

SITAPUR G-3 BLOCK

PETROGRAPHIC STUDY RESULTS

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
1	MSCB/PET01	It is a reddish brown coloured weathered and altered rock showing pores, cavities and fine whitish pisolites.	Ferruginous matter Gibbsite Opaques	Boehmite Cliachite	Clay minerals	The specimen is mostly made up of reddish ferruginous patches showing colloform texture in areas. Gibbsite and boehmite occur as fine pisolites and cavity fillings comprising very fine granular aggregates. Opaques are present as patches and patchy relicts set within reddish ferruginous patches. Fine cliachite pisolites are noted, associating very fine dirty clay minerals and is seen being replaced by gibbsite and boehmite from core. The specimen is a <u>bauxite bearing laterite.</u>
2	MSCB/PET02	It is a fine grained rock showing schistosity.	Quartz Sericite	Opaques	Ferruginous matter	Quartz occurs as fine subrounded and lensoidal clasts and as very fine crushed grains showing parallel alignment. It also occurs as moderately coarse lensoidal porphyro-clasts showing recrystallization. Sericite is present as very fine flakes and flaky aggregates, often segregating into thick zones and showing parallel alignment. Opaques occur as anhedral patches and fillings aligned along the schistosity. Reddish ferruginous fillings and stains are observed in areas. The specimen is <u>quartz-sericite schist/ (mylonite?).</u>
3	MSCB/PET03	It is a greenish grey coloured fine to medium grained rock showing granular texture.	Hornblende Actinolite Plagioclase Epidote	Opaques Chlorite Quartz Sericite	Hornblende occurs as fine to medium subhedral prismatic and rhombic grains. Actinolite is present as fine flaky/ platy aggregates replacing hornblende. Plagioclase is present as subhedral prismatic grains and turbid patches showing saussuritization. Epidote occurs as very fine to fine granular aggregates developing after plagioclase alterations. Epidote is also seen intruded as thin veinlets/ fillings. Opaques occur as fine subhedral to anhedral and skeletal grains in

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						dissemination. Chlorite is present as pseudomorphic patches replacing amphiboles. Quartz is present as fine anhedral grains, lenses and intrusive patches. Sericite occurs as very fine flakes developing after plagioclase alterations. The specimen is an <u>amphibolite</u> .
4	MSCB/PET04	It is a light grey coloured medium to coarse grained rock showing tight interlocking texture.	Quartz	Orthoclase	Biotite Epidote	The specimen is monomineralic, composed of medium to coarse anhedral patchy and ribbon shaped grains showing high optical stain, undulose extinction, tight interlocking contacts and traces of recrystallization. Orthoclase occurs as fine to medium subhedral grains intruded as patchy fillings. Biotite is seen present as very fine fillings. Epidote is noted as very fine granular aggregates along fractures as fillings. The specimen is a <u>vein quartz</u> .
5	MSCB/PET05	It is a medium to coarse grained rock showing gneissosity.	Plagioclase Quartz Microcline/ Orthoclase Biotite	Sericite Epidote Chlorite	Sphene Apatite	Plagioclase occurs as medium to moderately coarse subrounded patches, subhedral grains and lensoidal clusters showing intense sericitization and parallel alignment. Quartz occurs as fine to medium anhedral grains and lensoidal clusters showing recrystallization and parallel alignment. Microcline/ orthoclase are present as medium subhedral prismatic grains aligned along the foliation. Biotite is present as fine flaky segregations and patchy fillings showing parallel alignment. Sericite occurs as very fine flaky aggregates developing after plagioclase alterations. Epidote occurs as fine to very fine subhedral to anhedral grains developing after plagioclase alterations. Chlorite is present as flakes and patches being interleaved with biotite and seen replacing it. Sphene occurs as fine to very fine wedges and streaks. Apatite is noted as fine to very fine subrounded grains in accessories. The specimen is a <u>granodiorite gneiss</u> .

