Huw Sheppard

Consultant Operations Geologist at Geoscientific Limited/Maersk Oil Denmark

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Summary

Fully accredited (Chartered and European) geologist with 10+ years' experience. Petroleum geologist, sedimentologist and stratigrapher. Independent consultant presently working in Copenhagen as an Operations Geologist with Maersk Oil.

Specialties: Petroleum Geology, Sedimentology, Sequence Stratigraphy, Petrel, Well Operations, Facies Analysis, Geological Mapping, Petrography.

Experience

Consultant Operations Geologist at Maersk Oil
November 2010 - Present (3 years 9 months)

Hydrocarbon well design, project proposal and management; field and offset well studies using Petrel 2013; onshore supervision of offshore geological teams; cross-disciplinary collaboration with drilling management, completion and stimulation teams; presentation, editing and compilation of end-of-well materials from company and third-party sources; Risk assessment. Present experience in Danish North Sea fields.

Consultant Wellsite Geologist at Maersk Oil
October 2008 - November 2010 (2 years 2 months)

Hydrocarbon well design, evaluation and offshore supervision; LWD, MWD, wireline, mudlog and petrophysical supervision and evaluation; HPHT drilling including wireline and fluid sampling; offshore Danish sector.

Consultant Wellsite Geologist at ConocoPhillips
October 2008 - January 2009 (4 months)

Hydrocarbon well design, evaluation and offshore supervision; LWD, MWD, wireline, mudlog and petrophysical supervision and evaluation; offshore UK sector.

Consultant Wellsite Geologist at Bow Valley Resources
September 2008 - October 2008 (2 months)

Hydrocarbon well design, evaluation and offshore supervision; LWD, MWD, wireline, mudlog and petrophysical supervision and evaluation; HPHT drilling including wireline and fluid sampling; offshore UK sector.

Consultant Wellsite Geologist at Providence Resources
August 2008 - September 2008 (2 months)

Hydrocarbon well design, evaluation and offshore supervision; LWD, MWD, wireline, mudlog and

petrophysical supervision and evaluation; offshore Irish Sea.

Survey Geologist at British Geological Survey
October 2001 - August 2008 (6 years 11 months)

Management of multidisciplinary research and commercial projects; field survey of sedimentary successions including deep water clastics, carbonates, clastics, volcaniclastics and glacigenics; borehole interpretation, map compilation, scholarly publication, technical editing.

Lecturer (Part Time) at Oxford Brookes University
October 1998 - September 2001 (3 years)

Part time Lecturer (Sedimentology); BSc Geology (2nd and 3rd years) MSc Petroleum Geoscience.

Skills & Expertise

Petroleum Geology
Sedimentology
Sequence Stratigraphy
Geological Mapping
Petrography
Geology
Geochemistry
Offshore Drilling
Stratigraphy
Petrel
Earth Science
Petrophysics
Geophysics
Logging
Seismology
Petroleum
Drilling
Reservoir Engineering

Education

Oxford Brookes University
PhD, Sedimentology and Sequence Stratigraphy, 1998 - 2001

The University of Reading
MSc, Sedimentology and its Applications, 1997 - 1998

Cardiff University / Prifysgol Caerdydd
BSc, Geology, 1994 - 1997

Cowbridge Comprehensive School
High School, 1987 - 1994

Certifications

Chartered Geologist (CGeol)
Geological Society of London October 2008

European Geologist (EurGeol)
European Federation of Geologists October 2008

Publications

Internal structure and geological context of ramparted depressions, Llanpumsaint, Wales.
Permafrost and Periglacial Processes 2011
Authors: Huw Sheppard, Neil Ross, Peter Brabham, Charles Harris

In Europe, ramparted depressions have traditionally been interpreted as the relict forms of periglacial ground-ice mounds. In many cases, however, such interpretations have been based on limited subsurface evidence. We present detailed sedimentological and geophysical investigations of ramparted depressions from Llanpumsaint, Wales. These data are used to establish internal structure and to evaluate possible mechanisms for landform formation. Borehole and geophysical data have revealed a thick (#30 m) sequence of glaciolacustrine sediments beneath the study site. The geological context (drainage of a large proglacial lake) would have been conducive to the formation of: (i) permafrost-related ground-ice mounds, at times when exposed frost-susceptible glaciolacustrine sediments were subject to permafrost aggradation; and (ii) craters associated with the in-situ meltout of blocks of glacier ice grounded in the lake during periods of falling water levels. Rampart deformation structures are consistent with both models, but units of sand and gravel within the ramparts favour a hypothesis that these landforms represent the collapsed remains of ground-ice mounds. This study highlights the importance of recognising and evaluating all possible (periglacial and non-periglacial) models for the development of ramparted depressions. We recommend that future studies carefully consider all possible mechanisms of formation, particularly where subsurface information is limited.

Life's a beach: lessons from the Earth's rarest sedimentary rocks.
Geology Today May 2007
Authors: Huw Sheppard

Ancient rockshore deposits are the rarest sedimentary rocks on Earth. Less than 200 examples span the planet's entire history, but they preserve important records of past environments, including sea-level changes and unusual fossil communities. The most celebrated example, dating from the earliest Jurassic, is found at Ogmore-by-Sea in South Wales. This article describes the history of environmental change at Ogmore, and why these rocks can help us to interpret the deposits of ancient rocky shores world-wide.

