A COMPARISON BETWEEN MOUNT SYLVIA DIATOMITE AND MAIDENWELL DIATOMITE

X-RAY DIFFRACTION ANALYSES:

	MAIDENWELL	MT SYLVIA
Amorphous Silica	81%	84.5%
Kaolin	15%	9%
Smectite clay	1%	5%
Quartz	1%	2%
Anatase	2%	0
Calcite	1%	0 - 1%

Calcined Maidenwell diatomite contains more than 2% quartz
Calcined Mt Sylvia diatomite contains 2% quartz

X-RAY FLUORESENCE ANALYSES:

Na2O	0.25%	0.11%
MgO	0.63%	1.24%
Al2O3	12.1%	6.34%
SiO2	77.8%	84.5%
P2O5	0.166%	0.03%
SO3	0.053%	0.06%
Cl	0.013%	0.05%
K2O	0.44%	0.06%
CaO	0.05%	0.87%
TiO2	0.77%	0.43%
V2O5	0.14%	0.03%
Cr2O3	0.01%	0.01%
MnO	0.009%	0.02%
Fe2O3	7.35%	3.8%
CuO	0.007%	0.014%
ZnO	0.032%	0.01%
PbO	0.006%	0.000%

The lead (PbO) content of the Maidenwell material could be of concern

NEUTRON ACTIVATION ANALYSES:

	Maidenwell calcined	Mt Sylvia not calcined
Arsenic	7.55ppm	9.4ppm
Barium	165ppm	104ppm
Cerium	62.5ppm	18.7ppm
Chromium	29ppm	25ppm
Cobalt	15.6ppm	11.1ppm
Sodium%	0.192	0.082
Potassium%	0.26	<0.2
Iron%	4.18	2.73
Thorium	11.8ppm	1.6ppm
Zinc	221ppm	<100ppm
Uranium	6ppm	<2ppm

The uncalcined Maidenwell diatomite is likely to have a much higher arsenic value. The Mt Sylvia calcined material contains less than 1ppm arsenic. Both uranium and thorium are radioactive elements.