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**PURE CLAY Analysis**

**ICP-Mass Spectrometry Analysis by ALS Minerals**

**Certification #VA16206025**

**Clay Mineralogy done by X-Ray Diffraction**

**December 2016**

<b>Chemical Composition</b>		<b>Percentage</b>
Silica Dioxide	SiO <sub>2</sub>	44.10
Magnesium Oxide	MgO	11.15
Calcium Oxide	CaO	9.77
Aluminum Oxide	Al <sub>2</sub> O <sub>3</sub>	6.80
Potassium Oxide	K <sub>2</sub> O	3.32
Ferric Oxide	Fe <sub>2</sub> O <sub>3</sub>	2.43
Sodium Oxide	Na <sub>2</sub> O	1.49
Titanium Oxide	TiO <sub>2</sub>	.26
Strontium Oxide	SrO	.19
Phosphorus Oxide	P <sub>2</sub> O <sub>5</sub>	.11
Manganese Oxide	MnO <sub>2</sub>	.06
Barium Oxide	BaO <sub>2</sub>	.03
Chromium Oxide	Cr <sub>2</sub> O <sub>3</sub>	<.01
Total Carbon	C	2.21
Total Sulphur	S	.02
Loss On Ignition	LOI	18.55

**Base Metals done by 4-acid dig.**

<b>Metal</b>	<b>PPM</b>
Silver (Ag)	<0.5
Arsenic (As)	18.6
Cadmium (Cd)	<0.5
Cobalt (Co)	6.0
Copper (Cu)	18.0
Molybdenum (Mo)	<1
Nickel (Ni)	13.0
Lead (Pb)	13.0
Zinc (Zn)	60.0

## Pure Clay Mineralogy Analysis, August 2015, Pg. 2

### Trace Mineral Analysis ICP-MS

Trace Mineral	PPM	Trace Mineral	PPM
Silver (Ag)	<.5	Zirconium (Zr)	93
Cerium (Ce)	42.4	Arsenic (As)	18.6
Cobalt (Co)	6	Bismuth (Bi)	0.14
Cadmium (Cd)	<.5	Mercury (Hg)	0.010
Chromium (Cr)	30	Antimony (Sb)	0.73
Caesium (Cs)	9.70	Selenium (Se)	0.5
Copper (Cu)	18	Terrurium (Te)	0.03
Dysprosium (Dy)	2.36		
Erbium (Er)	1.54		
Gallium (Ga)	10.3		
Gadolinium (Gd)	2.65	Pure Clay (as a calcium bentonite) is	
Hafmium (Hf)	2.8	classified as "Generally Regarded as	
Nolmium (Ho)	0.51	Safe" by the US Food and Drug Assn.	
Lanthanum (La)	20.2	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)	10.6	intended to diagnose, treat or prevent	
Neodymium (Nd)	15.5	any disease.	
Nickel (Ni)	13		
Lead (Pb)	13		
Praseodymium (Pr)	4.43		
Rubidium (Rb)	119.5		
Samarium (Sm)	2.88		
Tin (Sn)	2		
Tantalum (Ta)	0.8		
Terbium (Tb)	0.41		
Thorium (Th)	9.13		
Thallium (Tl)	0.56		
Thulium (Tm)	0.24		
Uranium (U)	27.0		
Vanadium (V)	58		
Tungsten (W)	1		
Yttrium (Y)	14.0		
Erbium (Yb)	1.62		
Zinc (Zn)	60		

