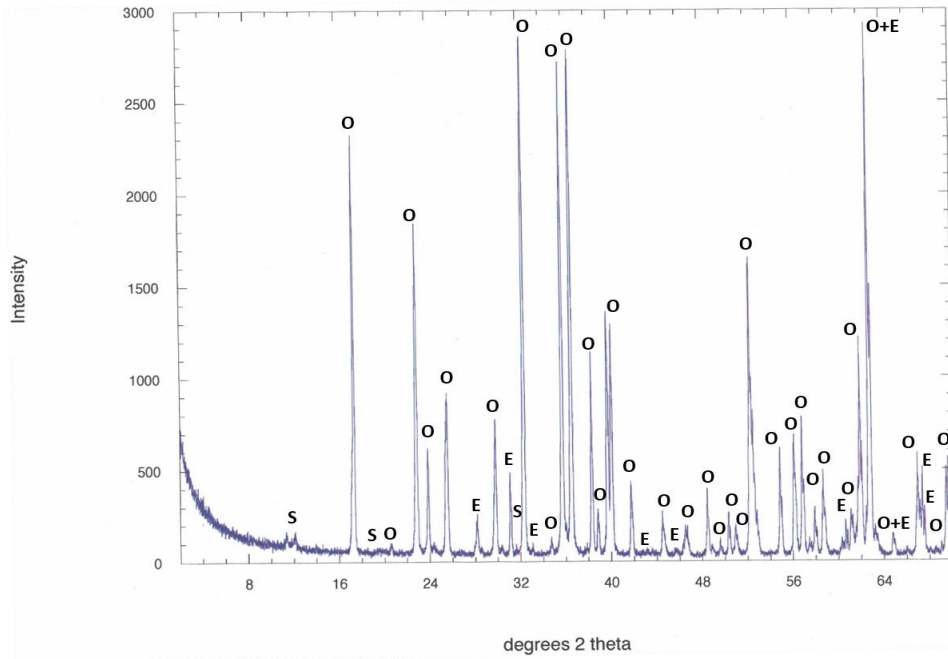


A) XRD results

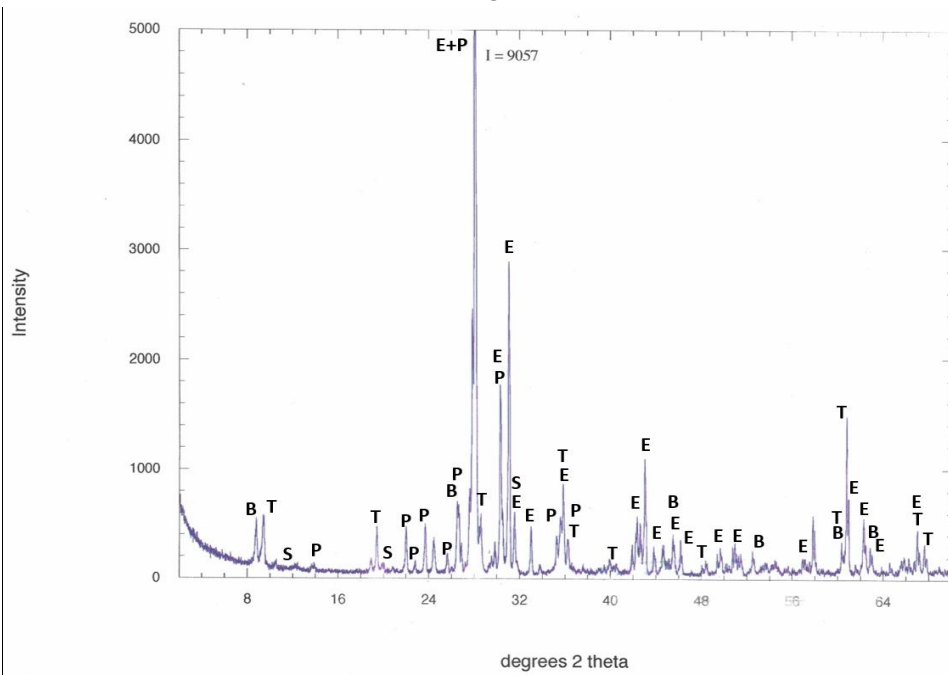
TS, BC, JC and ND were analyzed at USGS in Menlo Park, CA in 2013. CP, OP, WP and HP were analyzed at the Department of Geology at Kansas State University in 2017.

