

COMPARISON OF AVAILABLE STRUCTURAL LOGGING SOLUTIONS

	REFLEX IQ-LOGGER	Core Protractor	Kenometer	Rocket Launcher	Coremap™
Plane data recorded as	α and β , Dip and Dip Direction	α and β	α and β	Dip and Dip Direction	Dip and Dip Direction
Lineation data recorded as	γ , Plunge and Plunge Direction	γ and δ	NA	Azimuth and Plunge	Azimuth Plunge
Handle different core sizes	Yes	No - Additional Devices need to be purchased for each core diameter	No - Additional Devices need to be purchased for each core diameter	Yes	Yes
Relative cost	A\$50/day	A\$30-60	A\$340-360	A\$650	A\$7000-10,000
Can be used with half core	Yes	No	No	Yes	Yes
Measurement Time	Extremely quick - All angles are calculated immediately	Quick - But Dip and Dip Direction have to be calculated seperately	Quick - But Dip and Dip Direction have to be calculated seperately	Slow - Core has to be set up in device and structure measured with compass and Clinometer	Slow - Core set up in the device and the frame lined up with the structure before a measurement can be recorded
Real time digital data capture	Yes - Data captured into logging PC	No - manual data entry	No - manual data entry	No - manual data entry	No - manual data entry
Conversion required to get easily understood reading	No - Automatic calculation at time of reading	Yes - Dip and Dip Direction have to be calculated seperately	Yes - Dip and Dip Direction have to be calculated seperately	No	No
Requires downhole survey at time of measurement	Yes - Can also update/recalculate later if downhole surveys change	No	No	Yes	Yes
Realtime QA/QC	Yes - Plotted immediately in Stereonet window	No - Conversion of both $\alpha - \beta$ and $\gamma - \delta$ angles required before data can be plotted	No - Conversion of both $\alpha - \beta$ and $\gamma - \delta$ angles required before data can be plotted	Yes - Visual orientation only	Yes - Visual orientation only
Allows the geologist to visualise the structures measured in 3D	Yes	No	No	Yes	Yes
Cloud based automatic updating of measurements with new downhole surveys.	Yes	No	No	No	No
Simple upload to company database	Yes - Through REFLEX IQ-HUB and custom API	No - manual import	No - manual import	No - manual import	No - manual import
Other limitations	Lineations can only be measured facing downhole	γ and δ measurements require a different piece of equipment. γ and δ must be recorded with the α and β plane it lies on	Kenometer cannot record lineations (ie γ and δ)	Cannot be used with magnetic rocks. Can be easily knocked which results in time lost setting-up again	Device is big and bulky, with attendant OH&S issues when moving

Modified from Table 3 in S. Bright, G. Conner, A. Turner and J. Vearncombe. (2014.) Drill core, structure and digital technologies. Applied Earth Science (Trans. Inst. Min. Metall. B) Vol 123 No1 p.47-68.