Native American tribes. These tribes included the Caddo Tribe of Oklahoma, Cherokee Nation of Oklahoma, Delaware Tribe of Indians of Oklahoma, Eastern Shawnee Tribe of Oklahoma, Miami Tribe of Oklahoma, Modoc Tribe of Oklahoma, Osage Nation of Oklahoma, Ottawa Tribe of Oklahoma, Peoria Tribe of Indians of Oklahoma, Quapaw Tribe of Oklahoma, Seneca-Cayuga Tribe of Oklahoma, Wichita and Affiliated Tribes of Oklahoma, and Wyandotte Tribe of Oklahoma.

For a series of five small pilot projects in the Tar Creek area, Tulsa District executed a Memorandum of Agreement (MOA) with the SHPO and Bureau of Indian Affairs, Eastern Oklahoma Region (BIA) in order to achieve compliance under Section 106. However, regarding all additional work planned for the Tar Creek area, SHPO subsequently withdrew from consultation under Section 106. Tulsa District is currently consulting with the Advisory Council on Historic Preservation (ACHP), to develop a Programmatic Agreement (PA) resulting in Section 106 compliance. One requirement of the PA is expected to be a thematic study of historic properties within a proposed Picher Field National Register Historic District.

4.9 Air Quality

The U.S. Environmental Protection Agency (EPA) published a Conformity Rule on November 30, 1993, requiring all Federal actions to conform to appropriate State Implementation Plans (SIP's) that were established to improve ambient air quality. At this time, the Conformity Rule only applies to Federal actions in non-attainment areas. A non-attainment area is an area that does not meet one or more of the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act (CAA).

A conformity determination based on air emission analysis is required for each proposed Federal action within a non-attainment area. Since this geographical region is in attainment and meets the National Air Quality Standards for the criteria pollutants designated in the CAA, a conformity determination is not required.

4.10 Hazardous, Toxic, and Radiological Waste

The Tar Creek Superfund site was added to the National Priorities List in 1983 because of the presence of hazardous and toxic waste material. Extensive lead and zinc mining in the tri-state area resulted in the formation of acid mine water which has affected the groundwater, sediments, and surface water at this site with heavy metals, including arsenic, cadmium, iron, manganese, nickel, lead, and zinc. The hazardous waste on the site is a primary focus of the proposed actions described in this EA.

Ground water is the principal source of water for domestic and industrial users adjacent to and within the Picher Geologic Field. The Roubidoux and Boone Formations are the principal ground water aquifers in this region. All public water supplies and most industrial water supplies in Ottawa County come from wells drilled into the Roubidoux Formation. This aquifer is generally 900-1,000 feet deep in the mining area. ODEQ evaluated public water supply sampling results and determined the quality of water produced from the Roubidoux aquifer met primary drinking water standards. The Boone Formation is the second most important source of ground water in Ottawa County. However, the Boone Formation is closer to the surface than the Roubidoux Formation and is subject to contamination from surface water through fractures, sink holes, drill holes, and mine shafts. Most of the lead and zinc mining was done in the Boone Formation which is 350-400 feet thick in the Picher Field. A large network of interconnected underground mines and tunnels was created in the Boone Formation during mining operations. Surface water infiltration is a serious drawback to the utilization of Boone ground water as a reliable public water source.

Presently, the major health threat is the lead and cadmium in off-site contaminated chat which was distributed as sand and gravel fill to playgrounds, school yards, ball fields, homeowners for yards and driveways, and on roadways. In addition numerous chat piles are scattered throughout the area. Inhalation and ingestion of lead contaminated dust from the chat appears to be the source of a significant number of elevated blood lead levels in children living and playing in the areas near chat.

SECTION 5.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

A summary of environmental impacts is presented in Table 5.0, Impact Assessment Matrix.

5.1 Social and Economic Impacts

5.1.1 Future Without-Project Conditions

Under the without-project conditions, social and economic conditions would follow the current trends. Population growth, racial and ethnic composition, job opportunities, employment, income, and population density would continue the status quo under without-project conditions.

The most significant aspect of the without-project alternative is that environmental, health, and safety hazards would continue to exist at mine shafts 37 and 57.

**Table 5.0
Impact Assessment Matrix**

Name of Parameter	Magnitude of Probable Impact						
	Increasing Beneficial Impact			No Appreciable Effect	Increasing Adverse Impact		
	Significant	Substantial	Minor		Minor	Substantial	Significant
A. Social Effects							
1. Noise Levels				x			
2. Aesthetic Values				x			
3. Recreational Opportunities				x			
4. Transportation				x			
5. Public Health and Safety	x						
6. Community Cohesion (Sense of Unity)		x					
7. Community Growth and Development			x				
8. Business and Home Relocations			x				
9. Existing/Potential Land Use			x				
10. Controversy	x						
B. Economic Effects							
1. Property Values			x				
2. Tax Revenues				x			
3. Public Facilities and Services				x			
4. Regional Growth			x				
5. Employment			x				
6. Business Activity			x				
7. Farmland/Food Supply				x			
8. Flooding Effects				x			
C. Natural Resource Effects							
1. Air Quality				x			
2. Terrestrial Habitat				x			
3. Wetlands				x			
4. Aquatic Habitat				x			
5. Habitat Diversity and Interspersion				x			
6. Biological Productivity				x			
7. Surface Water Quality				x			
8. Water Supply	x						
9. Groundwater	x						
10. Soils				x			
11. Threatened and Endangered Species				x			
D. Cultural Resources Effects							
1. Historic Architectural Values					x		
2. Pre-Historic & Historic Archeological Values						x	

5.1.2 Future With-Project Conditions

Under the with-project conditions, social and economic conditions would follow the current trends. Population growth, racial and ethnic composition, job opportunities, employment, income, and population density would continue the status quo under with-project conditions.

Closure of mine shafts 37 and 57 would provide positive environmental, health and safety conditions by eliminating two hazardous vertical mine shafts that also provide a potential source for contamination of ground water.

Minor economic benefit would be realized from employment by contractors responsible for closure of the two mine shafts.

5.2 Executive Order 12898

Closure of mine shafts 37 and 57 would have a positive impact on minorities and low-income populations.

5.3 Executive Order 13045

Closure of mine shafts 37 and 57 would have a positive impact on children's health and safety.

5.4 Natural Resource Impacts

5.4.1 Terrestrial

Closure of mine shafts 37 and 57 would not result in the loss of any significant habitat or cause any significant adverse effects on the natural environment. No large trees or shrubs would be removed by the project. Restoration will return the area to comparable-to or better-than existing habitat as discussed in Section 6.0.

5.4.2 Prime Farmland

There would be no impact on prime farmland since these soils do not occur in the project area.

5.4.3 Aquatic and Wetlands

There would be no impact on aquatic habitat or wetlands.

5.4.4 Wildlife

Disturbance from noise caused by construction activities would create a minor, short-term impact on wildlife in the immediate construction vicinity. This disturbance would be temporary and would disappear when construction activities cease.

5.5 Wetlands and Water Quality Permits

Although mine shaft 37 is adjacent to a small wetland area the closure would not impact the wetland. U.S. Army Corps of Engineers policy in accordance with Regulatory Guidance Letter 85-07 for Superfund Projects is that environmental response actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) do not require authorization under Section 404 of the Clean Water Act. Closure of mine shafts numbers 37 and 57 qualify as CERCLA response actions under this policy. Therefore, the project is not subject to regulation pursuant to Section 404 of the Clean Water Act, and a Department of the Army permit is not required.

5.6 Threatened and Endangered Species

Closure of mine shafts 37 and 57 would have no impact on threatened and endangered species.

5.7 Cultural Resources

As outlined in section 4.8, Section 106 coordination with the Advisory Council on Historic Preservation is expected to result in a Programmatic Agreement (PA). One requirement of the PA would be a thematic study of historic properties within a proposed Picher Field National Register Historic District. Under authority of 36 CFR Part 800.12, Emergency Procedures (Implementing Regulations for NHPA), Tulsa District requested formal comment from the ACHP regarding the closure of 11 mine shafts, including numbers 37 and 57. The ACHP concurred with the emergency action by letter dated November 5, 2004 (Appendix B).

