

FINAL REPORT

Phase I Environmental Site Assessment For Mancos Creek Tribal and Cattle Farming Operation

I. EXECUTIVE SUMMARY

A Phase I Environmental Site Assessment (ESA) for the Mancos Creek Tribal cattle and farming operation has been completed by Mary Ahlstrom, a contractor who wrote the report for the Environmental Program of the Ute Mountain Ute Tribe. The cattle operation is actually along Mancos River, but the site is referred to as Mancos Creek. In 1995 and 1999, EPA Region 8 conducted emergency removals on the property and disposed of pesticide and herbicide products and replaced some contaminated soil. Since that removal, a strong pesticide smell persists which has warranted further investigation. Information from the EPA Removal documents has been incorporated into this report.

The Mancos Creek Tribal Cattle and farming operation is located on a Tribal farm/ranch approximately 11.5 miles south of Towaoc, Montezuma County, Colorado near U.S. Highway 491 (formerly Highway 666).

A site reconnaissance, historical review, and interviews with key personnel were conducted, in coordination with the staff from the Tribal Environmental Division, to review the site for indications and/or the presence of recognized environmental conditions. The strong pesticide smell that persists and its close proximity to the residence of the caretaker raise issues of concern. The source of the smell and its potential health and environmental impacts need further investigation. It is recommended that a Phase II Environmental Site Assessment be completed to verify the type and determine the extent of potential contamination.

II. INTRODUCTION

A. Purpose

The purpose of this document is to recommend if further testing should be conducted for the Mancos Creek Tribal cattle and farming operation to determine if the health of residents and the environment are negatively being impacted.

B. Scope of Work

- 1) Review available public records/documents that will help identify recognized environmental conditions in connection with the property.
- 2) Conduct a site reconnaissance to collect data and observe environmental conditions related to the property and any structures located on the premises to the extent not obstructed by adjacent buildings, bodies of water, asphalt, other paved areas, or by limiting conditions such as snow or rain.
- 3) Interview site-owner, occupants, or designated persons to review property boundaries and obtain information that may be relevant to the site or adjoining land. Briefly interview knowledgeable persons (i.e. neighbors, former owners, regulatory agencies) to establish previous property uses and conditions.
- 4) Prepare a report containing observations relating to the apparent environmental condition of the site, describing areas of impact, summary of records/documents reviewed, analysis of collected data, and the consultant's conclusions.

The scope of this report is limited to the matters expressly covered. This report is prepared for the benefit of the Ute Mountain Ute Tribe.

Radon, lead in drinking water, wetlands, regulatory compliance, industrial hygiene, ecological resources, endangered species, indoor air quality, and high voltage powerlines were no included in the scope of this assessment.

C. Methodology

The methodology followed was the American Society for Testing Materials (ASTM) Practice E 1527-00: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. ASTM is a national standards-writing organization based in Philadelphia, Pennsylvania. This practice outlines a methodology to complete an ESA for commercial real estate in the United States. Its purpose is to identify "recognized environmental conditions" of contamination by hazardous materials and petroleum products, and as such, defines what constitutes appropriate inquiry to qualify for the innocent landowner defense of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

D. Limitations and Exceptions

The preparation of this report relied on information derived from secondary sources. Except as set forth in this report, there was no independent investigation as to the accuracy or completeness of the information derived from secondary sources or personal interviews and has assumed that such information is accurate and complete.

The conclusions and recommendations in this report represent opinions, which are based upon facts and circumstances as they existed at the time that this report was prepared. These opinions were arrived at in accordance with currently accepted engineering, hydrologic, and geologic practices and are subject to the inherent limitations of environmental site assessments. A change in any fact or circumstance upon which this report is based may adversely affect the recommendations, findings, and conclusions expressed in this report.

No environmental site assessment can completely eliminate uncertainty regarding the potential for "recognized environmental conditions" in connection with these sites. Within reasonable limits of time and cost, an assessment conducted according to ASTM standards is intended to reduce uncertainty regarding the potential for contamination on the site.

No sampling of any materials was performed for this assessment.

III. SITE DESCRIPTION

A. Location

The Mancos Creek Tribal Cattle and farming operation is located on a Tribally managed farm/ranch on the Ute Mountain Ute Indian Reservation on Tribal Trust land approximately 11.5 miles south of Towaoc, Montezuma County, Colorado near U.S. Highway 491 (formerly Highway 666). The Latitude is (North) 40° 99' 397" and Longitude is (East) 12° 0699341 99" ??

