

**Table S1.** Potential Precipitates at Each Sampling Point (Top 5).

<b>Run</b>	<b>Sampling Point</b>	<b>Precipitates (Arranged from Highest to Lowest SI)</b>
1 (CW-L-LMW)	2	magnetite, cuprous ferrite, aluminum hydroxide sulfide, cupric ferrite, hematite
	3	magnetite, cuprous ferrite, cupric ferrite, hematite, aluminum hydroxide sulfate
	4	magnetite, cuprous ferrite, cupric ferrite, hematite, hercynite
2 (CW-LMW-L)	2	magnetite, cuprous ferrite, cupric ferrite, aluminum hydroxide sulfate, hematite
	3	
	4	
3 (L-CW-LMW)	2	magnetite, aluminum hydroxide sulfide, cuprous ferrite, cupric ferrite, hematite
	3	magnetite, cuprous ferrite, cupric ferrite, hematite, hercynite
	4	magnetite, cuprous ferrite, cupric ferrite, aluminum hydroxide sulfate, aluminum oxide, aluminum hydroxide
4 (L-LMW-CW)	2	cuprous ferrite, magnetite, aluminum hydroxide sulfate, hematite, cupric ferrite
	3	
	4	
5 (LMW-CW-L)	2	cuprous ferrite
	3	magnetite, cupric ferrite, cuprous ferrite, hematite, hercynite
	4	magnetite, cupric ferrite, cuprous ferrite, hematite, hausmanite
6 (LMW-L-CW)	2	cuprous ferrite, hematite
	3	magnetite, cupric ferrite, cuprous ferrite, hematite, hercynite
	4	magnetite, cupric ferrite, cuprous ferrite, maghemite, hematite