

Text attachment No. 9

PROPOSAL

**FOR THE MANAGEMENT OF MINING WASTE FROM
THE "ROZINO" DEPOSIT, TINTYAVA AREA, LOCATED
IN THE LAND OF THE VILLAGES OF ROZINO AND
GUGUTKA, MUNICIPALITY OF IVAYLOVGRAD,
HASKOVO REGION**

CLIENT: TINTYAVA EXPLORATION AD

November 2025

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INTRO

Pursuant to Article 22d, paragraph 4 of the Underground Resources Act (URA), when an investment proposal (IP) for activities generating mining waste is subject to the procedure under Chapter Six of the Environmental Protection Act (EPA), the investment proposal must include a proposal for the management of mining waste.

This **Mine Waste Management Proposal** has been prepared in compliance with these provisions and takes into account, to the extent possible, the regulatory requirements relating to the development of a Mine Waste Management Plan. The content follows the structure set out in the *Ordinance on Mining Waste Management* (published in State Gazette No. 5 of 19.01.2016 and subsequent amendments) and Directive 2006/21/EC on the management of waste from extractive industries.

The mining waste management plan is drawn up with the aim of preventing, reducing or limiting their harmful impact on the components of the environment, and it will be prepared after the entry into force of a decision on the environmental impact assessment (EIA) for the approval of the investment proposal for "Extraction and processing of polymetallic ores from the Rosino deposit, Tintyava area, located in the territories of the villages of Rozino and Gugutka, Ivaylovgrad municipality, Haskovo region."

This is also the requirement of Article 22d, paragraph 7 of the ZPB, which requires the Operator, together with the mine waste management plan, to submit to the Minister of Energy an EIA decision that has entered into force, issued in accordance with Chapter Six of the Environmental Protection Act, which also contains reasons why the management of mining waste does not conflict with the waste management plans and programs under the Waste Management Act. The plan shall be approved by the Minister of Energy.

1. IDENTITY OF THE OPERATOR. ADDRESS OF THE MINING WASTE FACILITY

Permit No. 467/28.02.2017 of the Minister of Energy authorizes Gorubso Kardzhali AD, Kardzhali to conduct exploration and research of metal minerals, underground resources, in the Tintyava area, located in the territory of the municipality of Ivaylovgrad, Haskovo region, and the municipality of Krumovgrad, Kardzhali region. underground resources in the Tintyava area, located in the municipality of Ivaylovgrad, Haskovo region, and the municipality of Krumovgrad, Kardzhali region.

The rights and obligations under the Agreement of May 2, 2017, for the exploration and prospecting of metallic minerals—underground resources under Article 2, paragraph 1, item 1 of the Underground Resources Act in the Tintyava area, concluded between Gorubso-Kardzhali AD and the Minister of Energy on the basis of Permit No. 467/28.02.2017 of the Ministry of Energy, were transferred to Tintyava Exploration AD through Additional Agreement No. 1 to the Agreement on the basis of Article 25, paragraph 1 of the Underground Resources Act and Article 61, paragraph 1, item 12 of the Agreement. The Agreement entered into force on July 17, 2017, after receipt of Decision No. 09-OS/2017 of the Minister of Environment and Water for assessing the likely degree of significant negative impact on

the environment. On August 31, 2020, Additional Agreement No. 2 was signed between Tintyava Exploration AD and the Minister of Energy to extend the term of the Agreement by two years.

After submitting a comprehensive two-year report on the activities carried out and a reasoned proposal for the first extension of the term of the Agreement, and on the basis of Article 31, paragraph 3 of the Public Procurement Act, in connection with Article 2, paragraph 6, and para. 7 of the Agreement of 02.05.2017, on 23.01.2023, Additional Agreement No. 3 was signed between Tintyava Exploration AD and the Minister of Energy to extend the term of the Agreement by another 2 years. By letter ref. No. 017/08.05.2019, the Company submitted an application for registration of a commercial discovery, but this can only be obtained after a positive EIA decision has entered into force.

