

LANGMIPI-LACHING THING BLOCK

PETROGRAPHIC STUDY RESULTS

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
1	MLP-1	It is a medium grained rock showing hypidiomorphic granular texture.	Orthoclase/ Microcline Plagioclase Quartz Biotite	Muscovite/ sericite Opaques	Chlorite Calcite Apatite Monazite Zircon	Orthoclase/ microcline and plagioclase are present as medium to fine subhedral prismatic grains, where alkali feldspar is showing perthitic exsolutions and plagioclase is showing myrmekitic intergrowths in areas. Quartz occurs as fine to medium anhedral grains and patches. Biotite occurs as fine disseminated flakes. Muscovite is noted as fine flakes in association biotite. Sericite is seen developing as very fine flakes after plagioclase alterations. Opaques occur as fine anhedral to subhedral grains and patches. Chlorite occurs as fine flakes replacing biotite. Calcite has intruded as very fine secondary patchy fillings. Apatite is noted as fine to very fine subhedral grains in accessories. Monazite and zircon are found present as very fine grains in association with and being included within biotite. The specimen is a <u>granite</u> .
2	MLP-2	It is a medium to coarse grained rock showing	Orthoclase/ Microcline	Biotite	Chlorite	Orthoclase/ microcline occur as medium to moderately coarse subhedral to anhedral grains showing perthitic exsolutions. Quartz occurs as

		hypidiomorphic granular texture.	Quartz Plagioclase	Opakes Muscovite/ Sericite	Apatite Monazite Zircon	medium to moderately anhedral grains and patches. Plagioclases present as medium to fine subhedral prismatic grains altering to sericite. Biotite occurs as fine to medium disseminated flakes, often associating muscovite flakes with it. Opakes are present as fine to medium subhedral to anhedral grains and patches. Chlorite occurs as flakes and patches replacing biotite in areas. Apatite is noted as very fine to fine hexagonal and subrounded grains in accessories. Monazite is seen present as very fine grains in association with biotite. Zircon occurs as very fine inclusions within biotite around which pleochroic halos are observed. The specimen is a <u>granite</u> .
3	MLP-3	It is a fine to medium grained rock showing granular texture.	Quartz	Limonite/ Ferruginous matter Opakes	Tourmaline Sericite Monazite	Quartz occurs as fine to medium subrounded to subangular grains showing moderate sorting and tight packing. Quartz overgrowth is noted in the specimen. Yellowish limonitic/ reddish ferruginous patches and fillings are seen present in the specimen. Opakes occur as fine disseminated grains. Tourmaline and monazite are present as very fine prismatic/ subrounded grains in accessories. Sericite is noted as very fine flakes. The specimen is a <u>quartz arenite</u> .
4	MLP-4	It is a medium to coarse grained rock showing gneissosity.	Orthoclase/ Microcline Quartz	Opakes	Apatite Sericite	Orthoclase/ microcline occur as medium to coarse subhedral to anhedral grains showing perthitic exsolutions and crude alignment. Quartz occurs as medium to fine anhedral grains. Plagioclase is

			Plagioclase Biotite		Zircon Monazite Sphene	present as medium to fine subhedral prismatic grains showing myrmekitic intergrowths in areas. Biotite occurs as fine disseminated flakes showing parallel alignment. Opaques are present as medium anhedral patches and as fine subhedral to anhedral grains aligned along the foliations. Apatite is noted as fine to very fine subrounded and hexagonal grains in accessories. Zircon and monazite are seen present as very fine slender prismatic and subrounded grains and as inclusions within biotite. Sphene is noted as very fine wedges in association with biotite. The specimen is a <u>granite gneiss</u>.
5	MLP-5	It is a fine to medium grained rock showing granular texture.	Quartz	Opaques Limonite Monazite	Lithic fragments Feldspar Tourmaline Zircon	The specimen is mainly composed of quartz, occurring as fine to medium subrounded to subangular grains showing well sorting and tight packing. Opaques occur as fine disseminated grains, often seen segregated in pockets. Limonite is seen present as yellowish patches and filings along intergranular spaces. Monazite is noted as very fine subrounded grains, mostly in association with opaques. Lithic fragments and feldspar are present as fine to medium subrounded grains, where feldspar is altering to clay minerals and lithic fragments are mostly cherty in nature. Tourmaline and zircon are found present as very fine to fine prismatic grains in accessories. The specimen is a <u>quartz arenite</u>.

