BEFORE THE INDIAN CLAIMS COMMISSION

THE SAC AND FOX TRIBE OF INDIANS OF OKLAHOMA, ET AL., Plaintiffs,	)	
v.	)	Docket No. 83
THE UNITED STATES OF AMERICA, Defendant.	)	

Decided: December 26, 1973

ADDITIONAL FINDINGS OF FACT

In previous stages of this case the Commission has held that: the defendant's third defense to plaintiffs' petition should be denied and stricken from the defendant's answer, 3 Ind. Cl. Comm. 395 (1954); the Sac and Fox Nation held Indian title to the subject lands on January 25, 1805, the ratification date of the 1804 treaty ceding the plaintiffs' lands, 7 Ind. Cl. Comm. 675 (1959); and, due to confirmed foreign land grants aggregating 211,275.61 acres, for which defendant is not chargeable, the net acreage to be valued in the Missouri tract is 1,638,724.39 acres, 25 Ind. Cl. Comm. 414 (1971).

The Commission makes the following findings of fact which are supplemental to those numbered 1 through 34 heretofore entered in this case.

35. Subject Lands

A. Missouri Tract.

The Missouri Tract, which was described in Finding 21(b), 7 Ind. Cl.

Comm. 675, 707 (1959), is located in east central Missouri. This tract is within Cession 50 on Royce's maps of Missouri (plate I) in the 18th Annual Report of the Bureau of American Ethnology, Part II. It includes portions of Townships 48 in Ranges 3 east through 6 west and extends northward to Townships 58 between Ranges 3 and 10 west of the Fourth Principal Meridian. The Mississippi River forms the eastern boundary of the Missouri tract which measures approximately 60 miles from north to south and varies between 30 and 54 miles in width from east to west. The net acreage to be valued in the Missouri Tract is 1,638,724.39 acres.

That portion of the subject lands in Missouri covers 55 complete survey townships, 18 fractional townships along the Mississippi River and parts of 26 fractional townships along the southern, western and northern boundaries. It includes all of present-day Pile and Ralls Counties, most of Lincoln County, the southern half of Marion County, the southeastern portion of Shelby County, the eastern one-third of Monroe and Audrain Counties, the northeast corner of Callaway County, the northeastern one-third of Montgomery County, and the northern portion of Warren County.

B. Illinois-Wisconsin Tract.

The Illinois-Wisconsin tract was described in Finding 21(a), 7 Ind. Cl. Comm. 675, 707 (1959), and is located in northwestern Illinois

and southwestern Wisconsin. This tract is also within Cession 50 on Royce's maps of Wisconsin (plate II) and Illinois (plate I) in the 18th Annual Report of the Bureau of American Ethnology, Part II. The Illinois-Wisconsin tract extends from the south lines of Townships 16 in Ranges 1 through 6 west of the Fourth Principal Meridian, across the Illinois-Wisconsin border into portions of Township 6 north in Wisconsin in the same ranges. The western boundary follows the Mississippi River, the northern boundary follows the Wisconsin River, the eastern boundary follows a series of local watershed divides approximately 30 to 35 miles east of and paralleling the Mississippi River running southerly to the northeast corner of Mercer County, Illinois. The tract extends approximately 115 miles from north to south and varies in width from east to west some 14 to 35 miles.

The Illinois-Wisconsin tract contains 2,012,700 acres, and includes 40 complete survey townships, 35 fractional townships along the Mississippi River and 40 additional fractional townships along the Illinois-Wisconsin and eastern boundaries. It covers all of present Rock Island County, most of Jo Daviess County, most of Carroll County, the western two-thirds of Whiteside County, the northwestern one-third of Henry County and the southwestern corner of Stevenson County, Illinois, as well as most of Grant County, the southwestern corner of Iowa County and the western one-third of Lafayette County, Wisconsin. The western boundary of the Illinois-Wisconsin tract is the Mississippi River.

36. Topography

A. Missouri Tract.

The Missouri tract, like the bulk of the land area north of the Missouri River, consists of rolling prairie country with an abundance of streams. These streams flow eastwardly through the prairie plain and empty into the Mississippi River. The major streams in the Missouri tract are the Salt, North and Cuivre Rivers.

The topographical features of the Missouri tract fall into three general categories. First is the Mississippi bottom, or flood plain, which lays adjacent to the Mississippi River. It varies in width from two to four miles. It was subject to periodic inundation. Second, the adjacent river hills form a rolling, hilly, forested belt five to twelve miles wide. These river hills are characterized by a steep bluff line adjacent to the Mississippi River and bottom. Third, the prairie plain, adjacent and merging with the river hills on the west, consists of a broad, level upland, interspersed by rolling forest land bordering the streams. The timberland areas in the Missouri tract are restricted to the slopes of the stream valleys. Elevation of the broad upland area ranges between 900 feet on the western side and 700 feet on the eastern side, with the flood plains surrounding the Mississippi River being 300 to 400 feet lower than the upland area.

B. Illinois-Wisconsin Tract.

Most of the Illinois-Wisconsin tract lies within the "Driftless Area" which escaped the glaciers of the ice age. As a result, the topography consists of a dissected plateau characterized by broad rolling prairie ridges and steepsided valleys with some forest land interspersed. Elevations in this area range from 1,225 feet above sea level in Grant County, Wisconsin, to 595 feet at the Mississippi River near Dubuque, giving a relief of slightly more than 600 feet. Relief ranges from 50 to 500 feet per mile in the Driftless Area. The relief results from the deep dissection of the broad upland ridges by the streams which course through the steep-sided valleys. The upland prairie plains are relatively broad, ranging from approximately 1/2 mile to as much as 10 miles in width. The broad upland prairies are due to the nearly flat lying bedrock which is resistant to geologic erosion. In the Driftless Area there is a tendency to find slopes which are steeper, but which occupy a smaller proportion of the total area than is the case in the glaciated area. There is some bottom land along the Mississippi which is subject to periodic inundation. The balance along that river in the Driftless Area consists of rough and hilly lands with rock outcrops. There was also a small area of swamp land present in the Driftless Area, although the record does not indicate its extent. Portions of the prairie sections, therefore, could not have been used for farming purposes without drainage.

However, much of this swamp land could have been utilized for grazing purposes, particularly in the dry seasons.

To the south of the Driftless Area, the glaciated areas of the Illinois-Wisconsin tract have low relief. Differences in elevation are less than 50 or 60 feet per mile and most slopes do not exceed 6% to 8%. Approaching the Mississippi River and along the major tributaries, topography becomes moderately sloping to steep. There were also some poorly drained areas, or swamps, in the glaciated portion of the tract.

The broad plains occupied by the Green River and the lower Rock River vary from nearly level to gentle slopes.

The Mississippi River forms the western boundary of the Illinois-Wisconsin tract, which, for the most part, is well drained. It is served by the Rock, Apple, Galena, Wisconsin, Grant, Platt and Plum Rivers and the tributaries of the Rock River.

37. Climate

A. Missouri Tract.

The Missouri tract has a continental climate, experiencing frequent changes in the weather. The summers are rather hot and the winters are relatively cold, but without extreme periods of very cold or very hot weather.

The frost-free growing season is approximately six months in duration. The average date for the last light freeze in the subject tract is about mid-April and the first freeze in the fall comes about mid-October.

