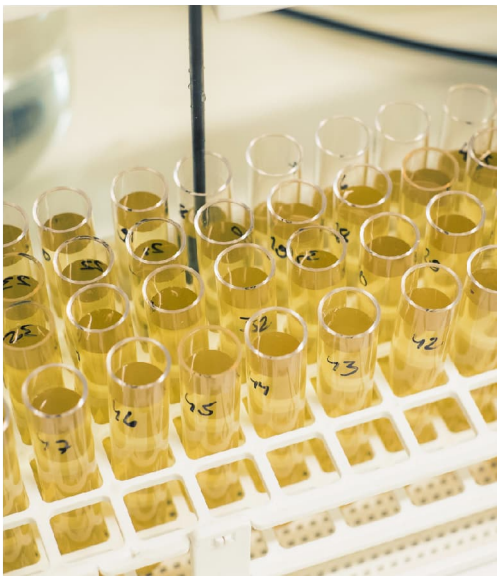
PAL1000 CYANIDE LEACH GOLD ASSAY

CRS LABORATORIES



CRS Laboratories offers gold assays for geological samples with PAL1000. The method is capable of analyzing very large samples up to 1 kg which improves the representativeness of the assay results and minimizes the gold nugget effect.

The PAL1000 machine (produced by Mineral Process Control Pty Ltd) contains steel pots in which the samples are completely pulverized (typically > 90% < 75µm grain size) with steel balls and simultaneously leached with cyanide (using Assay Tabs). The solution is analyzed for gold by AAS. For lower detection limit solvent extraction is used in addition. The quality control of the analysis process is monitored with certified reference materials, blank samples and duplicate assays for every leach batch.

- Representative - up to 1 kg sample size to minimize nugget effect
- Fast - even 2-3 days turnaround time for rush orders and 1-3 weeks for regular orders
- Low detection limits – 0,01 mg/kg with optional solvent extraction
- Economical - Typically lower total cost than in fire assay

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CRS Laboratories is a testing laboratory T342 accredited by FINAS Finnish Accreditation Service, accreditation requirement ISO/IEC 17025.

FINAS
Finnish Accreditation Service
T342 (EN ISO/IEC 17025)

Analyte:	Gold (Au)
Measurand:	Concentration of cyanide soluble gold in geological materials
Analysis methods:	Methods with 0.5 or 1.0 kg sample size and with/without DiBK extraction: • PAL0.5kg-AAS • PAL0.5kg-DiBK-AAS • PAL1.0kg-AAS PAL1.0kg-DiBK-AAS
Limit of detection:	Regular methods: 0.05 mg/kg DiBK extraction methods: 0.01 mg/kg
Range:	Up to 100 mg/kg
Measurement uncertainty:	Analysis process (including sample prep.): • U_{total} = 32% (depends on ore type) PAL-AAS analysis (without sample prep.): • $U_{analysis}$ = 6 % *The stated uncertainties are expanded measurement uncertainties for a 95% level of confidence.*
Interferences:	High concentrations of graphite, sulphide or copper may lower the recovery of gold in the cyanide leach. Test batch of representative samples is suggested before bulk use of PAL1000 is started on any new mineralization. Usually recoveries have been within range of 95-100 with our clients. Analyzing PAL1000 analysis residue with fire assay tells best if there is cyanide insoluble gold in the samples.
Advantages:	The method is capable of analyzing very large samples which improves the representativeness of the assay results and minimizes the gold nugget effect. The method doesn't require pulverizing before leaching which minimizes the variance caused by sample preparation.