ОПИСАНИЕ НА АНГЛИЙСКОМ ЯЗЫКЕ:

METHOD FOR MINING OF IRON-MANGANESE CONCRETIONS FROM OCEAN BOTTOM AND DEVICE FOR ITS EMBODIMENT


FIELD: mining. SUBSTANCE: method for mining of iron-manganese concretions from ocean bottom includes lowering of chassis with self-contained motor and collecting container with regulator of varying buoyancy, control of chassis motion with simultaneous collection of iron-manganese concretions and lifting of collecting container to the surface of ocean by imparting positive buoyancy to container with subsequent unloading of collecting container. Method is distinguished by the fact that in course of chassis travelling, chassis pressure on ocean bottom is regulated by pressure charging of lifting device of collecting container. Iron-manganese concretions are collected by suction of preliminarily formed pulp. Bottom deposits are concentrated directly on the bottom by separation and disposal of waste onto mined area, and in course of filling of collecting container, it is blown with compressed gas. Chassis is controlled remotely. Device for embodiment of the offered method for mining of iron-manganese concretions has carrier vessel, self-propelled chassis with control members and collecting container having lifting device with regulated buoyancy, and source for its filling with gas, load transducer in collecting container connected with chassis drive, unit for collecting iron-manganese concretion and orientation means located on chassis and ocean bottom. Device for embodiment of the method is distinguished by the fact that the unit for collection of iron-manganese concretions is made in form of pump with inlet pipe with high-pressure pump jet nozzles arranged round intake hole. Collecting container is made in form of truncated turned over cone with pull chute and discharge pipeline having check valve. Lifting device of collecting container is made in form of nacelle whose cavity is combined with cavity of collecting container which has compartment for reagent in its upper part. Source for filling nacelle with gas is made in form of catalytic reactor communicated through pumping unit with cavity of compartment, and through valve with cavity of nacelle and cavity of collecting container. Load transducer is connected with high-pressure pump. Device is provided with unit for concentration of iron-manganese concretions made in form of separator of hydrogravitational type formed by, at least, one pipe with aperture cutout in its lower part. Aperture is located above collecting container between inlet pipe and pump having pipeline with...
discharge outlet. Device also has self-contained power supply plant, travelling speed transducer connected through control members with self-contained drive of chassis, ground pressure transducer connected with gas source, high-pressure pump and self-contained drive, and vessels of zero buoyancy. Intake hole of inlet pipe and outlet hole discharge outlet are located not higher than the level of valve of discharge pipeline of collecting container. EFFECT: higher efficiency. 2 cl, 2 dwg