Annual precipitation ranges between 32 and 40 inches throughout northern Missouri, with the highest amount falling during the growing season. While the precipitation and climate are favorable for good crop growth, serious droughts and extremes in temperature have been experienced during the growing season.

Snow usually falls in Missouri in December, January and February, although, it has occurred as early as October and as late as May. Snowfall averages 18 to 22 inches and normally melts in a week or two.

b. Illinois-Wisconsin Tract.

This tract also has a continental climate. The average length of the frost-free period is between 150 and 160 days in the northern portion and between 160 and 170 days in the southern portion.

Average annual precipitation varies within the subject tract and ranges between 32 and 34 inches, with an average of 20 to 22 inches falling during the growing season between April 1 and September 30.

The average annual snowfall is approximately 30 inches. Temperatures drop below freezing several times each winter. The soil freezes to a depth of about three feet and occasionally remains snow-covered for weeks at a time.

The prairie soils occupy gently sloping to slightly rolling terrain. They are dark in color and were highly fertile in their virgin state, having a depth of approximately five feet, with clay subsoils. Tall prairie grasses were the dominant ground cover found on these soils at the time of cession, but trees were reported by the surveyors in every prairiesoil township. Trees were also situated along most of the drainage ways. The soils derived from forested areas occupy rolling terrain with slopes varying from 5% to 15%. These soils are lighter in color than the prairie soils, are well watered with numerous streams, and are classed as moderately productive. Relatively narrow bands of more steeply sloping forested soils (Hagerstown-Baxter-Weldon soil series) are situated approximately 5 to 10 miles west of the Mississippi River, having slopes varying from 5% to 50%. These soils are red in color, well watered, fertile and productive. Small creek and bottomlands along the Mississippi River contain fertile alluvial soils with excellent water supplies. In some of the interstream divides in the Missouri tract the loessial soil deposits have a thickness of 20 feet or more.

B. Illinois-Wisconsin Tract. In the Illinois-Wisconsin tract, the grassland soils are dark, highly fertile, and are found on gently rolling terrain. They are well drained and have developed thick loessial deposits, averaging more than 4 feet in depth, and in places the actual depth of the loessial soils may be as much as 25 or 30 feet. The grassland soils account for 29.4% of the

Illinois-Wisconsin tract. The woodland soils also developed in thick loess, but are somewhat more rolling than the grassland soils. They comprise 57.7% of the Illinois-Wisconsin tract. Bottomland soils generally involve alluvial deposits, and are found in terraces along the Mississippi River and tributary streams; they comprise 12.9% of the tract.

All of the soil associations in this area are suitable for cultivation of crops, but the potential for actual use for crop production has generally depended upon the degree of slope found on the land. Soils occurring within slope classifications of 0% through 20% are capable of cultivation, and lands with higher slope classifications are best adapted to pasture and woodland uses. Thus, approximately 17% of the Wisconsin lands and 13% of the Illinois lands in the subject tract would today be considered unsuitable for general crop raising on the basis of their slope characteristics. At the time of cession, a high degree of slope would not have been as serious an obstacle to farming activities as it is now with mechanized farming equipment.

39. Timber

A. Missouri Tract.

The timber supply was ample in the Missouri tract, although primarily restricted to the slopes along streams. The most prevalent trees were the various species of oak. There was another forest type, the elm-ash-cottonwood, which was also found

along streams in the prairie region. To a lesser extent, the tract contained stands of maple, beech and lowland oaks.

There was no commercial value for the timber in the Missouri tract in 1805, although future settlers found it necessary for houses, fences and fuel.

B. Illinois-Wisconsin Tract.

Early vegetation in the Illinois-Wisconsin tract consisted of grassland prairies, hardwood forests, and prairie-forest transitional areas. Prior to settlement "oak openings" or "oak savannas" were one of the most widespread plant communities in this tract. This vegetative type was a forest and grassland combination in which most of the land was covered by grasses and a few shrubs, but a few widely spaced tall trees were also present. Bluestem grasses, and bur and white oak trees were the dominant species present in the oak savannas. Hardwood forest areas consisted of oak forests on hills and exposed sites, sugar maple and basswood on north slopes. In lowlands along major streams the forests were largely composed of elm, willow, ash and silver maple. On sandy and loamy terraces, black oak and prairie grasses were predominant. In addition, there were oak forests and groves of hardwood trees generally distributed throughout the balance of the Illinois-Wisconsin tract.

As in the Missouri tract, the timber in the Illinois-Wisconsin tract had no commercial value in 1805.

40. Minerals - Miscellaneous

In 1805 it was known that the Missouri tract contained salt springs along the Salt River. Salt was an important resource and was one of the necessities as typical frontier settler could not produce for himself. However, the Commission has determined that salt in the Missouri tract was of no commercial value in 1805, for the area was unsettled and was inhabited by rather hostile Indians. It was not until after 1815, as a consequence of the successful conclusion of the War of 1812, that the salt springs in the Missouri tract became safe for commercial development. There is no evidence cited in the record to show that other minerals, i.e., deposits of limestone and clay, found in the Missouri tract were of commercial value.

While the Illinois-Wisconsin tract did in fact contain deposits of zinc, these did not begin to have any value for a considerable number of years after the valuation date.

41. Accessibility & Markets

A. Rivers.

In 1805 water transportation was the only viable means of access to the subject lands. The main routes to the cession areas were from Pittsburgh down the Ohio River and then up the Mississippi River, and from New Orleans north on the Mississippi. In addition, boats crossed on the Great Lakes from Buffalo to Green Bay, where there was a water route to the Mississippi via the Fox and Wisconsin Rivers.

The Wisconsin River was the most important of the tributaries within the subject tracts for it provided an outlet to the Great Lakes. Its junction with the Mississippi River marked the northwest corner of the Sac and Fox lands east of that river. In order to reach the Great Lakes it was necessary to portage a distance of about one and a quarter miles between the Wisconsin and the Fox River, which emptied into Green Bay. Navigation on the Wisconsin was impeded by sand bars. There was a series of rapids in the lower Fox River. At times both rivers were so shallow that it was difficult to navigate on them. They were also closed by ice for about five months of the year.

Navigation on the Mississippi River involved many difficulties, including snags, sand bars, shifting currents, and other obstructions. These impediments existed until the 1820's when the Federal Government undertook a project to improve navigation on the Mississippi and Ohio Rivers. This included removal of obstructions, the channeling of sand bars, and the grubbing out of snags.

Rapids on the Mississippi between St. Louis and Prairie du Chien also interfered with traffic to and from the Illinois-Wisconsin tract. Passage was particularly difficult during low water for as many as three months each year. The first series of rapids, about 200 miles above St. Louis, extended for eleven miles in the vicinity of the mouth of the Des Moines River. Another 150 miles upstream, beginning at Rock Island, were the 14-mile Rock Island Rapids.

A third series of rapids on the Mississippi were near the mouth of the Grant River in the Wisconsin subject lands in the vicinity of Potosi.

As previously mentioned, ice on the rivers presented a problem during the five-month winter. For example, in January 1805, the ice in the Mississippi River at St. Louis was 22 inches thick.

In times of high water the Mississippi could be descended from St. Louis to New Orleans in as few as ten days by cutting off points and going through high water channels. The usual time in low water, when these short cuts were unavailable, was from four to six weeks. However, the journey upstream required more time and money. Two months was the usual time to journey from New Orleans to the mouth of the Ohio River. The journey from New Orleans to St. Louis required approximately two to four months. As late as 1823 a trip upstream from St. Louis to Prairie du Chien took 27 days.