5.8 Water Quality

Any impact on water quality derived from this project would be positive. Mine shafts 37 and 57 are two of hundreds of potential sources of groundwater contamination in the area. Although these are only two potential sources, their closure would be considered a part of the cumulative positive impacts of closure of mine shafts and other potential sources of groundwater contamination.

5.9 Air Quality

Construction activity would have a minor temporary impact on air quality caused by heavy equipment operation and from fugitive dust (particulate) emissions in and around the project site. Construction contractors will comply with all appropriate Federal air quality regulations to limit the dispersal of particulate matter. A temporary increase in exhaust emissions would be expected during construction.

5.10 Noise

There would be an increase in noise from heavy equipment during construction, but this would be temporary and last only during the construction period.

5.11 Hazardous, Toxic, and Radiological Waste

The closure of mine shafts 37 and 57 would have a positive impact on HTRW. The Tar Creek Superfund site was added to the National Priorities List in 1983 because of the presence of hazardous and toxic waste material. Extensive lead and zinc mining in the tri-state area resulted in the formation of acid mine water which has affected the groundwater, sediments, and surface water at this site with heavy metals, including arsenic, cadmium, iron, manganese, nickel, lead, and zinc. The hazardous waste on the site is a primary focus of the proposed actions described in this EA.

The Boone Formation, where most lead and zinc ore was extracted, is the second most important aquifer for groundwater in the area and is subject to contamination from surface water through fractures, sink holes, drill holes, and open mine shafts. A large network of interconnected underground mines and tunnels was created in the Boone Formation during mining operations. Surface water infiltration is a serious drawback to the utilization of Boone ground water as a reliable public water source.

5.12 Cumulative Impacts

No cumulative negative impacts would occur as a result of the proposed project. Positive impacts would occur to the health and safety of local citizens, particularly children. Cumulative positive impacts would occur by reduction in the number of hazardous open vertical mine shafts and in the number of potential sources of groundwater contamination.

SECTION 6.0 RESTORATION PLAN

Clearing and grubbing will be accomplished only to the extent necessary to perform excavation, embankment, borrow, or other work required. Clearing and grubbing within the construction limits will be strictly adhered to. In cutting timber growth, cuts will be made such that all trees are felled into the area to be cleared. Care will be exercised so as not to damage existing trees, vegetation, structures, or utilities that are outside the clearing limits.

Debris will not be burned on site. Trees and other vegetation cleared from the sites will be pushed into wildlife brush piles as directed by the Corps inspector. Other construction materials, debris, and trash will be considered salvage and will be removed from the site and recycled or properly disposed of in a permitted landfill.

After backfilling the vertical opening above the concrete plug the upper two feet of the shaft will be filled with the same material as is adjacent to the shaft such as topsoil, chat, etc. The transition between the disturbed areas and the undisturbed areas will be graded to minimize abrupt slope changes and possible erosion. Final grade contours will be carried to existing contours such that there is a smooth transition with no ponding. The area around the excavation will be graded to prevent surface water from flowing and ponding into areas of work.

Each mine shaft will have a 3 foot x 3 foot concrete pad having a minimum thickness of 4 inches placed over the location of the former shaft. A brass cap will be imbedded into the concrete pad and stamped to indicate and identify each site as a plugged mine shaft.

SECTION 7.0 FEDERAL, STATE, AND LOCAL AGENCY COORDINATION

A notice of availability of the Finding of No Significant Impact (FONSI) was provided to the following tribes, agencies, and organizations having responsibilities or interests in the Tar Creek Superfund Site.

Senator Jim Inhofe
Senator Tom Coburn
Representative Dan Boren
State Representative Larry Roberts
State Senator Rick Littlefield
U.S. Environmental Protection Agency
Oklahoma Department of Environmental Quality
Advisory Council on Historic Preservation
Oklahoma State Historic Preservation Office
Oklahoma Archeological Survey
Quapaw Tribe of Oklahoma
Eastern Shawnee Tribe of Oklahoma
Wyandotte Tribe of Oklahoma
Wichita and Affiliated Tribes of Oklahoma
Seneca-Cayuga Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Ottawa Tribe of Oklahoma
Osage Nation of Oklahoma
Modoc Tribe of Oklahoma
Miami Tribe of Oklahoma
Delaware Tribe of Indians of Oklahoma
Caddo Indian Tribe of Oklahoma
Cherokee Nation of Oklahoma
Bureau of Indian Affairs, U.S. Department of the Interior
Oklahoma Geological Survey
Office of Surface Mining, U.S. Department of the Interior
Oklahoma Conservation Commission
USDA Natural Resources Conservation Service
U.S. Fish and Wildlife Service
Oklahoma Department of Wildlife Conservation
Ottawa Reclamation Authority
City of Picher
Ottawa County Commissioner, District #1

SECTION 8.0 REFERENCES

- Bailey, R.G. 1980. *Ecoregions of the United States*. Miscellaneous Publication No. 1391. USDA, Forest Service, Washington, DC.
- Code of Federal Regulations. 2003. 40CFR1500-1508. Protection of Environment. Chapter 5 Council on Environmental Quality.
- Environmental Protection Agency. 2004. *Tar Creek (Ottawa County), Oklahoma*. Miscellaneous Publication, EPA ID# OKD980629844. Site ID: 0601269. EPA Region 6.
- Governor Frank Keating. 2000. *Final Report*. Tar Creek Superfund Task Force. Office of the Secretary of Environment. Oklahoma City, Oklahoma.
- Governor Frank Keating. 2000. *Final Report*. Tar Creek Superfund Task Force. Mine Shaft Subcommittee. Oklahoma City, Oklahoma.
- Luza, Kenneth V. 1986. *Stability Problems Associated with Abandoned Underground Mines in the Picher Field Northeastern Oklahoma*. Circular 88. Oklahoma Geological Survey. Norman, Oklahoma.
- Soil Conservation Service. 1983. *Soil Survey Legends for Prime Farmland Soils*. U.S. Department of Agriculture (USDA), Stillwater, Oklahoma. 185p.
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- U.S. Bureau of Census. 2001. *2000 Census of Population and Housing, STF3*. www.census.gov/
- U.S. Army Corps of Engineers. 2004. *Final Environmental Assessment for Tar Creek Superfund Site Demonstration Projects, Ottawa County, Oklahoma*. Prepared by Weston Solutions, Inc. Contract No. W912BV-04-D-2005. U.S. Army Corps of Engineers, Tulsa District. Tulsa, Oklahoma.

SECTION 9.0 APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

Table 9.0

Relationship of Plans to Environmental Protection Statutes and Other Environmental Requirements

Policies	Compliance of Alternatives
<u>Federal</u>	
Archeological and Historic Preservation Act, 1974, as amended, 16 U.S.C. 469, <u>et seq.</u>	All plans in full compliance
Clean Air Act, as amended, 42 U.S.C. 7609, <u>et seq.</u>	All plans in full compliance
Clean Water Act, 1977, as amended (Federal Water Pollution Control Act, 33 U.S.C. 1251, <u>et seq.</u>	All plans in full compliance
Comprehensive Environmental Response, Compensation and Liability Act, as amended, 42 U.S.C. 103, <u>et seq.</u>	All plans in full compliance
Endangered Species Act, 1973, as amended, 16 U.S.C. 1531, <u>et seq.</u>	All plans in full compliance
Federal Water Project Recreation Act, as amended, 16 U.S.C. 460-1-12, <u>et seq.</u>	N/A
Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661, <u>et seq.</u>	All plans in full compliance
Land and Water Conservation Fund Act, 1965, as amended, 16 U.S.C. 4601, <u>et seq.</u>	N/A
National Historic Preservation Act, 1966, as amended, 16 U.S.C. 470a, <u>et seq.</u>	All plans in full compliance
National Environmental Policy Act, as amended, 42 U.S.C. 4321, <u>et seq.</u>	All plans in full compliance
Native American Graves Protection and Repatriation Act, 1990, 25 U.S.C. 3001-13, <u>et seq.</u>	All plans in full compliance
Rivers and Harbors Act, 33 U.S.C. 401, <u>et seq.</u>	N/A
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, <u>et seq.</u>	N/A
Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271, <u>et seq.</u>	N/A
Water Resources Planning Act, 1965	N/A
Floodplain Management (E.O. 11988)	All plans in full compliance
Protection of Wetlands (E.O. 11990).....	All plans in full compliance
Environmental Justice (E.O. 12898).....	All plans in full compliance
Farmland Protection Policy Act, 7 U.S.C. 4201, <u>et seq.</u>	All plans in full compliance
Protection of Children From Environmental Health Risks and Safety Risks (E.O. 13045)	All plans in full compliance

Note: Full compliance - Having met all requirements of the statutes, Executive Orders, or other environmental requirements for the current stage of planning.

