Results and Discussion
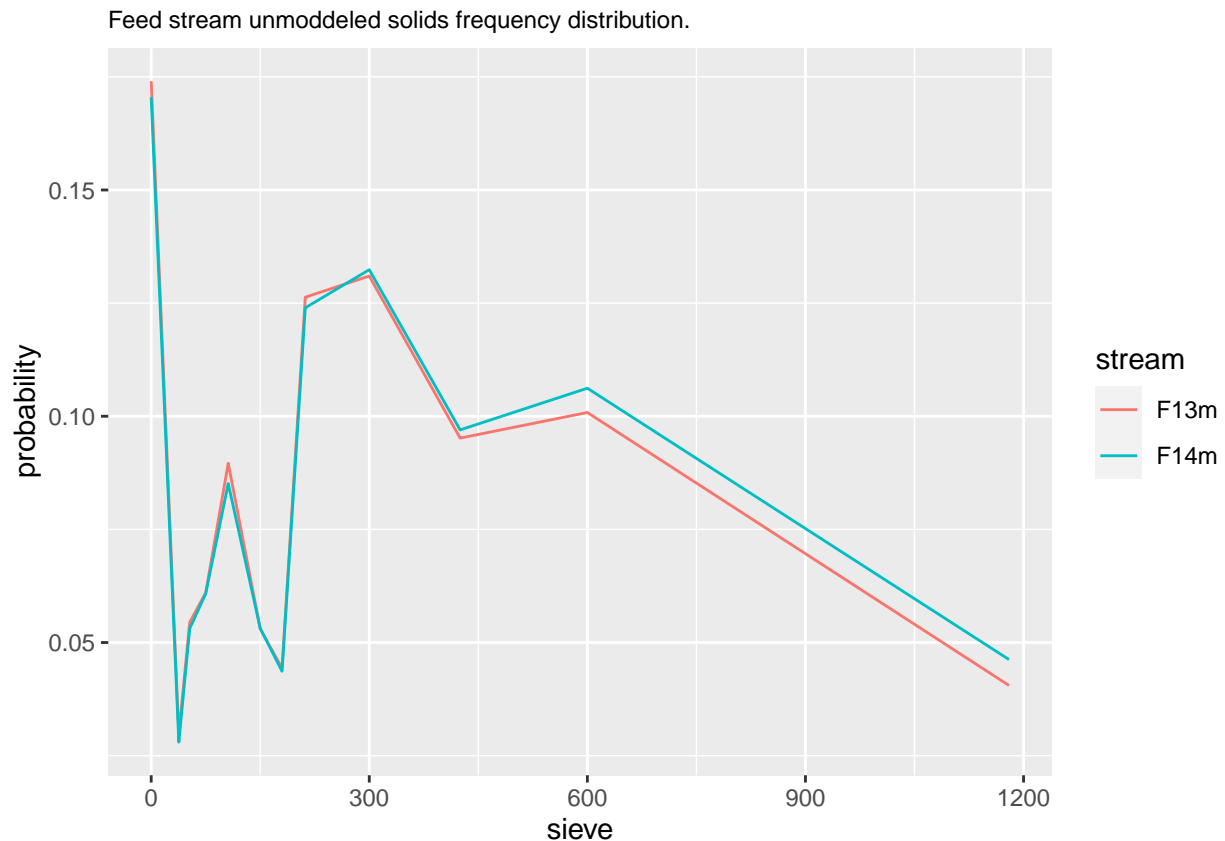
Each test's feed stream PSD results were first compared to confirm that their distributions were simmilar to allow for comparitive statictics.

Feed stream unmoddeled solids frequency distribution.

The two most commmonly used distributions in Geology and Mineral Processing and specifically comminution circuits are the Roslin-Rammler and the Gates-Gaudin-Schumann distributions.

Both models were used to model all PSD screening data to, and the subsequent best fit model was selected in each case. Model selection was determined by comparing each PSD's transformed linear model's determinant (R^2).

RR model fits the feed streams means (F13m and F14m) better (near straight line QQ fits) than the Oversize streams.

If the transformed size distributions from a crushing or grinding operation do not approximate a straight line, it suggests that there may have been a problem with the data collection, or there is something unusual happening in the comminution process (hang-ups or unnuasual recirculation). The size modulus is a measure of how coarse the size distribution is, and the distribution modulus is a measure of how broad the size distribution is. Size modulus for a size distribution can be determined from a graph by extrapolating the straight-line portion up to 100% passing and finding the corresponding size value. The distribution modulus can be calculated by choosing two points in the linear portion of the graph, calculating the logs of the sizes and % passing values, and calculating the slope.

Interpolation betweeen measured sizing points is conducted by the back-transformation of the model-fitted points along the respective model's distribution function.

try add as footnote in table/s: "RRmodel is a better fit ,according to the simple model applied, i.e. single linear model applied to transformed y-variables and transformed x-factors. When applyinh peicewise (con-

Table 1: RR Model(formula)					Table 2: GGS Model(formula)				
stream	R2	adj.R2	p.value	AIC	stream	R2	adj.R2	p.value	AIC
F13m	0.996	0.995	0	-26.0	F13m	0.838	0.820	0.0001	14.4
F14m	0.996	0.995	0	-25.7	F14m	0.839	0.821	0.0001	13.4
OS13m	0.935	0.928	0	11.2	OS13m	0.682	0.646	0.0017	17.0
OS14m	0.919	0.910	0	14.2	OS14m	0.655	0.617	0.0025	16.9
US13m	0.972	0.968	0	0.8	US13m	0.778	0.750	0.0007	38.8
US14m	0.971	0.967	0	0.5	US14m	0.764	0.735	0.0009	40.0

ditional) factors, the GGS model becomes a better model, but at the same tiem more noise (errors (epsilon?) is incorpaorated in the model. double the coefficients.