PREHISTORIC CHERT QUARRIES IN KAY COUNTY: A REPORT

By Otto F. Spring

Foreword

The original manuscript of this report on "Chert Quarries in Kay County," by Otto F. Spring is in the Joseph B. Thoburn Collection of manuscripts in the Editorial Department of the Oklahoma Historical Society. This report was brought to light in the preliminary filing of manuscripts in the Collection made by Mrs. W. H. Holway, of Tulsa, and her sister, Miss Clare Kerr, their work having been generously contributed and continued at intervals recently, for more than three years.

Joseph B. Thoburn was director of the Marland Archaeological Expedition of 1926, financed by Mr. E. W. Marland of Ponca City, under the auspices of the Oklahoma Historical Society. Exploration work in the field was in charge of Otto F. Spring of the University of Oklahoma and Harry ("Doc") Robertson of Phillips University.[1]

Excavation was carried on at the ancient Caddoan village sites in the vicinity of Deer Creek, on the west side of the Arkansas River in Kay County. The village site at the mouth of Deer Creek had special interest in the historical field, with its evidences of the site of a French trading post in the objects brought to light including articles of copper and brass, iron implements and parts of guns besides gun plates with designs known in the French trade of the early 18th Century also gun "flints"—small squares of chert or flint of local origin.[2] Dr. Thoburn pointed out that this trading post was apparently that known as *Ferdinandina*, the name unknown or long forgotten in the records of America yet shown on old maps made in England, and Scotland and in Europe.

Dr. Thoburn prepared Otto Spring's *Report* with an introduction for publication in *The Chronicles* in the summer of

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[1] Joseph B. Thoburn, "Oklahoma Archaeological Explorations in 1925-26," *Chronicles of Oklahoma*, Vol. IV, No. 2 (June, 1926), pp. 143-4.

[2] "Exhibit of Objects Discovered by the Marland Archeological Expedition in 1926." *The Chronicles of Oklahoma*, Notes and Documents, Vol. XXIV, No. 4 (Winter, 1946-47), pp. 491-4; George H. Shirk, "Oklahoma Reclaims Its Past," *The Daily Oklahoman*, Magazine Section, September 30, 1956. Leslie A. McRill, "Ferdinandina: First White Settlement in Oklahoma," *The Chronicles of Oklahoma*, Vol. XLI, No. 2 (Summer, 1963), pp. 128-59.

1926.[3] He also had made a special map showing the location of the chert, or flint quarries near Hardy. This unpublished *Report* along with his introduction and the map printed for the first time follows:

—(M.H.W., Ed.)

Editorial Introduction

During the months of May, June and July of the current year, a small archaeological field party has been operating in Kay County, under the patronage of Mr. E. W. Marland of Ponca City, and under the direction of the Oklahoma Historical Society. The first two weeks were spent in exploring and investigating the quarries of chert, or flint, which were worked by the primitive inhabitants in prehistoric times. These are located in the northeastern part of Kay County, in the vicinity of the village of Hardy. The primitive stone weapons and tools of prehistoric man are more or less of common occurrence in all parts of Oklahoma, though few people ever pause to consider where the stone age man secured material which he fashioned into the various designs and shapes to suit his several purposes. Other quarries of chert, or flint, are to be found elsewhere in the state.[4] Such quarries are not always readily recognized and understood by everyone who sees them even t hough it may be evident that they are the result of artificial excavation. Hence one sometimes hears them referred to as "old Spanish mines," though most of them antedate by hundreds of years the arrival of the first Spanish explorers. As the work in Kay County is being done co-operatively the specimens secured by the Marland Achological expedition are to be divided, part of them placed in the museum of the Oklahoma Historical Society and part of them in the newly projected historical museum which Mr. Marland plans to establish at Ponca City. The results of the work that

