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RECORD FILE

Department of Commerce and Labor

Bureau of Standards

Certificate of Analyses

OF

STANDARD SAMPLE No. 28

"NORRIE" IRON ORE (Dried at 100°)

ANALYST.	LOCATION.	MANGANESE.	METHOD.
		Per cent.	
William Blum:			
a	Bureau of Standards	0.46	Colorimetric.
b		.47	Ford.
c		.44	Ford-Williams.
d		.44	Bismuthate.
e		.51	Volhard.
Average, Bureau of Standards		.464	
F. L. Crobaugh	Cleveland, Ohio	.48	
Crowell & Murray	Cleveland, Ohio	.49	Ford.
Dickman & Mackenzie	Chicago, Ill	.45	
A. Emmerton	Cleveland, Ohio	.45	Ford.
J. J. Rattle & Sons	Cleveland, Ohio	.50	Volhard.
Oscar Textor	Cleveland, Ohio	.51	Volhard.
Average, commercial chemists		.486	
J. M. Camp	Carnegie Steel Co., Duquesne, Pa	.47	Ford.
R. F. Clanfield	Illinois Steel Co., South Chicago, Ill	.46	Arsenite and H_2O_2.
W. B. N. Hawk	National Tube Co., Lorain, Ohio	.46	Mn_3O_4.
C. H. Rich	Carnegie Steel Co., Clairton, Pa	.47	Ford and Mn_3O_4.
Average, Steel Corporation chemists		.465	
G. L. Fitzwilliam	Ely, Minn	.51	Volhard and acetate.
A. T. Gordon	Mt. Iron, Minn	.50	H_2O_2.
E. T. Griese	Hibbing, Minn	.50	Volhard.
G. A. Hellberg	Norway, Mich	.48	Volhard.
J. H. Hitchens	Iron Mountain, Mich	.49	Acetate.
A. L. Johnson	Ishpeming, Mich	.50	Acetate.
C. J. Mott	Coleraine, Minn	.50	Volhard and H_2O_2.
W. J. Phillips	Iron River, Wis	.50	
H. S. Sherman	Eveleth, Minn	.49	
F. W. Ulrich	Chisholm, Minn	.52	Volhard.
W. L. Winn	Ironwood, Mich	.46	
Average, Oliver Mining Co. chemists		.495	
GENERAL AVERAGE		.484	

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NOTE.—For discussion of the methods used by the various chemists consult Circular No. ~~25~~ on "Analyzed Iron and Manganese Ores—Methods of Analysis." For reasons there discussed it is believed that the general average is somewhat high, and that the value ~~.465~~ .464 per cent approaches more closely the true manganese content of the ore.

S. W. STRATTON,
Director.

Washington, D. C.

Form 160

July 1, 1910.