B. Past and Present Uses

The site is owned by the Ute Mountain Ute Tribe and is managed by a resident caretaker who lives in a house on the property. The operations started in the 1950's and consist of raising cattle, keeping horses, and growing crops. The present caretaker lives there with his wife and several dogs. Today there is no evidence of drums or pesticide storage, but when standing in the driveway and approximately 50 yards from the house, there is a strong odor of pesticides. The site has been subjected to midnight dumping for many decades that included household and construction debris. The Solid and Hazardous Waste Program at EPA Region 8 assisted the Tribe in burying the household and construction wastes approximately ½ mile north of the property. Additionally, unknown parties abandoned pesticide and herbicide containers.

On two separate occasions the EPA Region 8 Removal Program conducted emergency removal cleanup actions. The first occurred in December of 1995.

EPA had received a request from the Ute Mountain Ute Indian Tribe Water Quality Specialist to inventory, sample and remove the drums. EPA visited the site on August 24, 1995 and found thirteen unlabeled and abandoned drums, which were approximately 50 yards from the farm residence. A noticeable odor of pesticides could be detected near the drums. There was visible soil contamination, and the residents at the site were using a below-ground cistern, which was approximately 50 yards away from the contamination. EPA sampled the drums and soil. Soil samples showed that 4,4' DDT and Endrin Aldehyde had leaked from the drums and contaminated the soil. EPA removed fifteen drums of wastes in December 1995 that contained the pesticides listed below.

- 4,4' -DDE
- 4,4' -DDT
- Dieldrin
- Endrin Aldehyde
- Malathion; 2,4-D

- 2,4,5 – TP (silvex)

The second EPA Removal action occurred in June of 1999. At that time, the caretaker and his wife had two small pre-school aged children. There were several abandoned pesticide and herbicide containers were originally located approximately 100 feet from the residence, at the edge of the residential yard, near the children's swingset. The caretaker moved the containers 300 feet away from the residence, within easy access to the children or other human or animal contact. Some of the containers either leaked or were spilled at the original location and staining on the ground was observed by EPA. A soil sample showed the presence of several pesticides and herbicides. EPA mobilized its cleanup contractor to the site, staged and overpacked the containers, and transported the items listed below to a disposal facility. (See Appendix II for EPA Removal Pollution Report)

- 10, unopened, 1-gallon containers labeled dieldrin
- 1, half-full bottle labeled toxaphene and a broken empty bottle of the same type as the toxaphene bottle
- 3, partially full 55-gallon drums labeled 2,4-D
- 1, 1-gallon can labeled diazinon
- 1, partially full 40-gallon drum labeled insecticide with visible evidence of leakage from a bullet hole in the side of the drum
- others miscellaneous containers which contained paint
- 10 cubic yards of soil were excavated from the original storage location and replaced with clean soils

After the removal operation, the Tribal Environmental Program installed two monitoring wells approximately 15 feet deep using EPA 106 funding. One is south of the residence approximately 100 feet towards Mancos River and the other is about 60 feet southeast of the residence. Contaminants have not been detected, to date.

C. Site Vicinity and Characteristics

The Ute Mountain Ute Reservation was established in 1897 by the Weeminuche Band of Utes. The present day Reservation consists of over 597,000 acres and is located in Montezuma and La Plata Counties in southwestern Colorado, San Juan County in northwestern New Mexico, and also includes individually and tribal owned lands or allotments in Allen Canyon and White Mesa, Utah. Elevations range from 4,600 feet along the San Juan River to 9,977 feet on Sleeping Ute Mountain. The eastern half of the Reservation is characterized by a high mesa cut by the canyon of the Mancos River and numerous side

canyons. The western half, with the exception of Sleeping Ute Mountain, is semi-desert and grassland.

The area is known as the Four Corners (where four states come together) and is rich in culture and history. There is the prehistory of “The Anasazi” the ancient ones, who lived here nearly 1000 years ago. They left the area long before the Ute Bands and the Plains Indians roamed the mountains and vast plains. Early Spanish priests and travelers introduced horses to the Ute people. There are historical chronicles of early settlers who came here to the lush and fertile Montezuma Valley instead of going further west. Historically, the Ute Nation roamed throughout Colorado, Utah and northern New Mexico in a hunter-gather society, moving with the seasons for the best hunting and harvesting. The Ute Bands were forced onto Reservations in the 1800’s.

Tribal enrolment of the Ute Mountain Ute Tribe is at 1,968 and the 2000 Census list 1,676 people living on the Reservation. The Tribe employs over 900 people in its enterprises and departmental programs. Others are employed in ranching operations throughout the Reservation. The unemployment rate is approximately 40%. Most of the people live in two communities on the Reservation, the Tribal Headquarter City of Towaoc with a population of about 1,097 and the smaller community of White Mesa with a population of approximately 277. Towaoc is at the base of Sleeping Ute Mountain, which resembles a sleeping Indian with his head to the north. Towaoc is sixteen miles southwest of Cortez, Colorado and just over an hour north and west of Farmington, New Mexico. Within the Reservation, is the 125,000 acre Ute Mountain Tribal Park along a 25-mile stretch of the Mancos River, which was set aside by the Tribe to preserve remnants of the Hisatsinom Culture and is kept as a primitive area.

