

Gold Purity Analysis: Portable XRF vs. Fire Assay

Fire assay is a method widely used to determine the purity of gold in jewelry. We are often asked the question: “how does portable XRF compare to fire assay?” The answer is that the accuracy of Thermo Scientific™ Niton™ DXL and XL2 Precious Metal Analyzers is comparable to the accuracy of fire assay and is typically within 1/8 of a karat of the fire assay results. In addition to being a non-destructive method, portable XRF is a much more comprehensive analysis, yet simple, fast, and does not require any hazardous chemicals.

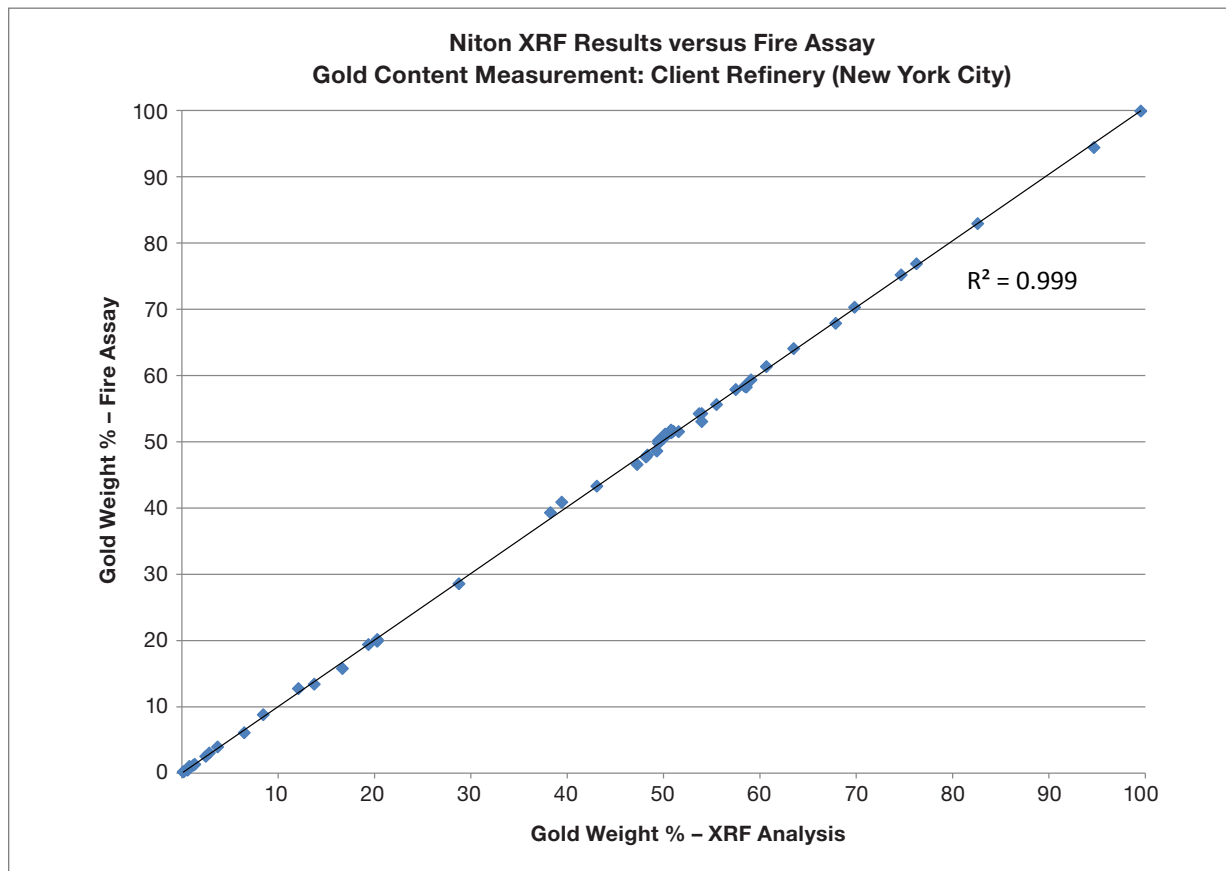


Niton DXL countertop analyzer

XRF vs. Fire Assay

Feature	XRF	Fire Assay	XRF Advantages
Level of complexity	Simple	Complex	<ul style="list-style-type: none"> • Easy to use • Requires less lab space
Analysis duration	3-10 seconds	2-3 hours	<ul style="list-style-type: none"> • High throughput • Customer satisfaction
Eliminate the need for a skilled operator	✓	✗	<ul style="list-style-type: none"> • Training costs
Eliminate the need for harsh chemicals	✓	✗	<ul style="list-style-type: none"> • Employee safety • Environmental compliance • Cost of disposal
Portable	✓	✗	<ul style="list-style-type: none"> • Transfer between locations
Non-destructive	✓	✗	<ul style="list-style-type: none"> • Customer satisfaction • Value retention of jewelry
Number of elements analyzed	22 (incl. Au, Ag, Ni, W)	1 (Au)	<ul style="list-style-type: none"> • Comprehensive information • Indication about fraudulent merchandise

XRF: It's accurate



Fire Assay



XRF: It's simple



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