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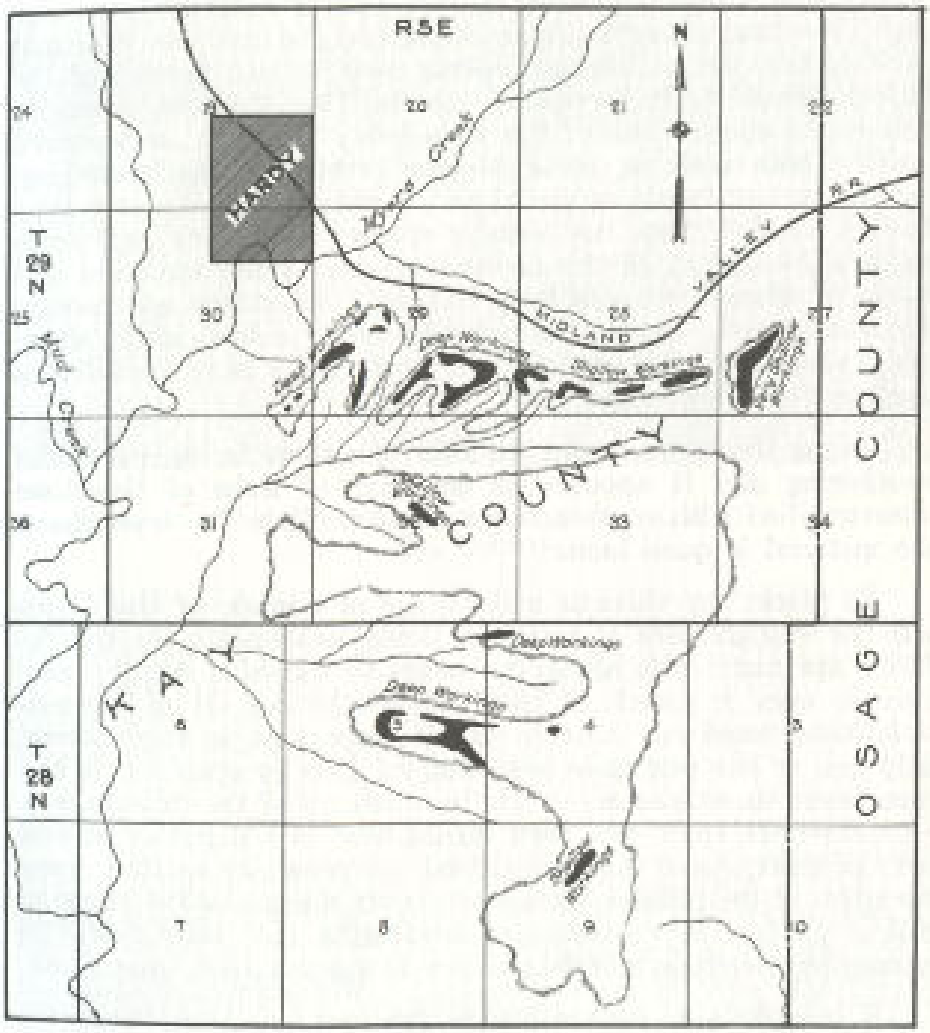
[3] Joseph B. Thoburn had served as secretary of the Oklahoma Historical Society from 1919, and was elected as Director of Research by the Board of Directors of the Society in its meeting held February 3, 1926. Otto Spring's *Report* on the summer's archaeological work on the chert quarries in Kay County, prepared for publication in *The Chronicles* was not published because stress was laid on the use of articles and notes relating to history with the recent change in the position of secretary and editor. Spring's Report was laid away, and remained unpublished.

[4] Joseph B. Thoburn, "The Northern Caddoan Peoples of Prehistoric Times and the Human Origin of the Natural Mounds. So Called, of Oklahoma and Neighboring States." unpublished manuscript. The Oklahoma Historical Society, 1930. An ancient quarry on the Peoria lands in Oklahoma (in present Ottawa County), 7 miles northwest of Seneca, Missouri, is reported by William Henry Holmes under the title *An Ancient Quarry in Indian Territory* published by the Smithsonian Institution, Bur. Ethnol. (Washington, 1894).



MAP SHOWING
FLINT QUARRIES
near
HARDY, KAY COUNTY, OKLAHOMA

has been done elsewhere in Kay County will be described in subsequent issues of this publication [*The Chronicles of Oklahoma*].—J.B.T.

Chert Quarries in Kay County, Oklahoma

In the vicinity of Hardy a formation of resistant light colored limestone caps the higher hills, and its hardness causes it to stand out, the hill sloping steeply away from it below and the hilltop being nearly level and smooth. This limestone contains nodules of chert, some of the beds being as much as one-third chert. These nodules, seem for the most part, to have been formed around fossils as nuclei and in many are to be seen very perfect fossils. These are usually species of fusilina and nummulites. Nearly all of the nodules have an agate structure and many of them are beautifully banded. The colors are usually white shading to yellow, banded with darker colors, rarely showing shades of red. The red material seems to be more fossiliferous than that of other colors.

