Copperhill Industries, LLC
304 Ocoee Street
Copperhill, TN 37317

Product Data Sheet #212
UDMC Calcine

1-855-484-6737
MineralsandOres.com

Quantity: + or – 250,000 tons
Price: Negotiable, per ton FOB Copperhill, TN
Physical Characteristics: Deep red/purple, slightly magnetic

Quality Analysis ... **Actlabs** *Innovative Technologies*

Date Submitted: 22-Apr-14
Invoice No.: A14-02697
Invoice Date: 09-May-14
Your Reference:

Copperhill Industries

CERTIFICATE OF ANALYSIS

1 Other samples were submitted for analysis.

The following analytical package was requested:

Code 4F-S Infrared
Code 8-Fe Titration Titration
Code UT-3 INAA(INAAGEO)/Total digestion ICP(Total)Total Digestion ICP/MS

REPORT **A14-02697**

Notes:

Unaltered silicates and resistate minerals may not be dissolved. Values which exceed upper limit should be assayed.

Footnote:8-Fe titration,the median of the following Total Fe results was reported: 64.423%, 64.685%, 64.642%, 65.071 % (ST) INAA Fe data is low due to shielding.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB
LAB Accrédité CCN

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Results

Analyte Symbol	Total S	Fe (Total)	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	0.01	30.0	2	0.05	0.2	0.1	1	0.5	0.5	0.5	0.01	0.01	0.5	1	0.1	0.1	0.5	0.01	0.1	1	0.05	0.2	0.01
Analysis Method	IR	TITR	INAA	MULT IN AA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	TD-ICP	MULT TD-ICP/TD-ICP-MS	MULT IN AA/TD-ICP/TD-MS	MULT IN AA/TD-ICP/TD-MS	TD-ICP	TD-ICP	INAA	MULT IN AA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	INAA	TD-ICP	MULT IN AA/TD-ICP-MS	MULT IN AA/TD-ICP-MS	MULT IN AA/TD-ICP-MS	INAA	INAA
UDMC-01	0.61	64.7	< 2	6.33	385	2.0	< 1	259	18.7	1080	0.46	0.20	39.5	23	< 0.1	15.2	< 0.5	0.12	144	27	0.18	< 0.2	51.8

Results

Analyte Symbol	Ga	Ge	Hg	In	Ir	K	Li	Mg	Mn	Nb	Na	P	Rb	Re	Sb	Sc	Se	Sn	Sr	Ta	Te	Tb	Ti
Unit Symbol	ppm	ppm	ppb	ppm	ppb	%	ppm	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.1	10	0.1	5	0.01	0.5	0.01	1	0.1	0.01	0.001	0.2	0.001	0.1	0.1	0.1	1	0.2	0.1	0.1	0.5	0.01
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-MS	INAA	TD-ICP	MULT IN AA/TD-I CP-MS	TD-MS	INAA	INAA	MULT IN AA/TD-I CP-MS	TD-MS	TD-MS	MULT IN AA/TD-I CP-MS	TD-MS	INAA	TD-ICP
UDMC-01	2.1	0.7	70	1.1	< 5	0.04	0.9	0.19	439	10.0	0.03	0.005	2.5	0.004	0.5	0.9	24.8	21	5.6	18.1	1.9	< 0.5	0.01

Results

Analyte Symbol	Th	Tl	V	U	W	Y	Zr	La	La	Ce	Ce	Pr	Nd	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.05	2	0.1	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1
Analysis Method	MULT IN AA/TD-I CP-MS	TD-MS	TD-ICP	MULT IN AA/TD-I CP-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
UDMC-01	0.6	0.60	29	0.8	< 1	0.8	7	1.7	1.4	3.2	< 3	0.4	1.5	< 5	0.3	0.3	0.11	0.2	0.2	< 0.1	< 0.1	0.1	< 0.1