

# CASE HISTORY

## SHALLOW GAS IDENTIFICATION IN LIQUID-FREE BOREHOLE

### APPLICATION

Cased Hole Services,  
Shallow Gas Detection

### TECHNOLOGY

MPNN

### LOCATION

Southeast Asia

### CUSTOMER CHALLENGE

The customer had been deploying a gamma-ray (GR) detecting pulsed neutron tool for shallow gas detection [to help mitigate risks during infill drilling operations] through multiple barriers (2-7/8" tubing, 7" liner & 9-5/8" casing). For the GR detecting tool to function effectively, it was necessary to fill the borehole with seawater. This entailed setting a plug, increasing cost and risk for an additional two well interventions. The customer sought pulsed neutron technology which would not depend on a liquid-filled borehole for high-quality, accurate measurements.

### SCIENTIFIC SOLUTION

SDI's Memory Pulsed Neutron-Neutron tool proved to be the solution to the client's operational requirements. The neutron-detecting mode of measurement eliminated the need for plug setting, borehole liquid filling, and subsequent plug retrieval.

Across the 7" Liner & 2-7/8" tubing there is Near/Far total count separation at the approximate depths of the suspected gas zone.

Even inside triple barriers of 9-5/8" casing, 7" Liner & 2-7/8" tubing, the Near/Far Total Count Ratio and Near/Far Total counts showed that the neutrons are reaching into the formation.

### CUSTOMER VALUE

With SDI, the customer was able to secure a cost effective solution for their data acquisition scope of work, whilst not making any compromises on data quality. The client saved tens of thousands of dollars by negating the need to set a plug and improved the overall risk profile of the operation through the elimination of two well interventions.