An account was given of a family who traveled from Pittsburgh to St. Louis by flatboat on the Ohio and Mississippi Rivers in the summer of 1805. The trip took about three months, which was considered good time. The entire trip was by water except for a horseback ride between Cairo, Illinois, at the mouth of the Ohio River, and Cape Girardeau, Missouri, located upstream on the west bank of the Mississippi.

B. Modes of River Transportation.

The pirogue, or large canoe, and the bull-boat were among the simplest means of transportation on western rivers. Other boats

included the flatboat, or ark, the barge and the keelboat. Flatboats were cheaply constructed and were usually sold for lumber at their destinations. They averaged about fifteen by fifty feet and could hold forty to fifty tons of flour. Three to five men made up the crew. Until the middle of the nineteenth century the flatboats carried a large part of the western produce downstream to market.

Keelboats and barges were designed to ascend rivers. Keelboats were shaped somewhat like a canal boat--long, slim and sharp at each end. They were propelled by setting poles and cordelles, or long ropes, used by men walking on the river bank to pull the boats upstream. When there were favorable winds a sail was hoisted. However, forcing a boat up the Mississippi was a slow, expensive and tedious process. Not only was the current strong and treacherous, but the river bottom was often too soft for poling and the banks unsuited for towing. Barges were longer, with a flat bottom and squared ends. They were built to carry twenty-five to thirty tons of produce and were about fourteen by fifty feet. Sails were not used on barges.

The first steamboat on western waters was the "New Orleans" which arrived at Shawneetown, Golconda and Fort Massac in 1811 and 1812 en route from Pittsburgh to New Orleans. It was not until 1817 that the first steamboat reached St. Louis. However, it was some years before steamboats successfully navigated the series of Mississippi rapids between

St. Louis and Prairie du Chien. The first steamboat to cross those rapids did so in 1823 by a time-consuming and cumbersome process which later became unnecessary due to river and steamboat improvements.

C. Roads.

There were no roads within the subject tracts on the cession date; only trails from two to four feet wide through the wilderness. The chief trail-maker, the buffalo, chose the line of least resistance through the mountain gaps, across valleys and along watercourses. The Indians used many of these trails, and later they were used by hunters and traders. Many of them were eventually made into roads.

In 1805 there was a post road that led from Vincennes, Indiana, on the Wabash River, to St. Louis. However, during this period roads in the West were little more than bridle paths which improved very slowly from 1800 to the close of the War of 1812. Improvements meant cutting down more trees and laying logs side by side over mud holes. Travel by wagon over these trails was very difficult.

D. Railroads.

There were no railroads in the Mississippi Valley on the valuation date. It was not until 1854 that the first railroad reached the Mississippi from the East.

E. Markets.

For more than a century before the cession date produce had been shipped down the Mississippi to New Orleans, which was the principle market for the Mississippi Valley at that time. Markets above New Orleans were uncertain, primarily because they could be glutted, with a

consequent depression of prices. Wheat, flour, preserved meat, and lead were among the products carried down the river by flatboat before 1805. Due to the heat and resulting spoilage, it was unsatisfactory to ship furs and peltries to New Orleans. They were mostly exported to Canada. Some salt and lead were shipped up the Ohio, but most of the lead from the Upper Mississippi Mining District went first to New Orleans for transshipment to the eastern states.

River transportation was uncertain due to storms, flooding, drought, sand bars, etc. Also, the warm and humid climate caused much produce to spoil enroute or after arrival at markets. Because of a lack of local markets, produce from the Ohio and Lower Mississippi River Valleys was shipped to Natchez and New Orleans. Consequently, the market for produce that did not arrive early in the season was often glutted.

The St. Louis market would have been limited by the size of its population in 1805, which was about 924. Two years before the valuation date, New Orleans' population was only 8,000 to 10,000.

42. Historical Background

A. Missouri.

On January 25, 1805, the Missouri tract was part of the Louisiana Purchase of April 30, 1803. 8 Stat. 200. It was in the part of the purchase known as Upper Louisiana, which was not formally transferred to the United States until March 10, 1804. Following a period of military government (March 10 - October 1, 1804), present-day Missouri

passed through three stages of territorial government as a part of the District of Louisiana (October 1, 1804 - July 4, 1805), the Territory of Louisiana (July 4, 1805 - October 1, 1812), and finally the Territory of Missouri (October 1, 1812 - 1820).

By the Act of March 26, 1804, 2 Stat. 283, the Louisiana Territory was divided into two separate jurisdictions. All that area north of the 33rd parallel was designated the District of Louisiana which became politically attached to the Territory of Indiana. Under the 1804 Act, the Governor of the Territory of Indiana, William Henry Harrison, exercised executive authority over the new District of Louisiana. The governor and judges of the Territory of Indiana constituted a legislative body with the power to enact such laws as might be needful and conducive to the government of the inhabitants of the new district.

At about the same time the "District of Louisiana" was further subdivided so that all that area north of the Missouri River was designated as the District of St. Charles with the seat of justice being fixed at the town of St. Charles. A court of Common Pleas and Quarter Sessions was established, and the offices of Sheriff and Recorder of Deeds were created.

In 1805 Missouri became part of the Territory of Louisiana and was detached from the Territory of Indiana. In 1812 Missouri officially became a territory, and a territorial government was formed on a broader

basis. 2 Stat. 743. The legislative power of the government was then vested in a General Assembly consisting of the Governor, a Legislative Counsel and a House of Representatives. In 1821 statehood was finally achieved. 3 Stat. 645.

B. Illinois.

The Old Northwest Territory included the area now known as the State of Illinois. The Act of May 7, 1800, divided the Northwest Territory into two parts, one of which was Indiana Territory. 2 Stat. 58. On the cession date present-day Illinois was within the Indiana Territory, which had its capital at Vincennes. Illinois remained in Indiana Territory until 1809 when Illinois Territory was formed from part of Indiana Territory by the Act of February 3, 1809, 2 Stat. 514. Illinois became a state in 1818. 3 Stat. 536.

On January 25, 1805, local organized government was nonexistent in the Illinois portion of the subject lands.

C. Wisconsin.

Wisconsin, in which part of the subject lands lay, was one of the states carved out of the Old Northwest Territory. On January 25, 1805, southwest Wisconsin was part of Indiana Territory, which was severed from the Northwest Territory by the Act of May 7, 1800.

Indiana Territory was divided by splitting off Illinois Territory by the Act of February 3, 1809. The Wisconsin subject lands remained in Illinois Territory until section 7 of the Act of April 18, 1818,

enlarged Michigan Territory to include southwest Wisconsin. 3 Stat. 428, 430. Wisconsin continued as part of Michigan Territory, the capital of which was Detroit, until its severance by the Act of April 20, 1836, 5 Stat. 10. Wisconsin became a state in 1848. 9 Stat. 233.

The Wisconsin subject lands were not located within a county until October 26, 1818, when they were placed in Crawford County in the newly formed Michigan Territory.

43. Settlement and Population

A. Westward Movement.

Early Federal census data and population density maps show the constant westward expansion of population from east of the Mississippi between 1790 and 1805 and the importance of major rivers in determining settlement.

