

Introducing Source Certain

An introduction of how Source Certain's TSW Trace technology can benefit the timber industry by disrupting conventional paper or digital traceability

AGENDA

- 1. A brief introduction to Source Certain
- 2. What we do
- 3. How we want to disrupt in the timber industry
- 4. Where Source Certain excels & how the timber industry can benefit from our technology

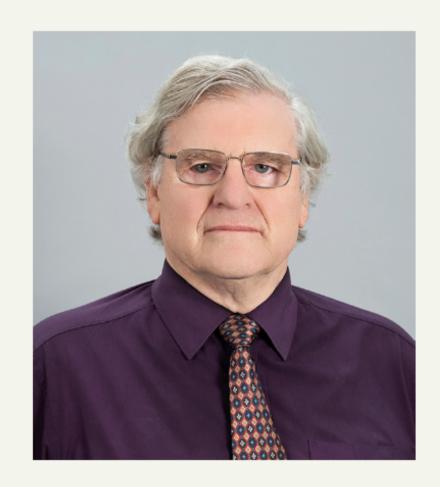
PROVENANCE SCIENCE SERVICES

- Australia's leading provenance laboratory verifying products back to farm, orchard, mine or FMU.
- Source Certain has implemented scientific programs to protect Australian food industries.

We use our unique scientific methods to support criminal investigations. TSW Trace technology has legal precedent.



OVER TWO DOZEN STAFF AND GROWING - OUR CORE TECHNICAL TEAM



Dr R John Watling

Chief Scientist



Cameron Scadding

CEO & Managing Director



Rachel Scadding

Chief Operating Officer



Jenna Valentin

Head of Operations AU

Source Certain helping the UK government prevent stolen Ukrainian grain from making it to the market

27/06/2022

Media releases

Western Australian based science technology company Source Certain International Limited (Source Certain) is providing its provenance science technology to the UK government as part of a project to help combat...

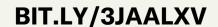
BIT.LY/3JDTJTE

Source Certain continues work with Aus Wild Prawns for four more years

19/11/2021

Media releases

SCI 4-year project sures-up Australian Wild Prawn integrity Australia's wild prawn industry is continuing its work with Source Certain International (SCI) for another four years, taking another step toward guaranteeing...







Source Certain to provide critical technology in new global certification for diamonds

02/08/2021

Media releases

Perth based sci-tech company to provide critical technology in new global certification for ethical and sustainable diamonds. Perth-based Source Certain International (SCI) today announced it will partner with SCS Global...

Source Certain announces partnership with Reid Fruits cherry producer

25/11/2020

Media releases

She mightn't be all apples, but she's all cherries for Tasmania's Reid Fruits as it deploys Laava's patented Smart Fingerprint secure label technology again this summerfruits season – building on...





PROVIDING INDEPENDENT SCIENTIFIC PROOF OF ORIGIN

- Help businesses know what it is that they're actually receiving
- Support digital records and question them where anomalies are found
- Assist auditors by providing key information and discussion points for audits. If you know what to look for, auditing can be more directed.

Stable isotopes v.s.

in Forests and Global Change



ODICINAL DECEMBELL



A Case Study to Establish a Basis for Evaluating Geographic Origin Claims of Timber From the Solomon Islands Using Stable Isotope Ratio Analysis

Charles J. Watkinson¹⁺, Gareth O. Rees¹, Sabine Hofem², Lina Michely², Peter Gasson² and Markus Boner²

¹ Agroisolab UK Ltd., Waiburn, United Kingdom, ² Agroisolab GmbH, Jülich, Germany, ² Jodrall Laboratory, Floyal Botanic Gardens, Kaw, Pichmond, United Kinadom

Global demand for low-cost forest products is leading manufacturers and traders to source timber and wood products from vulnerable nations and delicate ecosystems.

One small island nation, the Solomon Islands, is seeing exploitation of natural resources accelerating to such a point that its natural forests may be exhausted by 2036. The main causes of natural forest loss on the archipelago are unsustainable or illegal logging practices. Various laws in consumer countries require that members of industry ensure that only legally sourced timber is placed onto their respective national markets. Those that break these laws or fail to act in a way that is compliant may be subject to harsh penalties. This study aims to establish scientific data to evaluate claims that timber has originated from the Solomon Islands. This will enable Operators to carry out due diligence analysis and permit members of Law Enforcement to conduct forensic investigations. Eighty timber core samples comprising 13 different genera of tropical trees were obtained from mature trees in two sites in the Solomon Islands (Guadalcanal and Kolombangara islands) during the period August 2019 to November 2019 using a Pickering Punch sampling device. Homogenised core samples were subject to \$18O, \$2H, \$13C, and \$24S stable isotope analysis using elemental analysis-isotope ratio mass

