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Crystalline Silica Report

CLIENT:	Simtars	**AGON JOB NO:**	JH25.0028-109
ATTENTION:	Analytical Services Team	**CLIENT CONTACT:**	07 3810 6333
YOUR REF:	OL20396	**RECEIVED IN LAB:**	28 October 2025

PROCEDURE

The sample was analysed by X-ray diffraction to determine the minerals present. XRD identifies crystalline substances via their crystal structure. Quartz was detected and its content determined by XRD measurements of the sample and of a pure quartz standard. The X-ray absorbencies of the sample was considered to be similar to that of quartz and hence no corrections were applied

Quartz and cristobalite are both crystalline silica minerals. They are separately identified by XRD because they have different crystal structures

The sample was also examined using a polarized light microscope

RESULTS

The mineralogy (estimated wt%) of the diatomaceous earth sample follows. The amorphous + opaline silica content is the residual after all the percentage weights of the crystalline components have been allocated. Amorphous + opaline silica is presumed to be present as the inorganic remains of diatoms which were detected microscopically by their distinctive particle shapes (perforated barrels etc)

Mineral name	Chemical Formula	OL20396/01
Amorphous + Opaline silica	$SiO_2.nH_2O$	80.2
Kaolinite	$Al_2Si_2O_5(OH)_4$	13
Smectite	Silicate eg $Si_8(Al_{3.33}Mg_{0.67})O_{20}(OH)_4$	5
Quartz	SiO_2	1.8
Cristobalite		Not detected