Information about the Contracting Authority:

Tintyava Exploration AD, UIC 204432874, with registered address at Ivaylovgrad 6570, 1 Shesti Septemvri Street Manager

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The Rosino deposit, Tintyava area, is located in the territories of the villages of Rosino and Gugutka, Ivaylovgrad municipality, Haskovo region, about 1.2 km south of the village of Rosino. To the east and south is the border with Greece, and to the north and west are the municipalities of Lyubimets, Madzharovo, and Krumovgrad. It is located about 350 km (by road) east-southeast of the capital, Sofia. The Rosino deposit area is bordered to the south by the steep cliffs of the

The Rosino deposit area is bordered to the south by the steep cliffs of the and is cut by the Byala River and its tributaries, which flow into the Arda River as a regional catchment area. The average altitude in the deposit area is about 470 m (in the northern part) and 300 m (in the south).

The coordinates of the location of the individual elements of the IP are presented in the EIA report.

The total planned concession area is **2,753 decares**, of which **1,179 decares** will be disturbed terrain. The buffer zone covers an area of 1,574 decares. Part of the facilities will be developed in already worked/disturbed areas and no new land will be taken, with this "overlap" amounting to 261.9 decares. The distribution for each of the infrastructure sites is as follows:

No	Facilities	Areas, decares
1	Enrichment plant	51.4
2	Mine	261.9
3	External embankment-1 for earth and humus masses	14.5

4	External embankment-2 for earth-humus masses	37
5	External embankment for sterile rock mass (excavation)	247
6	Internal embankment (backfill) for sterile rock mass (excavation)	133.2
7	External facility for flotation waste after processing	438.4
8	Internal (backfill) facility for flotation waste after processing	128.7
9	Contact water reservoir. Covers: external facility for sterile waste after processing, mine, factory, and collection channels. Consists of a water mirror and retaining wall).	9.1
10	Clean water reservoir and collection channels (water mirror and retaining wall)	62.4
11	Service roads (outside the above infrastructure)	57.3
12	Overlapping areas - backfilling - internal landfill and internal facility for sterile waste after processing (This area is excluded from the total!)	-261.9
Total area required:		1179.0

The site plan of the IP elements is presented in the following figure.