spectrometry. Additional stable isotope data from relevant taxa and geographic origins (elevation, geographic co-ordinates) were also included in this research as an initial assessment of differences in stable isotope ratios between countries. Results show that significant differences are evident in the stable isotope ratios of the sampled taxa within the Solomon Islands (Guadalcanal and Kolombangara Islands) and between other countries. These data can be used as a basis of evaluation to evaluate origin claims of timber or wood products from the Solomon Islands, particularly Kolombangara Island. Furthermore, in the right context, these data can also be used to establish whether timber or wood products declared to be from origins other than the Solomon Islands have stable isotope ratios that are consistent with data from the Solomon Islands. If not, this would suggest foreign timber/forest products are from elsewhere and are being passed-off as originating from the Solomon Islands.

Keywords: stable isotopes, Solomon Islands, tropical timber, EUTR, Lacey Act amendment, EA-IRMS

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to Establish a Basis for Evaluating

Geographic Origin Claims of Timber

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From the Solomon Islands Using

a section of the journal

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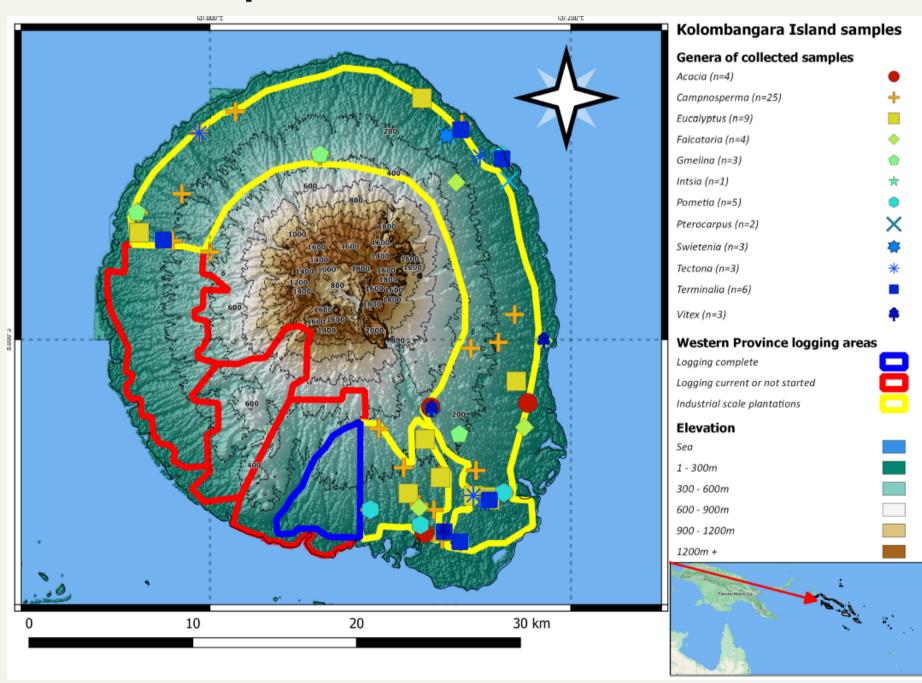
TSW TRACE®



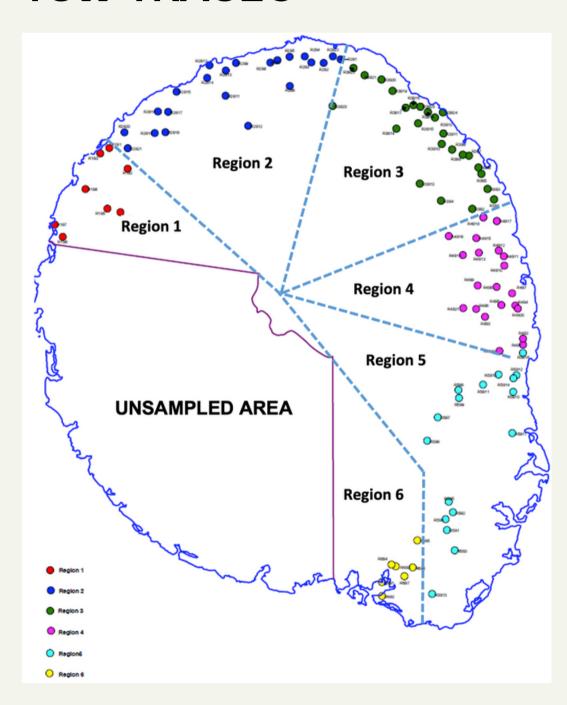
SAMPLING

Source Certain was able to analyse more samples due to the lower analytical costs of the TSW Trace method

