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Study the Location of the Useful Component from the Tailings of the Gold Recovery Plant

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Abstract: This article presents the methods of flotation of slag from the concentrator of the Almalyk Mining Metallurgical Combine to extract useful components. First of all, the sample was isolated by the traditional method, analyzed in the laboratory, and the analysis concluded that the flotation method should be used.

Keywords: solution, gold, silver, flotation, carried, gravity, reagent, hydrocyclone, concentrate, product, component, toxin extraction, solution, tail, regeneration, precious metals analysis, silver, gold, useful components, departure.

As you know, the gold content in the tails of concentrators and hydrometallurgical plants depends on its initial content, the deportment and the degree of end-to-end gold extraction, taking into account features of the technology used. The contents and forms of occurrence of gold in stale tails tailings of hydrometallurgical plants where processed resistant (sulphide, carbon sulphide) ore also directly depends on the initial content of gold and the degree of pass-through retrieval.

In this work the results of the study to determine the spatial volumetric distribution of gold in the tailings of hydrometallurgical plant No.3 NMMC establish the deportment of gold in the tailings storage facility, locations Cinerama gold and estimation of possibility of processing of stale tails cost-effective ways.

The purpose of sampling. Sampling from waste slurries and stale waste hydrometallurgy is produced in sequence, depending on solved tasks:operational, preliminary, superficial, systematic, locally-spatial, locally - volumetric (deep).

Sampling methods.[1]. Depending on the tasks are applied different methods of sampling from lying tailings, hydrometallurgy: method “the ring”, For the selection of representative samples is applied the method of "cylindrical" sampling. In the case of selecting a large mass of samples or training samples averaged from a large number of characteristic samples depending on the tasks used different methods of kvantovaniya:

In the laboratory of technological samples are dried to air-dry on sheets of clean paper, removed from foreign matter (stones, plant roots, etc.). Then kvantovanie of soil samples is taken an average sample weighing about 100 g, which is ground to 100 mesh.

After the selection of a General or laboratory samples geological samples is carried out homogenization, crushed, sieved. In the grinding process periodically to separate large particles from small, large ground separately.

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The samples taken from the tailings pond due to their sufficient homogeneity of the factions don't need them crushing and abrasion.

After grinding carry out the averaging of The sample. The sample is mixed and cut (using kvantovaniya, cone and ring, checkerboard method, and etc.) sample Reduction – multi-stage process, repeat it several times until the sample size reaches the size necessary for analysis.[2]

The study of the distribution and Geochemistry of gold. Gold in tailings at the sides of the tailings are distributed extremely non-uniformly. In some parts of the tailings observed localization of high gold contents (0.8 to 1.6 g/t).This is especially evident in the western, southwestern and northeastern part of the tailings, at a depth of 1-3 m. Maps of the spatial and volume distribution of gold have been compiled (Table 1).

The relative frequency of occurrence of gold in samples with a content of more than 0.8 g / t is given in Table 2. A high gold content (more than 0.8 g / t) from averaged samples taken from a depth of 1-3 m is observed in more than 40% of the surveyed areas of the entire tailing dump [1-8]. Similar concentrations of gold are observed in more than 50% of the surveyed areas: in the northern part of the tailing dump (at a depth of 3 m); in the north-eastern part of the tailings (at a depth of 1-3m), in the western part of the tailings (at a depth of 5-6m).

The weight of the sample is standard (1 kg). The distribution of useful components by size classes was studied. The results of the analysis of variance are shown in table 1.