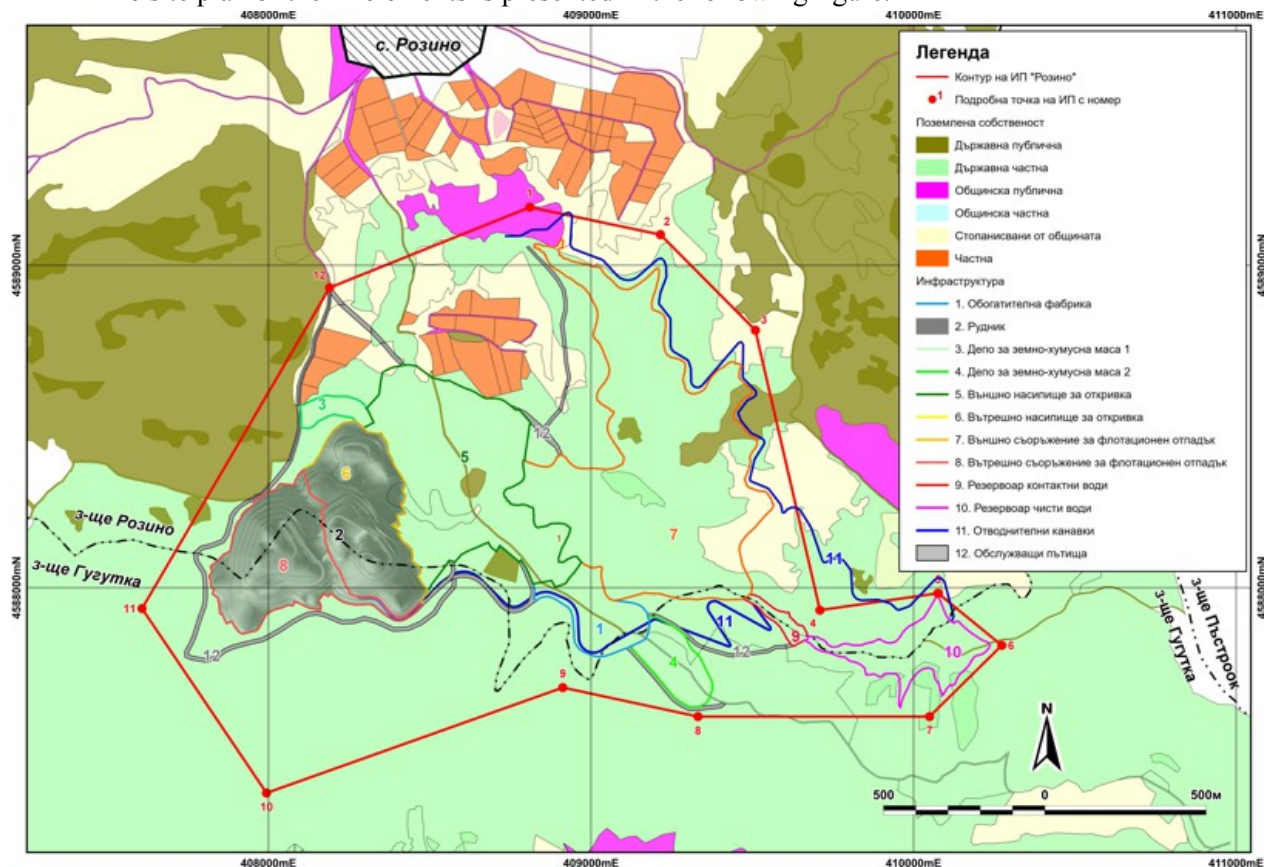


Figure No. 1-1. Site plan of the IP elements

2. ACTIVITIES RESULTING IN THE GENERATION OF MINING WASTE

The discovery of the deposit and mine construction are essential for the conduct of open-pit mining operations. Their proper and consistent implementation depends on the subsequent effective and safe exploitation of area

"Tintyava".

Technological process at open mining of polymetallic ores from area "Tintyava" will cover the performance of PVR, crushing of the mine mass, its transport and processing in OF, transport of the overburden (sterile rock mass) to the dump, transport of the flotation waste to SMO.

Work on earth-humus overburden (mass)

The soil (topsoil) overburden will be selectively collected from the rock overburden. It is planned to be selectively deposited, and after the end of exploitation, it will be used entirely for recultivation and restoration of the disturbed areas.

The main activities for collecting the earth mass are:

- clearing the designated areas of trees and shrubs;
- collection of soil piles using a bulldozer, noting that in some places the soil cover is missing or is less than 0.25 cm thick, making it technologically impossible to collect. In all other areas, the soil and humus will be collected in piles and loaded onto dump trucks using a front loader or excavator and transported to the two embankments designated for soil and humus.

These dumps will be developed during the mining construction period and will be closed after the end of recultivation.

Work on rock (barren) overburden

The following parameters of the open-pit mining and ore extraction system have been adopted for the conditions at the Rozino deposit:

- Working step height – $5 \div 10$ m;
- Height of non-working step – 20 m (in the final non-working contour, the 5-meter steps are combined in groups of 4, or 2 10-meter steps are combined in groups of 2);
- Working step angle – $85 \div 90^\circ$;
- Angle of non-working step – 70° ;
- Minimum width between two groups of non-working steps 12 m;
- Minimum width of working platform - 60 m;
- General angle of non-working board $36 \div 48^\circ$.

Due to the hardness of the rocks, it is accepted that the ore and rock overburden should be separated from the massif by drilling, followed by millisecond initiation and detonation using the NONEL system.

The rock overburden in the Rosino deposit, which does not contain any useful components but covers the ore-bearing rocks or is mixed with them, must be selectively removed and deposited.

In general, the processes for the selective removal of sterile overburden are: conducting a PVR with a millisecond delay to separate the sterile material from the massif, loading it with a backhoe loader onto dump trucks, and transporting it to a sterile dump.

The total projected volume of sterile rock mass to be removed from the deposit

is approximately 26.6 million tons or approximately 10.8 million m³. The maximum annual volume is expected to be 3.3 million tons/year (1.3 million m³/year).

The planned volumes of sterile rock are to be dumped in the SMO, east of the mine pit.

After the fourth year (after the depletion of the reserves in section 1), the backfilling of the excavated areas will begin.

The height of the working steps in the open pit is accepted to be 5 ÷ 10 m.

