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Perspective

Methods of Geo Chemical Studies

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DESCRIPTION

Geochemistry is a field of earth science that applies chemical principles to better understand the earth system and other planetary systems. Geochemists consider the Earth to be composed of individual spheres of rock, liquid, gas, and biology that exchange matter and energy on various timescales. Understanding the range of kinetics and physical conditions involved in the chemical expression of each sphere provides a framework for studying the co-evolution of the solid Earth, its oceans, atmosphere, biosphere, and climate.

Geochemistry deals with the formation, development and distribution of rock-forming minerals and their products, as well as the chemical elements on Earth in living organisms, water and the atmosphere. Geo chemistry one of the goals is to determine the abundance of elements in nature. This information is essential for making hypotheses about the origin and structure of our planets and the universe. There are many subdivisions in geochemistry. Inorganic geochemistry describes the relationships and cycles of elements, their distribution in the Earth's structure, and their means of transportation by thermodynamics and kinetics.

Exploration Geochemistry (also known as geochemical exploration) uses geochemical principles to identify deposits, deposits, groundwater resources, and oil and gas fields. Organic geochemistry uses chemical indicators related to living organisms to track human settlements and plant and animal activity on Earth. It was important in understanding paleoclimatology, pale oceanography, and primitive and evolutionary life.

Sedimentary geochemistry interprets what is known from the geochemistry of hard rocks in soil and other sediments and their erosion, sedimentary patterns, and metamorphism in rocks. Environmental geochemistry is the latest field of science, with environmental concerns being the responsibility of scientists, engineers, and the general responsibility for tracking chemicals in organic organizations, groundwater, surface water, marine environment, soil, and rocks.

The Earth is composed of chemical elements, most of which were formed before the Earth existed. During the formation and evolution of the planet, and the subsequent history of the Earth, they were redistributed and, in the case of radioactive elements, partially converted to other elements. Initially, redistribution relied solely on inorganic processes, but as organisms emerged, they played an increasingly important role in the geochemical processes of land and surface and groundwater. Nowadays, human activity is increasingly affecting the flat crust, water and atmospheric processes of the earth. Therefore, geochemistry initially focused on the geological past, but is becoming more and more important in terms of geological resources and environmental protection.

Elements are materials with specific electronic structures and specific types of atoms with nuclear charges and are factors that determine their abundance in rock. Regarding distribution, there can only be direct evidence of the composition of the Earth's crust and indirect evidence of the mantle and core. Current knowledge of the geochemical properties of the crust comes from geophysical data and rock analysis. According to these analyses, oxygen is the main component of bark, 47% by weight by weight and 94% by volume.

The second is silicon, which weighs 28% by weight and is less than 1% by volume. In addition, metals are considered economically important mineral resources if their average grade is enriched. For example, the most abundant iron and aluminum need to be concentrated 4-5 times, copper 80, platinum 600, silver 1250, gold close to 4000, and the least tungsten and mercury need to be further concentrated.

Atmospheric chemistry is a field that studies the chemistry of the atmosphere of the Earth and other planets. The types of problems that atmospheric science is addressing include acid rain, ozone depletion, photochemical smog, greenhouse gases, and global warming. The composition, structure, processes, and other physical aspects of the Earth are being studied by geochemists. We are studying the distribution of chemical elements in rocks and minerals and the uptake of these elements into soils and water systems.

The concept of the geochemical cycle includes geochemical differentiation (that is, the natural separation and concentration of elements by the Earth process) and thermal support element recombination. The more common rock constituents are almost all oxides. Chlorides, sulphides and fluorides are the only important exceptions, and their total is usually less than 1% for any rock. Clark calculated that over 47% of the Earth's crust is made up of oxygen.

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It occurs primarily in combination as oxides, the most important of which are silicon dioxide, aluminum oxide, iron oxide, and various carbonates (calcium carbonate, magnesium carbonate, sodium carbonate, potassium carbonate). Silicic acid acts primarily as an acid to form silicates. All common minerals in igneous rocks are of this nature.