Bedding and Pseudobedding in the Early Jurassic of Glamorgan: deposition and diagenesis of the Blue Lias in South Wales.
Proceedings of the Geologists' Association October 2006
Authors: Huw Sheppard, Richard Houghton, Andrew Swan

Sedimentary bedding planes in a succession of Lower Jurassic (Bucklandi Biozone) limestone-shale alternations at Nash Point, South Wales are represented by omission surfaces intermittently developed on the upper surfaces (limestone-shale contacts) of limestone beds. Other lithological contacts (shale-limestone contacts and the majority of limestone-shale contacts) are devoid of positive indications of an associated break in sedimentation. Statistical analysis of (a) limestone-shale contacts and (b) recorded omission surfaces suggests that limestone-shale contacts are regularly spaced and omission surfaces randomly distributed. Limestone-shale contacts and omission surfaces are interpreted as proxies for sedimentary bedding and shale-limestone contacts interpreted as pseudo-bedding planes, with the alternation of limestones and shales arising from the diagenetic differentiation of beds of lime mud. No short- or long-term cyclicities at a scale greater than that of an individual couplet can be detected by the statistical methods employed, and it is therefore unlikely that a Milankovitch-type cyclicity is present. Evidence of strati-graphical environmental succession, exhibited both by ichnotaxa and body fossil assemblages in the biofacies of omission surfaces, suggests that the succession represents part of a third-order shallowing event. It is proposed that beds of lime mud were deposited as a consequence of episodic storm action on a hemipelagic shelf, and diagenetic differentiation was ‘steered’ by this episodicity and not by any orbital control.

Sequence architecture of ancient rocky shorelines and their response to sea-level change: an Early Jurassic example from South Wales, UK.

Journal of the Geological Society of London July 2006

Authors: Huw Sheppard

The sea-cliffs of Ogmore-by-Sea in Glamorgan, South Wales, expose a succession of Early Jurassic nearshore carbonates that drape rocky palaeoplatforms. A sequence-stratigraphic interpretation allows the recognition of four retrogradationally stacked parasequences, the internal facies architecture of each of which is controlled by the bathymetry and geometry of the underlying shore platforms. Preserved facies are interpreted as representative of foreshore, shoreface and offshore environments. Supratidal facies are absent, but representative storm-terrace clast assemblages are preserved in all lithofacies as a result of the cannibalization of the backshore during periods of shoreline retreat driven by sea-level rise. Biostratigraphical calibration allows the reconstruction of sea-level history and the correlation of regionally important flooding surfaces in the Rhaetian–Sinemurian of Southern Britain with the position of the contemporary shoreline. This suggests that platform incision in South Wales occurred several million years before the onset of major deposition; superseding deposits above ancient rock shore platforms may therefore not be representative of the environment in which coastal incision took place. As one of the best examples of its kind, the rockshore at Ogmore acts as a deposystem model for ancient rocky shores worldwide.

Stylolite development at sites of primary and diagenetic fabric contrast within the Sutton Stone (Lower Lias), Ogmore-by-Sea, Glamorgan, UK

Proceedings of the Geologists' Association April 2002

Authors: Huw Sheppard

Pressure dissolution within the Sutton Stone, a Lower Jurassic littoral succession at Ogmore-by-Sea, Glamorgan, resulted in the stylolitization of bedding planes between units of contrasting lithological fabric. The stylolites are divisible into ‘major’ stylolites, nucleated upon persistent primary bedding planes traceable across the outcrop, and ‘minor’ stylolites, developed upon less favourable, localized surfaces. Two suture

morphologies are recognized, a highly angular and an undulose form. Morphological variation is considered a consequence of two positive correlations; that observed between the magnitude of lithological contrast at the plane and the fundamental magnitude of the suture waveform amplitude, and that observed between host rock grain-size and the fundamental magnitude of suture frequency. Mesogenetic stylolitization was aided by eogenetic cementation with a marine-phreatic fringe cement. This cement pre-dates the dissolution of aragonitic bioclasts within grainstones, and the degree of early cementation is thus not proportional to primary aragonite availability. However, subsequent aragonite dissolution increased the magnitude of fabric contrast at bedding planes, elevating porosity, solubility and subsequent pressure-dissolution during mesogenesis. Burial cements associated with stylolites are considered to represent the reprecipitation of pressure-dissolved carbonate. The occlusion of porosity protected such areas from extensive dissolution by highly aggressive basin waters during deep burial.

Honors and Awards

2006 Young Author of the Year, Geological Society of London.

Fellow of the Geological Society of London (FGS)

Member of the Royal Institution of Great Britain (MRI)

Member of the Society of Petroleum Engineers

Member of the International Association of Sedimentologists

Member of the Geologists' Association

Interests

Petroleum Geology, Petroleum Engineering, Reservoir Engineering, Process Sedimentology, Sequence Stratigraphy, Petrography, Scientific and Professional Editing.

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