The loading of the overburden and ore is planned to be carried out using a hydraulic backhoe excavator with a bucket capacity of 6 m³. After blasting and ventilating the mine, the excavator will position itself next to the blasted area and begin loading the blasted piles.

The overburden is planned to be transported by dump trucks with a total load capacity of about 55 tons (33 m³) and a 10x4 wheel configuration, a loading length of 7 m, a loading width of 2.6 m, and an unloading height of 1.96 m. The dump trucks will be equipped with modern engines with EURO 6 emission standards.

Earthworks

With regard to earthworks, selective earth filling technology using bulldozers and motor vehicles is envisaged.

Selective/separate disposal of:

- Topsoil;
- Sterile rock mass (overburden);
- Flotation waste.

This selective dumping approach is in line with best international practices for the management and protection of topsoil, which will be used to restore disturbed areas when recultivation begins.

Deposition of soil and humus

In total, two soil and humus mass landfills are planned for the site, as follows:

- Northeast with a single horizon at an approximate elevation of 495 m;
- Southwest with two horizons with approximate elevations of 377 m and 382 m

These dumps are expected to be developed during the mining construction period and will be closed after the end of recultivation. It should be noted that during the development of the overall project for the exploitation and recultivation of the affected lands, it is possible to choose a system of phased recultivation.

Deposition of sterile rock mass (overburden)

The rock dump is planned to be of the bulldozer type. The sterile rock mass loaded onto trucks will be delivered to the dump area and unloaded. Subsequently, the body of the dump will be shaped with a bulldozer.

It is planned to develop an external embankment and, after the fourth year, to start internal embankment formation in the mine pit.

The boundary between the external and internal embankments is conditional, following

the contour of the pit of Section 1.

Deposition of flotation waste

With regard to post-processing waste, it is planned to be deposited after compaction to 70-75% solid matter. This method is preferred over conventional tailings storage due to the following factors:

- Higher percentage of recycled water use;
- Lower consumption of "fresh" water;
- Smaller landfill area;
- Significantly increased stability coefficient of landfills containing compacted flotation waste;
- Significantly reduced risk of compromising the support structures;
- Significantly increased potential for phased reclamation.

When depositing flotation waste with a water/solid ratio of 25%/75%, the area and volume of the facility are reduced by about 10÷15 decares compared to conventional disposal, where the water/solid ratio is 45%/55%, i.e., the circulating water is reduced by about 20÷25%.

To reduce the water content in the flotation waste, a thickener is planned to be installed on the territory of the enrichment plant, where the flotation waste will be dewatered.

After the depletion of the reserves in Section 1 and the progress of mining operations in Section 2, it is planned to start backfilling the excavated areas, which again complies with best practices for open-pit mining. Backfilling is expected to start as early as the 4th or 5th year of operation.

The positive effects of backfilling are:

- Significant reduction in the area required for storage of sterile rock mass (overburden) and flotation waste after processing (if this option proves to be viable in terms of quality);

Significant reduction in the time during which external dumping will be used and, respectively, much faster recultivation of the external dump and, possibly, the external flotation waste storage facility.

Flotation waste management

The following characteristics were taken into account when selecting the technology for thickening and dewatering the flotation waste:

- The physical and chemical properties of the waste after flotation – according to current data, there is no potential for the generation of acidic solutions;
- Yield point or yield stress - a property of a material corresponding to the yield point at which the material begins to deform plastically;
- Negative water balance;

- Best practices in dewatering of mining waste after processing;
- Best practices in the management of mining waste after extraction and processing.

Taking into account the above factors and based on a conceptual design for the conditions at the , a technology has been selected for the disposal of flotation waste, compacted to 70-75% solid content, using a cone compactor.

Waste disposal involves separating water (thickening) before disposal. The thickener works as follows: the sludge flow enters radially into the center of the thickener, into a feed tank. While the solid phase settles, a paddle that reaches the outer edge of the thickener rotates slowly and transports the settled material to the central outlet. At the same time, as the solid particles settle at the bottom of the thickener, the water or solution at the surface becomes clearer, and with the introduction of more sludge, the water level rises and overflows into a chute along the outer perimeter, through which it returns to the process. The particles settled in the center of the thickener and the particles raked towards it exit through the central outlet pipe at the bottom of the thickener, containing significantly less water than the sludge with which they entered the thickener. The thickened waste can be transferred to the landfill using high-pressure sludge pumps.