Kentucky and Tennessee were admitted as new states in the Union in 1792 and 1796, respectively, and Ohio was admitted in 1803. Between 1790 and 1800 the population of Kentucky had almost tripled, from 73,677 to 220,955. The population of Tennessee increased from 35,691 in 1790 to 105,602 in 1800.

However, in 1805 a prospective purchaser would have been justified in estimating that many years would lapse before settlers in significant numbers would begin arriving in either the Missouri or the Illinois-Wisconsin tract. In 1805 the density of population was under two inhabitants per square mile in both subject tracts.

B. Missouri.

St. Genevieve, founded in 1735, was the first permanent white settlement in Upper Louisiana, and St. Louis, founded in 1764, was the second. In 1762 France secretly ceded her territory west of the Mississippi to Spain, and under the Treaty of Paris of 1763 England acquired the lands east of the river. As a result of France losing her land on the east side of the Mississippi River to the British, much of the French population on the east side of the river moved to the west side. This movement was the origin of many settlements in Upper Louisiana.

American immigration began during the Revolutionary War. Three subsequent events also served to increase the population. First, although the Ordinance of 1787 prohibited slavery in the Northwest Territory, settlers were free to bring slaves to Upper Louisiana. Second, about 1796, when Spain feared an attack from the British in Canada, large quantities of land were granted to settlers at nominal costs, such as office fees and costs of surveys. There was a total exemption from taxes. Third, the abundance of natural resources attracted many settlers. These factors contributed to the settlement of hundreds of American families in Upper Louisiana between 1795 and 1804.

At the time of American occupation in 1804, Missouri was divided into five districts: New Madrid, Cape Girardeau -- both largely American -- Ste. Genevieve, St. Louis and St. Charles. In 1804 the combined population of these five districts was between 9,000 and 10,000 people, of whom a majority were American and over 15% were slaves.

The Missouri tract was located in the St. Charles District, which in 1804 had a population of about 1,550. It ranked with the New Madrid District as the least populated, while the Ste. Genevieve and St. Louis Districts competed for the most populous rank. On January 25, 1805, most of the 1,550 persons living in the St. Charles District lived in what is today St. Charles County, southeast of the subject lands. The village of St. Charles was the earliest settlement north of the Missouri River, located approximately 20 miles southeast of the south line of the Missouri tract. St. Charles was established during the Spanish regime, and prior to 1803 its population never exceeded one hundred families. At this time there were a few isolated settlers living on the Cuivre River at Portage des Sioux, which was established in 1799 by the Spanish as a military post. Both St. Charles and Portage des Sioux were predominantly French-Canadian. St. Louis was approximately 40 miles southeast of the tract, and in 1805 it had a population of about 950.

On the 1805 valuation date there were no settled communities in the Missouri tract. There were a few settlers living in the southern part of the tract, and there is evidence of land grants and temporary settlements farther up the Mississippi, especially on the Salt River. However, there is no clear evidence that any permanent settlements had been made.

Although Missouri never had big wars with the Indians, it did suffer from Indian attacks. As late as 1812 Missouri settlers feared to make homes very far from the older settlements because of attacks and thefts by roving bands of Indians. During the War of 1812, forts were built in Ralls, Pike, Lincoln, St. Charles and Warren counties, and in the Boone's Lick region in central Missouri. Most of the Indian raids, which took place north of the Missouri River, continued even after formal peace had been made with the British. The War of 1812 actually ended for Missouri in 1816 when the last of the tribes signed peace treaties at St. Louis.

C. Illinois.

In 1801 the Indiana Territory, which included the Illinois-Wisconsin tract, had a population of less than 6,000 non-Indians. Of these, about 2,500 lived in what is now Illinois. Of the 2,500, the majority of whom were of French birth, some 1,400 lived in the French communities of Cahokia, Kaskaskia, and Prairie Du Rocher. These three French communities were approximately 250 miles south of the south line of the subject lands in Illinois. About 75 miles southeast of the subject lands another 100 Frenchmen lived in the village of Peoria. In 1801 the present boundaries of Illinois contained about the same number of people as it had 50 years before.

When Illinois became a state in 1818, the population of about 40,000 was still concentrated in the southern part of the state. Northern Illinois remained unsettled by the white man and was still the domain

of Indians and white traders, a few of whom married Indian women.

Galena, established as a trading post on the Fever River in 1819, was the first settlement within the subject tract in Illinois. During the winter of 1821-1822 there were about six men at the site of Galena. Later in 1822 the white population in the vicinity of Galena was 20; in 1826, 1000; in 1827, 4,000; and in 1828, 10,000.

It was not until after the Black Hawk War that there was any widespread knowledge of northern Illinois or any movement of settlers into the region, other than the miners who made up the great majority of the 1828 population.

D. Wisconsin.

On the valuation date there were only two small non-Indian communities in Wisconsin, neither of which were within the subject lands. North of the junction of the Wisconsin and Mississippi Rivers, and a few miles north of the northwest corner of the Illinois-Wisconsin tract, was Prairie du Chien, established as a trading post about 1757. In 1805 there were approximately 37 houses and about 370 people in the community and the surrounding area. The other community was at Green Bay, approximately 200 miles northeast of the northwest corner of the subject lands. Both communities were trading posts.

By the Treaty of 1783, and also by Jay's Treaty of 1795, it was stipulated by the English Government that the Northwest Territory would be surrendered and transferred to the United States. However, the surrender of the posts and the evacuation of the country by the British were

delayed. Before the War of 1812 the United States had only nominal jurisdiction. During the war, nearly all of the Northwest Territory was in possession of the British, and the few Americans who lived there were subject to their authority. Furthermore, all the Indian tribes in the Northwest between the Great Lakes and the Mississippi, with the exception of the Pottawattomies and part of the Ottawas, were hostile to the United States and waged war on the few Americans who lived in the area.

It was not until 1816 that that portion of the Territory comprising Wisconsin really became a portion of the United States. In 1821 Wisconsin was still primarily inhabited by a few Indian traders scattered throughout the region.

Apparently the first settlements within the subject lands in Wisconsin were made in 1824 by prospectors at Hazel Green in present Grant County and at New Diggins in present southwest Lafayette County. It is impossible to determine how many of the miners estimated in Finding 65 from the lead region were in Illinois and how many were in Wisconsin. The miners moved up the valleys from northwestern Illinois into southwestern Wisconsin. However, some of them in the Wisconsin portion of the lead region were in the part of the region east of the subject lands. The uprising of the Winnebago Indians in 1827 was a direct result of the miners' intrusion. However, the unrest was not sufficient to stem the tide of miners coming into the area.

Although the Black Hawk War in 1832 briefly stopped immigration into Wisconsin, it made the southern part of the state safe for future

settlement. It was not until the autumn of 1833 that settlers in any numbers began to arrive in Wisconsin.

44. State of the American Economy in 1805

For a decade prior to the Revolutionary War, nearly every colony experienced economic depression. The years after the war, from about 1783 to 1789, were marked by political and economic instability. European wars, which followed the French Revolution, broke out in 1792. These wars, with but a single year of intervening peace in 1802, extended to 1815. From 1792 to 1802 the United States profited greatly from her role as a neutral. Even though the brief peace of 1802 caused a drop in foreign trade and a sharp decline in commodity prices, the wars stimulated European demand for American exports and ships. Renewal of hostilities in 1803 again created favorable conditions for United States expansion. High prices for exportable staples, and demand for American ships, continued down to 1807. The passage of the 1807 Embargo Act curtailed any further upsurge in foreign commerce. The depressing effect of the embargo was felt immediately, with the fall of wholesale prices for the next few years, most notably the prices paid for farm products.

