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CONSTRUCTION OF BUILDINGS AND STRUCTURES ON NATURAL STRUCTURALLY DISTURBED GRUNT

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Abstract

The article looked at the issues of the occurrence of natural structurally disturbed grunts, their prevalence in our Republic, the need to dispose of waste of various production, the origin of unacceptable deformations in the construction of long-standing structures, non-uniformity, uneven compressibility, the formation of grunts properties, construction on Boril in them, pre-compaction for reducing and leveling compressibility in use as a floor, the application of pile foundations.

Keywords: Spill grunts, their origin, industrial waste, deformation, sinking, birjinsliemas, compressible, compaction, leveling, pile foundations.

Introduction

Grunts of disturbed natural structure, mineral waste of industrial production, solid crushed waste, although their depth is characterized by the fact that they are known as ham, common in all the gods of our country. Their appearance and accumulation is due to the activities of agricultural mining, enrichment of ores, steel and cast iron smelting, burning activated solid fuels and smoke removal, production of building materials, digging of minerals in the construction, equipment and agricultural work. During the construction process, spill grunts were used in levelling or restoring underground structures prior to the construction of the gods (automobile and railroad underpills, plotina, Joppa earthworks, and b.sh.), the foundation is formed in the construction of subsurface sunian floors (sand, gravel, slag, grunt beds) and the reburial of trenches of various buildings and structures.

Styles. To ' building on kma grunt is the most difficult, complex and inadequate problem-solving foundation construction. The relevance of these problems is thus determined:

- the prevalence of spill grunts, as a rule, is in the territories of industrial widely developed gods, in old cities, in the areas of reconstruction of existing enterprises;
- when there is a need to dispose of all production waste;
- sometimes from the origin of non-permissible deformations in the construction of structures, which lasted for a long time;
- the cost of materials in the construction of floors and foundations in the gods, consisting of pouring grunts, increased productivity and prosperity.

A distinctive feature of spill grunts is that they do not exchange their composition as significantly as possible, uneven compressibility, compaction from their own weight, in particular from



vibration when industrial and urban transport jichoses work, change hydrogeological conditions and compaction of the structure of organic additives. A noticeable and multivariate layer thickness, varying from zero to 20-30 m, makes it difficult to nibble and cross the shedding grunts with different methods. Sometimes large gaps and solid material joints are encountered in the spillways, and it is not always possible to break these gaps and lose the uneven subsidence of future foundations when the ham compresses them.

It is very difficult to break through the joints of such solid materials, in particular pieces of reinforced concrete, metal, stone structures, insoluble stones in slag, stakes and the like, which are often found in digging wells for piles or in spillways. In the construction and construction of mudflats, it is necessary to estimate additional sinks arising from the compression of the spill and the grouts under it and sometimes reaching 0.5-1 m, as well as additional load-bearing frictional forces arising from the result of self-compaction of pile foundations and earth-filled walls, spill grunts from their own weight and other influences.

The problems of construction on the spillways and although a much more nasal origin (the chapel and cathedrals built on the hills of the first spillways date back to the XI-XII centuries), although 1972y. starting from this msalada councils of different levels (scientific and technical seminar on methods for checking artificial grunts for construction, Kiev, 1976y.; folkloric conference on the use of industrial waste in the construction of fuqoro, Paris, 1978y.; X Folkoro Congress Special Branch on the mechanics of grunts and the construction of foundations, Stockholm, 1981.) many questions remain inadequate despite the transfer.

The formation of the properties of spill grunts occurs in the process of their emergence, the dependence of accumulation and availability on the method of spillage, under the influence of dynamic and other compacting factors, from the change of hydrogeological conditions, from the breakdown of organic additives in the course of chemical, biological and other processes occurring in spill grunts. The properties of spill grunts are significantly determined by their composition, the aging of the spill, the degree of compaction and other factors. Low-moisture loose clay shedding can be super-precipitating when the grunts are wet, a dense - foamy. In spill grunts, it is possible to prevent the occurrence of mold, which consists of different types of production waste, such as slag and Zolas, especially when moistened with a mixture of different alkalis and acids. With time, the properties of spill grunts change, on the one hand, due to the fact that under the influence of self-compaction and various factors, a new content is generated, as a result of which the characteristics of density, tightness and deformation are improved, and on the other hand, due to the fact that organic matter in the main composition is eroded, as a result. In many cases, this itself occurs at the same time as the processes of desecration and decay. The development of more examined and based methods for the further development of construction methods in spill grills is gaining a lot of relevance. It is necessary to introduce a quantitative assessment of the degree of compaction of the spill grunt from its private weight, dynamic effects of technological jixozes, changes in urban and industrial transport, hydrogeological conditions, etc. It is necessary to check the additional load-bearing friction forces on the deepening seams of the piles and foundations, which are caused by the compaction of the pouring grunt itself from its private weight, as well as the above-mentioned dynamic and other effects. It has not been studied until now to determine the problems of whether the structure