The advantage of this method is its water efficiency and relatively favorable operating conditions compared to landfilling waste with a high water content. A second advantage is that, compared to other options, the landfilled waste has minimal potential for liquefaction (free sliding or flowing) or breaking through the wall of the hydraulic structure. Typically, high-performance cone thickeners increase the concentration of solid particles (solid phase) to about 70-75%.

Cone thickeners provide the highest values at the yield point, which ensures a high degree of stability for the waste after it is deposited in the landfill.

The resulting waste has a water to solid phase ratio of 25/75.

Increased compaction allows for:

- a significant increase in the use of recycled water;
- a significant reduction in the use of "fresh" water.

The increased density makes waste easy for processing – filling and shaping of the landfill where it is stored.

The reduced water content significantly shortens the evaporation time of the residual water and, accordingly, improves the stability of the landfill body, allowing for its gradual upgrading with guaranteed stability.

The compaction of waste prior to disposal has an impact on the overall water consumption in the OF, significantly improving the overall water balance.

The disposal of compacted flotation waste also corresponds to the natural geographical, geological, geotechnical, and geochemical conditions at the site. Considering that disposal is carried out from the highest point to the lowest point of the landfill, it should be noted that this creates a prerequisite for the gradual recultivation of the worked slopes.

3. CHARACTERISTICS AND CLASSIFICATION OF MINING WASTE. ESTIMATED QUANTITY

The generation of mining waste will commence with the start of excavation activities. Pursuant to Article 15 of the *Ordinance on Mining Waste Management* (published in State Gazette No. 5/2016), based on the quality characteristics and composition of the mining waste and according to the degree of risk to the environment and/or human health, the operator shall determine the code and name of the mining waste in accordance with Annex No. 1 to *Ordinance No. 2 of 2014 on waste classification* (State Gazette No. 66 of 2014) and classifies them in accordance with Annex No. 3 to the Ordinance on Mining Waste as:

1. uncontaminated soil;
2. inert waste;
3. non-hazardous waste from exploration;
4. waste from peat extraction and processing;
5. non-hazardous non-inert waste;
6. hazardous waste.

To determine the content of harmful substances in the mining waste from the Rozino deposit, three representative samples were taken—two composite samples from rock mass and one sterile and flotation waste from a composite sample.

The tests and analyses were performed by the accredited laboratory Eurotest Control EAD, Sofia. The analysis reports are provided in **Appendix No. 1** – three reports (Test Report No. 728/22.07.2020; Test Report No. 730/22.07.2020; Test Report No. 731/22.07.2020;

Based on the results obtained, we can make the following characterization and classification of the mining waste:

A) Code and name of mining waste;

- code 01 01 01 - waste from the extraction and mining of metal minerals,
- code 01 03 06 - residues from enrichment, other than those mentioned in 01 03 04 and 01 03 05.

B) Type of mining waste

According to Annex No. 3 of the Ordinance on Mining Waste, the waste from the Rosino deposit, Tintyava area, should be classified as ***non-inert and non-hazardous waste***, since:

- it does not decompose, dissolve, or undergo significant physical, chemical, or biological changes that could adversely affect the components of the environment, the safety, and health of the population;
- they contain sulphur sulphide in quantities not exceeding 1.0 per cent, at a coefficient determined by the ratio between the neutralisation and acid potential, based on a static test according to prEN 15875, greater than 3, in this case 6;
- do not self-ignite or burn;

- as shown by the tests conducted for the limit values of leaching, they do not contain excessive concentrations of substances that are hazardous to the environment and human health, as well as substances that are potentially harmful to the environment and human health (including As, Cd, Co, Cr, Cu, Hg, Mo, Ni, Pb, V, and Zn);

- they do not contain substances and products used in mining and primary processing that may adversely affect the components of the environment, safety, and health of the population.

The estimated amount of mining waste that will be generated during the exploitation period is as follows:

- 01 01 01 - waste from the exploration and extraction of metal minerals The amount of waste - 3.3 million tons/year (1.3 million m³/year) or 26.5 million tons/10.8 million m³ for the entire extraction phase

- 01 03 06 - residues from enrichment, other than those mentioned in 01 03 04 and 01 03 05

Amount of waste – 11.2 million tons for the entire period of operation.