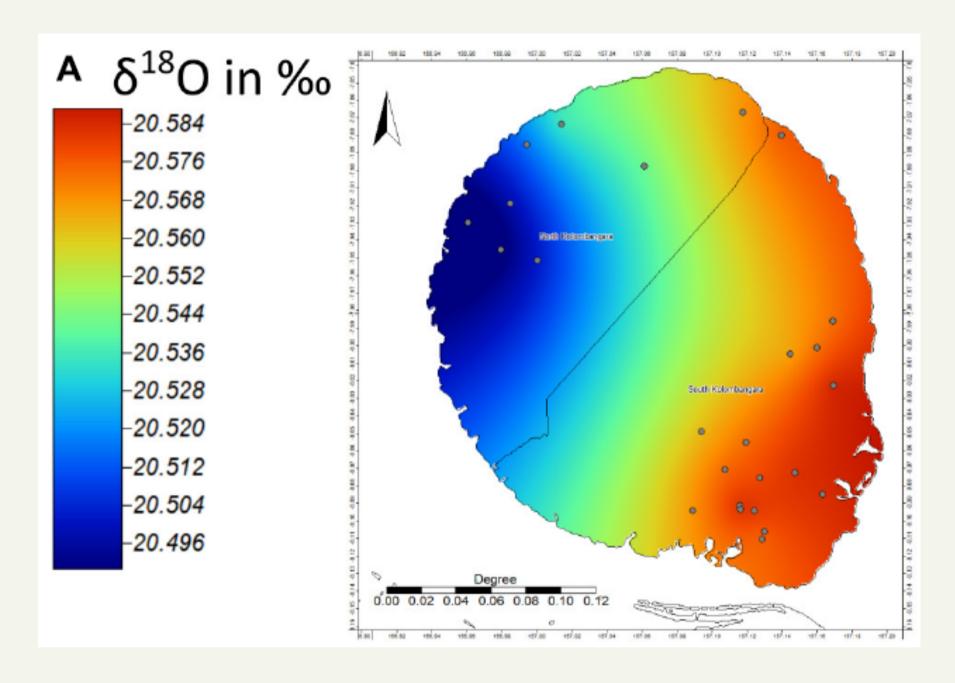
Stable isotopes



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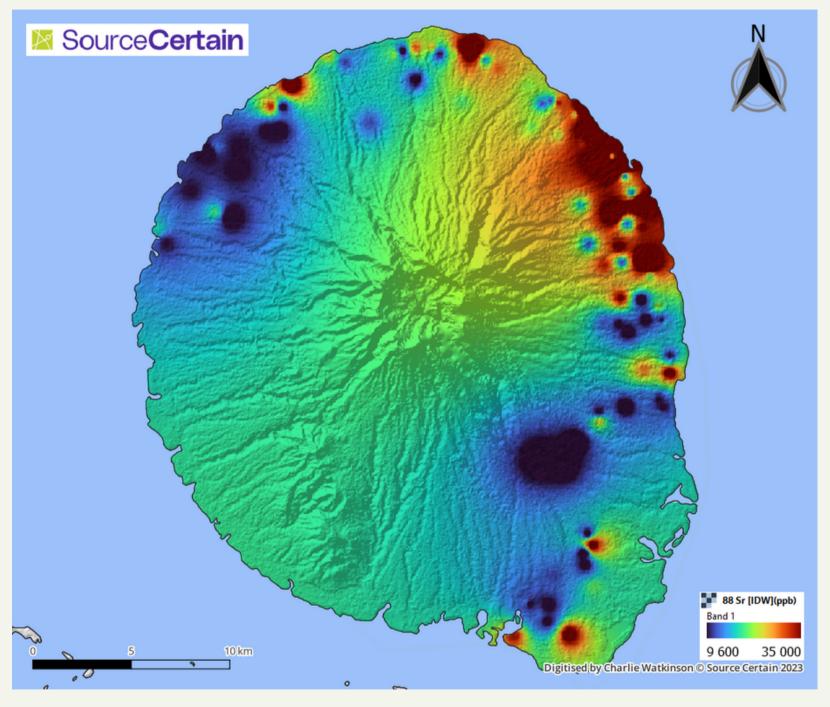


Stable isotope ratio (oxygen)



The stable isotope approach uses <u>FOUR variables</u> for origin, high preparation cost

