

IntegBiostrat

Company profile

Dr. Björn Holstein

Curriculum Vitae

Dr. Björn Holstein



Biostratigrapher/Palynologist (IntegBiostrat)

Date of Birth	08.06.1968
Nationality	German
Address	Pahls Wische 5b, 30900 Wedemark Germany

Relevant Qualifications and Academic Appointments

- 1990-1996 Study of Geology, Frankfurt am Main, Germany 1990-1996
- 1996 Diploma Thesis and Mapping: "Stratigraphy, microfacies and tectonic setting near the Punta Negra (Italy, NW-Sardinia)"
- 10/1998 - 12/2003 PhD - Title: "Palynological investigations of the Rhaetian Koessen Beds, Northern Calcareous Alps (Austria)"

Relevant Professional Experience

- 08/2004 – 11/2008 Geologist in coal exploration at DMT (Essen, Germany)
Coal Stratigraphy, petrology, resource calculation
- 12/2008 – 12/2020 Senior Biostratigrapher/Palynologist in oil/gas exploration at WintershallDEA AG (Wietze, Germany)
Micropaleontology, stratigraphic palynology, palynofacies, maturity analysis, geochemical assessment

Languages

- English, Italian, French

Other qualifications

- Software: WellCAD, Petrel, StrataBugs, Office, IT Administration, Visual Basic

IntegBiostrat is a small enterprise founded by Dr. Björn Holstein at the beginning of 2021.

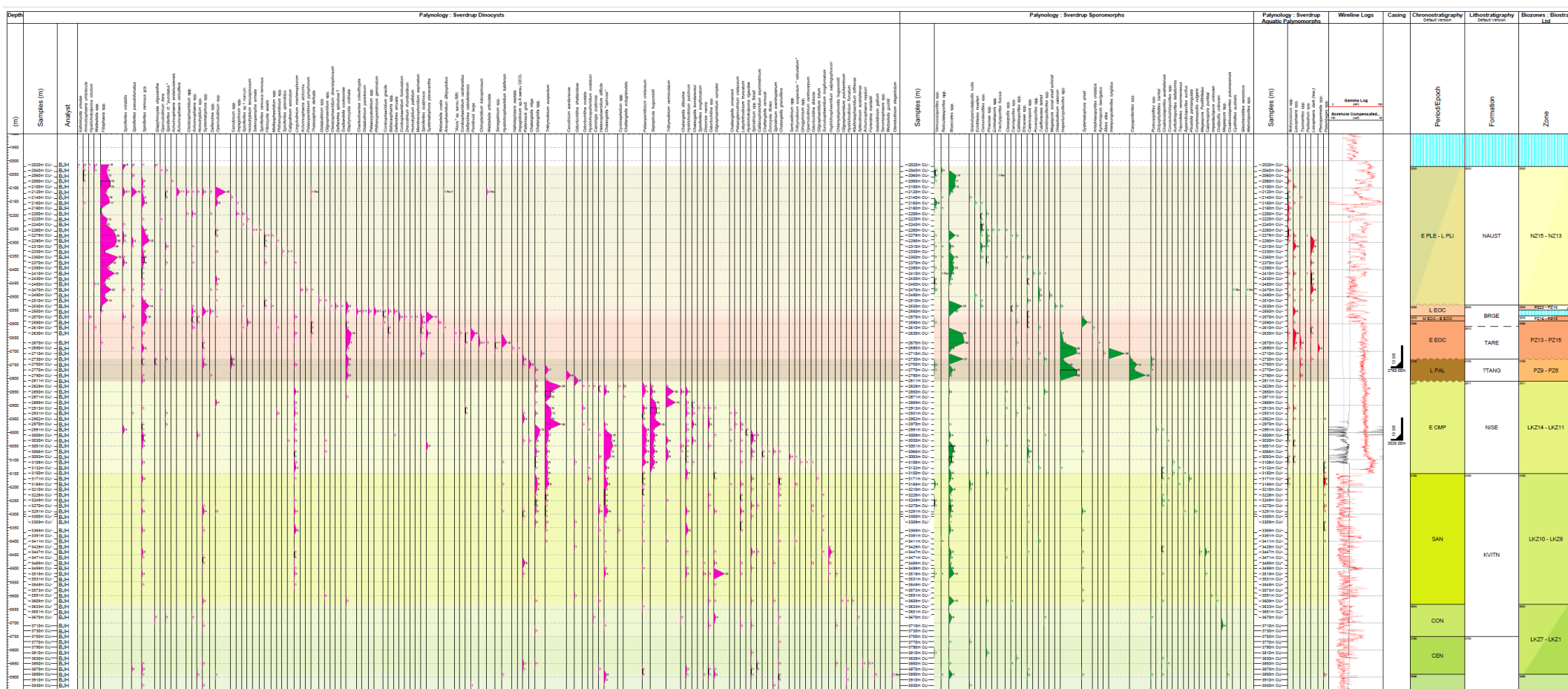
Before formation more than 15 years of professional experience within the exploration sector, with more than 12 years in hydrocarbon exploration.

