Supplementary data file 2 to

Olivarius, M., Friis, H., Kokfelt, T.F. & Wilson, J.R. 2015: Proterozoic basement and Palaeozoic sediments in the Ringkøbing–Fyn High characterized by zircon U–Pb ages and heavy minerals from Danish onshore wells. Bulletin of the Geological Society of Denmark 63, 29–43.

LA-SF-ICP-MS U/Pb dating methodology at GEUS, Copenhagen

Laboratory & Sample preparation	
Laboratory name	Geological Survey of Denmark and Greenland (GEUS)
Sample type / mineral	Zircons
Sample preparation	Conventional mineral separation, 1 inch resin mount, 1 µm polish to finish
Imaging	BSE-imaging, Philips XL 40 VP, 10 nA, 10 mm working distance
Laser ablation system	
Make, Model & type	ESI/New Wave Research, NWR213, Nd:YAG
Ablation cell	Standard cell with ablation cup design
Laser wavelength	213 nm
Pulse width	3 ns
Fluence	8 J/cm^{-2}
Repetition rate	10 Hz
Spot size	25 µm
Sampling mode / pattern	25 µm single spot analyses
Carrier gas	100% He, Ar make-up gas combined using a T-connector close to sample
Pre-ablation laser warm-up (background collection)	30 s
Ablation duration	30 s
Wash-out delay	20 s
Cell carrier gas flow	0.35 L/min He
ICP-MS Instrument	
Make, Model & type	Thermo Finnigan Element2 single collector HR-SF-ICP-MS
Sample introduction	Via conventional tubing
RF power	1100 W
Make-up gas flow	1.0 L/min Ar
Detection system	Single collector secondary electron multiplier
Masses measured	202, 204, 206, 207, 208, 232, 233, 235, 238
Integration time per peak	4 ms
Total integration time per reading	Approx. 1 s
Sensitivity	20000 cps/ppm Pb
Dead time	16 ns
Data Processing	
Gas blank	30 second on-peak
Calibration strategy	GJ-1 used as primary reference material, Plešovice used as secondary reference material (Quality Control)
Reference Material info	Plešovice (Slama et al. 2008); GJ-1 (Jackson et al. 2004)
Data processing package used /Correction for LIEF	In-house data processing (ZirChron) using intercept method for LIEF correction
Mass discrimination	Standard-sample bracketing with $^{207}Pb/^{206}Pb$ and $^{206}Pb/^{238}U$ normalised to reference material GJ-1
Common-Pb correction, composition and uncertainty	204-method, Stacey & Kramers (1975) composition at the projected age of the mineral, 5% uncertainty assigned
Uncertainty level & propagation	Ages are quoted at 2 sigma absolute, propagation is by quadratic addition. Reproducibility and age uncertainty of reference material and common-Pb composition uncertainty are propagated.
Quality control / Validation	Plešovice: Wtd ave $^{206}Pb/^{238}U$ age = 339 ± 1.5 (2SD, MSWD = 0.44)
Other information	Detailed method description reported by Frei & Gerdes (2009)