Table 1. The distribution of sampling points in the tailings pond depending on the depth of the waste

	Selectionside (pos.)	Total number of samples	Depthselection, m			
			1	2	3	average
1	NorthWestSide (I)	157	12	11	57	26
2	NorthWestSide (II)	143	27.	27	21	22
3	Northside (III)	355	52	64	58	58
4	Northeast (IV)	64	87	100	100	96
5	Western (V)	482	41	47	58	49
6	West (XI)	266	27	17	59	34
7	South (VI)	153	38	40	59	46
8	South (VII, IX)	189	45	46	40	44
9	Southdopol. selection (X)	70	43	23	50	39
	Total	1879				46

Table 2. The chemical composition of the samples

Sideoftheworld	Content, %			
	Au, g/t	**As**	**S_s**	**C_{opr}**
Westside (3 samples)	1,2	0,32	0,59	0,21
Northside (4 samples)	1,3	0,46	0,51	0,28
Eastside (5 samples)	0,98	0,35	0,47	0,25

A detailed study of the distribution of concentration of gold in the tailings pond shows that identity is not observed the localization of high gold contents at depth in the North-Western and Northern parts of the tailings.

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In the North-East and South-West parts of tailing at the edges of the abnormal content of gold in the range of 1.6-2.0 g/t.

To determine the patterns of gold concentration with depth of the samples produced discrete sampling in the analyzed points every 0,5 m. In the Northern part of the tailing is not observed a clear accumulation of gold concentration in the tails of hydrometallurgy at depths of 1-3 m. Therefore, to increase statistical data for further studies was chosen 2 points from the southern part of the tailings, and 4 points from Western activatorbios. Depth selection of 6 m, with discrete sampling of 1m.

Surveying the designation of proposed sites of sampling. With the involvement of the surveying services in the Northern mine group was completed work on the designation of sampling points (cells with a certain size) in the prescribed manner. Surveying the designation of the area for selection is shown in Fig. 2.1.2 and table 2.1.3.

In the North-Western part of the tailings is fixed plot with a total area of 16.3 hectares and is divided into 147 squares, size 33,3x33,3 m (0.10 ha). [3]

In the Northern part of the tailings is fixed 58,0 ha plot, divided into 232 square 50x50 m (0.25 ha).

In the North - Vostochnoye tailing fixed plot with a total area of 4.3 hectares and is divided into 39 squares, size 33, 3x33, 3 m.

In the Western part of the tailings is fixed plot with a total area of 38.5 hectares and is divided into 372 square size 33, 3x33, 3 m.

In the southern part of the tailings is fixed plot with a total area of 21.5 hectares and is divided into 202квадратов, size 33, 3x33, 3M.

Disaster of the tailings is fixed plot with a total area of 1.5 ha and divided into 6 squares 50x50м (0.25 ha). In addition, fixed 2 points from South and 4 from the Western part of the tailings for deep sampling[9-17].

Total tailings area 140,1 ha 1056 are fixed points for the selection of different depths. In addition to this, the southern side of the TMF from 2 points and from the West side of the 4 points were sampled from 3 m depth. The mass of the samples was 0.7-1.0 kg Only selected from 1056 points more 2526 samples. The total mass of the samples amounted to 1.8 T. the Total area of tailings is 840 hectares, analizirana area for the tailings amounted to 140,1 ha, or 16.7 % of the total area.[4]

REFERENCES

1. Самадов, А. , &Носиров, Н. (2021). Способ извлечения ценных компонентов (золото, серебро) из хвостов ЗИФ. *InterConf*.
2. Самадов, А. , Носиров, Н., &Жалолов, Б. (2021). Изучение минералогический состав хвостов Чадакскойзиф. *InterConf*.
3. Носиров, Н. И. (2021). Рекомендуемая схема переработки хвостов чадакскойзолотоизвлекательных фабрик. *Scientific progress*, *1*(6).
4. Носиров, Н. И. (2021). ИзучениеОбогатимостиЗолотосодержащихХвостов. *CENTRAL ASIAN JOURNAL OF THEORETICAL & APPLIED SCIENCES*, *2*(4), 11-16.
5. Samadov, A., Nosirov, N., Qosimova, M., Muzafarova, N., &Almalyk, B. (2021).Processing of layout tails of gold-extracting factories. *Збірникнауковихпраць SCIENTIA*.
6. Носиров, Н. И. (2021). ИССЛЕДОВАНИЙ СПОСОБОВ ИЗВЛЕЧЕНИЯ ЗОЛОТА И СЕРЕБРА ИЗ ХВОСТОВ ЗОЛОТОИЗВЛЕКАТЕЛЬНЫХ ФАБРИК. *Scientificprogress*, *1*(6).