of a substance can be preserved (enhanced) or decomposed under the influence of physical, chemical, biological processes that take place in spill grunts.

Ensuring the smoothness, mastery and normal use of buildings and structures to be restored in spillways is achieved by:

- in the use of spill grout as a floor, pre-compaction to reduce the compressibility and leveling of all or part of the fold, as well as the possibility of uneven deformation of the grout on the floors, the application of complex constructive measures taken into account;
- the load-bearing capacity of the pile and other deep foundations, which completely or partially cross the spillways, is sufficient and has low compressibility, which is to rely on the allowable sink-providing grills for buildings and structures.

Result. Each of the above methods requires further improvement of the existing construction experience and prospects for their development.

Compaction of spill grunts at large depths (more than 2-3 M) is carried out by compacting the foundations floors with heavy shibbalovers, building grunt piles, compacting water trembling at depth, and compacting hard grunt (stone) materials. To increase the efficiency of compaction on the surface, it is necessary to apply high-weight 150-250 kN, base diameter 3-4.5 m shibbalovers in compaction at a depth of up to 6-10 m. To work with the specified shibbalovites, quarries and mountains must be foaled from Crane-excavators with steel ropes, carrying power of no less than 500-600 kN. Alternatively, a significant increase in the depth of compaction is achieved by compacting the surface shibbalash by blowing it up at a depth (the grunt of the lower layer is compacted at a depth of 3-6 m, and the upper layers, which are the loader layer at the detonation, are compacted with heavy shibbalers) using a mixed method.

Deep-water vibrating compaction is carried out using depth tremors and is only effective when free water flows well in spill sand grunt. Compaction of spill grunts by introducing solid (stony) materials between them is being developed on three technologies: compaction by superficial shibbalab; compaction by deepening with grunt piles; compaction by inserting trenches between them. In the first case, a layer of stone materials with a thickness of 2-5 m is poured onto the surface of the desired pouring grunt and compacted into an empty grunt with a diameter of 1.5-3 m with a sponge, inserting it between the sides and dipping it down.

In compaction technology by inserting solid grunts in between, compaction by deepening with grunt piles is called in many cases reinforcement of empty grunts with high steep elements. This method differs from deep compaction in that a Maxillary grunt is usually not used to fill wells, a more suitable material (slag concrete, looser concrete, sheben, etc.o') is applied, while the distance between the Wells is significantly larger, and usually they are taken equal to 5-8 times the diameter.

The difference in the technology of pressing and inserting solid grunt materials in trench shibbing technology from the previous technology is mainly in the equipment used, and the compaction depth is significantly less, usually no more than 5-8 m.

Conclusion. To ' the crossing of kma grunts is carried out with different constructions of stumps and cast piles, the most effective and promising of which are: Stumpy prefabricated piles, sub-expanded, mining piles with immersion of solid material to the bottom of a well, compacted grunt cast piles.



It is advisable to apply stump piles on shedding grunts so that when stacking them, additional compaction in shedding grunts comes to the vjud, thereby excluding the arrival of additional loads from the load-bearing friction forces in many cases. In this case, the installation of pegs should be carried out without leader wells, if necessary, reducing the distance between the pegs to 2-2.5 diameters.

Bulk piles with compacted grunt piles are performed in a perforated borehole with shock projectiles, as a result of which the zones of the screwed grunt around the wells are dressing. For the dressing of the barrier zone, the boundary of the pile area and the compaction of the grunts on its perimeter are carried out according to the technology of deep shibbling of the grunt piles. The application of bulk piles in compacted grunts is more desirable at the same time in the areas of intact piles, where the ground of the foundations of the floor and technological joists are compacted.

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