



MD.04-2

From: D. C. Bonfer
Date: March 5, 1990
Subject: PLANT 1 STORAGE SILOS

WMCO:O:90-116

To : S. J. Dechter

References: (See Last Page)

Fourteen silos were constructed in 1951 by catalytic construction. Six of the silos were designed for Q-11 ore and fed by a 4 inch Hapman type conveyor. The conveyor looped around the top of all six silos.

MGX, 308 and NAX material was conveyed from the Sampling Plant by a single bulk flow conveyor. In this group there are eight silos: two from MGX, four for 308 and two for NAX. Materials of construction and other details are listed in Reference 1.

Material for the refinery discharged from the silos through rotary valves, into reversible screw conveyors, into collector hoppers and into Richardson weigh scales. These scales discharged to screw conveyors which fed the 202 feet bulk flow conveyors leading to the refinery.

Filling of the silos started in the spring of 1952.

Reference 2 indicated difficulties associated with the physical inventory for refinery feed material stored in the concrete silos. A recommendation that the silos not be used in the early days of the Refinery operations, but rather the material be drummed in the Sampling Plant and fed via skip hoist to the Refinery.

It was agreed not to use the silos containing Q-11 during refinery start up which occurred in late November 1953. Tests were to be performed on the material handling system by transferring the material and redrumming the Q-11 removing it from the system before it entered at digestors. Q-11 processing to begin in Refinery July 1, 1954. (3)

Singmaster and Bryer installed air-veying lines to the four silos at the Sampling Plant originally installed for storing processed MGX and Soda Salt. Metal oxide generated in the Refinery from African Metals feed was then stored in these silos. (4)

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Packaging of Union Miners metal oxides stored in the southwest silo became necessary when the four large silos used for the storage of metal oxides became full and threatened to halt Q-11 processing in the Refinery unless storage space was provided. (5)

Last of Q-11 ore was processed in Refinery prior to August 22, 1958. (6)

A 100 pound sample of the metal oxide was shipped to Max Zuckerman and Sons, 5245 Fairlawn Avenue, Baltimore 15, MD. Production Order M-408 dated May 15, 1961.

A shipment of Q-11 oxide weighing 22,494 net pounds was shipped to Max Zuckerman and Sons, 1925 North Kenmore Avenue, Chicago, Illinois on Production Order M-423, dated November 21, 1961.

Reference 7, gives the residue storage status as of February 7, 1958 for K-65 and cold metal oxides. Attachment I to this letter outlines the information.

Sampling of the Q-11 metal oxide stored in the silos was completed 3/9/62. (8)

A temporary Operating Procedure for removal of oxides stored in Plant 1 Silos was issued, June 13, 1962. (9) The material was removed from the silos by airveying through an airswept feeder valve and fed into paper bags by the use of an automatic bagging machine. Three ply paper bags containing two wet strength layers designed for overseas shipment were used to package the Q-11 oxide. Bags were placed on disposable pallets and placed in sealed railway cars.

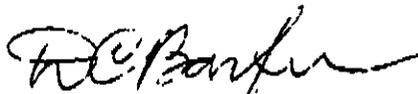
Reference 10 explains the difficulties expressed in removal of the Q-11 oxide from the silos. The material was not uniform when placed into the silos. Hygroscopic nature of the material caused caking and lumps to form. Silos were high and the hopper position at the bottom was not equipped with any type of bridge-breaker. The height made manual rodding or prodding a difficult matter.

Metal Oxide shipments to Max Zuckerman and Sons Company consisted of 28,284 bags, 62 each 55 gallon drums and 19 each 30 gallon drums with a net weight of 1,319, 805 pounds. (11)

During the 1970's some tile became loose and fell to the ground. At that time the area was roped off and residual material removed from the silos was sent to the Refinery in preparation for demolition. The responsible foreman at that time, H. McDaniel was contacted in January 1990 to verify that the silos had been cleaned and are empty.

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Reference material which contains additional information will be maintained in the author's file.