Along the edges of the hills the limestone is broken up by weathering and it appears in the form of slabs of limestone interstratified with earth and the chert nodules. In these places the material is quite loose.

In places the silicious nodules are of a grade of chert suitable for manufacture of primitive stone implements. In this locality are many pits along the edges of the hills dug by prehistoric man in search of chert. Evidently not all of the material thus found was suitable for his purpose as, in some places, only one or two pits have been dug as if, in prospecting, it had been found unsatisfactory, while in others all of the hill-top over a considerable space has been turned over to a depth of several feet. In most places the excavations are generally located along the edges of the hills as, apparently, only there was the stone so broken up by the processes of weathering that they could be worked by the crude methods known to the primitive quarrymen.

These pits were seldom if ever over four feet deep, the depth of the workings being limited by the depth to which the stone is loosened by weathering. They are generally not over twenty feet wide and extend usually some sixty feet back from the edge of the hill. Rarely a pit has been worked much farther, extending a hundred feet or more. Evidently the distance they could be worked from the edge of the hill was limited by the extent to which the rocks were weathered.

The usual method of working seems to have been by starting a pit at the edge of the hill and working back into the hill. The larger pieces of rock were usually thrown to each side or carried

(Photo 1926)
Flint Quarry, Northwest, Near Hardy,
Kay County

(Photo 1926)
Flint Quarries, Northeast, Near Hardy,
Kay County

to a central dumping place; the smaller debris was thrown to the rear, thus partially filling the pit behind. Most of the pits were carried more or less straight but some are very crooked even making complete circles. Some of the pits parallel the edge of the hill. In several places the whole hill-top has been worked over by means of a series of pits. In these places the larger rocks seemed to have been carried to central piles and these are of considerable size.

It is evident that nodules of chert were broken up and roughly shaped around or near the pit, as many crude and imperfect implements and flint chippings are to be found there. Much of the rough chipping seems to have been done on the points of the hills as also flint chippings are numerous.

It seems that the partially shaped implements were carried to more desirable camping places before finishing them. All of the bottom land along Myers Creek a distance of several miles of its course in the vicinity of the workings, is well covered vestigia of the old camps. These consist of such things as cup-stones, muller stones, broken corn mortars, mussel shells, flints, etc.

The great number of chert chippings and broken or imperfect artifacts of the stone from the workings indicates that, in the camps of these bottoms, most of the finishing of the implements was done. The greatest camp seems to have been in the bottoms around a large spring about a mile south of Hardy. This spring, which flows out of a cleft in a rocky cliff that forms the east valley wall of the creek, has a strong flow of clear, cold water. The surrounding bottoms being suitable for camping and the abundant supply of good water thus afforded in a region where springs are comparatively rare, probably made this a coveted camping place in pre-historic times.

The old workings seem to have been in three main groups. Two of these are about a half mile apart and about a mile southeast of Hardy, the third is about three miles on farther south. Around each of these for some distance small pits and prospect holes are to be found wherever the chert bearing ledge is exposed to weathering.

The old workings have made it possible for elms and other trees to live on the hill-tops and the quarries usually have trees growing in or about them, while all other hill-tops in this vicinity are bare of all vegetation except that which ordinarily grows on the prairies.

The chert secured from these quarries seems to have been suitable only for the manufacture of roughest implements. It appears to have been utilized chiefly in making hoes, skin-scrapers, rough axes, etc. However, a "four-bladed pen-knife"

was found on one of the camp-sites near the workings that is of very good workmanship and made of the chert from these workings. Several small arrow-heads of this material and of good workmanship were found on camp-sites elsewhere.

Other than the above all implements found were of poorer and rough workmanship as already stated, and consisted of skin-scrapers, hoes, rough knives, picks, wedges, etc. Chert from these quarries seems to have been carried over a wide territory, throughout adjacent portions of northern Oklahoma and southern Kansas.

As a result of recent excavations on camp-sites within a few miles of these quarries, it has become evident that there was a primary contact between the stone age man with European culture (French) less than two hundred years ago, chert implements from material quarried near Hardy being found on such sites interspersed with vestigia of iron, copper and brass.[5] It is therefore evident that these quarries were worked down to within two centuries of the present time.

—Otto F. Spring

[5] This "primary contact" of the French mentioned here has reference to similar articles of French trade found on the site of Ferdinandina on the west side of the Arkansas River, less than 15 miles southwest of the old quarries near Hardy, in the same County—Kay.