TS



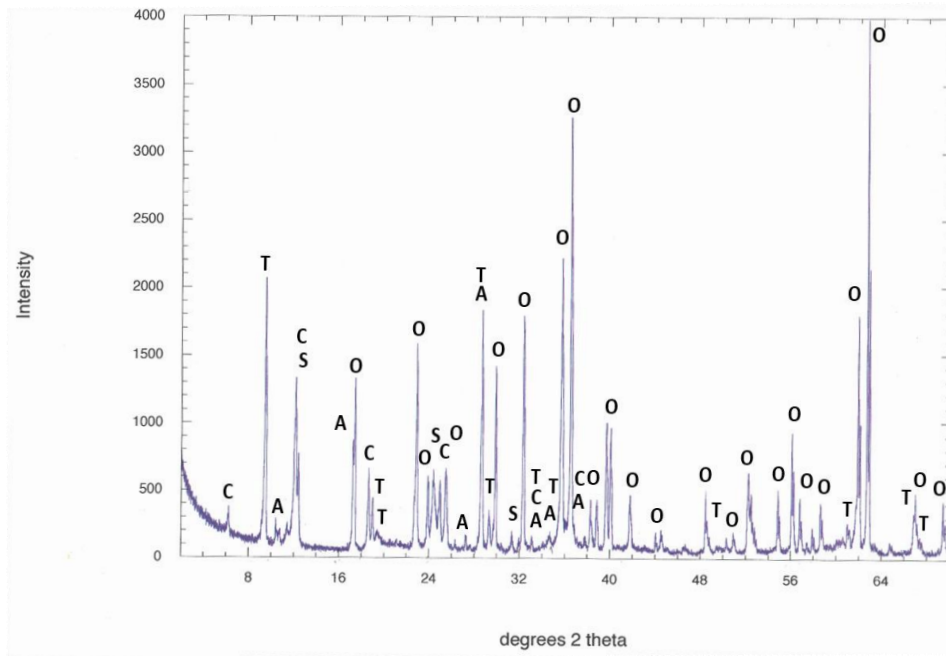
Identified phases	O	E	S
	Olivine	Enstatite	Serpentine

BC



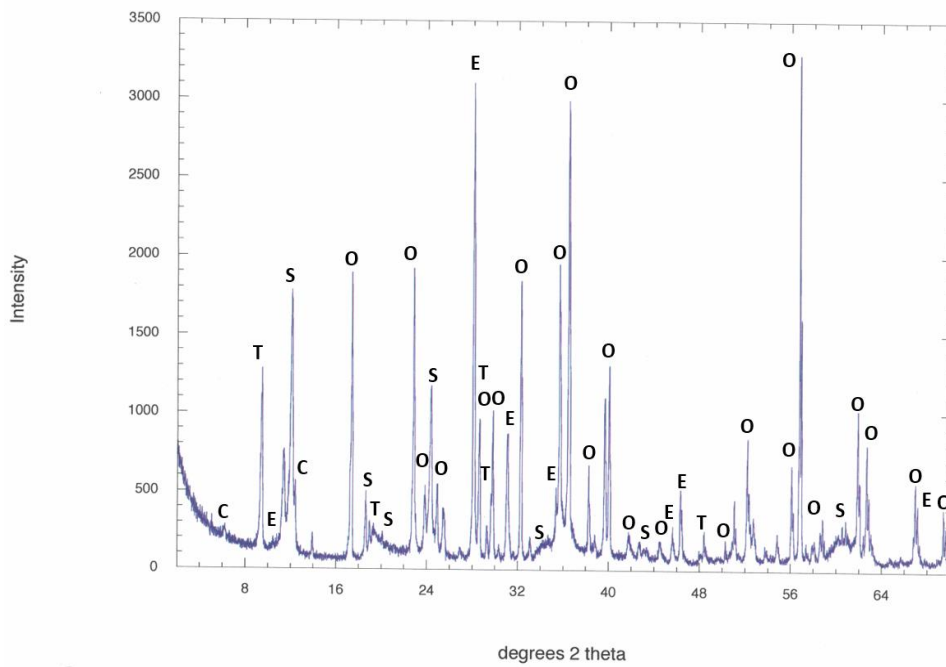
Identified phases	E	P	T	B	S
	Enstatite	Plagioclase	talc	Biotite	Serpentine
High background levels are characteristic of Serpentine					

