

State Department of Geology and Mineral Industries

COPY

702 Woodlark Building
Portland 5, Oregon
May 6, 1949

Mr. Neal F. Knighten
13th & South Washington Streets
Kennewick, Washington

Dear Mr. Knighten:

The analysis of the clay you submitted to me is as follows:

Dry color - off white and dull pink.
Wet color - pink.
Texture - hard rock-like, non-slaking.
Plasticity - fair when ground with water to a minus
20 mesh.
Dry Shrinkage - 3-1/2%.
Drying Behavior - Very good, slightly friable.
Shrinkage water - 7%.
Water of Plasticity - 29%.
Pore Water - 22%.

<u>Fired Properties</u>	<u>Color</u>	<u>Shrinkage</u>		<u>Absorption</u>
		<u>Fired</u>	<u>Total</u>	
C/04 1958°F.	Pink	5.2%	8.5%	22.0%
C/02 2030°F.	Pink	5.2	8.5	20.2
C/2 2138°F.	Pink	5.7	9.0	19.5
C/3 2174°F.	Pink	6.7	10.0	18.0
C/10 2300°F.	Yellow Gray	13.5	17.0	7.3

Firing behavior of this material is very good with the PCE of cone 31 plus.

This clay is a flint-type fire clay. It shows a good possibility as a refractory product. The shrinkage at C/10 is slightly excessive and at the same temperature the absorption is low. Both of these tendencies could be possibly corrected by an addition of calcined material to the mix.

This material is not suitable for aluminous cements.

I have given a copy of this report to Mr. A. O. Bartell, Managing Engineer of the Raw Materials Survey. Thank you for your interest, and I hope this report meets with your satisfaction.

Sincerely,

C. W. F. Jacobs,
Ceramist
3703 S. W. Corbett
Portland, Oregon

CWFJ:mb