6	MLP-6	It is a medium to coarse grained rock showing hypidiomorphic granular texture.	Orthoclase/ Microcline Quartz Plagioclase	Biotite Muscovite/ Sericite Opaques	Chlorite Zircon	Orthoclase/ microcline and plagioclase occur as medium to moderately coarse subhedral grains, where alkali feldspar is showing perthitic exsolutions and plagioclase is showing myrmekitic intergrowths. Quartz occurs as fine to moderately coarse anhedral grains, patches and lenses. Biotite and muscovite are present as fine disseminated flakes. Sericite occurs as very fine flakes developing after plagioclase alterations. Opaques are present as fine subhedral to anhedral grains and as streaky fillings along cleavage traces of biotite. Chlorite occurs as fine flakes, often being interleaved with biotite and seen replacing it. Zircon is noted as very fine inclusions within biotite around which pleochroic halos are observed. The specimen is a <u>granite</u> .
7	MLP-7	It is a medium to coarse grained rock showing gneissosity.	Orthoclase/ Microcline Quartz Plagioclase Biotite	Opaques	Apatite Sericite Epidote Monazite Zircon	Orthoclase/ microcline occur as medium to moderately coarse subhedral grains showing perthitic exsolutions and crude alignment. Quartz occurs as medium anhedral grains, patches and lenses. Plagioclase is present as medium to fine subhedral prismatic grains altering to sericite. Biotite occurs as fine to medium flakes and flaky aggregates showing crude alignment. Opaques are present as fine subhedral to anhedral grains, blades and patches, often showing association with biotite. Apatite occurs as very fine to fine hexagonal and subrounded grains in accessories. Epidote, monazite and zircon are noted as very fine grains in association with and being included

						within biotite. The specimen is a <u>granite gneiss.</u>
8	MLP-8	It is a medium grained rock showing gneissosity	Orthoclase/ Microcline Plagioclase Quartz Biotite		Sericite Opaques Epidote Zircon	Orthoclase/ microcline and plagioclase are presents as medium subhedral grains, where alkali feldspar is showing perthitic exsolutions and plagioclase is showing myrmekitic intergrowths. Quartz occurs as anhedral grains and patches. Biotite is present as fine flakes and flaky aggregates showing parallel alignment. Sericite occurs as very fine flakes developing after plagioclase alterations. Opaques occur as very fine fillings. Epidote and zircon are noted as very fine grains in association with biotite. The specimen is a <u>granite gneiss.</u>
9	MLP-9	It is a medium to coarse grained rock showing gneissosity	Orthoclase/ Microcline Plagioclase Quartz Biotite	Opaques	Apatite Sericite Zircon	Orthoclase/ microcline occur as coarse to medium subhedral grains showing perthitic exsolutions. Plagioclase occurs as medium to fine subhedral prismatic grains showing myrmekitic intergrowths in areas. Quartz is present as anhedral grains and patches. Biotite is seen present as fine disseminated flakes showing parallel alignment. Opaques occur as anhedral grains, blades and patches, mostly in association with biotite. Apatite occurs as fine subrounded and prismatic grains in accessories. Sericite is seen developing as very fine flakes after plagioclase alterations. Zircon is noted as very fine inclusions within biotite, around which pleochroic halos are observed.

						The specimen is a <u>granite gneiss.</u>
10	MLP-10	It is a medium grained rock showing hypidiomorphic granular texture.	Plagioclase Quartz Biotite Hornblende	Orthoclase/ Microcline Opaques	Sericite Chlorite Zircon	Plagioclase occurs as medium subhedral prismatic grains showing myrmekitic intergrowths in areas. Quartz occurs as anhedral grains and patches. Biotite is present as fine disseminated flakes. Hornblende occurs as medium subhedral prismatic and anhedral patchy grains. Orthoclase/ microcline are seen present as subhedral to anhedral grains showing perthitic exsolutions. Very fine sericite flakes are seen developing after plagioclase alterations. Chlorite occurs as fine flakes and patches replacing biotite and hornblende in areas. Zircon is noted as very fine slender prismatic grains in accessories. The specimen is a <u>granodiorite.</u>