

MINERALOGY IN PROCESS DESIGN

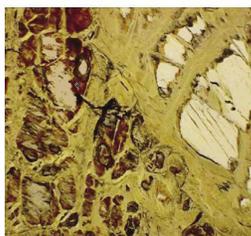
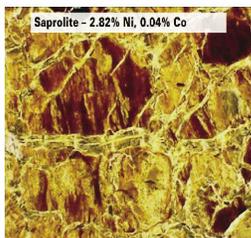
Integrated mineralogical analysis is vital for the characterization of bulk mineral assemblages, alteration characteristics, hosts for pay metals and understanding the particle size distribution of complex lateritic ores prior to hydrometallurgical testing. Study of the extremely fine-grained products of pressure leaching, including particle size, crystallinity and mineral chemistry allows for evaluation and refinement of the leaching process. Scaling of the pressure vessel is a serious problem that can result in expensive downtime or dangerous ruptures. Study of the composition, crystallinity and thickness of these scales provides clues to the processing problems and solutions.

CONTACT INFORMATION

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Integrated mineralogical analysis is vital for the characterization of bulk mineral assemblages, alteration characteristics, hosts for Ni and Co, and particle size distributions of complex lateritic ores prior to hydrometallurgical testing. Study of the extremely fine-grained products of pressure leaching, including particle size, crystallinity and Ni-department and mineral chemistry allows for evaluation and refinement of the leaching process. Scaling of the pressure vessel is a serious problem that can result in expensive downtime or dangerous ruptures. Study of the composition, crystallinity and thickness of these scales provides clues to the process problems.

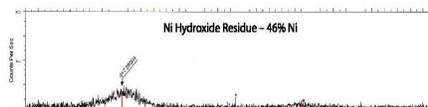
PETROGRAPHY



HYDROMETALLURGICAL TESTING

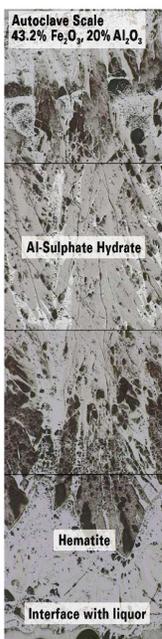


X-RAY DIFFRACTION

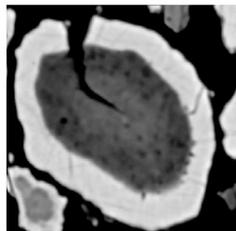


Laboief Research Limited
 [Ni] 148200 (1) - Ni(OH)₂ - Scan 1.000° - Exp 11/03/11 - Day 1/02/11 - Step time 1 s
 [Co] 0444 (1) - Ni(OH)₂ Hydroxide - Ni(OH)₂ 2900
 [H] 0117 (1) - Theophylline, csp - Ni(OH)₂

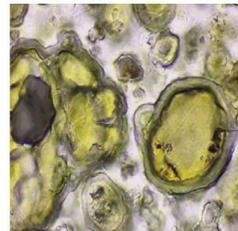
PHOTO MOSAIC



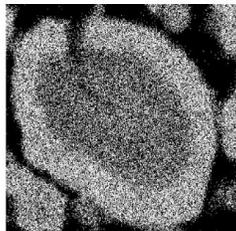
SEM BACKSCATTER IMAGE



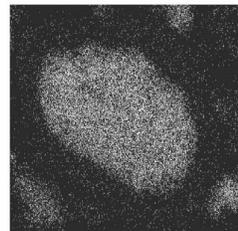
TRANSMITTED LIGHT IMAGE



X-RAY MAPPING - Ni



X-RAY MAPPING - Mg



ELECTRON MICROPROBE ANALYSIS OF Ni(OH)₂ PARTICLE

EMPA	Ni %	Co %	Mn %	Mg %	Si %	S %	Ca %	Cl %	Fe %
Rim	47.39	1.45	1.85	0.9	1.08	0.56	0.06	0.075	0.03
Cere	31.22	0.64	1.94	9.49	0.46	0.42	0.14	0.092	0.06