

PetroStrat Ltd is an established Stratigraphic Consultancy that provides a comprehensive suite of integrated geological services to the Oil & Gas industry.

- Full service palaeontology (micropalaeontology, nannopalaeontology, palynology) integrated with sedimentology and reservoir geology services.
- Headquarters and dedicated laboratory, in the UK (Conwy, North Wales).



- Satellite offices in St. Albans (near London) and Houston (USA; including new in-house labs).
- Specialists in the provision of high resolution, quantitative data for all regional, reservoir and well scale studies.
- Provision of wellsite (real-time) biostratigraphic services.

What is biostratigraphy?

The branch of stratigraphy focussing on correlating and assigning relative ages of strata by analysing the fossil assemblages.

In industry, three main groups/disciplines of fossils are used to achieve this:

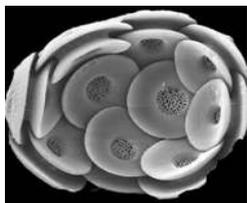
Micropalaeontology:

- Foraminifera, diatoms, radiolaria and ostracods.
- Palaeozoic to Recent.
- Used to interpret palaeoenvironments.



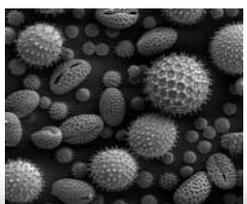
Nannopalaeontology:

- Calcareous nannofossils, includes coccoliths.
- Triassic to Recent marine sediments.



Palynology:

- Terrestrial plant matter, spores and pollen, dinoflagellates, Acritarchs and Chitinozoa.
- Phanerozoic marine and non-marine.



Why use Biostratigraphy?

- **Biostratigraphy calibrates the seismic:** Gives geological/stratigraphical meaning to seismic picks where seismic calibration may not be accurate.
- **Where seismic control is not always possible:** through some rock formations (e.g. salt diapirs).
- **Defines Sequence stratigraphy:** Allows first order correlation to the type 1 and 2 sequences.
- **Provides a detailed, high resolution stratigraphic framework:** Allows correlation by absolute age and/or correlation by depth. Aids appraisal/ development of discoveries.
- **Resolves and defines lithostratigraphic units.**
- **Interprets Palaeoenvironments:** Aids geological understanding of a basin and deposition.
- **Indicates sediment provenance:** Based on the assemblages and nature of any reworked microfossils. Allows differentiation between hemipelagic muds and a muddy debris flows.
- **Explains the unexpected:** Faults, stratigraphic breaks, or facies change.

Wellsite biostratigraphy

- Provides **real-time geological and stratigraphic information.**
- Allows recalibration of pre-drill seismic picks during drilling.
- Allows accurate picking of **casing, coring and TD points (safety critical** or for well engineering reasons).
- To assist with horizontal **geo-steering** or **bio-steering** a well, enables the well path to maintain a position within the reservoir to maximise H/C recovery.

Separate datasheets on wellsite services.



Why use PetroStrat?

Unrivalled global experience:

- PetroStrat has 40 stratigraphers.
- Expertise of the whole geological column.
- Detailed knowledge of basins throughout the world.



Wellsite certification/experience:

- Majority of staff fully certificated for offshore work.
- Experienced (many with >50 wellsite assignments).

Comprehensive purpose-built in-house laboratory facilities (North Wales and Houston).

- Includes thin-sectioning, sedimentology services.
- Regularly audited internally and externally for safety.



Named analysts:

- A client will know who will be carrying out the work.
- CV's are provided.

Good advice:

- Recommendations on combination of disciplines in any geological or palaeoenvironmental setting.

PetroStrat can tailor a study to maximise stratigraphic and palaeoenvironmental information, while keeping costs to a minimum.

Personnel Details:

Dr John Gregory
Director/Micropalaeontologist

Paul Cornick
Director/Palynologist

Mark Weldon
Director/Micropalaeontologist

Dr David Rutledge
Director/Nannopalaeontologist

For further information contact us on directors@petrostrat.com

Fully quantitative analyses:

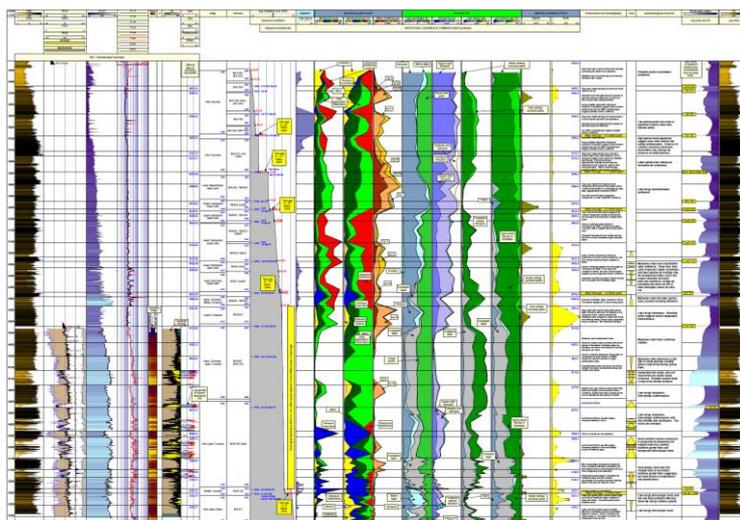
- Both in the office, or at wellsite, providing detailed datasets.
- Semi-quantitative or qualitative methods limit the quality and usability of the data.

Raw data files provided as standard:

- Presented in a variety of formats (tsv, csv, dex files).
- Can be imported into StrataBugs, Openworks, Petrel, ODM etc.

Integration of biostratigraphy with sedimentology: (LogsStrat).

- Novel integrated logs and biostrat summary tool (LogsStrat).
- Uses Petrophysics to interpret lithologies (but not fluids).
- Constrains depositional environments using fully quantitative fossil data.
- When integrated with breaks in sedimentation, relative rates of deposition and lithological trends, can interpret depositional setting and identify relative water depth trends (related to world sea-level changes).



Industry accepted certifications and standards:

- HSE Management - BS OHSAS 18001, ISO 14001 and Quality Management - ISO9001.



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