4. TYPE AND CATEGORY OF THE MINING WASTE FACILITY

4.1 Location of the mining waste facility

The areas required for the disposal of mining waste are given in the following table.

No	Objects	Areas, decare s
1	External landfill-1 for soil and humus masses	14.5
2	External embankment-2 for earth-humus masses	37
3	External embankment for sterile rock mass (excavation)	247.0
4	Internal backfill for sterile rock mass (excavation)	133.2
5	External facility for flotation waste after processing	438.4
6	Internal (backfill) facility for flotation waste after processing	128.7
7	Overlap of areas - backfilling - internal embankment and internal facility for sterile waste after processing (This area is excluded from the total!)	-261.9
Total area required:		736.9

*Part of the facilities will be developed in already worked/disturbed areas and no new land will be taken, with this "overlap" amounting to 261.9 decare.

Their location is shown in Figure 4-1.

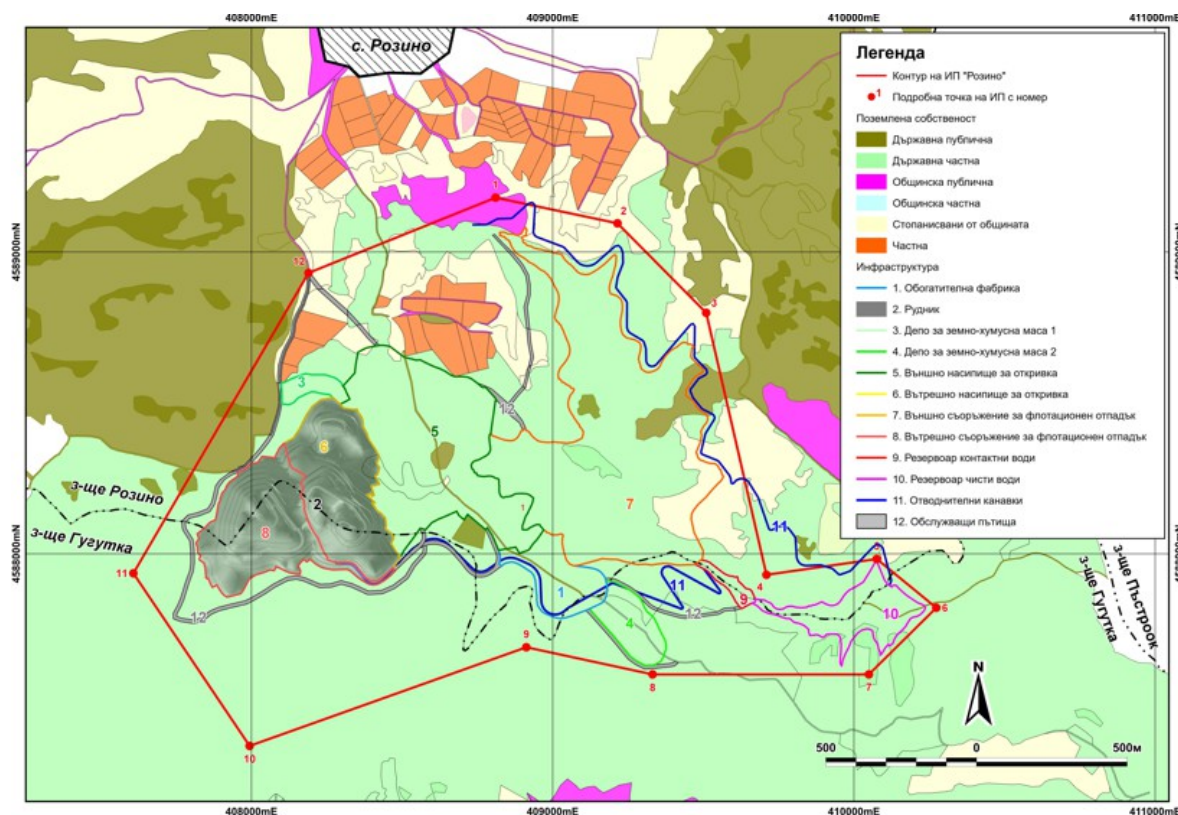


Figure No. 4-1. Site plan of the IP elements

4.2. Condition of the earth's surface affected by the mining waste facilities

Geological structure

The Eastern Rhodopes are considered part of the so-called Eastern Rhodope anticline, formed by a series of anticline and syncline folds (Kozhuharov, 1971), such as the Kesear bulge, the Avren graben syncline, the Tintyav bulge, The Tintyava area is located in the Eastern Rhodope Depression, east of the Belorechki dome.

