

**Details of petrography study carried out in borehole samples of Nagardhan Block (G-3),
District – Nagpur, Maharashtra**

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
1	MNB-1/P-1 (49.33 m to 49.38 m)	It is a medium to fine grained rock showing gneissosity.	Quartz Muscovite	Biotite/ Phlogopite Feldspar	Clay minerals Tourmaline Opakes	Quartz occurs as medium to fine anhedral and lensoidal grains showing crude alignment. Muscovite and biotite/ phlogopite are present as fine disseminated flakes showing parallel alignment. Feldspar occurs as fine patchy relicts being replaced by clayey patches. Tourmaline is seen present as fine to very fine subhedral prismatic grains. Opakes are noted as very fine specks in accessories. The specimen is a <u>quartz-mica gneiss.</u>
2	MNB-2/P-1 (22.78 m to 22.83 m)	It is a coarse grained rock showing hypidiomorphic granular texture.	Quartz Microcline	Muscovite Tourmaline	Kaolinite	Quartz occurs as coarse anhedral to subhedral grains. Microcline occurs as medium to fine subhedral grains, often clustering in pockets. Muscovite is seen present as fine to medium disseminated flakes. Tourmaline is present as fine to medium subhedral prismatic grains in pockets. Kaolinite is noted as dirty cloudy patches developing after microcline alterations. The specimen is a <u>granite pegmatite.</u>

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			Major >5%	Minor <5%~>1%	Accessory <1%	
3	MNB-3/P-1 (28.24 m to 28.29 m)	It is a whitish grey coloured altered rock with greenish grey patchy relicts. It reacts instantly with cold and dilute HCL.	Calcite Augite/ Pigeonite Tremolite	Enstatite Quartz	Apatite	Calcite is present as massive patches and fine fillings throughout the specimen. Augite/ pigeonite are present as medium to coarse lamellar relicts within calcite patches. Tremolite occurs as fine to medium prismatic/ bladed grains in the assemblage. Enstatite is also noted as patchy relicts within calcite. Quartz occurs as fine secondary fillings in areas. Apatite is found present as fine subrounded grains in accessories. The specimen is an <u>altered pyroxenite.</u>
4	MNB-3/P-2 (31.68 m to 31.75 m)	It is a fine to medium grained rock showing gneissosity and vein intrusions.	Quartz Biotite/ Phlogopite Calcite	Sericite Feldspar	Opakes	Quartz occurs as fine to medium anhedral grains showing crude alignment. Biotite/ phlogopite are present as fine flaky aggregates, often segregating in zones and showing parallel alignment. Calcite has intruded as thin to moderately thick veins/ fillings. Segregated patches of sericite are seen present in areas. Fine to very fine relicts of feldspar are seen associated with sericite patches. Opakes are noted as very fine specks in accessories. The specimen is a <u>quartz-mica gneiss intruded by calcite veins/ fillings.</u>

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			Major >5%	Minor <5%~>1%	Accessory <1%	
5	MNB-3/P-3 (48.12 m to 48.18 m)	It is a fine to medium grained rock showing gneissosity.	Quartz Biotite/ Phlogopite	Muscovite/ Sericite Feldspar	Calcite Zoisite Opaques	<p>Quartz occurs as fine to medium anhedral grains, segregating in moderately thick bands. Biotite/phlogopite occur as fine to medium flaky aggregates, segregating into thin to moderate thick bands and showing parallel alignment. Muscovite/sericite are present as fine to medium disseminated flakes, flaky aggregates and segregated patches associating fine to very relicts of feldspar in areas. Calcite filings have seen intruded in areas. Zoisite is noted as turbid patches in association with muscovite. Opaques are found present as very fine specks in accessories.</p> <p>The specimen is a <u>quartz-mica gneiss.</u></p>