SECTION 10.0 LIST OF PREPARERS

This EA has been prepared to assess the impacts of the closure of mine shafts numbers 37 and 57 near Picher, Ottawa County, Oklahoma, in the Tar Creek Superfund site. The following personnel contributed to the preparation of this document.

Stephen L. Nolen - Chief, Environmental Analysis and Compliance Branch; Biologist; 19 years U.S. Army Engineer District, Tulsa.

Jerry C. Sturdy - Biologist; 3 years U.S. Fish and Wildlife Service; 8 years U.S. Army Garrison, Fort Chaffee, Arkansas; 23 years U.S. Army Engineer Districts, Tulsa and Fort Worth.

Kenneth L. Shingleton, Jr. - Archaeologist; 7 years U.S. Army Engineer District, St. Louis; 4 years U.S. Army Engineer District, Tulsa.

APPENDIX A

COORDINATION

Mailing List for notice of availability of FONSI

U. S. Senator Jim Inhofe
1924 S. Utica
Suite 530
Tulsa, OK 74104-6511

Senator Tom Coburn
P.O. Box 977
Muskogee, OK 74402

U. S. Representative Dan Boren
P.O. Box 149
Okemah, OK 74859

State Representative Larry Roberts
202 "C" NW
Miami, OK 74354

State Senator Rick Littlefield
P.O. Box 451748
Grove, OK 74345

Mr. Richard E. Greene
Federal Region VI Administrator
Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, TX 75202

Mr. Steve Thompson
Executive Director
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101-1677

Mr. Don Klima
Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
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University of Oklahoma
Oklahoma Archeological Survey
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Dr. Bob Blackburn
State Historic Preservation Officer
Oklahoma Historical Society
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P.O. Box 765
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Mr. Charles Enyart, Chief
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P.O. Box 350
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Wyandotte Tribe of Oklahoma
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Wichita and Affiliated Tribes of Oklahoma
P.O. Box 729
Anadarko, OK 73005

Mr. Leroy Howard, Chief
Seneca-Cayuga Tribe of Oklahoma
P.O. Box 1283
Miami, OK 74355

Mr. John Froman, Chief
Peoria Tribe of Indians of Oklahoma
P.O. Box 1527
Miami, OK 74355

Mr. Todd Charles, Chief
Ottawa Tribe of Oklahoma
P.O. Box 110
Miami, OK 74355

Mr. Jim Gray, Principal Chief
Osage Nation of Oklahoma
P.O. Box 779
Pawhuska, OK 74056

Mr. Bill G. Follis, Chief
Modoc Tribe of Oklahoma
515 G SE Street
Miami, OK 74354

Mr. Floyd Leonard, Chief
Miami Tribe of Oklahoma
P.O. Box 1326
202 S. Eight Tribes Trail
Miami, OK 74355

Mr. Larry Joe Brooks, Chief
Delaware Tribe of Indians of Oklahoma
220 NW Virginia Ave.
Bartlesville, OK 74003

Mr. Chad Smith, Principal Chief
Cherokee Nation of Oklahoma
P.O. Box 948
Tahlequah, OK 74465

Ms. LaRue Parker, Chairwoman
Caddo Indian Tribe of Oklahoma
P.O. Box 487
Binger, OK 73009

Ms. Jeanette Hanna
Regional Director
Eastern Oklahoma Regional Office
Bureau of Indian Affairs
P.O. Box 8002
Muskogee, OK 74402-8002

Ms. Kathy Peter
District Chief
U.S. Geological Survey
202 NW 66th
Oklahoma City, OK 73116

Mr. Michael C. Wolfrom
Director
Tulsa Field Office
Office of Surface Mining
5100 East Skelly Drive, Suite 470
Tulsa, OK 74135

Mr. Mike Thralls
Executive Director
Oklahoma Conservation Commission
2800 N. Lincoln Blvd., Suite 160
Oklahoma City, OK 73105

Mr. Darrel Dominick
State Conservationist
USDA Agri-Center Bldg
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Stillwater, OK 74074-2655

Mr. Jerry Brabander
Field Supervisor
U.S. Fish & Wildlife Service
222 South Houston, Suite A
Tulsa, OK 74127

Mr. Greg D. Duffy
Director
Oklahoma Dept. of Wildlife Conserv.
P.O. Box 53465
Oklahoma City, OK 73105

Mr. Benny Miller
Executive Director
Ottawa Reclamation Authority
207 East 10th
Picher, OK 74360

Mr. Sam Freeman
Mayor
City of Picher
213 East 3rd
Picher, OK 74360

Mr. Joe Crawford
Ottawa County Commissioner, District 1
103 East 1st
Quapaw, OK 74363

APPENDIX B

CULTURAL RESOURCES COORDINATION



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Leaford Bearskin, Chief
Wyandotte Tribe of Oklahoma
P.O. Box 250
Wyandotte, OK 74370

Dear Chief Bearskin:

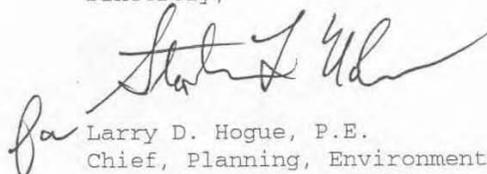
This letter is to initiate consultation as required under Section 106 of the National Historic Preservation Act of 1966 (as amended) for a series of five proposed pilot environmental remediation projects located in the Pitcher-Cardin lead mining area of northeast Oklahoma. These activities have been authorized in Section 111 of the Energy and Water Development Appropriation Act of 2004 (PL 108-137). The purpose of these small scale projects is to evaluate a variety of remediation technologies for potential future implementation. The project areas (see enclosed map) are located in Sections 20, 28, and 29, Township 29 North, Range 23 East; Section 36, Township 29 North, Range 22 East; and Section 7, Township 28 North, Range 22 East, in Ottawa County, Oklahoma.

The proposed pilot remediation projects include the following: (1) construct a diversion channel for passive treatment of stormwater drainage; (2) plug/secure two mine shafts; (3) mitigate unvegetated mining spoils between Boys and Girls Club and Picher-Cardin schools; (4) mitigate unvegetated mining spoils by filling a subsidence pond; and (5) mitigate unvegetated mining spoils between residences and the Kenoyer chat pile by creating a "green buffer zone".

Tulsa District will be conducting cultural resources investigations of these project areas to comply with the requirements of Section 106 of the National Historic Preservation Act of 1966 (as amended). Please review these areas for information that you may be willing to share with us on archaeological or historic sites, sacred sites, or traditional cultural properties that may be significant to you. Information you may be able to provide will assist us in assessing the effects of the proposed project on cultural resources.

Any information or comments you may be able to provide will be appreciated. If you have any questions, please contact Ken Shingleton at 918-669-7661.

Sincerely,


Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division

November 2004

rps of Engineers
Tulsa District



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Gary McAdams, President
Wichita and Affiliated Tribes of Oklahoma
P.O. Box 729
Anadarko, OK 73005

Dear President McAdams:

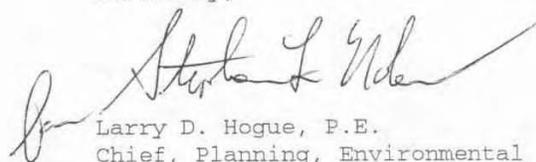
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Any information or comments you may be able to provide will be appreciated. If you have any questions, please contact Ken Shingleton at 918-669-7661.

