

Dispersed Elements can form Independent Ore Deposits

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The eight elements Ge, Ga, In, Tl, Re, Cd, Se and Te are usually referred to as dispersed elements. The dispersed elements are characterized as being extremely dispersed in the strata or rocks. Their crustal abundances are so low as to be mostly on the order of 10^{-6} - 10^{-9} . Only a few independent mineral species of the dispersed elements have been reported. In recent years there have been continually discovered independent ore deposits of Ge, Tl, Cd, Se and Te in the southwestern part of China, which is a great breakthrough in the field of ore deposits.

element	Typical ore deposit	Content($\times 10^6$)	Reserve(ton)
Ge	Lincang Ge deposit,	>300	800
Tl	Lanmuchang Tl deposit	2000~2800	>500
Cd	Niujiaotang Cd deposit,	1391~5866	5300
Se	Yutangba Se deposit,	1300	>50
Te	Dashuigou Te deposit,	1500~8500	large

These independent ore deposits of dispersed elements possess following characteristics:

① Existing forms of the dispersed elements are present mainly in three forms, i.e., as independent minerals (Lanmuchang, Yutangba and Dashuigou), being present isomorphously (Niujiaotang) and being adsorbed (Lincang). ② With the exception of the Dashuigou Te deposit, all the other deposits were formed at low temperatures. ③ In most cases their mineralization time was Mesozoic and Early Tertiary. Only the Niujiaotang Cd deposit is an exception. ④ The deposits are mostly strata-bound in nature. The exception case is the Dashuigou Te deposit.