In 1805, there were relatively few banks in the United States and little money in circulation. The money centers were located in the large cities along the eastern seaboard. The Bureau of the Census had

reported that, in 1804, there were 59 federal and state banks with total capital of $39.5 million, with $17.5 million in specie and $14 million in circulation. In 1805, there were 75 federal and state banks with total capital of $40.5 million.

In 1805, however, economic development in the Mississippi Valley was still in its infancy. It was a barter economy. Major Amos Stoddard, who took possession of Upper Louisiana for the United States in 1804, stated the degree of development.

> Upper Louisiana was always destitute of a circulating medium: Specie, indeed, was a rare article in that country. This may be attributed to its distance from the sea board and the markets, to the low state of its agriculture, and to the nature of its trade. Remittances were made in peltry, lead, and some provisions; but as the value of these did not exceed that of the imports, no specie was put in circulation by commerce. The lead and salt sent up the Ohio and its waters were exchanged for castings, whiskey, iron, steel, and some other indispensable articles; and this barter trade, whatever were the benefits of it, served not to augment the quantity of specie. . . . This deficiency of money induced the government to consider peltry as the medium of trade, and as a legal tender in the payment of debts, except in cases where it infringed the express stipulation of the parties. . .

The barter economy did not give way to a monetary economy until sound banks were established. The first bank in Missouri was the Bank of St. Louis which opened for business on December 13, 1816. Both

this and another St. Louis bank failed by 1822. Missouri did not have another bank until 1837.

In 1805, 6 percent was the highest interest rate the Government was paying on its loans. However, brokers' discounts on good notes were around 9 to 12 percent in 1810 and earlier had been as high as 18 to 24 percent. Leading banks in the United States, including the Bank of the United States, paid dividends ranging from 8 to 10 percent during the years 1800 to 1810.

The great majority of people who lived in the Mississippi Valley during this period lived on small farms. The land provided the settlers with most of the necessities of life, the balance being imported from the East. The Mississippi Valley economy remained agrarian for many years after the cession date.

45. Agriculture

On the valuation date agriculture was in the primitive stage and remained so for many years thereafter. Farm machinery was non-existent. Equipment was limited chiefly to the wooden plow, the hoe and the cradle.

During this period there were some surplus farm products being sent to markets, but generally the farm was an independent economic unit. When surpluses were sent to market, it often proved to be unprofitable because of the distances involved and the cost of transportation.

The average immigrant or settler moving into Missouri in the post-1810 period usually came from an agricultural area. He intended to purchase a minimum amount of land upon which he could raise and cultivate those crops with which he was familiar, and for his own subsistence. He would have little, if any, money, and he would have expected to make his initial purchase of land on as liberal terms as possible. Barter would be the common denominator of exchange on goods and services between settlers and merchants. In 1805 the four southern districts in Missouri were producing some surplus products, including corn, wheat, flax, tobacco, and cotton.

A little farming of a subsistence nature was carried on near the trading post at Prairie du Chien.

46. Public Land Policy

As of 1805 there were no public lands available for sale in either the Missouri tract or the Illinois-Wisconsin tract. The closest public land offices open and selling land were located in Ohio.

In 1805 the Act of March 26, 1804, 2 Stat. 277, 281, governed the sale of public lands. The statutory price for government lands was $2.00 per acre in minimum tracts of 160 acres. If paid in cash, the price was $1.64 per acre. The 1804 Act continued the credit system initiated by the Act of May 10, 1800, 2 Stat. 73, 75, known as the Harrison Land Act. A purchaser could pay 1/20 of the purchase price as a minimum down payment with 1/4 of the balance in 40 days. The remaining balance of the purchase price would be paid 1/4 in two years,

1/4 in three years and the final 1/4 within four years. By 1820 the credit system for purchasing lands had failed to produce the anticipated revenue and much of the land sold had been relinquished by defaulting purchasers. Numerous relief acts were enacted to enable purchasers to defer payments and escape relinquishments. Congress finally abolished the credit system for purchasing public lands with the passage of the Act of August 24, 1820, 3 Stat. 566. Under that act the cash price for government land was fixed at $1.25 per acre and the minimum tract subject to sale was reduced to 80 acres.

47. Public Land Surveys and Sales

Congress established the first public land office in Missouri at St. Louis in 1811. In 1818 two other land offices were established, one at Franklin in Howard County and the other at Jackson in Cape Girardeau County. In 1823 a fourth land district was located at Lexington, and in 1825 a fifth land district at Palmyra. Because most of the townships were not surveyed until the years 1816 through 1818, actual sales did not begin until 1818. Of the lands in the Missouri tract, 233,050 acres were purchased between 1818 and the time of discontinuation of the credit sale system early in 1820; and through 1830 a total of 403,520 acres were sold.

Lands in southwestern Wisconsin were not surveyed until 1832 and 1833. Illinois townships reserved as lead areas and reserved under mineral leasing reservation provisions of the Act of March 3, 1807, 2 Stat. 448, were not surveyed until the early 1840's. In 1834

the leasing system had been abolished, but the mineral lands in the Upper Mississippi Mining District were not offered for sale until 1847. However, other lands in the Illinois portion of the tract were surveyed over a long period which extended from the middle 1820's to the early 1840's. The nonlead areas in the tract were first offered for sale in 1834 when land offices were opened at Mineral Point and Galena.

Between 1787 and 1795, several large tracts of public and state land, located in central and western New York and in Ohio, were sold to individual speculators and land companies. The prices paid by these companies steadily increased from approximately $.08 or $.09 per acre in 1787 to $.40 per acre in 1795. The last major speculative purchase of western lands was made in 1795 when the Connecticut Land Company purchased from the State of Connecticut about three million acres of land in the Western Reserve at $.40 per acre.

48. Private Land Sales

Evidence in the record indicates the resale of some of the above mentioned tracts, located in central and western New York and in Ohio, in the 1790's and the early 1800's. For the most part the attempted sales and resales of these tracts in the private sector proved to be an unprofitable venture. It was difficult to develop a consistent market, since much of this land was inaccessible and distant from then existing settlements. Among other negative factors was the poor choice of lands, improper financing, mismanagement, and in some cases, fraud. As a

result most of the land companies involved collapsed, and there arose a popular revulsion against speculators.

The Commission rejects these sales and resales as being of limited probative worth in evaluating the two Sac and Fox tracts as of 1805. These resales involved lands that were located hundreds of miles east of the subject tract and well outside the influence of any potential market for lands within the subject tract. In addition, the resale lands in New York and Ohio were sold under different conditions and terms than those that would be offered in the public land market. For example, much smaller acreages could be purchased in the New York and Ohio resale lands than the minimum 80 acre Government tracts, and at a lower price than the prevailing $2.00 per acre statutory minimum for public lands in 1805.

There is also evidence in the record of private sales of foreign land grants between 1803 and 1811 in the St. Louis and St. Charles Districts, as well as in the Missouri tract and its adjacent area. However, these sales do not qualify as comparable sales, for they involve unsurveyed land of much smaller acreages than the subject tract. Furthermore, the machinery for confirmation of the foreign land grants by the United States was not set up until Congress passed the Act of March 2, 1805, 2 Stat. 324. 25 Ind. Cl. Comm. 414, 425. This resulted in a state of questionable land titles in upper Louisiana for many years after the valuation date.

