

Table S6. XRD results for select sediment samples including quantification of minerals for DC-W1 3-5 cm, DC-W2 10-12 cm, and DC-W2 16-18 cm.

Sample	Mineral 1	Mineral 2	Mineral 3	Mineral 4	Mineral 5	Mineral 6	Mineral 7	Mineral 8	Mineral 9	Mineral 10	Mineral 11	Quantified
DC-W1 3-5 cm	calcite (75%)	quartz (11%)	pellyite (6%)	montmorillonite (5%)	halloysite (2%)	dickite (<1%)	celestite (<1%)	anorthite (<1%)	-	-	-	yes
DC-W1 13-15 cm	quartz	calcite	montmorillonite	-	-	-	-	-	-	-	-	no
DC-W1 13-15 cm residue	quartz	calcite	orthoclase	anorthite	montmorillonite	magnetite	-	-	-	-	-	no
DC-W1 23-25 cm	quartz	calcite	montmorillonite	barite (trace)	-	-	-	-	-	-	-	no
DC-W2 2-4 cm	quartz	montmorillonite	halloysite	celestite (trace)	gypsum (trace)	-	-	-	-	-	-	no
DC-W2 10-12 cm	quartz (48%)	albite (15%)	illite (13%)	microcline (9%)	dolomite (5%)	calcite (4%)	kaolinite (3%)	chlorite-serpentine (1%)	montmorillonite (<1%)	barite (<0.5%)	manganomanganite (<0.5%)	yes
DC-W2 10-12 cm residue	quartz	montmorillonite	illite	albite	barite (trace)	-	-	-	-	-	-	no
DC-W2 16-18 cm	quartz (50%)	halloysite (11%)	johannsenite (11%)	albite (7%)	orthoclase (5%)	chlorite-serpentine (5%)	anorthite (4%)	dolomite (4%)	montmorillonite (2%)	barite (<0.5%)	-	yes