

AMRITPUR BLOCK
PETROGRAPHIC STUDY RESULTS

Sl. No.	Sample Number & Location	Texture	Mineral Composition			Description
			Major >5%	Minor <5%->1%	Accessory <1%	
1	ABL/PET/1	It is a very fine grained rock showing porphyritic texture.	Plagioclase Orthoclase/ Microcline Quartz Chlorite Sericite	Biotite Opaques Epidote	Calcite Apatite Monazite Ferruginous matter Allanite?	<p>Plagioclase, orthoclase/ microcline and quartz are present as medium to moderately coarse subhedral phenocrysts, where plagioclase phenocrysts are extremely sericitised. Ground mass is made up of very fine granular quartz-feldspathic aggregates. Chlorite is present as moderately coarse patches comprising fine flaky aggregates, often associating biotite and epidote with it. Chlorite is also seen present as very fine disseminated flakes in the groundmass. Sericite is present as patchy pseudomorphs comprising very fine flaky aggregates and developing after plagioclase alterations. Opaques occur as fine subhedral to anhedral grains in dissemination. Calcite fillings have seen intruded in areas associating reddish ferruginous fillings. Apatite is noted as fine to very fine subhedral grains, often seen present in association with chloritic patches. Monazite is found present as very fine subrounded grains in accessories. Suspected allanite is observed as thin corona around monazite, at places.</p> <p>The specimen is a <u>rhyodacite</u>.</p>

2	ABL/PET/3	It is a reddish grey coloured very fine grained massive rock.	Quartz Feldspar Biotite/ Chlorite Opaques/ Ferruginous matter Kaolinite	Sericite	Tourmaline	Quartz and feldspar occur as very fine silt sized clasts. Moderately coarser kaolinised feldspar clasts and patches are seen present in the association. Biotite/ chlorite and sericite together occur as very fine flaky aggregates, segregating into thin sub-parallel laminations. Opaques are present as very fine to fine disseminated grains associating reddish ferruginous patches and stains. Tourmaline is noted as very fine to fine prismatic grains in accessories. The specimen is a <u>ferruginous shale</u> .
3	ABL/PET/4	It is a reddish grey coloured fine grained rock showing granular texture.	Quartz Opaques/ Ferruginous matter Clay minerals	Feldspar Chlorite	Lithic fragments	The specimen is mostly made up of fine subrounded to subangular clasts of quartz with compact contacts and very fine clayey matrix along framework grain contacts. Opaques occur as very fine to fine anhedral to subhedral grains associating reddish ferruginous patches and stains. Feldspar is noted as very fine to fine relicts within clayey matrix. Chlorite has seen intruded as patchy fillings in areas. Lithic fragments are present as fine subrounded grains in accessories, mostly quartzitic in nature. The specimen is a <u>ferruginous quartz arenite</u> .
4	ABL/PET/5	It is a reddish grey coloured fine to medium grained rock showing granular texture.	Quartz Opaques/ Ferruginous matter	Chlorite	Calcite	The specimen is made up of fine to medium subhedral prismatic and anhedral aggregates of quartz showing compact contacts. Very fine granular aggregates are also noted in areas. The specimen is showing sub-parallel micro-fractures, along which granulation is also noted. Opaques occur as very fine to fine disseminated grains

						<p>associating reddish ferruginous patches and stains. Chlorite and calcite are seen present as fine to very fine patchy fillings.</p> <p>The specimen is a <u>ferruginous quartzite.</u></p>
5	ABL/PET/7	It is a greenish grey coloured altered rock.	<p>Actinolite-Tremolite</p> <p>Plagioclase</p> <p>Epidote</p> <p>Opaques</p> <p>Chlorite</p>	<p>Sericite</p> <p>Quartz</p>	<p>Rutile</p> <p>Carbonates</p>	<p>Actinolite-tremolite and chlorite together occur as very fine flaky aggregates and as medium pseudomorphic prisms and patches. Plagioclase occurs as turbid patches and fine prismatic relicts showing intense saussuritization. Epidote is seen present as very fine granular aggregates, disseminated throughout the specimen and mostly developing after plagioclase alterations. Opaques occur as fine to medium subhedral and skeletal grains in dissemination. Sericite is present as very fine flaky aggregates, developing after plagioclase alterations. Quartz occurs as fine anhedral grains and patches in pockets. Rutile is noted as very fine blades in accessories. Carbonates are observed as very fine fillings in areas.</p> <p>The specimen is an <u>altered mafic rock/ amphibolite.</u></p>
6	ABL/PET/16	It is a light greenish grey coloured altered rock.	<p>Sericite</p> <p>Chlorite</p> <p>Clay minerals</p>	<p>Calcite</p> <p>Epidote</p> <p>Quartz</p>	<p>Opaques</p> <p>Ferruginous matter</p>	<p>Sericite occurs as very fine to fine subhedral prismatic and patchy pseudomorphs, possibly developing after plagioclase alterations and is associating dirty clayey patches with it. Chlorite occurs as patches comprising flaky/ fibrous aggregates. Calcite has intruded as thin to moderately thick patchy fillings and veins. Epidote is present as very fine to fine subhedral grains, mostly in association with chloritic patches.</p>

