Navajo Indians were hired to assist the U.S. Atomic Energy Commission in locating uranium deposits

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William L. Chenoweth

Arizona Geological Survey

Hopi Buttes volcanic field, Navajo Tribal Lands, northeastern Arizona
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INTRODUCTION

The employment of Navajo Indians by the U.S. Atomic Energy Commission (AEC) to prospect for uranium during the uranium boom of the 1950’s was mentioned in an article by the AEC’s Robert D. Nininger in a 1954 volume of the National Geographic Magazine (Nininger, 1954, p. 550). There are no further details of this program in the literature. Having worked on the Navajo Nation for 10 years in the 1950’s and 1960’s I was aware of the program and I am preparing this report from my old field notes etc.

BACKGROUND

Early in 1949, two Navajo’s, Koley Black and Dan Phillips, showed Dan Hayes, a prospector from Monticello, Utah, some brightly colored outcrops of uranium and vanadium minerals on the northern side of the Lukachukai Mountains in Apache County, Arizona. A short time later, Willie Cisco discovered a mineralized outcrop on the southern side of the mountains. The host rocks for these discoveries were sandstone beds in the Salt Wash Member of the Morrison Formation of Jurassic age. These discoveries would lead to development of mines in an area where no previous mining had taken place.

At the time of the discoveries in the Lukachukai Mountains, uranium mining on the Navajo Indian Reservation was taking place in the Carrizo Mountains of northeastern Arizona and northwestern New Mexico. These deposits were also in the Salt Wash Member of the Morrison Formation. Deposits were also being mined in the Monument Valley area of Apache and Navajo Counties, Arizona and in San Juan County, Utah. These deposits occurred in the Shinarump Member of the Triassic Chinle Formation.

THE PROGRAM

Due to these important discoveries at the beginning of the uranium boom on the Colorado Plateau, the Grand Junction office of the U.S. Atomic Energy Commission, decided to use Navajo Indians to search for uranium on the Navajo Indian Reservation. To manage the program, in 1951, the AEC hired Jack H. Leonard and Winston W. Marks. Both men were from Farmington, New Mexico and could speak fluent Navajo, since their families had trading posts in the Navajo checkerboard area of northwestern New Mexico. Throughout the AEC field personnel, the two men were known as "Navajo Wranglers".

During the course of the program about 20 Navajo men were hired and placed on the payroll of the Walker-Lybarger Construction Company, prime contractor to the Grand Junction AEC office. Leonard and Marks showed the men a sample of bright yellow carnotite ore and gave each an AEC Geiger counter and told them to look for "this kind of rock which makes the Geiger counter click fast". One Hualapai man was hired to prospect the Hualapai Indian Reservation, southeast of Grand Canyon National Park where uranium had been found in an old copper mine. According to Jack Leonard, the
men were instructed to prospect in areas where they had herded sheep, since they knew that area like the "back of their hands".

Leonard and Marks would contact each prospector every two weeks to bring them their paychecks and new batteries for their Geiger counters. When a prospector made a discovery, he was given the option of quitting the AEC program and finding a company to develop the find or continue to prospect for a better discovery.

RESULTS

The Navajo prospectors did find uranium minerals throughout the Reservation but the most important discovery was made by Charlie Huskon near Cameron in Coconino County, Arizona. On June 26, 1952 Charlie Huskon, and his son Evans, showed AEC geologist Jack Chester and Jack Leonard a uranium bearing outcrop in the Petrified Forest Member of the Triassic Chinle Formation about one mile east of the bridge over the Little Colorado River at Cameron, Arizona (Chester and Leonard, 1952a). This outcrop would be developed into the Charles Huskon No.1 mine. On the same visit to the Cameron area, another prospector, Chee Paddock, showed Chester and Leonard some uranium bearing fossil logs, also in the Petrified Forest Member, some 17 miles southeast of Cameron (Chester and Leonard 1952b).

This occurrence would later become the Evans Huskon No. 35 mine. Charlie Huskon applied to the Navajo Tribal Mining Department for a mining permit on June 29, 1952, and contacted the Arrowhead Uranium Company of Grand Junction, Colorado, which was exploring for uranium in the Monument Valley area. He quit Walker - Lybarger in July 1952 and began to prospect for Arrowhead. The company also conducted aerial radiometric surveys in the Cameron area using a Piper Cub airplane and a handheld Halross scintillation counter. This ground-air reconnaissance was very successful, and many uranium bearing outcrops in the Chinle Formation were discovered. Leonard (1952) noted that Charlie Huskon was very successful at finding uranium-bearing outcrops because he recognized the relationship between yellow-colored alteration in the Chinle sediments and uranium minerals.

On August 6, 1952 Charlie Huskon was issued Mining Permit (MP) No. 46 for the Charles Huskon No.1 deposit, and MP-64 covering the No.2 property was issued to Evans Huskon on September 26, 1952. MP-65 covering the Charles Huskon Nos. 3 through 8 was issued to Charlie on the same day. Charlie and Evans signed operating agreements with Arrowhead on September 29, 1952. Arrowhead commenced mining at the Charles Huskon No.1 property and delivered 8.21 tons of ore averaging 0.18 percent U3O8 and 0.15 percent V2O5 to the AEC's ore buying station at Bluewater, New Mexico, on October 16, 1952 (Chenoweth, 1993). The discoveries by Charlie Huskon and his son Evan drew considerable attention to the Cameron area, and many Navajo's, not employed by the AEC, began to prospect and made additional discoveries.

Arrowhead Uranium Company was acquired by the Rare Metals Corporation of America in December, 1954. Continued exploration and development work by Rare Metals would lead to the building of a new uranium mill northeast of Tuba City, Arizona in 1956.
SUMMARY

When uranium mining in the Cameron area ceased in January 1963, Charlie Huskon had obtained a total of 17 Navajo Tribal Mining Permit (claims). Mines on these permits had produced a total of 117,931 tons of ore containing 474,121 pounds of uranium oxide (U3O8) averaging 0.20 percent U3O8. This represents 39 percent of the total uranium produced in the Cameron area (Chenoweth, 1993). Based on the AEC’s Circular 5 Revised ore purchase schedule and the Circular 6 bonus payments for new discoveries, Charlie Huskon’s two percent royalty would have been $42,700. He was the most successful of all the AEC’s Navajo prospectors.

EPILOG

The Navajo prospector program ended in 1954 and Leonard and Marks left the federal service. Before leaving the AEC, Winston Marks would tell stories about working with the Navajos. They gave Jack Leonard the nickname of “Loose Ears” because of the way he could wiggle his ears to the delight of Navajo children. Marks liked to tell about the trouble he got into during World War II. He was in the Navy aboard a ship in the Pacific on which there were some Navajo Marines. To make them feel at ease, he began speaking to them in Navajo. Some officers heard this and he was put in the brig as a possible spy. It turned out those Marines were "Code Talkers" who used their native language to transmit secret military messages. A code the Japanese never broke. The Navajo word for turtle meant tank, catfish meant submarine etc. Marks did not realize at the time the work of the code talkers was classified until 1982.

A Navajo prospector, probably Chee Paddock, is shown with AEC geologists, David Hinkley and David Lowell in photo in Nininger (1954, p. 536). The location of the photo is quite scenic, on the rim of the canyon of the Little Colorado River, but is not near any uranium occurrences.

REFERENCES


