

**Statement showing Petrographic Study Results, boreholes drilled by MECL in Salaiya Phatak Block (G-3)
for Copper, Lead, Zinc and associated metals, Dist.- Katni, Madhya Pradesh**

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
1	MBSP-1	It is a brownish grey coloured fine grained rock showing granular texture. It is showing slow reaction with cold and dilute HCl.	Dolomite Opaques/ Ferruginous matter	Quartz Sericite Calcite	The specimen is made up of fine subhedral aggregates of dolomite. Opaques/ ferruginous matter occur as very fine linear fillings and as fillings along inter granular spaces. It also occurs as patches and very fine disseminations. Quartz occurs as very fine to fine clasts, often clustering in pockets. Sericite fillings have seen intruded in areas. Calcite is noted as very fine fracture fillings. The specimen is a <u>dolostone</u> .
2	MBSP-2	It is a very fine grained grey coloured compact rock showing fine to coarse subangular clasts. It reacts instantly with cold and dilute HCl.	Calcite Volcanic tuff Chlorite Opaques Dolomite	Quartz Plagioclase Sericite	Ferruginous matter	The specimen is made up of fine to coarse subangular clasts floating over micritic matrix. Clasts are mostly of three types. First type is calcitic or dolomitic in nature, which is fine to medium in size. Second type is altered meta-basalt in nature, which is fine to coarse in size and composed of very fine aggregates of chlorite and associated sericitised plagioclase and opaques. Third type is volcanic tuff, which is mostly coarse in size comprising semi-opaque tuff with flow structure, often being replaced by chlorite. Chlorite patches are also seen intruding in areas. Opaques are present as very fine to fine disseminated grains and patchy fillings. Quartz occurs as very fine to fine clasts, often seen segregated in pockets. Reddish ferruginous patches and fillings are noted in areas.

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
						The specimen is a <u>tuffaceous, lithic & carbonate clast bearing limestone.</u>
3	MBSP-3	It is a dark greenish grey coloured very fine grained massive rock.	Chlorite Plagioclase Opaques	Sericite Carbonates	Chlorite occurs as patches comprising very fine microcrystalline aggregates. Plagioclase occurs as fine to very fine subhedral prismatic laths, anhedral grains and pseudomorphic patches altering to sericite. Carbonates are seen present as very fine to fine intrusive patches and patchy fillings. The specimen is an <u>altered mafic rock (≡altered meta-basalt?).</u>
4	MBSP-4	It is a light yellowish grey coloured very fine grained massive rock.	Quartz Sericite Fluorite	Muscovite/ Phlogopite	Opaques Calcite Tourmaline	The specimen is made up of very fine aggregates of quartz and sericite. Fine to moderately coarse subrounded quartz phenocrysts are seen present in the distribution. Quartz is also seen present as fine subhedral to euhedral crystal as secondary fillings. Fluorite is present as fine subhedral prismatic and subrounded grains in dissemination. Muscovite/phlogopite occur as fine disseminated flakes. Opaques occur as very fine specks. Calcite is noted as fine patches and patchy fillings. Tourmaline is found present as very fine prismatic grains in accessories. The specimen is a <u>fluorite rich quartz porphyry.</u>
5	MBSP-5	It is a whitish grey coloured very fine grained compact rock showing very slow reaction with cold	Dolomite Quartz	Sericite Opaques	Ferruginous matter	The specimen is made up of very granular aggregates of dolomite showing grain size coarsening and sparry patches in areas. Quartz veins have seen intruded in areas. It also occurs as very fine to fine clasts floating over dolomitic

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
		and dilute HCl.				matrix. Sericite is seen present as very fine disseminated specks. Opaques occur as fine anhedral grains, very fine specks and as hairline fillings associating reddish ferruginous fillings and stains with it. The specimen is a <u>dolostone</u> .
6	MBSP-6	It is a grey coloured fine grained rock showing granular texture. It is showing slow reaction with cold and dilute HCl.	Dolomite	Quartz Phlogopite	Opaques	The specimen is composed of fine subhedral to anhedral aggregates of dolomite showing compact contacts. Quartz occurs as very fine clasts floating over dolomitic matrix. Phlogopite is present as very fine to fine disseminated flakes. Opaques are noted as very fine specks in accessories. The specimen is showing irregular fractures/ cracks in areas. The specimen is a <u>dolostone</u> .
7	MBSP-7	It is a whitish grey coloured fine grained rock showing granular texture, reddish stains and mineralization. It reacts instantly with cold and dilute HCl.	Calcite/ Dolomite Quartz Opaques Ferruginous matter	Chlorite	Sericite	The specimen is composed of fine subhedral to anhedral aggregates of calcite/ dolomite showing compact contacts and diachroism. Quartz occurs as fine clasts, often clustering in pockets. Opaques are present as fine to medium patches showing colloform texture. It also occurs as fine anhedral grains, very fine specks and patchy fillings. Reddish ferruginous patches and stains are common in the specimen. Chlorite occurs as patchy fillings in areas. Sericite is noted as very fine flakes, mostly in association with quartz clusters. The specimen is a <u>mineralized limestone/ dolostone with ferruginous stains</u> .

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
8	MBSP-8	It is a grey coloured very fine grained compact rock showing very slow reaction with cold and dilute HCl.	Dolomite	Quartz Feldspar Opakes	Sericite	The specimen is composed of very fine to fine granular aggregates of dolomite showing diachroism in areas. Sparry patches are noted. Quartz and feldspar occur as fine subangular clasts and also seen present with sparry patches. Opakes are present as fine to very fine grains, specks and as hair line fillings. Sericite is noted as very fine flakes in accessories. The specimen is a <u>dolostone</u> .
9	MBSP-9	It is a whitish grey coloured very fine to fine grained compact rock showing very slow reaction with cold and dilute HCl.	Dolomite Quartz	Opakes	Sericite	Dolomite occurs as very fine to fine granular aggregates, showing grain size coarsening and diachroism in areas. Dolomitic veins have seen intruded comprising medium to coarse subhedral grains and associating quartz grains with it. Separate thin quartz veins have also seen intruded. Quartz is also seen present as very fine to fine clasts. Opakes occur as fine to medium subhedral to euhedral grains. Sericite is noted as very fine flakes in accessories. The specimen is a <u>dolostone</u> .
10	MBSP-10	It is a dark greenish grey coloured very fine grained massive rock.	Chlorite Plagioclase Opakes Biotite	Calcite Apatite Sphene	Epidote	Chlorite and biotite together occur as fine segregated patches throughout the specimen comprising very fine flaky aggregates. Plagioclase occurs as very fine subhedral prismatic to anhedral grains and turbid patches. Opakes are present as fine subhedral grains in dissemination. It also occurs as moderately coarse patches and veinlets. Calcite has intruded as very thin hairline fillings and patches. Apatite occurs as very fine to fine

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
						long prismatic grains in dissemination. Sphene is found present as very thin corona around opaques. Epidote is noted as very fine grains/ granular aggregates in the assemblage. The specimen is an <u>altered mafic rock (≡altered meta-basalt?)</u> .