JC

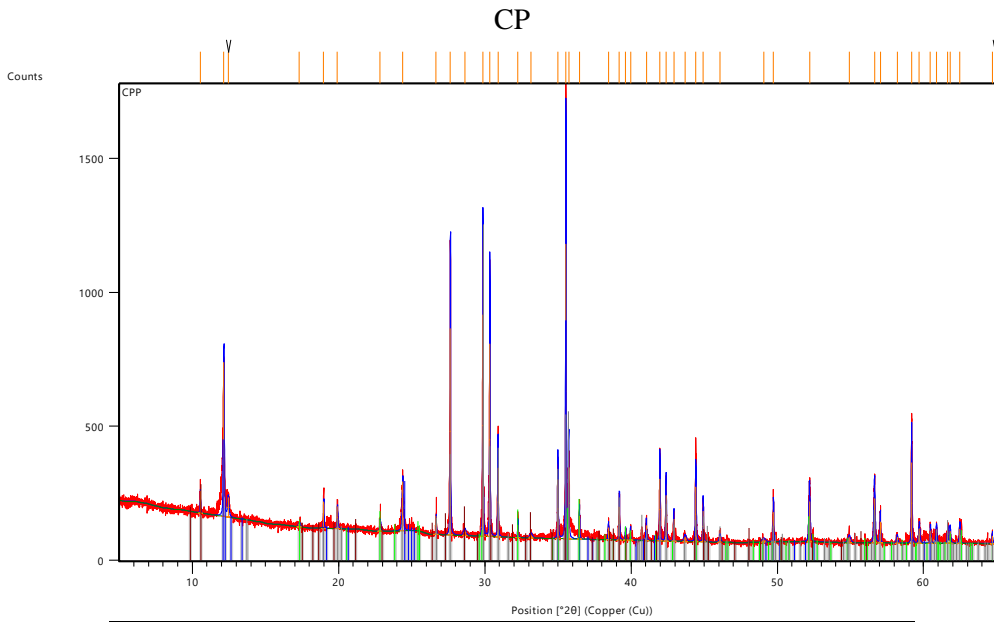


Identified phases	O	T	C	A	S
	Olivine	Talc	Chlorite	Actinolite/Tremolite	Serpentine

