PETROGRAPHIC STUDY – AMBARA-MARU BLOCK

PETROGRAPHIC STUDY RESULTS								
BED ROCK SAMPLES								
Sl. No.	**Sample Number**	**Location (UTM)**		**Texture**	**Mineral Composition**			**Description**
					Major	**Minor**	**Accessory**	
		Northing	**Easting**		**>5%**	**<5%->1%**	**<1%**	
1	AM-05/ PG1	2602512	509493	It is a whitish buff grey coloured rock showing granular texture. It reacts instantly with cold and dilute HCl.	Quartz Carbonates Feldspar Limonite/ Clay minerals	Ferruginous matter Opaques Glauconite Biotite	Muscovite/ Sericite Tourmaline Chalcedony	Quartz and feldspar occur as fine subrounded to subangular clasts floating over carbonate matrix. Carbonate intra-clast and sparry patches are also noted. Limonite and clay minerals together occur as intermixed patches possibly developing after glauconite alterations. Reddish ferruginous patches and fillings are common throughout the specimen, often leaving reddish stain over carbonate matrix. Opaques occur as fine to very fine disseminated grains and fillings. Glauconite occurs as fine to very fine subrounded pellets. Biotite is seen present as fine flakes and flaky relicts within ferruginous patches. Muscovite/ sericite are present as very fine flakes. Tourmaline is noted as very fine prismatic grains in accessories. Chalcedony fillings are observed in areas. The specimen is an **arkosicwacke.**

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2	AM-06/ PG2	2604140	509663	It is whitish grey coloured fine grained rock showing granular texture.	Quartz Limonite Feldspar	Opaques Biotite Gypsum	Ferruginous matter Muscovite Tourmaline	Quartz and feldspar occur as fine subrounded to subangular clasts. Limonite is present as yellowish patches and dendritic fillings along intergranular spaces of quartzo-feldspathic clasts. Opaques occur as fine disseminated grains. Biotite and muscovite are present as fine disseminated flakes. Gypsum is noted as fine flaky grains in assemblage. Ferruginous matter occurs as reddish patches and fillings, in association with limonitic patches. Tourmaline is found preset as very fine grains in accessories. The specimen is a **limoniticsub-arkose.**

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3	AM-29/ PG3	2598560	511153	It is whitish grey coloured fine grained rock showing granular texture.	Quartz Limonite Feldspar	Gypsum Opaques Clay minerals Biotite/ Chlorite	Sericite/ Muscovite Ferruginous matter Glauconite Monazite	Quartz and feldspar occur as fine to very fine subrounded to subangular clasts. Limonite is present as yellowish patches, dendritic fillings and pellets along intergranular spaces of quartzo-feldspathic clasts. Gypsum occurs as fine disseminated flaky grains.Opaques occur as fine disseminated grains, often associating reddish ferruginous patches with it. Clayey patches are noted in pockets, possibly developing after alterations of feldspar. Biotite/ chlorite and sericite/ muscovite occur as fine disseminated flakes showing crude alignment. Possible traces of glauconitic relicts are observed within limonitic patches, at places.Monazite is seen present as very fine to fine subrounded grains in accessories. The specimen is a **limoniticsub-arkose.**

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4	AM-16/ PG4	2599371	512833	It is a whitish buff grey coloured massive rock.	Quartz Limonite Feldspar Biotite	Opaques Ferruginous matter Gypsum	Sericite Monazite Glauconite Tourmaline	The specimen is mainly composed of very fine to fine subangular to subrounded clasts of quartz and feldspar. Limonite occurs as patches and fine pellets, possibly developing after alteration of glauconite. Biotite is present as very fine micro-crystalline aggregates, flakes and patches along interstitial places of quartz and feldspar.Opaques are seen present as very fine to fine disseminated grains. Ferruginous matter occurs as reddish patches, mostly oozing out from biotite. Gypsum is seen present as fine to very fine flaky/ prismatic grains. Sericite is found present as very fine flakes in association with biotite in areas. Monazite is noted as very fine subrounded grains in accessories. Glauconite is observed as relicts within limonite patches. Tourmaline is found present as very fine prismatic grains. The specimen is a **biotite rich limoniticsub-arkose.**

