

APPENDIX 1

Solvometallurgical Extraction of Refractory Gold using Deep Eutectic Solvents

Comparative Leaching Results

Lixiviants	Average Recoveries		
2	Setup 1	Setup 2	t-test (-4.3 < C.V. < 4.3)
ChCl: Urea	0.3564	0.3067	0.5903
ChCl: Malonic acid	0.4808	0.4476	0.2952
ChCl: Ethylene Glycol	0.4310	0.4310	1
ChCl: Oxalic acid	0.4808	0.4973	0.5
ANOVA	F-statistic = 19.93	p-value = 0.00721656	

Pairwise Comparisons

Group 1	Group 2	Mean Difference (critical q = 5.757)	p-value	Significant? (Y/N) (if mean diff > q, Y)
ChCl: Ethylene glycol	ChCl: Malonic acid	2.14331827	>0.10	N
ChCl: Ethylene glycol	ChCl: Oxalic acid	3.747579083	>0.05	N
ChCl: Ethylene glycol	ChCl: Urea	6.420271143	<0.01	Y
ChCl: Malonic acid	ChCl: Oxalic acid	1.604260813	>0.10	N
ChCl: Malonic acid	ChCl: Urea	8.563589413	<0.01	Y
ChCl: Oxalic acid	ChCl: Urea	10.16785023	<0.001	Y

Summary

Groups	Count	Sum	Average	Variance
Urea	2	1.3334	0.6667	0.005
Malonic	2	1.8667	0.93335	0.002224
EG	2	1.7445	0.87225	6.16E-05
Oxalic	2	1.9667	0.98335	0.000554