Services

- **Palynological analyses & studies** (palynostratigraphy & palynofacies analysis)
- **Micropaleontological analyses & studies**
- **Thermal maturity assessment** (vitrinite reflectance & spore coloration index)

Palynostratigraphy

- Age assignment of marine or terrestrial sediments through dinoflagellate cysts, sporomorphs and acritarchs.
- Data collection and interpretation is performed with StrataBugs software
- results are plotted as rangecharts and supplemented with additional data such as log data (gamma ray) or lithology if available.



Palynofacies analysis

- Detailed kerogen classification used for palynofacies analysis (modified after STEFFEN & GORIN 1993).

		ORIGIN	GROUP	CONSTITUENTS			
T e r r e s t r i a l	Higher plant debris	Phytoclasts	Opaque phytoclasts	equant			
				lath			
				corroded			
			Translucent phytoclasts	non biostructured			
				Cuticle			
				Membrane			
				biostructured	striate		
					striped		
					banded		
				pitted			
				Fungal Hyphae			
			Sclereids				
Pollen	Sporomorphs	Pollen	saccate				
Spores		bisaccate					
Spores							
A q u a t i c & f r e s h w a t e r	Degraded plant debris	AOM (Amorphous organic matter)	Resin				
	Degraded phyto-plankton		Macrophyte Tissue				
			AOM				
			Microbial mats				
	Freshwater algae		Botryococcus				
			Pediastrum				
			Zygnemataceae				
	Marine microplankton		Dinocysts	chorat			
				proximochorat			
				proximat			
				cavat			
					Prasinophytes		
Zoomorphs		Acritarchs					
		Foraminifera					
		Scolecodonts					
		Chitinozoa					
Material of animal origin		Zooclasts	Graptolites, Crustacean eggs, insect parts				

Sub-divided
Into size
classes

„KEROGENIA“

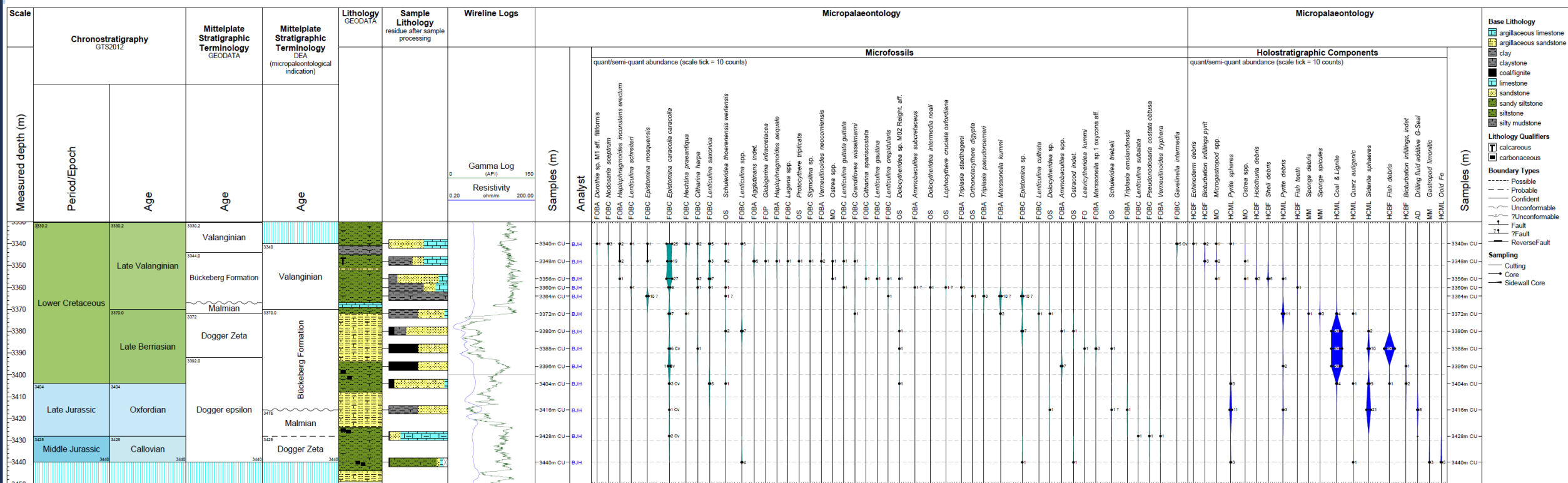
Palynofacies / kerogen counting tool



- Particle counting via special Excel® screen with click buttons
- Adding comments
- Built in graphic presentation (ternary APP & SMP diagrams)
- Creation of interpretation sheets for reports and documentation