Sincerely,



Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division

November 2004

Corps of Engineers
Tulsa District



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Leroy Howard, Chief
Seneca-Cayuga Tribe of Oklahoma
P.O. Box 1283
Miami, OK 74355

Dear Chief Howard:

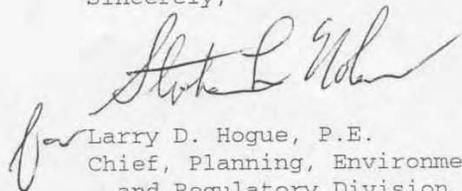
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Any information or comments you may be able to provide will be appreciated. If you have any questions, please contact Ken Shingleton at 918-669-7661.

Sincerely,


for Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. John Berrey, Chairman
Quapaw Tribe of Oklahoma
P.O. Box 765
Quapaw, OK 74363

Dear Chairman Berrey:

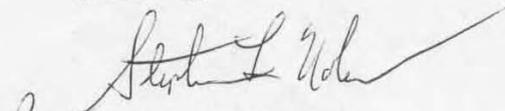
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Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. John Froman, Chief
Peoria Tribe of Indians of Oklahoma
P.O. Box 1527
Miami, OK 74355

Dear Chief Froman:

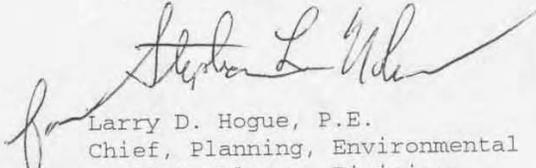
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Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Todd Charles, Chief
Ottawa Tribe of Oklahoma
P.O. Box 110
Miami, OK 74355

Dear Chief Charles:

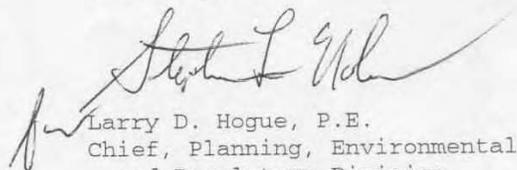
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Chief, Planning, Environmental
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DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Jim Gray, Principal Chief
Osage Nation of Oklahoma
P.O. Box 779
Pawhuska, OK 74056

Dear Chief Gray:

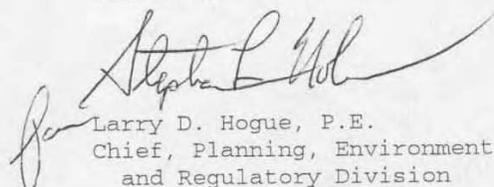
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Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Bill G. Follis, Chief
Modoc Tribe of Oklahoma
515 G SE Street
Miami, OK 74354

Dear Chief Follis:

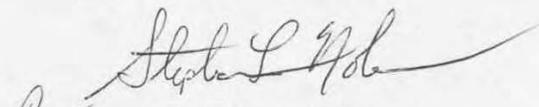
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Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Floyd Leonard, Chief
Miami Tribe of Oklahoma
P.O. Box 1326,
202 S. Eight Tribes Trail
Miami, OK 74355

Dear Chief Leonard:

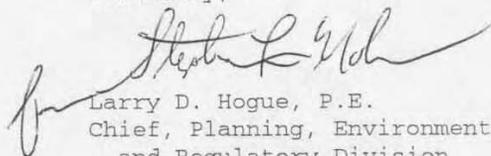
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Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division

November 2004

Corps of Engineers
Tulsa District



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Charles Enyart, Chief
Eastern Shawnee Tribe of Oklahoma
P.O. Box 350
Seneca, MO 64865

Dear Chief Enyart:

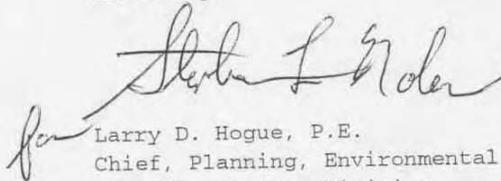
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Sincerely,


for Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Larry Joe Brooks, Chief
Delaware Tribe of Indians of Oklahoma
220 NW Virginia Ave.
Bartlesville, OK 74003

Dear Chief Brooks:

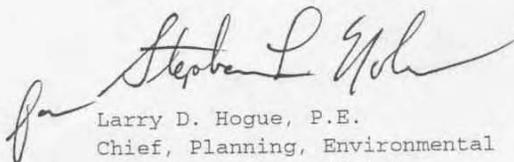
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Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Chad Smith, Principal Chief
Cherokee Nation of Oklahoma
P.O. Box 948
Tahlequah, OK 74465

Dear Chief Smith:

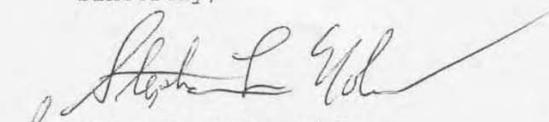
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Chief, Planning, Environmental
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 2, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Ms. LaRue Parker, Chairwoman
Caddo Indian Tribe of Oklahoma
P.O. Box 487
Binger, OK 73009

Dear Chairwoman Parker:

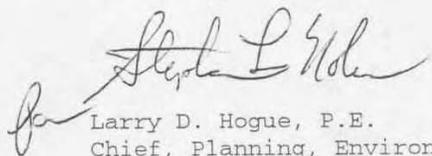
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Sincerely,


Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division



EASTERN SHAWNEE TRIBE OF OKLAHOMA

P.O. Box 350 · Seneca, MO 64865 · (918) 666-2435 · FAX (918) 666-2186

June 9, 2004

Department of Army
Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 71428-4609

Re: **PL 108-137**

To Whom It May Concern:

Thank you for notice of the referenced project(s). The Eastern Shawnee Tribe of Oklahoma is currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. In the event any items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction, the Eastern Shawnee Tribe request notification and further consultation.

The Eastern Shawnee Tribe has no objection to the proposed construction. However, if any human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, the construction should stop immediately, and the appropriate persons, including state and tribal NAGPRA representatives contacted.

Sincerely,

Charles Enyart, Chief
Eastern Shawnee Tribe of Oklahoma

Kathleen A. Welch

Kathleen A. Welch
Environmental Assistant



PEORIA TRIBE OF INDIANS OF OKLAHOMA

118 S. Eight Tribes Trail (918) 540-2535 FAX (918) 540-2538
P.O. Box 1527
MIAMI, OKLAHOMA 74355

CHIEF
John P. Froman
SECOND CHIEF
Joe Goforth

November 18, 2004

Department of Army
Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, OK 74128-4609

RE: U.S. Army Corps of Engineers, Tulsa Creek Superfund Site, which is located in the vicinity of the towns of Picher and Cardin, northeast Oklahoma. The proposed emergency undertaking consist of plugging and capping eleven mineshaft openings which represent an immediate hazard to human life because of proximity to characteristics of the shafts themselves.

Thank you for notice of the referenced projects. The Peoria Tribe of Indians of Oklahoma is currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. In the event any items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction, the Peoria Tribe request notification and further consultation.

The Peoria Tribe has no objection to the proposed construction. However, if any human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, the construction should stop immediately, and the appropriate persons, including state and tribal NAGPRA representatives contacted.

A handwritten signature in black ink, appearing to read 'J.P.F.', is written over a horizontal line.

John P. Froman
Chief

xc: Bud Ellis, Repatriation/NAGPRA Committee Chairman

TREASURER
John Sharp

SECRETARY
Hank Downum

FIRST COUNCILMAN
Claude Landers

SECOND COUNCILMAN
Jenny Rampey

THIRD COUNCILMAN
Jason Dollarhide



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 25, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Dr. Robert Brooks
State Archaeologist
Oklahoma Archeological Survey
111 E. Chesapeake
Norman, OK 73019

Dear Dr. Brooks:

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In accordance with Section 106, Tulsa District initiated fieldwork to identify historic properties. An initial surface reconnaissance of all five areas was conducted by a Corps of Engineers archaeologist on May 19, 2004. Subsequently, Tulsa District contracted to Lopez Garcia Group (LGG) to perform the majority of the fieldwork and associated historical and archival research. This work was conducted in June 2004, and a draft report of investigations is enclosed for your review. Unfortunately, Study Area 1, as it is identified in the report, remains

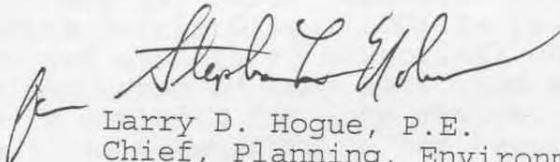
uninvestigated because real estate access could not be granted quickly. This area will be investigated at a later date and included in the final version of the LGG report. Subsequently, it will be properly coordinated with your office at that time.