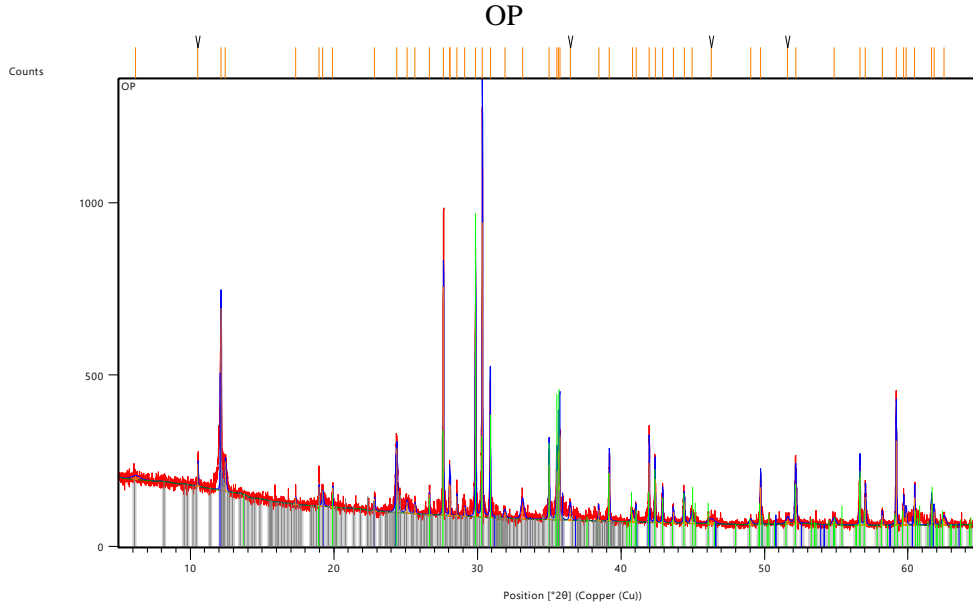
ND



Identified phases	O	T	E	S	C
	Olivine	Talc	Enstatite	Serpentine	Chlorite

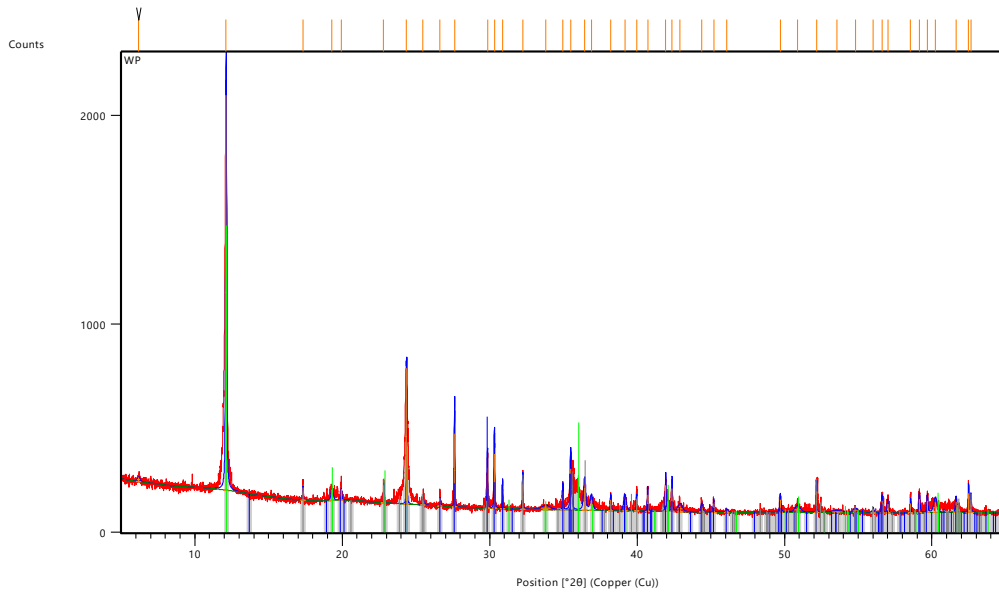


Compound Name	Chemical Formula
Magnesium Silicate Hydroxide	$Mg_3Si_2O_5(OH)_4$
Magnesium Iron Silicate	$(Mg_{1.684}Fe_{0.316})(SiO_4)$
Diopside	$Ca_1Mg_1Si_2O_6$
Calcium Magnesium Silicate Hydroxide	$Ca_2Mg_5Si_8O_{22}(OH)_2$



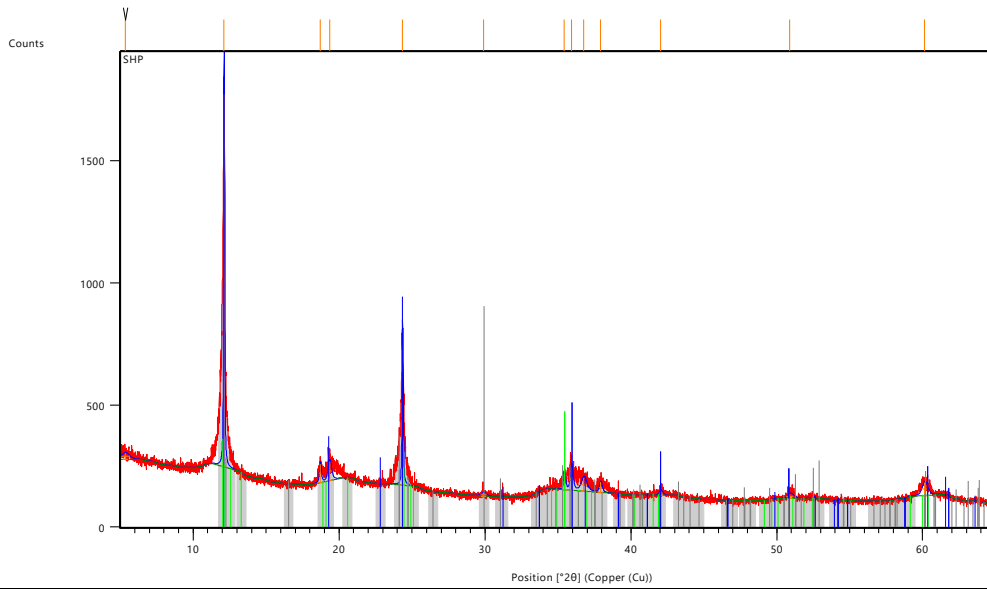
Compound Name	Chemical Formula
Lizardite	$Mg_3Si_2O_9H_4$
Diopside	$Ca_{0.964}Mg_1Si_2O_6$
Magnesium Silicate Hydroxide	$Mg_{24}Si_{17}O_{42.5}(OH)_{31}$