The Tintyava area is located in the Eastern Rhodope Depression, east of the Belorechsky Dome. It is situated in a Paleogene graben typical of the Eastern Rhodopes, filled mainly with coarse-grained material and finer-grained sediments. The reason for the formation of this graben is the collision development of the area during the Upper Cretaceous and Oligocene. As a result, during the Paleogene, thick terrigenous and volcanogenic-sedimentary deposits of diverse composition accumulated in it. At the end of the Oligocene, significant subvolcanic intrusions, mainly of medium acidity, penetrated this highly disintegrated crust, enabling the formation and continued existence of hydrothermal systems. The intrusions acted as thermal engines, driving large volumes of hydrothermal solutions. These solutions leached gold from the host rocks and transported it as chloride complexes through the permeable zones of faulting and folding. Their mixing with meteoric waters led to a decrease in temperature and the deposition of ore mineralization. In the western and northeastern parts of the Paleogene sedimentary basin, several superposition

located between each other are a high-metamorphic complex, Mesozoic shales, and aplitoid granites (Rozinski type). In the area, Paleogene sediments are represented by two formations—breccia conglomerate and coal-bearing sandstone of Priabonian age, proven by fauna. These formations are 800–1000 m thick and 100–800 m thick, respectively. The lithological composition of the two formations is quite diverse. The breccia conglomerate formation consists of fragments of metamorphic bedrock, granite fragments, ultrabasics, and diaphorites with sandy and carbonate-sandy cement. The coal-bearing sandy formation is composed of polymictic sandstones with calcareous-clayey cement, gravelly-cobbly conglomerates, aleuritic sandstones, marls, coal shales, and coals.

The main mineralization in the deposit is concentrated in the sediments of the Belorechsky Graben near the western border of the basin. Within the framework of the Paleogene sedimentary basin, several superimposed high-metamorphic complexes, Mesozoic shales, and aplitoid granites (Rozinski type) can be distinguished.

The sediments exposed on the surface are part of the Krumovgrad Group (undivided), the breccia conglomerate association (Podrumchenska Formation), and the coal-bearing sandy association (conglomerate-sandstone association).

The Alpine ore deposits within the Eastern Rhodope Ore Region are grouped into five formation types of mineralization:

- Dopaleogene: chalcopyrite-pyrite with gold;
- Paleogene: quartz-pyrolusite, quartz-gold-polymetallic, quartz-gold-adular (low-sulfide);
- Neogene: quartz-antimonite with gold.

The leading mineralizations for the area are quartz-gold-polymetallic and quartz-gold-adularia.

Quartz-gold-polymetallic mineralization is closely related to monzonite hypabyssal intrusions, post-plutonic dikes, and rhyolite-andesite depressions (Kolkovski, 1994). The ore bodies are quartz-sulfide veins, vein-like zones, or linear shocks. Five mineral types are distinguished within the formation:

- quartz-pyrite-chalcopyrite with bismuth sulphosalts - Madzharovo, Popsko;
- quartz-hematite-chlorite with gold - Madzharovo, Spahievo;
- quartz-polymetallic with chalcopyrite - Madzharovo, Popsko, Zvezdel-Pchelohad;
- quartz-barite-sulphosalts with gold - Zvezdel-Pchelohad, Madzharovo, Popsko.

The quartz-gold-adularia mineralization, poor in sulfides, is becoming increasingly important within the Eastern Rhodope ore district. Its characteristic features are its genetic connection with subvolcanic bodies, mainly silicic with basalt-latite composition. It is controlled by submeridional faults. Four mineral types have been identified:

- quartz-pyrite - Sarnak;
- gold-adular with hematite - Sarnak, Sedefche; Chala;
- gold-quartz-pyrite - Rozino;
- gold-quartz-adularia - Madzharovo, Krumovgrad.

