

MINERAL IDENTIFICATION IN THE INFRARED



TERRACORE

GEOSPECTRAL IMAGING

Hyperspectral imaging can identify and map a wide suite of minerals, but not all minerals respond equally in the different wavelength ranges. This is a prime consideration when considering a core imaging campaign, to ensure that the camera of combination of cameras will provide the required information.

	STRUCTURE	GROUP	EXAMPLE	VNIR RESPONSE	SWIR RESPONSE	LWIR RESPONSE
Silicates	Inosilicates	Amphibole	Actinolite	Non-diagnostic	Good	Good
		Pyroxene	Diopside	Good	Moderate	Good
	Cyclosilicates	Tourmaline	Dravite	Non-diagnostic	Good	Moderate
	Nesosilicates	Garnet	Andradite	Moderate	Non-diagnostic	Good
		Olivine	Forsterite	Good	Non-diagnostic	Good
		Zircon	Zircon	Good	Non-diagnostic	Non-diagnostic
	Sorosilicates	Epidote	Clinozoisite	Non-diagnostic	Good	Good
	Phyllosilicates	Mica	Muscovite	Non-diagnostic	Good	Moderate
		Chlorite	Clinochlore	Non-diagnostic	Good	Moderate
		Clay Minerals	Kaolinite	Non-diagnostic	Good	Moderate
			Illite	Non-diagnostic	Good	Moderate
	Tectosilicates	Feldspar	Orthoclase	Non-diagnostic	Non-diagnostic	Good
			Albite	Non-diagnostic	Non-diagnostic	Good
		Silica	Quartz	Non-diagnostic	Non-diagnostic	Good
Non-silicates	Carbonates	Calcite		Non-diagnostic	Good	Good
		Dolomite		Non-diagnostic	Good	Good
	Hydroxides	Gibbsite		Non-diagnostic	Good	Moderate
	Sulphates	Alunite	Alunite	Non-diagnostic	Good	Moderate
			Barite	Non-diagnostic	Non-diagnostic	Good
	Borates		Borax	Non-diagnostic	Good	Uncertain
	Halides	Chlorides	Halite	Non-diagnostic	Moderate	Uncertain
			Apatite	Apatite	Moderate	Moderate
	Phosphates		Amblygonite	Moderate	Good	Good
		Hydrocarbons		Bitumen	Non-diagnostic	Good
	Oxides		Haematite	Good	Non-diagnostic	Non-diagnostic
		Spinel	Magnetite	Non-diagnostic	Non-diagnostic	Non-diagnostic
	Sulphides		Pyrite	Non-diagnostic	Non-diagnostic	Non-diagnostic

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