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		Northing	**Easting**		**>5%**	**<5%->1%**	**<1%**	
5	AM-89/ PG5	2608307	509247	It is a whitish buff grey coloured rock showing vein intrusions. It reacts instantly with cold and dilute HCl.	Quartz Carbonates Feldspar Opaques Ferruginous matter	Clay minerals Glauconite Limonite	Lithic fragments Muscovite/ Sericite	The specimen is made up of very fine to fine sub-angular quartz and feldspar clasts floating over clay mixed and reddish ferruginous stained carbonate matrix. Both microcline and plagioclase are seen present as feldspar. Moderately thick opaque veins have seen intruded, associating reddish ferruginous patches and stains. Glauconite occurs as fine to very fine subrounded pellets. Limonite is seen present as patches and pellets, possibly developing after glauconite alterations. Lithic fragments occur as very fine to fine clasts, mostly cherty and quartzitic in nature. Muscovite/ sericite are present as very fine flakes in accessories. The specimen is an **arkosicwacke.**

BOREHOLE SAMPLES											
Sl. No.	**Sample number**	**Location(UTM)**		**Depth(m)**		**Thickness (m)**	**Texture**	**Mineral Composition**			**Description**
								Major	**Minor**	**Accessory**	
		Northing	**Easting**	**From**	**To**			**>5%**	**<5%->1%**	**<1%**	
1	MAMB-2/ PG1	2605657.5	511948.522	38.56	38.65	0.09	It is a dark grey coloured very fine grained thinly laminated rock.	Quartz Biotite Feldspar	Opaques Sericite	Glauconite Tourmaline Chlorite	Quartz and feldspar occur as very fine silt to fine sand sized clasts, often seen segregating in thin laminations. Biotite is present as very fine flakes and patches, mostly seen segregated in thin sub-parallel lamination. Opaques occur as very fine specks, fine elongated/ streaky patches and fillings, mostly in association with biotite. Sericite occurs as very fine disseminated flakes. Glauconite is noted as fine to very fine pellets. Tourmaline is found present as very fine to fine subrounded/ prismatic grains in accessories. Chlorite occurs as fine flakes and patches. The specimen is a **biotite rich shale/ shaly sandstone.**

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		Northing	**Easting**	**From**	**To**			**>5%**	**<5%->1%**	**<1%**	
2	MAMB-3/ PG1	2605389.38	514116.325	37.55	37.6	0.05	It is a dark grey coloured very fine grained thinly laminated rock.	Quartz Biotite Feldspar	Clay minerals Opaques	Sericite Calcite	Quartz and feldspar occur as very fine silt sized clasts. Biotite occurs as very fine flakes, flaky aggregates and patches, often seen segregating in thin laminations. Clayey lenses are seen present in the specimen, comprising very fine semi-opaque particles and associating silt sized quartzo-feldspathic clasts. Opaques occur as anhedral patches and streaky fillings aligned along the laminations. Sericite is noted as very fine flakes in accessories. Calcite is found present as patches and patchy fillings in areas. The specimen is a **biotite rich shale.**

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		Northing	**Easting**	**From**	**To**			**>5%**	**<5%->1%**	**<1%**	
3	MAMB-4/ PG1	514947.648	2601950.94	11.31	11.36	0.05	It is a very fine grained massive rock with thin laminations. It reacts instantly with cold and dilute HCl.	Calcite Clay minerals Quartz	Opaques Feldspar	Glauconite Sericite Tourmaline Chlorite	The specimen is mostly made up of very fine micro-crystalline aggregates of micrite. Very fine to fine subrounded calcitic peloids are found present in areas. Clay minerals are seen present as thin laminations and lenses showing microfolds/ undulations. It also present as very fine fillings. Quartz and feldspar occur as very fine silt size clasts floating over micritic matrix and also seen segregated in zones. Opaques occur as very fine disseminated grains/ specks. Glauconite is observed as very fine to fine pellets being replaced by clay minerals. Sericite and chlorite are present as very fine flakes. Tourmaline is noted as very fine to fine subrounded grains in accessories. The specimen is an **impure micritic limestone/ shaly limestone.**