						<p>Quartz is seen present as very fine to fine anhedral grains, often clustering in pockets. Opaques are noted as very fine specks in accessories. Reddish ferruginous patches and fillings are found present in areas.</p> <p>The specimen is an <u>altered mafic rock.</u></p>
7	ABL/PET/17	It is a brick red coloured altered rock intruded by white and greenish veins.	Feldspar Calcite Chlorite Quartz Kaolinite	Sericite Biotite	Opaques	<p>The specimen is primarily made up of kaolinised feldspar occurring as angular (brecciated?) clasts and patches being cut across by calcite and chlorite veins. Calcite and chlorite are present as thin to moderately thick dendritic veins/ veinlets. Quartz occurs as fine to medium anhedral grains, clustered pockets and as very fine aggregates, often in association with calcite and chlorite veins. Sericite and biotite are present as very fine flaky aggregates, mostly in association chlorite veins. Opaques are noted as very fine specks in accessories.</p> <p>The specimen is a <u>kaolinised rock intruded by calcite and chlorite veins.</u></p>
8	ABL/PET/18	It is a very fine grained rock showing porphyritic texture.	Plagioclase Orthoclase/ Microcline Quartz Chlorite	Biotite Opaques Epidote	Ferruginous matter	<p>The specimen is mostly made up of very fine quartz-feldspathic groundmass. It is difficult to identify the feldspar type in groundmass due to very fine size. Plagioclase, orthoclase/ microcline and quartz are also seen present as medium sized subhedral phenocrysts, in which plagioclase phenocrysts are more common and altered to sericite. Chlorite and biotite together occur as medium to moderately coarse patchy segregations comprising very fine to fine flaky aggregates.</p>

			Sericite			<p>Chlorite is also seen present as very fine flakes in groundmass. Opaques occur as fine to very fine subhedral grains in dissemination. Epidote occurs as very fine subhedral grains and granular aggregates, mostly in association with chloritic patches. Ferruginous patches are noted as very fine fillings, often seen leaching out from biotite and opaques.</p> <p>The specimen is a <u>rhyodacite</u>.</p>
9	ABL/PET/26	It is a coarse grained rock showing hypidiomorphic granular texture.	Microcline/ Orthoclase Quartz Plagioclase	Sericite Phlogopite/ Biotite Chlorite	Epidote Opaques Sphene Ferruginous matter	<p>Microcline/ orthoclase are present as coarse subhedral grains showing perthitic exsolutions. Quartz occurs as medium anhedral grains showing undulose extinction. Plagioclase occurs as medium to moderately coarse subhedral prismatic grains showing moderate sericitisation. Sericite is seen present as cloudy patches comprising very fine flaky aggregates, developing after plagioclase alterations. Phlogopite/ biotite are present as medium to fine flakes often being interleaved and replaced by chlorite flakes. Chlorite also occurs as patches and patchy fillings in areas. Epidote is noted as very fine grains, mostly in association with chlorite patches. Opaques occur as very fine specks, blades and as inclusions along cleavage traces of mica minerals. Sphene is noted as fine patches in accessories. Reddish ferruginous patches and fillings have seen intruded in areas.</p> <p>The specimen is a <u>granite</u>.</p>
10	ABL/PET/27	It is a coarse to medium grained	Microcline/	Sericite	Opaques	Microcline/ orthoclase occur as coarse subhedral grains showing perthitic exsolutions. Quartz

		rock showing hypidiomorphic granular texture.	Orthoclase Quartz Plagioclase Phlogopite/ Biotite	Chlorite Epidote	Ferruginous matter	<p>occurs as medium to moderately coarse anhedral grains. Plagioclase is present as fine to moderately coarse subhedral prismatic laths showing moderate sericitisation. Phlogopite/ biotite occur as medium subhedral prismatic grains/ flakes in dissemination and are being replaced by chlorite in areas. Sericite occurs as very fine flakes/ flaky aggregates developing after plagioclase alterations. Epidote seen present as very fine subhedral grains, mostly in association with phlogopite/biotite-chlorite. Opaques are noted as very fine specks, fine subhedral grains and as very fine blades along cleavage traces of mica minerals. Very fine reddish ferruginous fillings have seen intruded in areas.</p> <p>The specimen is a <u>granite</u>.</p>
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