



TTII COOL-LITE Zeolite

Chemical, XRD Analysis
Natural Calcium-Potassium Clinoptilolite (CaNM, ZK 406)
TTII COOL-LITE Zeolite

Table 1
 Chemistry of TTII COOL-LITE Zeolite

Sample	ZK406 Clinoptilolite Winston NM
SiO2	66.35
Al2O3	11.43
Fe2O3	1.26
MnO	0.06
MgO	0.98
Na2O	0.71
K2O	2.85
CaO	2.85
TiO2	0.19
P2O5	0.05
LOI	13.28
CO2	
Total	100.00

Table 2
 Trace Elements of TTII COOL-LITE Zeolite
 ZK406
 Clinoptilolite
 Winston NM

Sample	ZK406 Clinoptilolite Winston NM
Sc, ppm	3
Be, ppm	3
V, ppm	19
Cr, ppm	<20
Co, ppm	2
Ni, ppm	<20
Cu, ppm	<10
Zn, ppm	60
Ga, ppm	16
Ge, ppm	<1
As, ppm	<5
Rb, ppm	118
Sr, ppm	522
Y, ppm	34
Zr, ppm	145
Nb, ppm	19
Mo, ppm	<2
Ag, ppm	<0.5
In, ppm	<0.02
Sn, ppm	29
Sb, ppm	<0.5
Cs, ppm	4.2
Ba, ppm	419
La, ppm	50.1
Ce, ppm	113
Pr, ppm	9.05
Nd, ppm	31
Sm, ppm	6
Eu, ppm	0.66
Gd, ppm	5.4
Tb, ppm	1
Dy, ppm	5.6
Ho, ppm	1.2
Er, ppm	3.6
Tm, ppm	0.62
Yb, ppm	4
Lu, ppm	0.64
Hf, ppm	4.7
Ta, ppm	1.7
W, ppm	2
Tl, ppm	0.6
Pb, ppm	39
Bi, ppm	0.5
Th, ppm	20
U, ppm	3.6

Table 3
 X-Ray Diffraction Mineralogy of TTII COOL-LITE Zeolite

Sample	Clinoptilolite	Sme-ctite	Quartz	Gypsum
ZK406 Clinoptilolite, Winston	94%	- 1%	5%	0%

Analysis performed by:

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Methodology:
 Tables 1 and 2: Lithiumborate/metaborate fusion followed by Mass Spectroscopy analysis
 Table 3: X-Ray Diffraction mineralogy