D. Structures, Roads, and Utilities

When entering the site from the north, the resident house is immediately to the right and fenced cattle pens are immediately to the left. The dirt/gravel driveway continues south about 80 feet and is flanked by two sheds to the west that are used for hay and implement storage. At the southeast end of the driveway, used pipes are stacked, which were part of the old irrigation system prior to construction of the new irrigation that diverts water from the Mancos River to the farm/ranch. Drinking water for the property is supplied by a deep, private well that was drilled north of the property in 2004. Waste sewage is served by a septic tank. Electricity and telephone poles are on the site. Two 500-gallon above ground diesel tanks and two smaller above ground heating oil tanks are located just north of the sheds. The diesel tanks supply the trucks and equipment for the farm and ranch operations.

Highways on the Reservation are U.S. Highways 160 and 491; and State Highways 41 and 789. Two maintained gravel roads cross the Reservation; one follows the Mancos River Canyon to the eastern part of the Reservation then southward toward Farmington; the other goes westward from Towaoc to the Cache oil field then on to Aneth, Utah.

After over 100 years of almost no water, the Colorado Ute Water Settlement Act of 1988, which mandated construction of the Delores River Project and McPhee Dam, brought the first piped drinking water to the reservation and irrigation water for use on the Reservation.

E. Environmental Liens

The abstract for the properties were not available for review. No indications were made that there are environmental liens on the site.

IV. RECORDS REVIEW

A. Environmental Record Sources

An environmental review was conducted of U.S. EPA, other Federal, and State agency databases. Under the EPA CERCLIS database for Montezuma County the following sites were listed:

EPA CERCLIS Database

EPA ID	Site Name	City	County	State	NPL Status
CO0012947186	EAST MANCOS WATERSHED	MANCOS	MONTEZUMA	CO	N
CO0002005130	TOWAOC DAYCARE SITE	TOWAOC	MONTEZUMA	CO	N
CO0001220045	UTE DRUM	TOWAOC	MONTEZUMA	CO	N
CO0007596214	UTE MOUNTAIN-UTE MAINTENANCE DRUM	TOWAOC	MONTEZUMA	CO	N

No information was recorded for Montezuma County in the EPA databases for RCRIS, and ERNS. FEMA notes that some of the canyon lands found on the Reservation show potential for severe flash flooding, although no significant damage has been suffered as of yet. In 2000, wildfire along with the rest of the

West was devastating for the Ute Mountain Ute Reservation. Thousands of acres of range and forest land went up in flames, damaging some of the most remote and best-preserved ancient Indian dwellings of the Southwest. USGS maps show little seismic activity for the area. The State of Colorado does not maintain a public list of UST and LUST sites.

The Tribe removed underground storage tanks at a former gas station at Highways 491 (formerly Highway 666) and 160 in about 1999. The Tribe paid for the removal and disposal costs.

B. Physical Setting Sources

Regional Geology/Hydrogeology

The Reservation ranges in altitudes from about 4,600 feet along the San Juan River near Four Corners to 9,977 feet on Sleeping Ute Mountain. Most of the western part of the Reservation is semiarid, eroded grasslands with some badlands topography near the Utah boundary. North of the grasslands is the Sleeping Ute Mountain with a cover of scrub cedar, oak, and juniper. The eastern and south eastern parts of the Reservation consist of the deeply-cut canyons and mesas. The principal stream on the Reservation is the perennial Mancos River which enters near the northeast corner and flows southwesterly. The San Juan River flows for three four miles across the extreme southwest corner of the Reservation.

The Reservation is on the Four Corners platform of the Colorado Plateau and most of it is underlain by gently dipping sedimentary rocks of Mesozoic age. Most of the rocks exposed are sandstones, shales, and mudstones. Of Cretaceous Age; the oldest sedimentary formation exposed is of Jurassic Age and the youngest consolidated rocks are Tertiary. The oldest units crop out along the northern most boundary of the Reservations, and the exposed sedimentary rocks become progressively younger toward the south and east; in general this reflects the higher topographic position of the Mesa Verde Plateau. The principal area of the non-sedimentary rocks is the Ute Mountains, which are formed of Late Cretaceous or Tertiary igneous rocks. The Hermosa Formation is significant because it is the producing horizon for oil wells in the Northwest corner of the Reservation. It lies at depths of about 5,700 to 6,000 feet below the surface.

The farm and ranch site is mostly grasslands with a few trees near the residence (Cottonwood, Tamarisk, and Willows). Shale badlands with bisected shallow canyons lie to the east and south. Moisture arrives with monsoonal flows and the summers are hot and dry. The Mancos River flows south to southwest along the property.

