

DEVELOPMENT PROBLEM 417-37-54

S-25 MODIFICATIONS

PROGRESS REPORT #1

Introduction:

At the request of Mr. Zimmerman we prepared 25 lb. each of a series of Basic Lead Silico Chromate pigments containing varying levels of silica content.

Summary and Conclusions:

Twenty-five lb. of each of the following materials were made:

S-50 Pigment	Lot 62866 - D.P. 417-37-54 - 50%	SiO_2
S-60 Pigment	Lot 69066 - D.P. 417-37-54 - 60%	SiO_2
S-70 Pigment	Lot 7755 - D.P. 417-37-54 - 70%	SiO_2
S-80 Pigment	Lot 71166 - D.P. 417-37-54 - 80%	SiO_2
S-90 Pigment	Lot 71366 - D.P. 417-37-54 - 90%	SiO_2

Standard Manufacturing procedure for M50 was followed with these variations:

Made with Penn Glass Sand Co.'s 5 Micron minuscil silica.

Ratio $4\text{PbO} \cdot \text{CrO}_3$ (moles)

SiO_2 content (total), by weight as indicated.

Formed product was dried, ground in the Laboratory Raymond Mill, calcined at 600°C for 2 hours and ground.

N 27320

NL 000041443

CHEMICAL ANALYSIS:

<u>Material & Lot #</u>	<u>Total PbO %</u>	<u>CuO₂ %</u>	<u>SiO₂ % (by difference)</u>
S-50 62866	46.72	5.19	58.09
S-60 63066	36.13	4.12	59.75
S-70 7756	27.09	3.17	69.74
S-80 71166	18.75	2.10	79.15
S-90 71366	9.75	1.13	89.13

MICROSCOPICAL ANALYSIS:

The microscopical examination of these notes is as follows:

S-50 - 62866

PR 1-50μ
MP 2-17μ
ADSM 5.5μ

Similar to standard N-50:

S-60-63066

PR 1-40μ
MP 3-17μ
ADSM 6μ

Contained mostly N-50 but had some large uncoated SiO₂ particles:

S-70 - 7756

PR 1-40μ
MP 3-20μ
ADSM 7μ

Contained mixture of N-50 and uncoated SiO₂ particles:

S-80-71166

PR 1-35μ
MP 3-18μ
ADSM 6μ