Strontium - TSW Trace



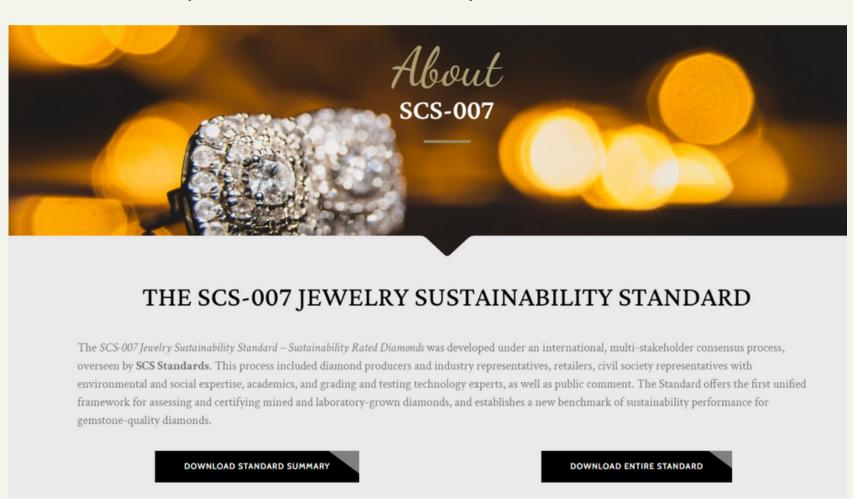
The TSW Trace approach uses up to 60 variables for geographic origin at a much lower preparation cost



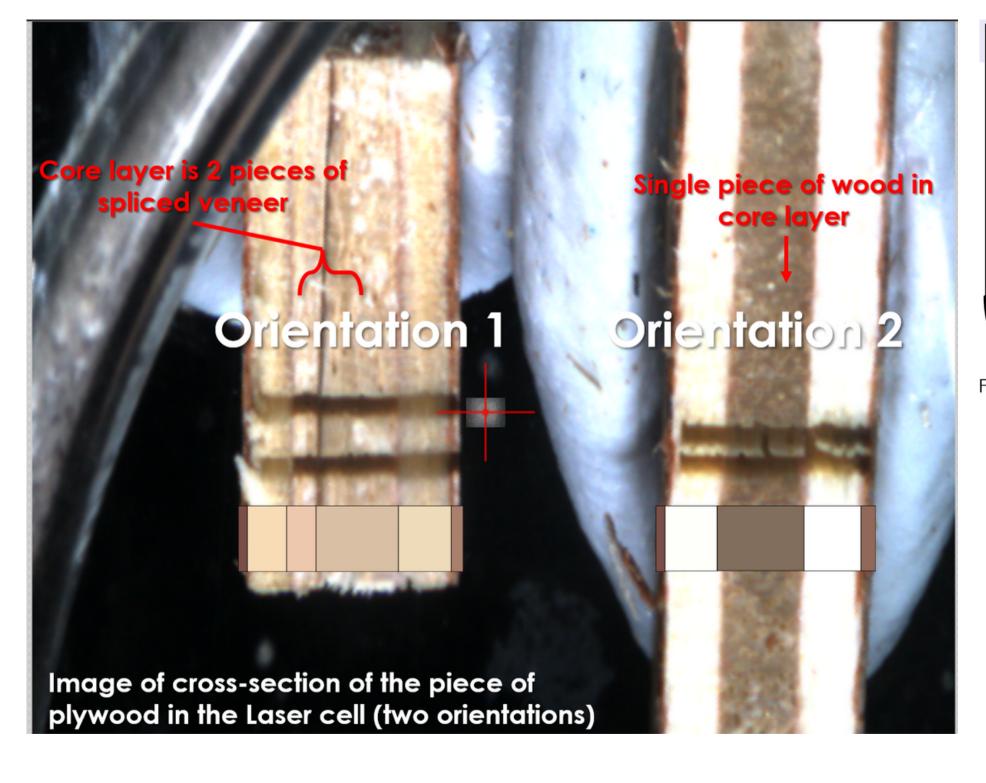
Diamonds mounted in the laser system ready to be analysed to check their origin.