WP



Compound Name	Chemical Formula
Lizardite	$Mg_3Si_2O_9H_4$
Diopside	$Ca_1Mg_1Si_2O_6$
Forsterite, ferroan	$Fe_{0.316}Mg_{1.684}Si_1O_4$

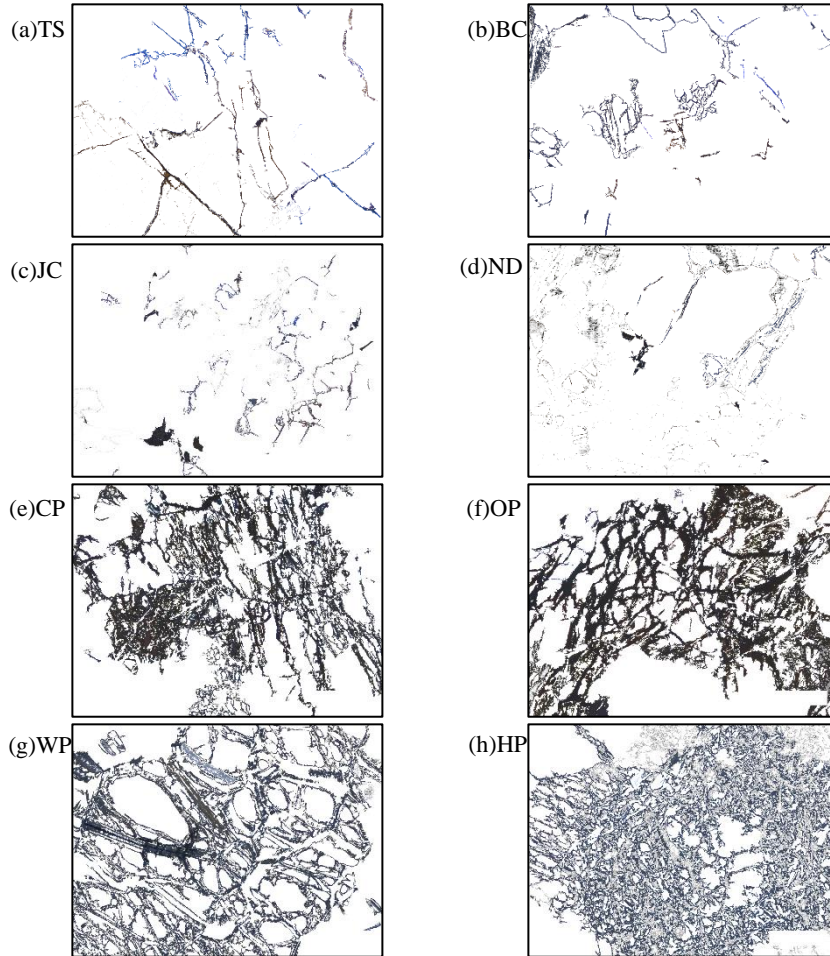
HP



Compound Name	Chemical Formula
Lizardite	$Mg_3Si_2O_9H_4$
Magnesium Silicate Hydroxide	$Mg_3Si_2O_5(OH)_4$
Columbite	$Ca_{0.001}Fe_{0.534}Mn_{0.457}Nb_{1.836}O_6Sn_{0.001}Ta_{0.094}Ti_{0.063}W_{0.014}$

B) Product of image analysis for estimating serpentine content

Images below highlight the potential serpentine bearing zones in a ~2mm x ~2mm area of thin sections.



C) Table below show the calculation methodology for estimating Serpentine content of each sample

Sample	Serpentine content estimated through image analysis of a 4mm ² area of thin section (Supplementary material B)	Serpentine content calculated through image analysis of the whole thin section (3 cm ² area)	Serpentine content corrected after whole thin section observations and rounding to the nearest 0 or 5 %
TS	4%	3%	5%
BC	12%	9%	10%
JC	26%	19.5%	30%
ND	44%	33%	40%
CP	68%	51%	60%
OP	71%	53.25%	75%
WP	90%	67.5%	85%
HP	98%	75%	95%

