

VANADIUM CORPORATION OF AMERICA

HAER No. CO-81-I

(VCA) NATURITA MILL, LABORATORY

approximately three miles northwest of Naturita,
between Colorado State Highway and
the San Miguel River
Vicinity of Naturita
Montrose County
Colorado

HAER
COLO
43-NATU.V
II-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

VANADIUM CORPORATION OF AMERICA (VCA) NATURITA MILL,
LABORATORY

HAER No. CO-81-I

HAER
COLO
43-NATU.V
II-

Location: In northeast quadrant of mill complex, northeast of Grinding/Rod Mill, approximately three miles northwest of Naturita, between Colorado State Highway 141 to the southwest and the San Miguel River to the northeast; in the NW1/4 of the SW1/4 of Section 14, Township 46 North, Range 16 West

Date of Construction: Circa 1960-61

Designer: VCA Drafting Department - Durango

Builder: Built by VCA employees working under the direction of Troy Newland, master mechanic, Tom Kelly, assistant master mechanic, and Bob Newland, mill supervisor

Present Owner: Cyprus-Amax Minerals Corporation, 9100 E. Mineral Circle, Englewood, CO, 80112

Present Use: Vacant / Not in Use

Significance: The VCA Naturita Mill Laboratory was constructed in 1960-61 as part of an effort to reconstruct the facility as an experimental uranium and vanadium ore processing facility. The building was initially used as a changing facility for the mill workers. Subsequently, though, it was converted into a laboratory where ore samples were analyzed to determine their relative uranium and vanadium values. Between 1958 (when the milling operation had closed) and 1961, VCA had been paying miners to ship raw ore to the company's Durango mill. By first concentrating the ore at Naturita, VCA hoped to greatly reduce the volume of ore shipped to Durango, and correspondingly reduce the company's shipping costs. In the end, however, the cost to concentrate the ore at Naturita was greater than the savings gained by reducing the tonnage shipped to Durango. As a result, the concentrating facility was not in operation for long. It closed in early 1963.

When the ore arrived at the mill, it was first deposited at the Weighing Station and Office where it was allotted a serial number identifying who produced it and where it had been mined. From the Weighing Station and Office, the ore was brought to the Sampling Building, where it was sorted, crushed, and a small percentage was separated out to be chemically analyzed in an assaying process that took place in the laboratory

After the ore sample that was to be analyzed had been sorted in the Sampling Building, it was divided into five equal portions and placed into five 2" by 5" envelopes. Each envelope was labeled with a serial number that had been allotted to the ore at the Weighing Office and Station. One envelope was taken to the laboratory, one envelope was sent to the ore producer, one was sent to the Atomic Energy Commission in Grand Junction, and two envelopes were stored in cupboards in the mill warehouse. The envelope that was taken to the laboratory was chemically analyzed in an assay process to determine its relative uranium and vanadium values.

To guard against fraud, the chemical analysis was checked independently by two assayers whose results had to correlate. In addition, from the time the ore left the scale platform, it was identified only by its serial number, so that the assayers and persons involved in the splitting process did not know where the ore they were working with had come from or who had produced it. As a result, any potentially dishonest ore suppliers were prevented from corrupting the process by offering bribes to VCA employees in return for artificially inflating the value of their ore. On the whole, ore producers very rarely attempted to fraudulently inflate the value of their ore, and they were also generally satisfied that the VCA was not unfairly deflating the ore's value in the assay process.¹

In the meantime, apart from the assaying process, the main ore body was transported from the ore receiving platform outside the Sampling Building for the remainder of the concentrating process. After leaving the Sampling Building, the ore was subsequently crushed, agitated in an acid and water solution, thickened, and dried. When completed, the concentrating process produced a uranium and vanadium concentrate in the form of dry, marble-sized, pellets. This material was placed in large concrete storage bins from where it was picked up by a rubber-tired loader and deposited into trucks for transport to VCA's mill in Durango.

General Description: The mill Laboratory was a small, single-story, rectangular building, constructed of concrete masonry unit (CMU) walls on a concrete slab foundation. Gabled ends were filled in with wood framing and asphalt shingles. The roof was stepped, with a higher, moderately sloped gable on the northeast side, and a lower gable to the southwest. The roof was comprised of asphalt shingle over a wood frame structure.

Exterior doors (one on the southwest front, the other on the northwest

side) were hollow metal. Windows (two on the southwest, northwest and northeast sides) were three and four sash, aluminum frame jalousies.

The interior was partitioned into office areas at the south and west corners, and a laundry/locker room area on the northeast side.

¹Former VCA employee Alfred (Buddy) Curtis could recall only one occasion when an ore producer had unsuccessfully attempted to "salt" its ore at the ore receiving platform.