We have reviewed the draft report produced by Lopez Garcia Group and we agree with the firm's recommendations that none of the recorded archaeological sites (34OT103-107) and all but one of the recorded standing structures (Structures 1, 2, and 4-15) are not individually eligible for listing on the National Register (NRHP). However, we also agree with Lopez Garcia Group that nearly all of these sites and structures (minus Structures 5, 6, 10, and 15) may be contributing elements to a potential National Register historic district, based on their association with the historic Tri-State mining district. In fact, there may be numerous contributing elements to such a district - perhaps eligible on a thematic basis - but this is unconfirmed because there is no complete inventory of historic properties in the area. In addition to a potential NRHP-eligible historic district, we concur with LGG that one standing structure, Structure 3, is individually eligible for listing on the NRHP under Criterion C.

Based on these investigations, we believe there will be "no adverse effect" for historic properties within these project areas in the vicinity of the Picher-Cardin area. To support this position, Tulsa District has ensured that all engineering plans and specifications call for all historic standing structures and historic structural features to be left unmodified and in place. Exceptions to this include mine shaft openings and chat piles, which are central to project remediation goals and represent health hazards.

We greatly appreciate your willingness to expedite these pilot projects and understand that a full cultural resources study of the Picher-Cardin area will be necessary and essential for the progression of the Corps of Engineers' environmental remediation program. We request your review of the enclosed report and your comment on our finding of "no adverse effect." If you have any questions, please contact Mr. Ken Shingleton at 918-669-7661.

Sincerely,



Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

June 25, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Dr. Bob Blackburn
State Historic Preservation Officer
Oklahoma Historical Society
2704 Villa Prom, Shepherd Mall
Oklahoma City, OK 73107

Dear Dr. Blackburn:

This letter is to initiate consultation as required under Section 106 of the National Historic Preservation Act of 1966 (as amended) for a series of five proposed pilot environmental remediation projects located in the Pitcher-Cardin lead and zinc mining area of northeast Oklahoma. These activities have been authorized in Section 111 of the Energy and Water Development Appropriation Act of 2004 (PL 108-137). The purpose of these small scale projects is to evaluate a variety of remediation technologies for potential future implementation. The project areas (see enclosed maps) are located in Sections 20, 28, and 29, Township 29 North, Range 23 East; Section 36, Township 29 North, Range 22 East; and Section 7, Township 28 North, Range 22 East, in Ottawa County, Oklahoma.

The proposed pilot remediation project includes the following: (1) construct a diversion channel for passive treatment of stormwater drainage; (2) plug/secure two mine shafts; (3) mitigate unvegetated mining spoils between Boys and Girls Club and Picher-Cardin schools; (4) mitigate unvegetated mining spoils by using them to fill a subsidence pond; and (5) mitigate unvegetated mining spoils between residences and the Kenoyer chat pile by creating a "green buffer zone".

In accordance with Section 106, Tulsa District initiated fieldwork to identify historic properties. An initial surface reconnaissance of all five areas was conducted by a Corps of Engineers archaeologist on May 19, 2004. Subsequently, Tulsa District contracted to Lopez Garcia Group (LGG) to perform the majority of the fieldwork and associated historical and archival research. This work was conducted in June 2004, and a draft report of investigations is enclosed for your review. Unfortunately, Study Area 1, as it is identified in the report, remains uninvestigated because real estate access could not be granted quickly. This area will be investigated at a later date

November 2004

neers
Tulsa District

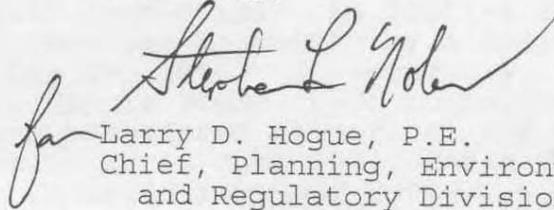
and included in the final version of the LGG report. Subsequently, it will be properly coordinated with your office at that time.

We have reviewed the draft report produced by Lopez Garcia Group and we agree with the firm's recommendations that none of the recorded archaeological sites (34OT103-107) and all but one of the recorded standing structures (Structures 1, 2, and 4-15) are not individually eligible for listing on the National Register (NRHP). However, we also agree with Lopez Garcia Group that nearly all of these sites and structures (minus Structures 5, 6, 10, and 15) may be contributing elements to a potential National Register historic district, based on their association with the historic Tri-State mining district. In fact, there may be numerous contributing elements to such a district - perhaps eligible on a thematic basis - but this is unconfirmed because there is no complete inventory of historic properties in the area. In addition to a potential NRHP-eligible historic district, we concur with LGG that one standing structure, Structure 3, is individually eligible for listing on the NRHP under Criterion C.

Based on these investigations, we believe there will be "no adverse effect" for historic properties within these project areas in the vicinity of the Picher-Cardin area. To support this position, Tulsa District has ensured that all engineering plans and specifications call for all historic standing structures and historic structural features to be left unmodified and in place. Exceptions to this include mine shaft openings and chat piles, which are central to project remediation goals and represent health hazards.

We greatly appreciate your willingness to expedite these pilot projects and understand that a full cultural resources study of the Picher-Cardin area will be necessary and essential for the progression of the Corps of Engineers' environmental remediation program. We request your review of the enclosed report and your comment on our finding of "no adverse effect." If you have any questions, please contact Mr. Ken Shingleton at 918-669-7661.

Sincerely,


for Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

July 2, 2004

Larry D. Hogue
Chief, Planning, Environmental,
and Regulatory Division
Department of the Army
Corps of Engineers Tulsa District
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Re: Hazard mitigation – Tar Creek Superfund project. Legal Description:
NW ¼ SW ¼ SW ¼ Section 28, N ½ NE ¼ Section 20 T29N R23E;
E ½ Section 36 T29N R22E; SE ¼ NW ¼ NE ¼ SW ¼ Section 20
T29N R23E, Ottawa County, Oklahoma.

Dear Mr. Hogue:

I have received a report documenting the results of a cultural resource inventory undertaken as a pilot study for the assessment of potential effects in mediation of the Tar Creek Superfund project. It is recognized that this is a pilot study and does not constitute the final action and results of the project. It is also acknowledged that Study Area was inaccessible at the time of the field survey and will be investigated at a later date.

Field investigations for the Tar Creek Superfund project were undertaken by personnel of the LopezGarcia Group from June 7-10, 2004. The examination of some 57 acres representing the pilot study of potential effect resulted in the documentation of five previously recorded archaeological sites (34OT103-107) and 15 structures of architectural character. All these represent historic cultural resources. **Being historic sites and structures, I defer opinion on this study – potential eligibility to the National Register and potential effects to the Historic Preservation Office.**

This review has been conducted in cooperation with the State Historic Preservation Office, Oklahoma Historical Society.

Sincerely,



Robert L. Brooks
State Archaeologist

Cc: SHPO
LopezGarcia Group
Peoria Tribe
Osage Tribe
Quapaw Tribe

November 2004



Oklahoma Historical Society

Founded May 27, 1893

State Historic Preservation Office • 2704 Villa Prom • Shepherd Mall • Oklahoma City, OK 73107-2441
Telephone 405/521-6249 • Fax 405/947-2918

July 22, 2004

Mr. Larry Hogue
Chief of Operations, CESWT-OD
Tulsa District Corps of Engineers
1645 South 101 East Avenue
Tulsa, OK 74128-4609

RE: File #1972-04; Tar Creek Superfund, Five Pilot COE Sites,
Ottawa County

Dear Mr. Hogue:

We have reviewed the submitted Lopez Garcia archeological survey report titled "Cultural Resources Investigations at Six Study Areas Within the Tar Creek Superfund Site". Based on the information presented in this report we cannot agree with your "no adverse effect" determination.