D. C. Bonfer

DCB/kdr

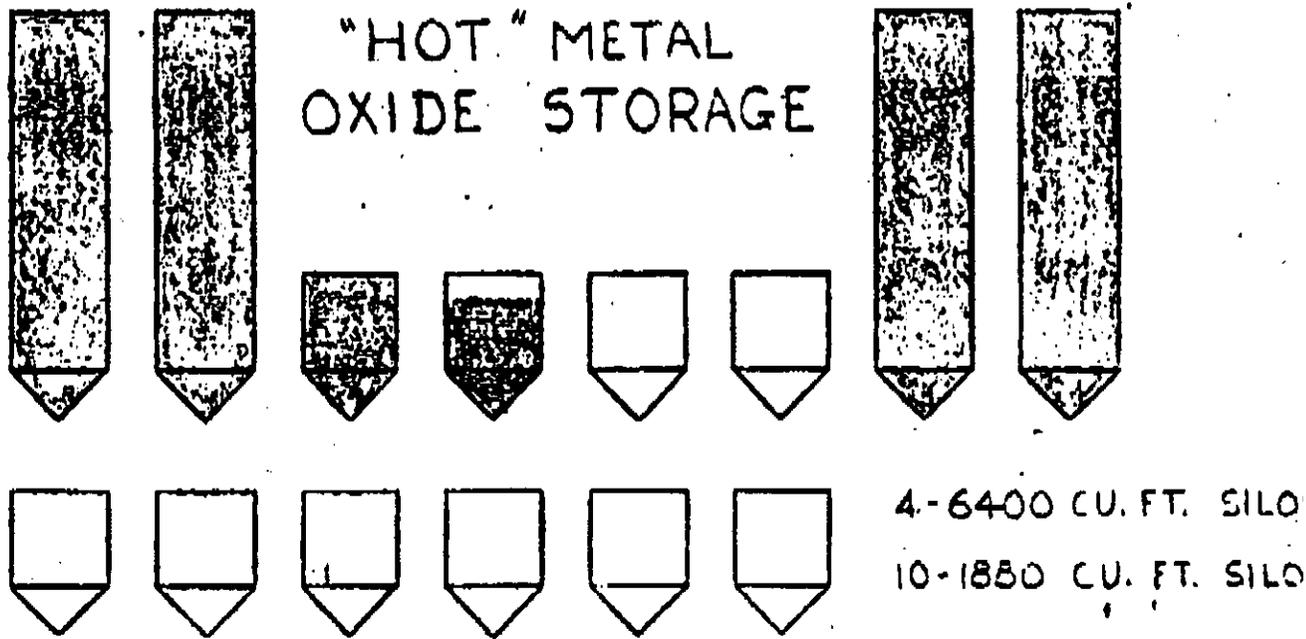
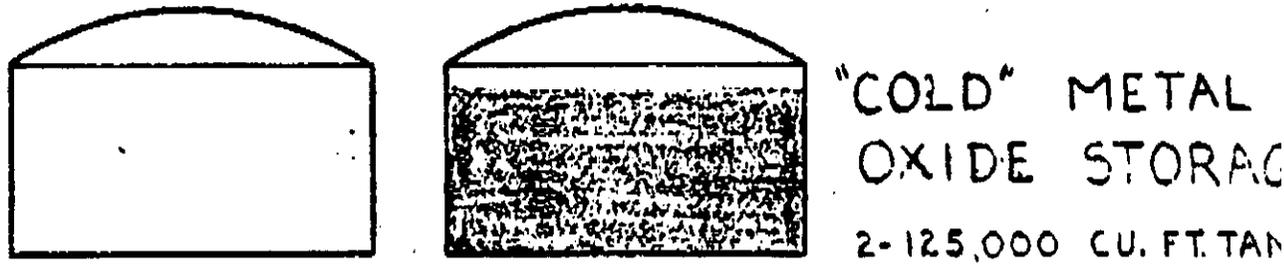
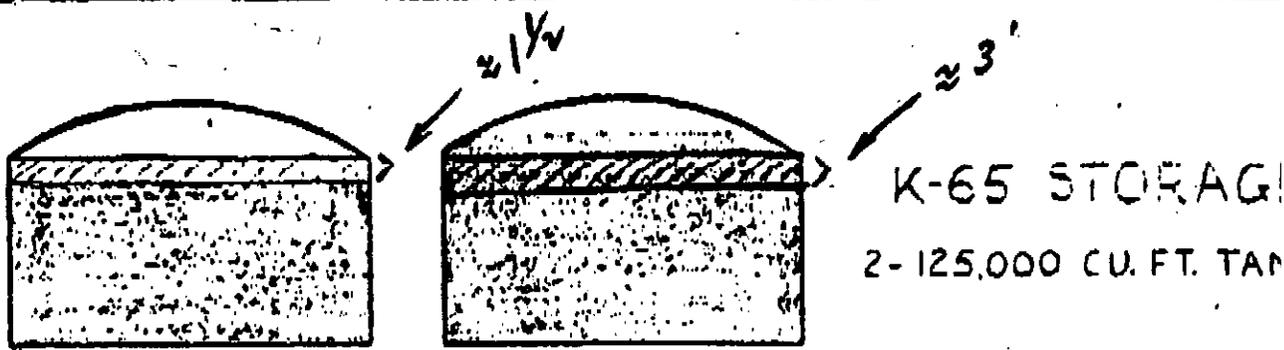
c: W. H. Britton
R. Hansen
J. E. Powell
A. M. Schwartzman
P. A. Shanks

Central Files

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- Reference:
1. Letter, J. Costa to S. F. Audia, Subject, Silos dated February 1, 1952.
 2. Letter, C. H. Walden to F. L. Cuthbert, Subject, Silos Storage of Q-11, dated August 18, 1953.
 3. Letter, J. H. Noyes to C. H. Walden, Subject, Silo Storage of Q-11, dated August 21, 1953.
 4. Letter, G. W. Wunder to C. L. Karl, Subject, Processing Q-11, dated July 13, 1955.
 5. Letter, J. J. Costa to M. S. Nelson, Subject, Packaging of Metal Oxides, dated August 16, 1957.
 6. Letter, M. S. Nelson to J. A. Quigley, Subject, Disposal of Residue From Lisbon Ore, dated August 22, 1958.
 7. Letter, C. L. Karl to J. H. Noyes, Subject, Storage of Residues from the Processing of Radium Bearing Ore, dated February 10, 1958.
 8. Letter, J. J. Costa to M. M. Cawdrey, Subject, Production Orders M-427 Rev. 1 and M-428 Sampling of Metal Oxides, dated March 14, 1962.
 9. Letter, Subject, Temporary Operating Procedure for Removal of Oxide Stored in Plant 1 Silos, dated June 13, 1962.
 10. Letter, C. R. Chapman to J. H. Noyes, Subject, Packaging Of Metal Oxide, dated June 27, 1962.
 11. Letter, G. J. Nowlin to J. J. Costa, Subject, Metal Oxide Shipments, dated October 5, 1962.

ATTACHMENT 1



RESIDUE STORAGE - STATUS FEB. 7, 19

SHADED AREA = STORED RESIDUE

NATIONAL LEAD COMPANY OF OHIO

SCALE - _____

DATE 2-7-90

SK.