

Anthony Z. Helms and his Geological Observations in Argentina during 1789

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Anthony Z. Helms (1751-1803) formerly Director of the mines in Poland and late Director of the Mines in Peru, was a scientific traveler that arrived to South America in 1789. He was one of the 15 members of the Nordenflycht Mission to Potosi. During his trip to Potosi, Helms crossed Argentina from Buenos Aires to Jujuy making very important observations on the geology of the country. He describe granite, limestone with fossil shells, and precious metal mines from the Cordoba hills; the large saline deposit of Salinas Grandes; the "primitive granite" (igneous origin) and alternate green and red granite in the Tucuman hills. At Salta, he mentioned blue shale's (today Puncoviscana Fm., early Cambrian) that is covered by red beds and limestone (Pirgua and Yacoraite Fm., Cretaceous). He writes "Strata of limestone, and large masses of ferruginous sandstone, are in many places superincumbent on the argillaceous slate". Also, he describes salt beds, coal (perhaps bituminous shales) and gypsum in the upper part of the mountains. During the journey from Eastern Cordillera to the Puna region he describe surprised the tectonic of the mountains, strongly folded and faulted, completely different to other mountains in Europe. He writes "In no place does a revolution of nature appear to have been so general as in South America". He uses for the first time in Argentina the word "geologist" in his actual sense.