Analysis of sand using microscopy

Sediment analysis					
Date:			**Sample Number:**		
Grain Size Observations:					
Grain size data:					
Grain sizes		Minimum (mm)	Grain sorting and distribution		
		Maximum (mm)	*Describe the sorting and distribution of the grains:* ***Sorting*** *(well sorted, poorly sorted, bimodal).* ***Distribution*** *(Positive(fine)skew, symmetrial, negative (coarse) skew).*		
Mean Grain size		mm			
Wentworth division name					
Grain Type Observations:					
Mineralogical and textural data:					
Grain type	Diagnostic features	Surface texture	Grain shape	% abundance	
(Q,F,L) Mineral type (Quartz,Feldspar), lithics (L), bioclasts (B)	***Cleavage*** *(yes, no).* ***Colour*** *.* ***Transparency*** *(transparent, translucent, opaque).* ***Mono crystalline/Polycrystalline*** *.* ***Lustre*** *(shiny, pearly, glassy, vitreous, dull, silky, bright, metallic, greasy, resinous, adamantine, earthy)*	***Rough/Smooth*** *.* ***Fractures*** *(conchoidal, sharp, smooth).* ***Abraded/Polished*** *.*	***Grain shape*** *(Tabular, disc, equant, plate, sheet, blade, rod).* ***Roundness.*** ***Sphericity***	*Modal abundance*	

Interpretations	
Textural maturity	
Mineralogical maturity	
Provenance (source of the sediment)	
Proximal/Distal. Specific information eg bioclasts (beach).	
Transportation history (use textural and mineralogical maturity)	
Processes operating *(fluvial, aeolian)* ***Flow velocity*** *(low flow velocity, high flow velocity, changing flow velocity).*	
Sediment name	
Sediment names should summarise all the key features of the sediment as briefly as possible eg "well-sorted, mineralogically mature, medium sand"	
Industrial potential - discuss if you think any of the samples are useful for any of the main uses of sand and why.	
Potential should consider how mineral and grain characteristics impact on the end use. ***Sharp sand (eg concrete):*** Coarse, angular grains, low clay content. Strength and solidity needed for concrete structures because of coarse and angular particle structure. ***Builders sand (eg mortar):*** Fine to medium rounded grains, low clay content. Smaller, more rounded grains produces smoother mortar. ***Glass:*** Very high quartz content (>95%) and low clay and iron content to reduce/remove colouration. ***High clay sands:*** Sand with high clay component can be used in less sensitive applications such as infill, brick making etc. ***Other:*** Sands with higher concetratiosn of other minerals may not be useful for most industrial proceses	