Chat piles and mine shaft openings cannot be excluded from the historic landscape when discussing mine properties or sites. We acknowledge that these particular features represent health hazards and need to be addressed; however, they need to be adequately documented and evaluated along with the other mine features. Modification of these elements has to be viewed as an adverse effect to potential eligible National Register of Historic Places properties.

We have discussed the situation with Ken Shingleton of your staff and are in agreement that this issue can be satisfactorily resolved through development of a Memorandum of Agreement.

Thank you for the opportunity to review this project. If you have any questions, please call Charles Wallis, Historical Archeologist, at 405/521-6381. Please reference the above underlined file number when responding. Thank you.

Sincerely,

Melvena Heisch
Deputy State Historic
Preservation Officer

MH:bh



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

August 6, 2004

Planning, Environmental and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Don L. Klima, Director
Office of Planning and Review
Advisory Council on Historic Preservation
12136 West Bayaud Ave., Suite 330
Lakewood, CO 80228

Dear Mr. Klima:

This letter is to notify you of a determination of adverse effect to historic properties, as required under Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. The undertakings include a series of five small pilot projects located in the vicinity of the towns of Picher and Cardin, northeast Oklahoma, otherwise known as a part of the Tri-State Mining District or the Tar Creek Superfund Site. The U.S. Army Corps of Engineers has been authorized to initiate certain small-scale environmental remediation measures in Section 111 of the Energy and Water Development Appropriation Act of 2004 (PL 108-137). The purpose of these small scale projects is to evaluate a variety of remediation technologies for potential future implementation. The project areas (see enclosed map) are located in Sections 20, 28, and 29, Township 29 North, Range 23 East; Section 36, Township 29 North, Range 22 East; and Section 7, Township 28 North, Range 22 East, in Ottawa County, Oklahoma.

The five proposed pilot remediation projects include the following: (1) construct a diversion channel to assist in passive treatment of stormwater drainage; (2) plug/secure two mine shafts; (3) mitigate unvegetated mining spoils between Boys and Girls Club and Picher-Cardin schools; (4) mitigate unvegetated mining spoils by using them to fill a subsidence pond; and (5) mitigate unvegetated mining spoils between residences and the Kenoyer chat pile by creating a "green buffer zone".

In accordance with Section 106, the U.S. Army Corps of Engineers, Tulsa District initiated fieldwork in June 2004 to identify historic properties. An initial surface reconnaissance of all five areas was conducted by a Corps of Engineers archaeologist on May 19, 2004. Subsequently, Tulsa District contracted LopezGarcia Group (LGG) to perform the majority of the fieldwork and associated historical and archival research. A draft report of these investigations is enclosed for your review. Unfortunately, Study Area 1, as it is identified in the report, remains uninvestigated because real estate access could

not be granted quickly. This area will be investigated at a later date and included in the final version of the LGG report. Subsequently, it will be properly coordinated with the Oklahoma State Historic Preservation Office (SHPO) and your office at that time.

Also enclosed are copies of our formal coordination (to date) with the Oklahoma SHPO, Oklahoma Archeological Survey, and a number of Native American tribes. Consultation with the SHPO has resulting in a departure from our original collective position of "no adverse effect" as stated in our June 25, 2004 letter to Dr. Bob Blackburn.

Based on this consultation, we believe that there is a strong potential for the Picher-Cardin area - and perhaps even a much larger area extending into Kansas and Missouri - to be determined a National Register historic district based on the theme of historic lead and zinc mining. Such a historic district has not yet been defined, and therefore it is difficult to fully determine a suite of associated contributing elements. However, we feel confident that most of the historic archaeological features described in the enclosed report define contributing elements to such a historic district. We also believe that the full development of a historic context of the area and an accounting of contributing elements is the most appropriate next step in the assessment of the effects of federally funded activities on these resources.

Because most of these sites and associated features are presumed to be contributing elements - at this time - to a potential historic district, our review of proposed project activities leads us to believe that we will have an adverse effect on two particular classes of historic features. These include mine shafts and mine waste (chat) piles, which are integral to the remediation project and which represent hazards to human health. In these cases, the Corps of Engineers will be plugging mine shafts and removing or otherwise modifying chat piles, which will adversely affect the integrity of these features. All other historic archaeological features and standing structures described in the enclosed report will be avoided. We thus do not believe these potential contributing elements will be adversely affected by Corps activities.

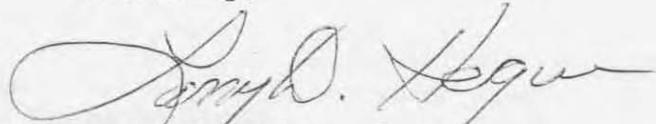
In order to resolve adverse effects, we have reached a tentative verbal agreement with the SHPO that existing documentation on file (enclosed report) is sufficient to offset the loss of the chat piles and mine shafts located within the five proposed project areas. A Memorandum of Agreement (MOA) to this effect will be drafted and executed to facilitate full compliance with the Section 106 process for these pilot projects.

We request that you advise us of the Advisory Council's expected role in the Section 106 consultation process for this

- 3 -

federal undertaking. Any guidance or assistance you may provide will be greatly appreciated. If you have any questions, please contact Mr. Ken Shingleton at 918-669-7661.

Sincerely,

A handwritten signature in cursive script, appearing to read "Larry D. Hogue".

Larry D. Hogue, P.E.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



Preserving America's Heritage

August 25, 2004

Larry D. Hogue
Chief, Planning, Environmental,
And Regulatory Division
Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, OK 74128-4609

REF: *Tar Creek Superfund Site, Pilot Projects.*

Dear Mr. Hogue:

We received your notification and supporting documentation regarding the adverse effects of the referenced project on a property or properties eligible for inclusion in the National Register of Historic Places. Based upon the information you provided, we do not believe that our participation in consultation to resolve adverse effects is needed. However, should circumstances change, please notify us so we can re-evaluate if our participation is required. Pursuant to 36 CFR 800.6(b)(iv), you will need to file the Memorandum of Agreement, and related documentation at the conclusion of the consultation process. The filing of this Agreement with the ACHP is necessary to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions, please contact Margie Nowick at 969-5110 or via eMail at mnowick@achp.gov.

Sincerely,

Nancy Kochan
Office Administrator/Technician
Western Office of Federal
Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

12136 West Bayaud Avenue, Suite 330 • Lakewood, Colorado 80228
Phone: 303-969-5110 • Fax: 303-969-5115 • achp@achp.gov • www.achp.gov

November 2004

*Corps of Engineers
Tulsa District*



United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002



IN REPLY REFER TO:

Environmental, Safety
and Cultural Resources

AUG 3 1 2004

Mr. Ken Shingleton
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Shingleton:

Thank you for the opportunity to review the Memorandum of Agreement (MOA) between the U.S. Army Corps of Engineers, Tulsa District, and the Oklahoma State Historic Preservation Officer regarding five small-scale pilot environmental remediation projects in the vicinity of the Picher-Cardin lead and zinc mining area, Ottawa County, Oklahoma. The Bureau of Indian Affairs, Eastern Oklahoma Regional Office, offers the following comments:

The MOA recognizes that implementing the proposed projects will cause the loss of historic features and directs in Stipulation II that all other historical structures and structural remains be avoided. It is suggested that a list of the features identified in each site and the impacts of the proposed projects to these features be attached to assist in understanding the effects of the proposed undertaking. Additionally the state site forms should be updated after project completion.

Please clarify whether Stipulation II refers to sites 34OT103 and 34OT107 or sites 34OT103 through 34OT107.

If there are any questions, please contact Mr. Bob Coleman, Acting Division Chief, Division of Environmental, Safety and Cultural Resources, Eastern Oklahoma Regional Office, at (918) 781-4643.

