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Paleoenvironmental Reconstruction of Kalodirr and Moruorot, Kenya using Stable Carbon Isotopes

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<http://hdl.handle.net/1880/109862>

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Stratigraphy of Moruorot, Kenya

(Summer 2018)

Stratigraphic Association of Specimens

KNM-MO 64775

KNM-MO 64770, KNM-MO 64765, KNM-MO 64769

KNM-MO 64774

KNM-MO 71279

KNM-MO 71074, KNM-MO 64780

KNM-MO 63762, KNM-MO 64759, KNM-MO 64751, KNM-MO 64781, KNM-MO 64753A

Geologic Symbols and Descriptions

Clasts range from small gravel to coarse gravel. Subrounded. Unsorted.

Coarse sand sized clasts. Subangular. Rootcasts found in middle section.

Clasts are fine gravel in size and are not organized. Carbonate nodules are concentrated in the lower 10 cm. Fossils have been eroded out of the cliff. Likely eroded from this layer.

Matrix supported. Rounded cobble clasts. Carbonate nodules present in small proportions. Medium gravel to cobble sized clasts are dominant. Few boulder. Subrounded. Unsorted. Medium gravel clasts are dominant. Subangular. Unsorted

Scours into lower Paleosol layer. Clasts are generally large, ranging from cobble to boulder. Rounded. N-S paleoflow.

Sand found throughout. In middle section sand grains are present in lenses. Carbonate nodules are present. Few fossils present. Conglomerate. Coarse, subrounded gravel clasts are dominant.

Few boulder sized clasts. Sand becomes more dominant upwards in section. Fossils are found throughout, but are concentrated in the middle section.

Paleosol with lenses of clast concentrations. Coarse gravel to cobble. Subrounded. Carbonate nodules present.

Unsorted clasts. Fine gravel to cobble. Angular. Sills of airfall tephra throughout. Quartz veins present. Fine to medium gravel clasts. Subangular.

Trough crossbedding. Medium gravel clasts. Subangular. Crossbedding. Pumice lapilli present

Interbedded mudstone and sandstones. Mudstones have dessication cracks preserved. Clasts are primarily fine gravel in size, with some medium gravel. Subangular to subrounded.

Reworked Tephra. Sand is found throughout, but also concentrated in lenses. Small presence of pumice lapilli.

Scours into lower mudstone. Medium gravel sized clasts. Subangular. Clast orientation suggests N-S paleoflow direction.

Planar bedding. Interbedded red mudstone is present. Layer of accumulated pumice lapilli.

Sequence of coarsening and fining clasts. Clasts range from small to medium gravel and are subrounded to rounded. Few cobble sized clasts dispersed in transitional areas.

Orientation of clasts suggests a paleoflow direction of N-S.

Medium sand clasts in lenses making up 20% of composition. Weathered pumice lapilli present.

Pumice lapilli and crystalline biotite present.

Fine gravel sized clasts and altered pumice lapilli. Large crystalline biotite present. Medium size sand is found in lenses.

Medium to coarse sized clasts. Rounded to subrounded. Pumice lapilli present. Garnet and biotite present.

Crystalline biotite and unaltered pumice lapilli present.

Planar striations or yellow and grey tephra with few slump structures. Pumice lapilli are located in the upper portion. Few boulder sized clasts.

Crystalline biotite present. Interfingers with lower white tephra. Black mineral laminations in the upper most portion.

Coarse sand sized clasts.

Conglomerate scours into the lower sandstone. Dominate clasts are medium gravel with few cobble sized.

Accumulated pumice lapilli, unweathered.

Large quartz crystals present. Small accumulations of magnetite.

Planar bedding. Interbedded mudstone present. Primary excavation layer. Moderately developed paleosol. Upper half is marled with carbonate nodules and rootcasts. Lower half is clay dominated with clay nodules and rootcasts. Fossils present and concentrated in lower layers.

Few clasts. Fine to coarse gravel.

Clast supported. Subrounded to rounded. Coarse gravel to cobble sized clasts. Few small boulder.

Clasts are laterally discontinuous. Range from coarse gravel to cobble sized clasts. Subrounded to rounded.

Platy structure. Sandstone and mudstone interbedded.

Quartz veins.



















Clasts are subangular. Medium gravel sized.

Clasts are subangular. Fine to coarse gravel.

Clasts are subangular. Medium gravel sized.

Mud
Very Fine
Fine
Medium
Coarse

Matrix Grain Size

<u>Sediment Index</u>					
<i>Tuffs</i>					
	Airfall Tephra		Conglomerate		Lahar
	Weathered Tephra		Sandstone/Conglomerate Package		Paleosol
	Reworked Tephra		Sandstone		
	Devitrified Tephra		Mudstone		
<u>Symbol Index</u>					
	Fossil		Clast		Lapilli
	Nodule		Slump Structure		Dessication Crack
	Root Cast		Vein		
The height of the section is an approximation measured in meters					

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