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PURE CLAY Analysis

ICP-Mass Spectrometry Analysis by ALS Minerals

Certification #VA18091632

Clay Mineralogy done by X-Ray Diffraction

May 2018

Chemical Composition		Percentage
Silica Dioxide	SiO ₂	42.5
Magnesium Oxide	MgO	10.30
Calcium Oxide	CaO	9.75
Aluminum Oxide	Al ₂ O ₃	6.54
Potassium Oxide	K ₂ O	3.15
Ferric Oxide	Fe ₂ O ₃	2.24
Sodium Oxide	Na ₂ O	1.43
Titanium Oxide	TiO ₂	.24
Strontium Oxide	SrO	.18
Phosphorus Oxide	P ₂ O ₅	.07
Manganese Oxide	MnO	.06
Barium Oxide	BaO	.03
Chromium Oxide	Cr ₂ O ₃	<.004
Total Carbon	C	2.07
Total Sulphur	S	.22
Loss On Ignition	LOI	22.1

Base Metals done by 4-acid dig.

Metal	PPM
Silver (Ag)	<0.5
Arsenic (As)	16.1
Cadmium (Cd)	<0.5
Cobalt (Co)	6.0
Copper (Cu)	14.0
Molybdenum (Mo)	<1
Nickel (Ni)	10.0
Lead (Pb)	14.0
Zinc (Zn)	55.0

Pure Clay Mineralogy Analysis, May 2018, Pg. 2

Trace Mineral Analysis ICP-MS

Trace Mineral	PPM	Trace Mineral	PPM
Silver (Ag)	<.5	Zirconium (Zr)	106
Cerium (Ce)	44.1	Arsenic (As)	16.1
Cobalt (Co)	6	Bismuth (Bi)	0.14
Cadmium (Cd)	<.5	Mercury (Hg)	0.050
Chromium (Cr)	30	Antimony (Sb)	0.63
Caesium (Cs)	9.84	Selenium (Se)	0.3
Copper (Cu)	14	Terrurium (Te)	0.01
Dysprosium (Dy)	2.31		
Erbium (Er)	1.60		
Gallium (Ga)	10.0		
Gadolinium (Gd)	2.62	Pure Clay (as a calcium bentonite) is	
Hafmium (Hf)	2.9	classified as "Generally Regarded as	
Nolmium (Ho)	0.52	Safe" by the US Food and Drug Assn.	
Lanthanum (La)	20.3	However these statements have not	
Lutetium (Lu)	0.26	been evaluated by the Food and Drug	
Molybdenum (Mo)	<1	Administration, and this product is not	
Niobium (Nb)	11.3	intended to diagnose, treat or prevent	
Neodymium (Nd)	15.2	any disease.	
Nickel (Ni)	10		
Lead (Pb)	14		
Praseodymium (Pr)	4.50		
Rubidium (Rb)	106		
Samarium (Sm)	3.27		
Tin (Sn)	2		
Tantalum (Ta)	0.8		
Terbium (Tb)	0.45		
Thorium (Th)	10.15		
Thallium (Tl)	0.55		
Thulium (Tm)	0.26		
Uranium (U)	17.6		
Vanadium (V)	52		
Tungsten (W)	1		
Yttrium (Y)	14.3		
Erbium (Yb)	1.84		
Zinc (Zn)	55		

