

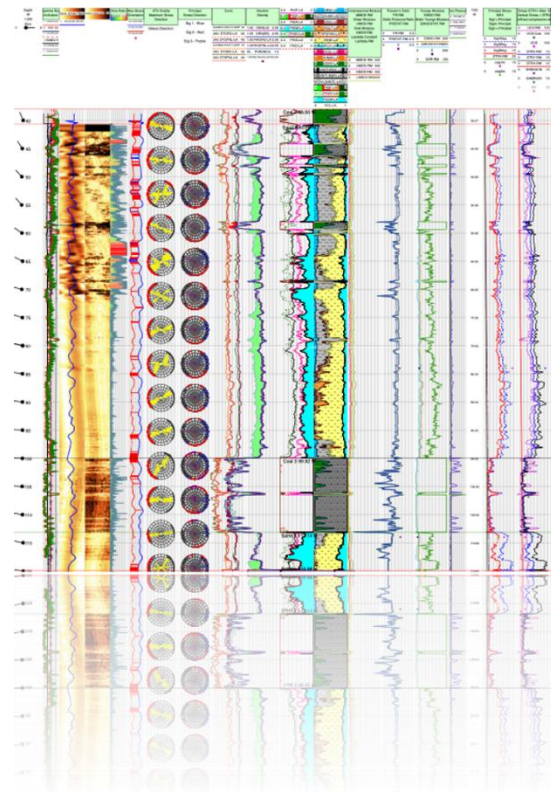


**SMEDG**  
SYDNEY MINERAL EXPLORATION DISCUSSION GROUP

**Technical Meeting - Thursday March 27, 2025, 5.30 for 6.00 pm  
Club York Function Centre, Level 2 and Zoom. Registration is required for  
Zoom attendees, and can be done [here](#).**

**Nick Harvey**

**Innovations and New Applications of Wireline Logs.**



**By integrating wireline logging measurements, an accurate determination of rock type can be made. This information can be used to determine stress orientation and magnitude, as well as estimate mechanical rock properties.**

**We outline how to use ovality character from acoustic borehole images to determine the maximum horizontal stress orientation. We then synthesize this information with full wave sonic and density data to estimate the horizontal and vertical stress magnitudes. The components and methodology that integrate acoustic televiewer data with full wave sonic and density to calculate the stress tensor, which provides true horizontal and vertical stress orientations and magnitudes, are described. From these results, we use a proprietary technique to calculate the principal stress orientations and magnitudes.**

### **Biography**

**Nicholas Harvey, with 38 years of experience in the Oil and Gas and mining industries, currently serves as the CEO of Harvey Rock Physics. His expertise lies in advanced petrophysical studies conducted from open hole logs and borehole images.**

**During his tenure at Harvey Rock Physics, Harvey played a pivotal role in developing the innovative LogScope tablet-based package. This package enables users to view tailored wireline log displays and perform petrophysical interpretations.**

**Harvey's educational background includes a degree in Applied Geology from Curtin University in Perth, Western Australia, which he earned in 1985. His professional journey began in 1984 when he joined Western Mining Corporation, where he managed geoscience computer applications. In 1990, he further expanded his experience at Restech Europe Ltd before joining BP.**

**Upon returning to Australia in 1995, Harvey shifted his focus to minerals logging, specializing in slim hole acoustic televiewers. He joined Baker in 1997 and embarked on assignments in Perth and West Africa before joining Crocker Data Processing in 2003. In this role, he managed the Petrolog Imagemod module and conducted petrophysical and image interpretation projects.**

**In 2007, Harvey joined Weatherford Australia Pty Ltd as Earthview Image Advisor, and in 2010, he transitioned to Target Oilfield Services Pty Ltd, where he continued to perform image interpretation projects in the Middle East and Australia. In mid-2011, he founded Harvey Rock Physics, marking a new chapter in his career.**

**Harvey Rick Physics has revolutionized the field of borehole data analysis with the development of LogScope™, the only iPhone/iPad application that is touch-compatible. After collaborating with ExxonMobil, LogScope™ was transitioned to Windows, becoming the sole independent application that functions seamlessly**

across all three platforms for performing Petrophysical interpretation, Borehole Image interpretation, and Realtime Data streaming via WITSML.

Harvey Rock Physics continues to prioritize innovation, and LogScope™ now incorporates the OSDU cloud-based software system, an open subsurface data universe designed to facilitate easy and rapid access to all data collected in the Energy and Mining sectors.

Harvey Rick Physics's innovative workflows optimize the value of borehole data, enabling the computation of True Fracture Spacing (applied to an 180-well field in California) and Textural analysis, which provides particle size, pore throat, and permeability information.

The focus of this presentation is on an innovative workflow that demonstrates how borehole image data can be combined with open hole logs to calculate the stress field along the borehole. This technique has been successfully applied across various mines, oilfields, and prospective mines on four continents.

**Note:** Given that Zabou has now closed, we are considering alternative options for dinner after meetings. Any suggestions welcome! In the interim we will be providing snacks or pizza, along with the customary drink, before the meetings.

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Upcoming events (may be changed or extra events may arise - keep an eye on the website, as well as emails):

Regular meetings (4th Thursday of the month, may be changed if necessary) - March 27, April 24, May 22, Jun 26, July 24, September 23 (Tuesday), October 23 and November 27

Awards Dinner - Thursday August 28, Club York

Cruises - TBA - Rosman's have stopped operating cruises, and we are looking for an alternative

[SMEDG website](#)

- A treasure trove of current and historic information, including updated events schedules - well worth exploring!

Club York and Regular Meetings

- Regular SMEDG meetings are held in the Club York Function Centre, located on Level 2 of the Club, 95-99 York Street, just north of the Market Street intersection.

- These are also broadcast through Zoom, for which registration is required, with details on the notice of meeting email
- Entry is usually through the lifts located in the building foyer immediately to the left (south) of the Club entrance, however if for some reason the lifts are locked, entry can be gained through the Club - just let the concierge know that you are attending a function, and you will be let through. With the closure of Zabou, we are considering alternative after talk dinner venues, with Primi Italian at the Club being an option.
- The bar is open at meetings, and we shout each attendee one drink upon arrival.

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