49. Plaintiff's Appraiser

Professor Raleigh Barlowe, Chairman of the Department of Resource Development at Michigan State University, prepared an appraisal report and testified before the Commission at the hearings on value. Plaintiffs also introduced three other reports prepared by experts who testified at the hearing. C. L. Scrivner, Associate Professor of Soils at the University of Missouri, prepared a report entitled Soil and Related Physical Features of Part of Cession 50 in Missouri. Dr. A. J. Beaver, Assistant Professor of Plant and Earth Science at Wisconsin State University at River Falls, prepared a report entitled Soils and Soil Forming Factors of Finding 21(a) Lands. Harris A. Palmer, Associate Professor of Geology at Wisconsin State University at Platteville, wrote a report entitled A Study of the Sac and Fox Mineral Lands in Northwestern Illinois and Southwestern Wisconsin.

Professor Barlowe's testimony was for the most part explanatory and in support of his report. Dr. Barlowe's opinion as to the 1805 fair market value of the subject tracts was based on such factors as: rivers located within each tract, climatic conditions, soils and ground cover, exploration and early settlement of both tracts, prevailing knowledge and attitudes concerning western settlement, public land sales policy, grants of public lands, large state and private grants and the land resale situation in Ohio and the eastern states, and the highest and best use for each tract. Professor Barlowe gave separate

treatment to the value of lead deposits in the Illinois-Wisconsin tract. He concluded that as of the 1805 valuation date the lead deposits enhanced the value of that tract by no less than $1.00 per acre. After deducting $.03 1/2 per acre for surveying costs in both tracts, it was Professor Barlowe's opinion that on January 25, 1805, the Missouri tract had a fair market value of $1.25 to $1.50 per acre, or $1,991,050.14 to $2,400,731.24; and the Illinois-Wisconsin tract had a fair market value of $ 2.25 to $2.50 per acre, or $4,458,130.50 to $4,961,305.50. Therefore, by excluding the enhancement for lead deposits in the Illinois-Wisconsin tract, Professor Barlowe assigned the same value to both tracts. Even though the $1.25 to $1.50 per acre range is below the Government's cash selling price of $1.64 per acre in effect on the valuation date, in the Commission's judgment, the value range is unrealistically high for the valuation date.

The plaintiffs asked the Commission to find that the Missouri tract had a fair market value of $1.50 per acre; that the exclusion of the Spanish land grant areas (211,275.61 acres) from the Missouri tract would result in a value for the remainder of the tract of not less than $1.44 per acre; that the presence of mineral deposits in the Illinois-Wisconsin tract enhanced the market value of those lands by not less than $1.50 per acre; and that the total value of the Illinois-Wisconsin tract was $3.00 per acre. After deducting $0.03 1/2 per acre for surveying costs, totalling $127,799.85, and the consideration

of $20,000 paid by the United States for the cession lands, the plaintiff contends it is entitled to an overall award of $8,253,312.72.

50. Defendant's Appraiser

The defendant's appraiser and expert witness was Mr. Walter R. Kuehnle, a real estate appraiser and consultant in Chicago. In his extensive report, Mr. Kuehnle appraised the cession lands by trying to recapture the viewpoint and attitude of prospective purchasers and sellers of land in 1805. He studied the nature and location of the subject lands, classified the subject tracts for assessment of land worth, and also considered sales of other large tracts and resales at both wholesale and retail of parts thereof in the late 1700's and early 1800's. Mr. Kuehnle studied the national economic situation, the location of the subject lands in terms of accessibility to markets, and the status of the lead deposits in the Illinois-Wisconsin tract as compared with the southeastern Missouri Lead Region. He also weighed the pre-1805 lead mining activity in the vicinity of Dubuque, Iowa.

In the process of classifying the lands of the subject tracts for assessment of land worth, defendant's appraiser used county soil maps, presently available in Missouri, Illinois and Wisconsin, as the basis for reconstructing new soil maps for both tracts showing various simplified categories. Because the county maps had many different soil classifications, the appraiser devised seven categories for the Missouri

tract and thirteen for the Illinois-Wisconsin tract which were "distinguishable by features of topography, drainage, vegetation (timber, prairie, etc.) and observable soil conditions which could have been recognized by a careful observer in 1805." Mr. Kuehnle did not contend that his categorization system was in widespread use, or in use in any form, on the valuation date.

The fragmented categories, which are fundamental to the appraisal report, are of limited assistance to the Commission in determining the value of the subject tracts on the valuation date because application of the categories requires expertise which was not current, common, or even available on the valuation date. That expertise would have been foreign to the concepts of any well-informed man by the standards of 1805. The well-informed man of that day would have used available government surveyor's notes to determine the respective quantities of land types comprising the subject tracts. But the fact remains that neither the Missouri tract nor the Illinois-Wisconsin tract had been surveyed in 1805. As a result, a prospective purchaser would have had to rely on reports of those who had traveled through the areas, or he would have had to have made an on-the-scene inspection to obtain information about soils.

Defendant's appraiser examined the attitudes and predilections which he presumed motivated the pioneer settler in selecting land. Mr. Kuehnle then analyzed the choices made, and classified the subject lands in terms of preferences of settlers from among various land

types. He projected a probable annual rate of resale at retail and derived therefrom a probable holding period during which a prospective purchaser of the subject lands would attempt to sell parcels at retail. Mr. Kuehnle projected a rate of disposal of the lands in the Missouri tract. This was done by study and analysis of 133 early Spanish land grants made in the Missouri tract, 166 early land grants in St. Charles County, 33 resales of lands in the St. Charles County grants and all of the government land sales in the subject area from 1818 to 1830. County soil maps of the lands within the Missouri tract, as well as those in St. Charles County, were used as a basis for reconstructing new soil maps showing the seven simplified soil categories developed by the appraiser and discussed previously. By studying the land types in the areas selected by the grantees, three descending land classes, reflecting desirability and undesirability, were established. The defendant's appraiser concluded that as of 1805 a limited amount of land in the Missouri tract could be sold in the ensuing ten years. Aside from the more desirable bottom land, it would be ten or fifteen years before sales would grow to an appreciable volume. Thereafter the maximum annual rates of sale would be 10% for Class A (sections containing no timber and no prairie), 4% for Class B (sections containing timber), and 1% for Class C (sections containing prairie but not timber). After deduction of an estimated 100,000 acres to be sold in the first ten years, the projected average annual rate of sale was 2.40%.

The defendant's appraiser did not project a time and rate of resale for the lands in the Illinois-Wisconsin tract.

The Commission finds that the appraiser's system of projecting a rate of disposal for the Missouri tract is too sophisticated and complex to have been useful to a prospective buyer in 1805. While he could have walked over the area to determine the amount of prairie, timberland and bottomland in the tract, and could conceivably have found data on the Spanish land grants, he would have found the collection and correlation of the raw data impossible to interpret and the inferences unintelligible. He would have known that, when given a chance, farmers prefer good farming land and that the better land would sell first and at a higher price. However, the system of projection developed by the defendant's appraiser requires a degree of analysis that a man in 1805 would have found incomprehensible.