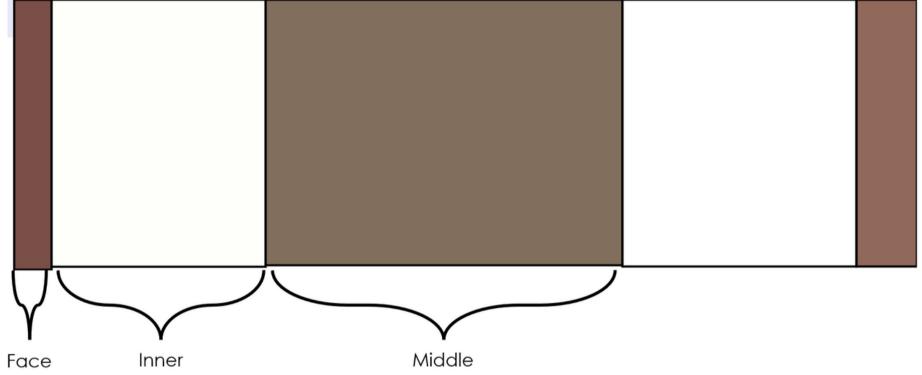
Non-destructive, high-throughput analysis of diamonds using laser ablation

LA-ICP-MS is being used to verify the origin of diamonds back beyond the mine, the kimberlite pipe they were produced in. A laser can take a spot sample as small as 100µm. This gives enough information to perform the test and is part of the SCS-007 standard.

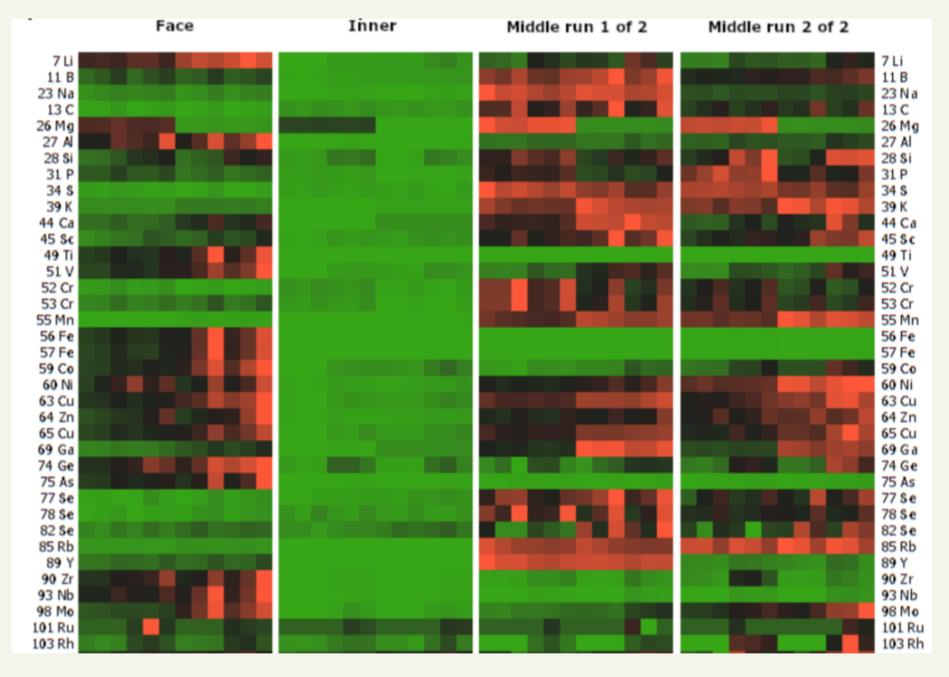


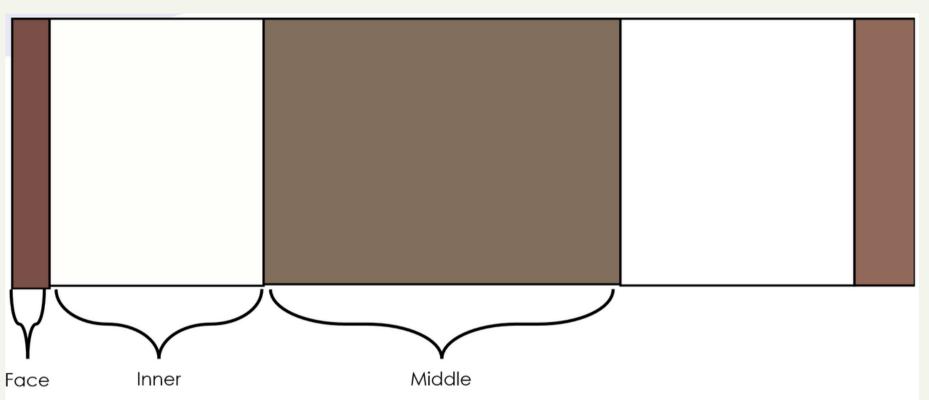
INITIAL TRIALS WITH PLYWOOD





INITIAL TRIALS WITH PLYWOOD





Results show clear differences in elemental profiles between the layers in plywood. This method takes very little preparation.



Thank you

Please contact us at charlie.watkinson@sourcecertain.com

www.sourcecertain.com