Micropaleontology

- Age assignment through microfossil determination and counting
- Holostratigraphy – Compilation of a stratigraphic framework not basing on datable microfossils only, but considering also further data. In many oilfields the occurrences of some components found in the residue after sample processing (e.g. coal, minerals, fragments of macrofossils) allows partly a field-wide correlation



Thermal maturity assessment

VR Reflectance

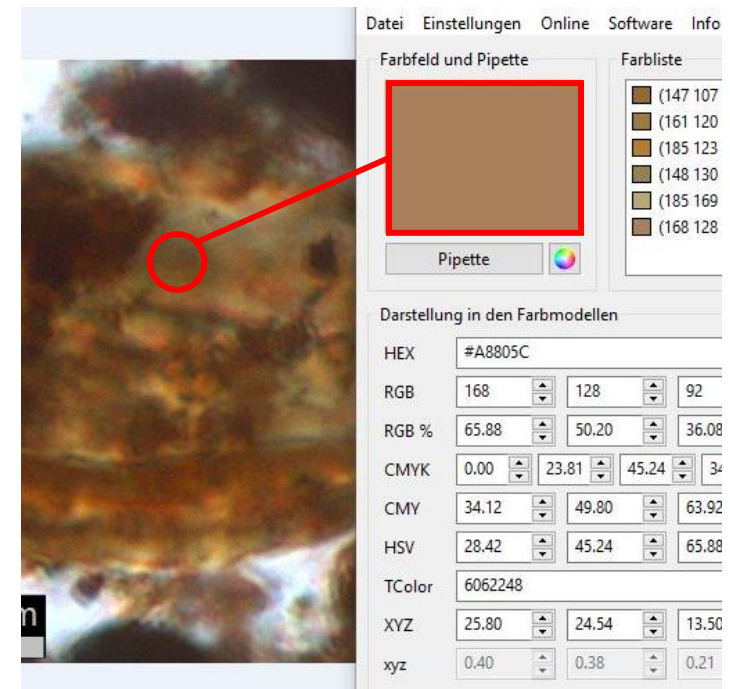
- Instruments: TIDAS Photometer (J & M Analytics) installed on Leica DM RA2 microscope
- Vitrinite reflectance measurements are carried out in accordance with international standards (ICCP, 1993) & ASTM 1994
- Calibration with a standard set (Spinel [0,426] YAG [0,908] sr-Ti [5,340])
- Random reflectance measurements (Ro ran) with immersion oil (refractive index 1,518) and a wavelength of 546nm and without polarizer



Equipment for palynological analysis and thermal maturity assessment

Spore coloration index

- Measurements of colours instead of visual estimation
- Measuring with digital camera gathering RGB codes
- Calibration against brown transparency



Project experience (selection)

- Germany:
 - Schleswig Holstein: Oilfield Mittelplate - biostratigraphy (including biosteering) and palynology of overburden and reservoir rocks (Jurassic/Cretaceous)
 - Lower Saxony: Permian natural gas - maturity assessment
 - Southern Germany: Molasse basin - palynology and maturity assessment (Tertiary)
 - North Sea: palynology (Carboniferous)
 - Lower Saxony: Hannover region - biostratigraphy and palynology (Jurassic/Triassic)
 - Upper Rhine Graben: Micropaleontology of an oil exploration well in the Landau region
- Norway:
 - Norwegian Sea PLC 330: Sverdrup 6608 - palynology and maturity assessment (Tertiary, Cretaceous & Jurassic)
 - Norwegian Sea: Njord - maturity assessment (Jurassic)
 - Norwegian Sea: Dwalin - review of palynostratigraphy (Triassic/Jurassic)
- UK: Southern North Sea, Breagh - maturity assessment (Jurassic)
- Poland: Southern Carpathians, Pola oilfield - palynology & maturity assessment, (Tertiary, Cretaceous)
- Mexico: Ogarrío oilfield & Block 30 - biostratigraphy (Pliocene, Miocene & Oligocene)
- Suriname: Roselle 1 well, Block 52 - maturity assessment (Cretaceous)
- Egypt:
 - Nile delta: Palynology and maturity of different wells (Tertiary, Cretaceous & Jurassic)
 - Red Sea, East Budran region - Review of biostratigraphic reports (Cretaceous, Tertiary)