On the basis of the foregoing, Mr. Kuehnle projected a retail price per acre, and from that he estimated the purchase price upon which a fully informed and willing purchaser and a fully informed and willing seller would have agreed. Defendant's appraiser concluded that the average per acre value of the Missouri tract was $0.20 1/2; that for the Illinois tract south of the lead region was $0.17; and that for the Wisconsin-Illinois lead region was $0.21, which included $0.10 per acre for enhancement ascribable to the lead ore potential. Mr. Kuehnle's totals were $337,000.00[1/] for the Missouri tract, $165,000.00 for the

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1/ Defendant rounded off this figure from $336,470.28. In his appraisal report Mr. Kuehnle valued the Missouri tract at $370,000.00 based on the mistaken assumption that the tract contained 1,403,430 acres.

Illinois portion south of the lead region and $220,000.00 for the lead region, giving a total value of $722,000.00. In the Commission's judgment, these figures are on the conservative side.

The defendant adopted its appraiser's conclusions on value and asked the Commission to make an award to the plaintiff of $702,000.00,[2/] subject to offsets that may have accrued since June 30, 1960.

51. Lead in the Illinois-Wisconsin Tract

A. Location and Historical Background.

The lead region of the upper Mississippi River Valley includes about 3,000 square miles, or about 1,920,000 acres. It lies on both sides of the Mississippi in southwestern Wisconsin and northwestern Illinois, and along a narrow strip west of the Mississippi River in northeastern Iowa. The lead region in the subject lands contains approximately 891,000 acres, located in most of Jo Daviess County, Illinois, and in a great portion of Grant County and in small parts of Lafayette and Iowa Counties, Wisconsin.

During the period 1678 to 1680 Father Hennepin, a missionary priest, traveled through parts of present-day Minnesota, Wisconsin, and Illinois. After his return to Europe, Father Hennepin published an account of his travels in America and in 1687 published a map showing a lead

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2/ This is the net sum after deducting the $20,000.00 consideration paid to the plaintiff under the treaty of cession.

mine in the vicinity of present-day Galena, Illinois, which is within the boundaries of the Illinois-Wisconsin tract. About 1690 Nicholas Perrot, considered the actual discoverer of lead by the French in this region, established a temporary trading post along the Mississippi twenty leagues south of the Wisconsin River, opposite the present site of Dubuque, Iowa. This probably marked the beginning of actual mining by the French and the Indians, who then learned the value of lead. In 1699 Le Sueur, who made the first mining expedition of importance to the area, found lead mines on both sides of the Mississippi. Later, he arrived at the mouth of the Fever River with 30 miners in August 1700. About one and one-half leagues up that river Indians were found operating a lead mine. Further north along the Mississippi Le Sueur found another lead mine, which probably came to be known as the "Snake Diggings" near present-day Potosi, Wisconsin. In 1743 the explorer Le Guis reported 9 or 10 mines then in operation in the Fever River area. In 1766 lead was said to have been shipped twice a year from the west side of the Mississippi. In the same year Jonathan Carver, the English explorer, traveled from Green Bay to the Upper Mississippi region and reported visiting lead mines in the vicinity of Blue Mounds, Wisconsin. In 1788 Julian Dubuque entered into an agreement with the Sac and Fox Indians to work lead lands. After Dubuque's death in 1810, mining was carried on by the Sac and Fox Indians until the lands on the west side of the Mississippi were ceded to the United States in 1832.

In 1805 the lead lands in the Illinois-Wisconsin tract had not been surveyed. Those in southwestern Wisconsin were surveyed in 1832 and 1833. In 1839 when the Federal Government commissioned the geologist David Owen to make a survey of the lead lands in Wisconsin, Illinois, and Iowa, the lead lands in the Illinois portion of the tract were still not surveyed. The purpose of Owen's survey was to determine which were the best lands and which were best suited for agriculture, so that the non-lead lands could be disposed of.

B. Production - Upper Mississippi Mining District in 1805.

Lead mining was carried on in 1805 by the Indians who occupied the region, and by Julian Dubuque, whose operations were based on the west side of the Mississippi. Dubuque employed primarily Indians in his mining and prospecting activities, as well as some Canadians and halfbreeds. Dubuque's principle mines were on the west side of the Mississippi; however, some mining and prospecting were conducted on the east side within the subject tract. Mining operations were limited to shallow deposits located in upper crevices and crevice openings of the Galena dolomite formation. Also, loose chunks of the lead would sometimes be found on or slightly below the surface of the soil.

In 1805 Dubuque's lead production was estimated to be from 20,000 to 40,000 pounds of lead ore a year. However, for this period accurate production records for the Upper Mississippi Mining District are not available. The figures are mere estimates.

C. Expert Testimony.

In appraising the value of the lead deposits, the plaintiff's appraiser considered the income capitalization approach and the royalty approach, and then made illustrative calculations which were intended to indicate the general range of values by which the tract was enhanced by lead deposits. It was his conclusion that the lead deposits enhanced the value of the tract by no less than $1.00 per acre in 1805. However, the plaintiffs have asked for an enhancement of $1.50 per acre.

The income capitalization approach is a modern appraisal tool that had not been developed on the valuation date. The utilization of this approach requires mathematical calculations that an ordinary man of 1805 would have been unable to perform. In contradistinction, the royalty approach was in use on the valuation date, but it, like the income capitalization approach, requires information that was not available on the valuation date. An integral part of both appraisal methods was the use of anticipated annual production figures, which were nonexistent in 1805. Professor Barlowe used Owen's estimated production potential at the time of his survey in 1839 and Owen's later report of actual production in 1839, as well as the average annual production figures as calculated by Professor Palmer in his report for the years 1825-1849. The hindsight information utilized in both appraisal approaches is too far removed from the valuation date to be considered probative evidence.

The defendant's appraiser analyzed the pre-1805 development of Dubuque's mines in Iowa and the October 20, 1804, sale of two-thirds of the Dubuque grant for approximately $0.18 an acre. He also estimate the enhancement to the fair market value of the 800,000-acre southeastern Missouri Lead Region to be approximately $0.15 an acre. Because the Upper Mississippi lead lands in the subject tract were remote and undeveloped as of January 25, 1805, the defendant's appraiser estimated the enhancement of the subject lands in the lead region to be two-thirds of that estimated for the southeastern Missouri Lead Region, or $0.10 an acre. The defendant adopted its appraiser's conclusion and urges the Commission to so find.

At the time of valuation there was no market for the sale of lead lands in the Upper Mississippi Mining District. There is no evidence tha the sale of two-thirds of the Dubuque grant for $0.18 an acre was a bona fide, arms-length transaction, and it will not be considered as evidence of fair market value.

The defendant's appraiser arrived at the enhancement value of $0.15 per acre for the southeastern Missouri Lead Region by calculating the 1805 royalty value of lead deposits, again based on estimated lead production for future periods. The enhancement value is an estimate only, and becomes of even less value when used as a basis for the enhancement of the lead deposits in the Wisconsin-Illinois tract. The reduction in value applied to the latter tract is no more than conjecture.

D. Conclusion.

The lead lands in the subject tract were undeveloped and unsurveyed as of January 25, 1805. A prospective purchaser would not have known the extent or richness of the deposits, except for those noted by early explorers. There had been no bona fide sales of any significant mining properties in the West. The experience of the eastern states offered little help because no similar bodies of ore had been found there.