ISSN 2792-4025 (online), Published under Volume: 2 Issue: 1 in January-2022

7. Nosirov, N. (2021). TAKING SAMPLES OF STRAIGHT TAILS OF THE TAILS OF THE GOLD EXTRACTION FACTORY. *Збірникнауковихпраць SCIENTIA*.
8. Носиров, Н. И. (2021). АНАЛИЗ ВЫПОЛНЕНЫХ ИССЛЕДОВАНИЙ СПОСОБОВ ИЗВЛЕЧЕНИЯ ЗОЛОТА И СЕРЕБРА ИЗ ХВОСТОВ ЗОЛОТОИЗВЛЕКАТЕЛЬНЫХ ФАБРИК. *Scientificprogress*, *1*(6).
9. Nosirov, N. I., Umirzoqov, A. A., &Razzoqov, S. D. O. (2021). KARYERLARNI LOYIHALASHNING ASOSIY PARAMETRLARI. *Scientificprogress*, *1*(6), 806-811.
10. Носиров, Н. И., Косимова, М. Н., &Носирова, М. Х. (2021). Извлечение Ценных Компонентов Флотационным И Магнитным Методами Из Хвостов Золотоизвлекательных Фабрик. *CENTRAL ASIAN JOURNAL OF THEORETICAL & APPLIED SCIENCES*, *2*(4), 212-220.
11. Sultonovich, M. M., Ogli, I. J. R., Abdurashidovich, U. A., &Sirozhevich, A. T. (2020). Technology Of Modified Sodium-Aluminum Catalysts For Nitrogen Gas Purification Systems. *The American Journal of Applied sciences*, *2*(09), 154-163.
12. Djurayevich, K. K. KxudoynazarO'g'li, EU, Sirozhevich, AT, &Abdurashidovich, UA (2020). Complex Processing Of Lead-Containing Technogenic Waste From Mining And Metallurgical Industries In The Urals. *The American Journal of Engineering and Technology*, *2*(09), 102-108. Shukurovna, N. R., Yunusovna, N. X., Jumaboyevich, J. S., &Abdurashidovich, U. A. (2021). Perspective of Using Muruntau Career's Overburden As Back Up Sources Of Raw Materials. *The American Journal of Applied sciences*, *3*(01), 170-175.
13. Nasirov, U. F. (2020). Ochilov Sh. A., UmirzoqovA. A. Analysis of Development of Low-Power and Man-Made Gold Deposits. *International Journal of Academic and Applied Research (IJAAR) ISSN*, 2643-9603.
14. Djurayevich, K. K., KxudoynazarO'g'li, E. U., Sirozhevich, A. T., &Abdurashidovich, U. A. (2020). Complex Processing Of Lead-Containing Technogenic Waste from Mining and Metallurgical Industries in the Urals. *The American Journal of Engineering and Technology*, *2*(09), 102-108.
15. Rashed, M. N. (2010). Monitoring of contaminated toxic and heavy metals, from mine tailings through age accumulation, in soil and some wild plants at Southeast Egypt. *Journal of hazardous materials*, *178*(1-3), 739-746.
16. Bortnikova, S., Yurkevich, N., Bessonova, E., Karin, Y., &Saeva, O. (2013). The combination of geoelectrical measurements and hydro-geochemical studies for the evaluation of groundwater pollution in mining tailings areas.In *Threats to the Quality of Groundwater Resources* (pp. 239-256).Springer, Berlin, Heidelberg.

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