Respectfully,

Regional Director

MEMORANDUM OF AGREEMENT

BETWEEN THE U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT

AND THE

OKLAHOMA STATE HISTORIC PRESERVATION OFFICER

REGARDING FIVE SMALL-SCALE PILOT ENVIRONMENTAL REMEDIATION
PROJECTS IN THE VICINITY OF THE PICHER-CARDIN LEAD AND ZINC
MINING AREA, OTTAWA COUNTY, OKLAHOMA

WHEREAS the U.S. Army Corps of Engineers, Tulsa District (USACE) plans to carry out five small-scale pilot environmental remediation projects in the vicinity of the Picher-Cardin Lead and Zinc Mining Area, Ottawa County, Oklahoma, otherwise known as part of the Tri-State Mining District or the Tar Creek Superfund Site, pursuant to the Energy and Water Development Appropriation Act of 2004 (P.L. 108-137); and

WHEREAS the undertaking consists of the following five small-scale pilot remediation projects: (1) construction of a diversion channel for passive treatment of stormwater drainage; (2) installation of plugs to secure two mine shaft openings; (3) mitigation of unvegetated mining spoils between Boys and Girls Club and Picher-Cardin schools; (4) mitigation of unvegetated mining spoils by using them to fill a subsidence pond; and (5) mitigation of unvegetated mining spoils between residences and the Kenoyer chat pile by creating a "green buffer zone"; and

WHEREAS, USACE has defined the undertaking's area of potential effect (APE) as selected portions of land (see map, Attachment A) located in Sections 20, 28, and 29, Township 29 North, Range 23 East; Section 36, Township 29 North, Range 22 East; and Section 7, Township 28 North, Range 22 East, in Ottawa County, Oklahoma; and

WHEREAS, USACE and the Oklahoma State Historic Preservation Officer (SHPO) agree that information available in standard published sources establish the significance of the lead and zinc mining industry in northeast Oklahoma and that site visits to the area by USACE and SHPO representatives confirm the presence of numerous historic resources; and

WHEREAS, USACE and the SHPO agree that a formal study to identify and evaluate archeological and historic resources in the lead and zinc mining area is needed to confirm precise boundaries of one or more districts potentially eligible for the National Register of Historic Places but that the time allotted for implementation of the five pilot projects makes such a cultural resources investigation infeasible at this time, and

WHEREAS, USACE has determined that the undertaking may have an adverse effect on historic mine waste (chat) piles and the entrances to mine shafts which may be contributing elements to an as yet undefined historic district that may be eligible for listing in the National Register of Historic Places, and has consulted with the Oklahoma Historic Preservation Officer (SHPO) pursuant to 36 C.F.R. Part 800, of the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f); and

WHEREAS, USACE has consulted with the U.S. Department of the Interior, Bureau of Indian Affairs (BIA), Eastern Oklahoma Region, regarding the effects of the undertaking on historic properties located on federal trust lands managed by the BIA (two of the five project areas), and has invited the agency to sign this MOA as an invited signatory; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), USACE has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

NOW, THEREFORE, USACE and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

USACE shall ensure that the following measures are carried out.

I. USACE shall utilize existing information on file for mine shaft openings and mine spoilage (chat) piles within the APE as sufficient documentation to offset the loss of these historic features. The USACE provided this documentation to the SHPO on June 25, 2004, and it is incorporated in the report "*Cultural Resources Investigations at Six Study Areas within the Tar Creek Superfund Site*" (including background material, the SHPO's "Historic Preservation Resource Identification Forms," and photographs). The SHPO accepts this documentation on file in its office as adequate mitigation of the adverse effects of the pilot projects.

II. USACE shall avoid all other historical structures and structural remains located within and/or near the APE, defined in existing documentation as sites 34OT103 through 34OT107 and standing structures 1 through 15.

III. DURATION

This MOA will be null and void if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, USACE may consult with the other

signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation V below.

IV. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, USACE shall consult with such party to resolve the objection. If USACE determines that such objection cannot be resolved, USACE will:

A. Forward all documentation relevant to the dispute, including the USACE's proposed resolution, to the ACHP. The ACHP shall provide USACE with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, USACE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. USACE will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, USACE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, USACE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

C. USACE's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

V. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

VI. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation V, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, USACE must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. USACE

shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by the USACE and SHPO and implementation of its terms evidence that USACE has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORIES:

U.S. Army Corps of Engineers, Tulsa District



7 SEP 04 Date

Miroslav P. Kurka

Colonel, U.S. Army District Engineer

Oklahoma State Historic Preservation Officer


9-13-04 Date

Dr. Bob Blackburn

INVITED SIGNATORY:

U.S. Department of the Interior, Bureau of Indian Affairs, Eastern Oklahoma Region

Date

Ms. Jeanette Hanna, Regional Director



Oklahoma Historical Society

Founded May 27, 1893

State Historic Preservation Office • 2704 Villa Prom • Shepherd Mall • Oklahoma City, OK 73107-2441

Telephone 405/521-6249 • Fax 405/947-2918

October 28, 2004

Col. Miroslav T. Kurka
Tulsa District Corps of Engineers
1645 South 101st East Avenue
Tulsa, OK 74128

RE: Oklahoma State Historic Preservation Office Withdrawal from Consultation under Section 106 of the National Historic Preservation Act for the Tar Creek Superfund Projects

Dear Col. Kurka:

Please accept this correspondence as notification that the Oklahoma State Historic Preservation Office has officially withdrawn from consultation under Section 106 of the National Historic Preservation Act for all federal undertakings associated with the Tar Creek Superfund clean-up effort. The Tulsa District Corps of Engineers and all other agencies involved in these federal undertakings should now consult directly with the Advisory Council on Historic Preservation at their Western Office of Project Review, 12136 West Bayaud Avenue, #330, Lakewood, CO 80228. The contact person with the Council is Margie Nowick at 303/969-5110 or mnowick@achp.gov.

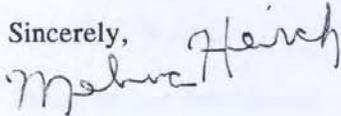
As you are aware, we participate in the Section 106 review process in accordance with the Advisory Council on Historic Preservation's regulations (36 CFR Part 800). Due to the short timeframe for execution of numerous (at least forty) Tar Creek clean-up projects just brought to our attention and the lack of adequate information about historic properties that may be affected by these undertakings, we cannot provide reasonable conclusions about the significance of historic resources nor responsible recommendations about appropriate mitigation measures for those resources that are eligible for the National Register of Historic Places and that may be adversely affected by these projects. Since May, we have endeavored to assist the Corps of Engineers and other agencies to expedite several pilot projects for Tar Creek. We made this effort in consultation with the Advisory Council on Historic Preservation and with the understanding that an appropriate study (see 36 CFR Part 800.4) of the project area would be undertaken before additional projects would be reviewed.

Col. Kurka
October 28, 2004,
Page 2

It is now our understanding that there is no timetable for the study of historic resources, but that many construction projects must be carried out almost immediately. In light of this situation and the numerous agencies involved, we have concluded that we can no longer have any meaningful input into these projects.

We want to express our appreciation for the diligent efforts of Ken Shingleton of your staff over the last several months to work on the Section 106 issues surrounding the Tar Creek projects. If you or members of your staff may have questions, please do not hesitate to contact me directly at 405/522-4484 or mheisch@ok-history.mus.ok.us.

Sincerely,



Melvena Heisch
Deputy State Historic
Preservation Officer

MH:pm

cc: Mary Jane Calvey (Oklahoma DEQ)
Jeanette Hanna (Regional Director Muskogee BIA)
Miles Tolbert (Oklahoma's Secretary of Environment)

✓ bcc: Ken Shingleton



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

OCT 29 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Don L. Klima, Director
Office of Planning and Review
Advisory Council on Historic Preservation
12136 West Bayaud Ave., Suite 330
Lakewood, CO 80228-2115

Dear Mr. Klima:

This letter is to notify you that the U.S. Army Corps of Engineers, Tulsa District is proposing emergency undertakings within the Tar Creek Superfund Site, which is located in the vicinity of the towns of Picher and Cardin, northeast Oklahoma. The proposed emergency undertakings consist of plugging and capping eleven mineshaft openings which represent an immediate hazard to human life because of proximity to other human activities, or because of physical characteristics of the shafts themselves. These mineshafts represent a small subset of well over 1,000 shafts estimated to be present in the area and have specifically been identified by the local communities as immediate hazards to human life. The proposed mineshafts (see enclosed map) are located in Sections 16, 17, 20, 29, 30, and 33, Township 29 North, Range 23 East, in Ottawa County, Oklahoma.