Mining on a large scale did not begin in the lead lands for approximately twenty after the valuation date. Therefore, in 1805 a knowledgeable estimate of the extent of the lead deposits and of the annual production could not have been made, nor were production costs available. Therefore, we are unable to value the lead deposits separately. However, the mineral deposits were a matter of common knowledge in 1805 and have been considered by the Commission as a plus factor in the valuation process.

52. 1805 Fair Market Value of the Subject Lands

In 1805 a prospective purchaser would have known that explorers, who had been traveling the Mississippi River for more than a century, reported that the Mississippi was bordered on both sides by an intermixture of prairies and woodlands. Timber was primarily located adjacent to the numerous streams flowing into the Mississippi. It was also reported that the lands along the Mississippi were fertile and the climate was suitable for farming.

A prospective purchaser would also have known that settlers moving West located on timbered land nearest rivers and streams, because water ways were the principal means of transportation and timber was needed for fuel, fences and cabins. Also falling within their preferences were riverbottom lands with adjacent higher timbered lands, where homes could be built on land high enough to be safe from flooding. Prairies were avoided by early settlers due to the lack of timber and water and the lack of protection from bitter winter winds and prairie fires during the summer months. Also the sod was thick, tough and difficult to plough with the agricultural implements then in use.

In reaching the value of the subject tracts, we started by taking notice of the statutory price for government lands at the time of cession. The credit price was $2.00 per acre in minimum tracts of 160 acres; or, if paid in cash, the price was $1.64 per acre. It follows that the Sac and Fox tracts could not have sold for more than government lands, because the former lands were selling in competition with the latter. We then considered the positive and negative aspects of the two tracts.

A. Missouri Tract.

The highest and best use for the subject lands in Missouri would have been small scale subsistence farming. It follows that as of January 25, 1805, a prospective purchaser would have intended to offer the area for resale in small tracts.

As of January 25, 1805, the Missouri tract was raw, unimproved, relatively inaccessible land. For the most part the settled areas of Missouri lay to the south of the Missouri River. The fact that the subject tract was not surveyed until 1816-1818 would confirm the lack of demand in 1805 for lands north of the Missouri River. A prospective purchaser would have considered the fact that in 1805 there were many thousands of acres of reasonably competitive public and private lands on the market south of the Missouri River and across the Mississippi River in the Ohio Territory. These competitive lands were all situated closer to existing settlements than were the lands in the subject tract. A prospective purchaser in 1805 would have also realized that, in addition to the above factors, the very size of the subject tract would have necessitated its being marketed, consistent with its highest and best use--small scale subsistence farming, over a period of at least twenty to twenty-five years. He would have known that subdividing and reselling such a large area in small parcels would involve necessary surveying, development management, and selling costs. Furthermore, he would have realized that Indians still held the lands adjoining the western and northern boundaries of the tract.

On the other hand, the fertile soil and good climate were conducive to agricultural pursuits. There was a good water supply and an adequate amount of timber located along numerous streams throughout the tract. Although the Sac and Fox tract was not settled on the valuation date, it was favorably located for future settlement with the Mississippi River as its eastern boundary.

Based on all the findings of fact which have been made herein, and considering all the relevant factors bearing upon the fair market value of the Missouri tract, consistent with its highest and best use, the Commission finds that on January 25, 1805, the Missouri tract, consisting of 1,638,724.39 acres of land, had a fair market value of $983,235,or approximately $0.60 per acre.

B. Illinois-Wisconsin Tract.

The highest and best uses for the subject lands in the Illinois-Wisconsin tract would have been small scale subsistence farming and mining. It follows that as of January 25, 1805, a prospective purchaser would have intended to use the mineral-enriched areas for mining in those areas where galena deposits were to be found and the remainder he would have intended to offer for resale in small tracts.

As of January 25, 1805, the Illinois-Wisconsin tract was also raw, unimproved and unsettled land occupied by unfriendly Indians and a few traders. Settlements were all located well to the south and east of the subject tract in southern Illinois and Indiana. A prospective purchaser would have known that the primary routes of settlement to the West were along the Ohio River and its tributaries and north on the Mississippi and that it probably would be many years before the tide of immigration reached the subject lands. He would also have known of the availability of competitive lands in the eastern part of the country

and the fact that additional public lands in Illinois and Indiana had yet to be offered for sale. A prospective purchaser in 1805 would have been aware of the then total lack of a marketable demand for the lands within the Illinois-Wisconsin tract. This lack of demand in 1805 is confirmed by the fact that the nonmineral lands were not surveyed until the 1820's. The mineral lands were surveyed in the 1830's and 1840's. Under such circumstances a prospective purchaser in 1805 could anticipate a lengthy holding period before disposing of the tract consistent with its highest and best use.

One plus factor for the Illinois-Wisconsin tract was its suitability for farming due to the fertile soil and continental climate. Another favorable aspect in 1805 was the presence of lead deposits. While mineral lands in the tract had not yet been surveyed, and the exact location and quantity of the deposits were unknown, the presence of lead in the Upper Mississippi Mining District had been reported for many years prior to 1805. It was also common knowledge that some mines in the general vicinity of Galena were being worked by Indians. In the absence of a reasonable estimate of the extent of the lead deposits and reliable annual production figures and costs during the period in question, the Commission has been unable to fix a specific value for lead. The Commission, however, has considered the presence of lead deposits as a definite enhancement factor in determining the fair market value of the Illinois-Wisconsin tract.

Based on all the findings of fact which have been made herein, and considering all the relevant factors bearing on the fair market

value of the Illinois-Wisconsin tract, consistent with its highest and best use, the Commission finds that on January 25, 1805, the Illinois-Wisconsin tract, consisting of 2,012,700 acres of land, had a fair market value of $1,006,350, or $0.50 per acre.

The Missouri tract and the Illinois-Wisconsin tract had a combined fair market value of $1,989,585.

53. 1805 Treaty Consideration

Under Article 3 of the 1804 Sac and Fox treaty of cession the United States was obligated to deliver annually to the Indians goods worth $1,000. Under the Act of April 4, 1910, 36 Stat. 269, 289, the Article 3 perpetual annuity was commuted for $20,000 at 5 percent. The United States is thereby restricted to $20,000 as the consideration paid for the cession lands. As a matter of law the Commission concludes that such consideration paid by the United States for lands worth $1,989,585 was unconscionable under the provisions of Clause 3, Section 2 of the Indian Claims Commission Act.

54. Conclusion

On July 19, 1961, a stipulation between the Sac and Fox Tribes and defendant was filed with the Commission agreeing to a compromise of all gratuitous offsets applicable to Sac and Fox claims in the amount of $35,000 for the period from November 2, 1804, to June 30, 1960. The stipulated offsets were applied in full against the award rendered in favor of the Sac and Fox plaintiffs in Docket 138, 15 Ind. Cl. Comm. 42, 47, 65 (1965). In the instant case the defendant has made no claim for gratuitous offsets subsequent to June 30, 1960, although it has reserved such offsets against any other claims of the plaintiffs.

Accordingly, the judgment rendered herein on this claim shall be a final award, and the plaintiffs are hereby entitled to recover from and of the defendant the sum of $1,969,585.

Jerome K. Kuykendall, Chairman

John T. Vance, Commissioner

Richard W. Yarborough, Commissioner

Margaret H. Pierce, Commissioner

Brantley Blue, Commissioner