

CERTIFICATE OF ANALYSIS



This is to certify the quality characteristics of the described cargo, at the loading port, to the best of my knowledge and belief:

Client: Vale Internacional S.A

Product: LOAU

Shipper: Mineração Corumbaense Reunida S.A.

Loading Port: Port of Gregório Curvo

M/V: TOTI H

Cod: MCR19-04-013

S/D: April 21, 2019

Wet Weight (mt): 6.549

Batch: 3131

1 - CHEMICAL ANALYSIS - Dry Basis - %

Fe	SiO ₂	Al ₂ O ₃	P	Mn	LOI
65,58	2,84	1,26	0,070	0,008	1,45

2 - MOISTURE (%)

4,6

3 - PHYSICAL TESTS

Size distribution (mm) - Natural Basis - % Cumulative Retained (%)							
+ 38	+ 31,5	+ 25	+ 19	+ 16	+ 10	+ 6,3	- 6,3
1,6	7,7	23,6	45,3	59,2	88,1	97,4	2,6

4 - STANDARDS AND REMARKS

Chemical assay: X-ray fluorescence spectrometric method;

Size distribution: ISO 4701

Moisture: ISO 3087

No additional remarks.