In accordance with Section 106 of the National Historic Preservation Act of 1966 (as amended), Tulsa District consulted with the Oklahoma State Historic Preservation Office (SHPO) and initiated fieldwork in June 2004 to identify historic properties within several small areas where pilot projects were planned. Draft reports of "Cultural Resources Investigations at Six Study Areas within the Tar Creek Superfund Site" were subsequently provided to the SHPO and to your office. In accordance with SHPO guidance, Tulsa District drafted a Memorandum of Agreement (MOA) with the SHPO and the Bureau of Indian Affairs, Eastern Oklahoma Region (BIA) accepting existing documentation on file (the previously mentioned report) as sufficient to offset the loss of potential historic properties within these project areas. To date, Tulsa District and the SHPO have signed the MOA (copy enclosed), but the BIA has still not done so.

Based on this consultation and fieldwork, we believe there is a strong potential for the Picher-Cardin area to be determined a National Register historic district based on the theme of historic lead and zinc mining. Such a historic district has not yet been fully defined, and therefore it is difficult to fully determine a suite of associated contributing elements. However, many historic archaeological features within the area

November 2004

of Engineers
Tulsa District

and perhaps other associated standing structures may define contributing elements to such a historic district. We also believe that the full development of a historic context of the area and an accounting of contributing elements is necessary and appropriate, and Tulsa District is currently in the process of acquiring funds to undertake these efforts (see enclosed draft Scope of Work.)

Because most of these sites and associated features are presumed to be contributing elements, at this time, to a potential historic district, our review of proposed project activities leads us to believe that we may have an adverse effect on two particular classes of historic features. These include mine shafts and mine waste (chat) piles, which are integral to the remediation project and which represent immediate hazards to human health. In these cases, the Corps of Engineers will be plugging mine shafts and in some instances utilizing chat as fill, therefore adversely affecting the integrity of these features. All other historic archaeological features and standing structures described will be avoided.

Prior to plugging and capping each mine shaft, Tulsa District will ensure that these features, including surrounding chat piles, are photographed and described. Discussions of each mine, including specific historical details, will be included in the thematic study of the Picher-Cardin area. Concurrently, Tulsa District is seeking authorization to spend appropriate project funds on this thematic study. Lastly, Tulsa District is drafting a Programmatic Agreement to address the treatment of particular historic features in the Picher-Cardin area, specifically mines and chat piles.

In accordance with Section 800.12 of 36 CFR Part 800, Protection of Historic Properties, Tulsa District requests your comment on these proposed actions, which we are planning to begin in the third week of November 2004. Additionally, any guidance or assistance you may provide will be greatly appreciated. If you have any questions, please contact Mr. Ken Shingleton at 918-669-7661.

Sincerely,



Miroslav P. Kurka
Colonel, U.S. Army
District Engineer

Enclosures



Preserving America's Heritage

November 5, 2004

Colonel Miroslav Kurka
District Engineer
Tulsa District, Army Corps of Engineers
1645 South 101st East Avenue
Tulsa, OK 74128-4609

REF: Tar Creek Superfund Project, abandoned mines 7, 9, 11, 12, 15, 20, 27, 37, 49, 57 in sections 16, 17, 20, 29, 30, and 33, Township 29 North, Range 23 East, Ottawa County, Oklahoma

Dear Colonel Kurka:

On November 1, 2004, we received your letter notifying us that the Tulsa District proposes the emergency plugging and capping of the referenced eleven abandoned mineshafts because they are immediate hazards to human life. As the Corps has determined that these are emergency undertakings, our comments were requested pursuant to 36 CFR 800.12. We have no objection to the Corps implementing these emergency actions as proposed. We do note that 36 CFR 800.12(b) requires the Corps to notify Indian tribes that may attach religious and cultural significance to historic properties that may be affected by emergency undertakings and to afford them seven days to comment on the emergency undertakings.

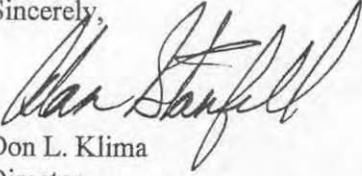
We are pleased that the Corps is developing a Programmatic Agreement (PA) to address the treatment of abandoned mines and chat piles in the Picher-Cardin area and achieve compliance with section 106 of the National Historic Preservation Act (16 U.S.C. 470f). We fully endorse such an agreement and will work with you in its development. We believe that a PA for cleanup activities within the entire Tar Creek Superfund site would greatly expedite and facilitate this critical public health and environmental project and result in more common sense, consistent, and cost-effective historic preservation efforts. Having a PA is especially critical in the face of complications posed by the Oklahoma State Historic Preservation Officer's (SHPO) recent withdrawal from consultations with all Federal agencies regarding section 106 compliance for the entire Tar Creek Project.

We are aware that the U.S. Environmental Protection Agency, U.S. Department of Housing and Urban Development, and the Bureau of Indian Affairs also have undertakings related to the Tar Creek Project and are working in partnership with the Oklahoma Department of Environmental Quality, Quapaw Tribe, and the University of Oklahoma. We encourage the Corps to seek the involvement of these other Federal agencies and partners in developing this PA so that it will be a truly multi-agency effort and expedite section 106 compliance for the entire Tar Creek Project. As always, we are ready to assist the Corps and other involved parties in this effort.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

If you have questions or wish to discuss this further, please do not hesitate to contact Margie Nowick at 303/969-5110 or via email at mnowick@achp.gov.

Sincerely,


for Don L. Klima
Director
Office of Federal Agency Programs

The following letter was sent to the various tribes listed in Appendix A.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

November 9, 2004

Planning, Environmental, and Regulatory Division
Environmental Analysis and Compliance Branch

Mr. Larry Joe Brooks, Chief
Delaware Tribe of Indians of Oklahoma
220 NW Virginia Ave.
Bartlesville, OK 74003

Dear Chief Brooks:

In accordance with Section 106 of the National Historic Preservation Act of 1966 (as amended), this letter is to notify you that the U.S. Army Corps of Engineers, Tulsa District is proposing emergency undertakings within the Tar Creek Superfund Site, which is located in the vicinity of the towns of Picher and Cardin, northeast Oklahoma. The proposed emergency undertakings consist of plugging and capping eleven mineshaft openings which represent an immediate hazard to human life because of proximity to other human activities, or because of certain physical characteristics of the shafts themselves. The proposed mineshafts (see enclosed map) are located in Sections 16, 17, 20, 29, 30, and 33, Township 29 North, Range 23 East, in Ottawa County, Oklahoma.

In June 2004 Tulsa District initiated fieldwork to identify historic properties within several small areas where pilot projects were planned. Based on this work, we believe that there is a strong potential for the Picher-Cardin area to be determined a National Register historic district based on the theme of historic lead and zinc mining. Such a historic district has not yet been fully defined, and therefore it is difficult to fully determine a suite of associated contributing elements. However, many historic archaeological features within the area and perhaps other associated standing structures may define contributing elements to such a historic district. We also believe that the full development of a historic context of the area and an accounting of contributing elements is necessary and appropriate, and Tulsa District is currently in the process of acquiring funds to undertake these efforts.

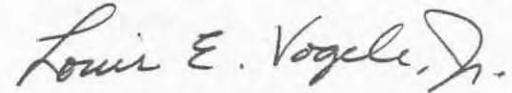
In accordance with Section 800.12(b) of 36 CFR Part 800, Protection of Historic Properties, Tulsa District requests your comment on these proposed actions, which we are planning to begin in the third week of November 2004. Please review these areas for information that you may be willing to share with us on any potential religious and cultural significance of these historic properties.

Engineers
sa District

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Information you may be able to provide will assist us in assessing the effects of these emergency undertakings. If you have any questions, please contact Mr. Ken Shingleton at 918-669-7661.

Sincerely,



ps G. David Steele, P.E.
Chief, Planning, Environmental,
and Regulatory Division

Enclosure