EXISTING TECHNOLOGIES FOR UTILIZATION OF NON-PURPOSE REFINING PRODUCTS

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Abstract: In this thesis existing technologies for utilization of non-purpose refining products are given. In addition, classification of oil sludge disposal methods are showed. Despite the many technological solutions aimed at processing oily waste, a unified method for their neutralization and disposal has not yet been developed.

Keywords: oily waste, furnaces, separation, combustion, water emulsions

The traditional classification of oil sludge utilization methods is based on various technologies and consists of the following groups [1]:

-thermal - burning in open pits, furnaces of various types, obtaining bituminous residues, burning oil sludge in the form of water emulsions and utilizing the released heat and gases, dehydration or drying of oil sludge with the return of oil products to production, and waste water to the circulating circulation and subsequent burial of solid residues;

-physical - mixing and physical separation of oil sludge;

-chemical - extraction with solvents, curing with additives;

-physical and chemical - the use of specially selected reagents (solvents, demulsifiers, surfactants, etc.) that change the physicochemical properties, followed by processing on special equipment;

-biological - microbiological decomposition in the soil directly at storage sites, biothermal decomposition [2].

In the work, the presented methods of processing oil sludge are conditionally divided into two groups: destructive (combustion, inclusion in cement, aerobic treatment) and non-destructive (burial, use in agriculture).

In the works, attempts have been made to create a consolidated classification of processing methods, indicating the advantages and disadvantages of the above groups of methods [3].

Classification of oil sludge disposal methods

Physical influences				Chemical influences	
Thermal	Kinetic, incl.	Electromagnetic wave, electrostatic impact	Mechanical	Reducing the influence of stabilizers	Neutralization of stabilizers, incl.
Heat	Upholding	Electrostatic fields	Mixing	Application of demul-sifiers	Dissolving stabilizers
	Separation in the field of centrifugal forces	Application of HF and UHF, electromagnetic oscillations	Using hydrodynamic effects	Dispersant application	The use of flocculants
		Application of ultrasonic waves	Flushing with water		Flotation

		Application of acoustic waves	Pressure filtration		
		Exposure to magnetic field			
		Application of electrostatic fields			

In practice, methods of extracting secondary resources from oil sludge can be divided into methods aimed at using the energy or material (substantial) potential of oily waste.

The paper presents a classification of technologies for processing oil llamas into the following groups [4]:

-technologies focused on the extraction of hydrocarbons contained in oil sludge, with the aim of using them for their intended purpose (the most common technologies are based on centrifuges);

-technologies focused on obtaining energy resources due to the transformation of hydrocarbons in the form of electricity, steam or heat (plasma gasification, low- and high-temperature pyrolysis);

-technologies aimed at cleaning sludge and soils by decomposing or binding the hydrocarbons contained in them (bioremediation method, inactivation method using quicklime).

The use of the material potential of the NCO, which is different in the degree of extraction of resource-valuable components and the amount of costs associated with their receipt, is carried out by:

1) full resource recovery, which involves obtaining secondary hydrocarbon resources and their recycling;

2) partial resource restoration, which consists in obtaining and using resource-valuable components for the production of the original product;

3) partial resource recovery, which involves the use of a partially extracted resource for another purpose

4) partial recovery of a resource from waste, in which the secondary resource is used for the production of fundamentally new products.

Conclusion

The following sections of the literature review provide an analysis of world experience in the use of the resource potential of oil sludge. At the same time, special attention is paid to the methods of resource recovery.

References

1. Bazarbaeva, S.M. Complex processing and utilization of industrial waste in Western Kazakhstan (on the example of the main industries of Aktobe and Atyrau regions): author. dis. ... Dr. Tech. Sciences: 05.23.05 / S.M. Bazarbayev. Shymkent: RK SKSU, 2010.37 p.
2. Isakulov, B.R. Isakulov B.R. Use of oil and gas industry waste in the production of building materials // Materials of the international scientific-practical conference of the Orenburg State University. Orenburg, 2010.S. 120–123.
3. Isakulov, B.R. Use of industrial waste and local raw materials for the production of building materials / B.R. Isakulov // Bulletin of Aktobe University. Aktobe: Duniye, 2009. No. 2. S. 58–63.
4. Development and research of properties of binders based on industrial waste / M.V. Akulova, BR Isakulov, MD Dzhumabaev [and others] // Bulletin of RAASN. Kursk; Voronezh, 2013, pp. 256–260.