

THE REYNOLDS CUP COMPETITION X-RAY DIFFRACTION

REYNOLDS CUP BACKGROUND

The Reynolds Cup competition in clay mineralogy analysis is the most demanding in the world, challenging experts in cutting edge research laboratories in universities, government agencies, and specialist analytical companies.

Only subject matter experts employing top-of-the line instrumentation are invited to participate, and the samples are designed to challenge the world's leading authorities in mineralogy.

Top placing laboratories are usually academic and government research institutions. The 2022 competition included 68 entries from 29 countries.

Analytical techniques used by various laboratories in the competition include XRD, XRF, FTIR, and QEMSCAN.

RESULTS

Stratum Reservoir's X-ray Diffraction team placed #15th out of 68 participants in the extremely challenging and prestigious Reynolds Cup 2022.

Stratum Reservoir's total error across three samples was 104.4, whereas the average and median errors of all 68 participants were 159.1 and 162.1 respectively. Stratum Reservoir also had zero misidentified phases.

STRATUM RESERVOIR'S XRD LOCATIONS



HIGHLIGHTS

15TH PLACE

OUT OF 68
ENTRIES

HYDROTHERMALLY ALTERED SHALE

The host of the 2022 competition, Qmineral, prepared mixtures of pure mineral standards meant to mimic samples that might be found in nature. This table shows the composition of one sample meant to resemble a hydrothermally altered shale. Stratum's XRD submission and error (bias) are also shown in the table.

Mineral	RC 11-1 (m%)		
	Actual %	Submitted%	Δ
Quartz	31.6	32.8	1.2
Plagioclase group	2.2	1.1	1.1
Amphibole	0.4		0.4
Calcite	9.1	9.3	0.2
Dolomite/Ankerite	3.9	2.8	1.1
Pyrite	2.1	1.6	0.5
Celestine	0.7		0.7
Barite	1.5	0.7	0.8
Goethite	1.1		1.1
Hematite	0.5		0.5
Amorphous group	6.2	6.6	0.4
Kaolinite	7.7	9.0	1.3
Dickite	1.9	1.9	0
Nacrite	1.6		1.6
Mica (dioctahedral)	18.4	8	10.4
Mixed-layer	6.7	22.6	15.9
Smectite	4.4	3.6	0.8
		Total Bias:	38.0

CONTACT US

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