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6	MSCB/PET06	It is a greenish grey coloured fine to medium grained rock showing granular texture.	Actinolite Hornblende Plagioclase Epidote	Sphene Opaques Quartz	Chlorite Ferruginous matter	Actinolite occurs as fine to medium subhedral prismatic aggregates showing relicts of prismatic and rhombic hornblende in areas. Plagioclase is present as fine to medium subhedral prismatic grains, turbid patches and as clustered pockets. Epidote occurs as fine to very fine subhedral grains, clustered pockets and as intrusive veins/ fillings and patches. Sphene is present as fine to medium anhedral patches and wedges showing relicts of opaques within it. Opaques are also seen present as fine to medium subhedral to anhedral and skeletal grains. Quartz has intruded as veins/ veinlets and patches and also noted as fine lenses. Chlorite occurs as pseudomorphic patches replacing amphiboles. Reddish ferruginous fillings have seen intruded in areas. The specimen is an amphibolite .
7	MSCP-01 (BH.No. MSC-01 @88.0- 88.10m)	It is a medium grained rock showing gneissosity.	Plagioclase Orthoclase/ Microcline Quartz Biotite Epidote	Sericite Sphene	Opaques Apatite Chlorite Zircon	Plagioclase occurs as medium to moderately coarse subhedral grains, turbid patches and lensoidal grains showing intense saussuritization. Orthoclase/ microcline are seen present as medium subhedral to anhedral grains and as fine to very fine crushed grains. Quartz occurs as fine anhedral and elongated grains showing parallel alignment and often clustering in pockets. Biotite occurs as fine to medium flaky aggregates, segregating in zones and showing parallel alignment. Epidote is present as very fine to fine granular aggregates developing after plagioclase alterations and also occurs as medium patches and fine fillings. Sericite occurs as very fine flaky aggregates developing after plagioclase alterations. Sphene occurs as fine wedges and anhedral patches. Opaques occur as fine anhedral grains and patches in pockets. Apatite is noted as fine subrounded grains in accessories. Chlorite

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						is found present as fine patches and flaky aggregates replacing biotite in areas. Zircon occurs as very fine inclusions within biotite, around which pleochroic haloes are observed. The specimen is a <u>granodiorite gneiss</u> .
8	MSCP-02 (BH.No. MSC-02- 139- 139.10m)	It is a medium grained rock showing gneissosity.	Plagioclase Quartz Microcline/ Orthoclase Epidote Biotite	Sericite Sphene	Apatite Opaques Zircon	Plagioclase occurs as turbid patches showing intense saussuritization. Quartz occurs as anhedral grains, often clustering in pockets and showing crude alignment. Microcline/ orthoclase are present as medium to fine subhedral grains and as very fine crushed grains. Epidote and sericite together seen present as very fine aggregates developing after plagioclase alterations. Epidote and biotite also together occur as fine to medium subhedral aggregates, often segregating in zones and showing parallel alignment. Sphene occurs as fine disseminated wedges. Apatite is seen present as fine subrounded grains in accessories. Opaques are noted as very fine specks and as relicts within sphene. Zircon is found present as very fine inclusions within biotite, around which pleochroic haloes are observed. The specimen is a <u>granodiorite gneiss</u> .
9	MSCP-03 (BH.No. MSC-03, @ 85.0-85.10m)	It is a medium grained rock showing gneissosity.	Plagioclase Microcline/ Orthoclase Quartz Epidote	Chlorite Sericite Biotite Apatite	Sphene Opaques	Plagioclase occurs as medium to coarse prismatic grains and segregated patches showing intense saussuritization. Microcline/ orthoclase are present as medium subhedral to anhedral grains showing minor albitization in areas. Quartz occurs as fine to medium anhedral grains, often clustering in pockets and showing crude alignment. Epidote occurs as very fine to fine granular aggregates, developing after plagioclase alterations and also occurs as relatively coarser grains in association with chlorite. Chlorite occurs as patches, fillings and flaky aggregates showing crude alignment. Sericite is present as very

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						fine flakes and flaky aggregates developing after plagioclase alterations. Biotite is noted as flaky and patchy relicts within chlorite. Apatite is seen present as fine hexagonal and subrounded grains, often showing association with chlorite patches. Sphene occurs as anhedral patches and elongated grains. Opaques are found present as very fine specks in accessories. The specimen is a granodiorite gneiss .
10	MSCP-04 (BH.No. MSC-04, @ 82.0-82.10m)	It is a medium grained rock showing gneissosity.	Plagioclase Quartz Epidote Biotite	Sericite Orthoclase	Chlorite Apatite Clay minerals Carbonates Ferruginous matter	Plagioclase occurs as medium to coarse turbid and segregated patches showing intense saussuritization and sericitization. Quartz occurs as fine anhedral grains, segregating into linear aggregates and showing parallel alignment. Epidote is present as very fine to fine granular aggregates developing after plagioclase alteration and also seen intruded as thin to moderately thick fillings. Biotite occurs as fine flaky aggregates, segregating into zones and showing parallel alignment and often seen associating epidote. Sericite occurs as very fine flaky aggregates developing after plagioclase alterations. Orthoclase is present as patchy relicts being replaced by clayey pseudomorphs. Chlorite occurs as fine flakes and patches replacing biotite in areas. Apatite occurs as fine subrounded grains in accessories. Very fine carbonate and reddish ferruginous fillings have seen intruded, at places. Reddish ferruginous patches are also seen oozing out from biotite in areas. The specimen is a granodiorite gneiss .