The regional geological position of the Rozino deposit is interpreted as a series of small Paleogene syn-tectonic extensional sedimentary basins within the Belorechensky metamorphic core complex. The tectonic situation in the complex is

complex extensional character, with a main north-western direction and right-lateral kinematics of the main structures. One of the main fault disturbances is the so-called Belorechenska shear zone, which can be traced regionally for more than 15 kilometres. Numerous northeast-trending fault disturbances have also been identified, which limit the sedimentary basin in its northwestern part, and drilling data has identified the Tashlushki fault, on which the telethermal zone of change is located.

The main lithological units containing gold mineralization in the deposit are breccia conglomerate/sandstone sediments and, to some extent, olistostromal blocks, metagranite, and ultrabasic rocks from the upper variegated complex. The breccia conglomerate association is the main host medium of the mineralization and lies transgressively or along a low-angle fault separating it from the basement with a thickness of up to 200 m. The unit consists of alternating coarse, often unbedded, unstratified conglomerates of polymict breccia, sandstones, siltstones, and clay interbeds. A large olistostrome body with a length of 800 m, a width of 350 m, and a thickness of 170 m has been identified in the basin, which was most likely slid along the fault surface of a listric fault during sedimentation. It consists of black-gray low-metamorphic shales and phyllites, which are strongly folded with abundant organic material content.

Hydrological conditions

During construction

From the start of construction activities at the mine until the end of the second year, construction work will be carried out to build the walls of the SMO. There will be no production activity and the waters at this stage are classified as construction waters. Surface water will be managed by permanent and temporary open channels. The catchment areas are shown in Figure 4.2-1.

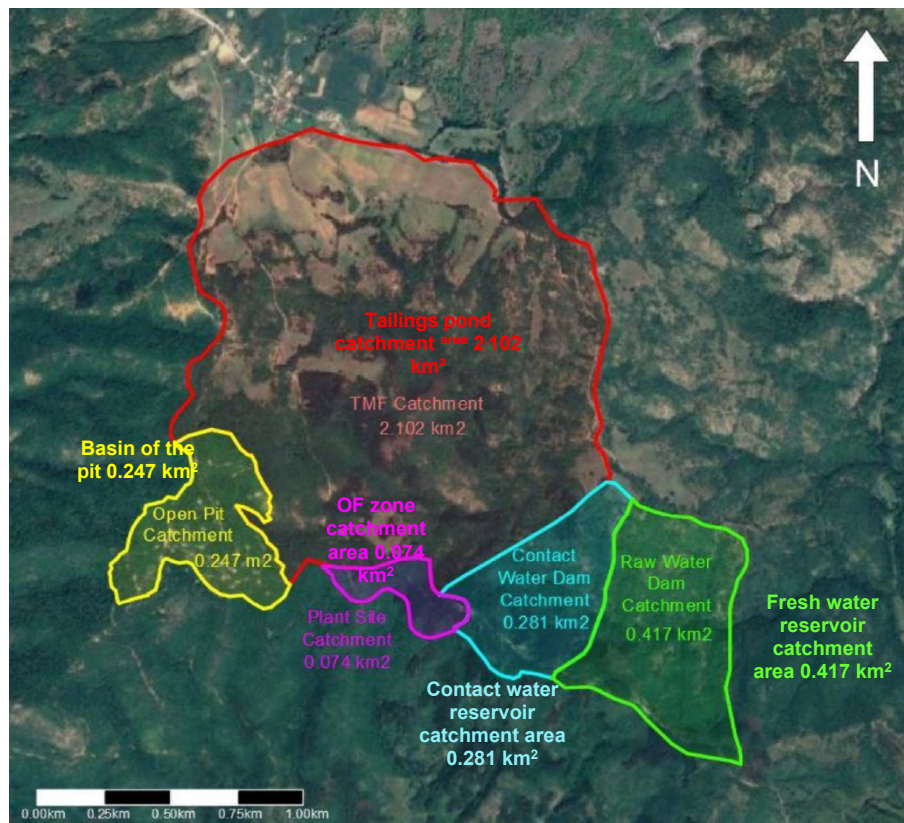


Figure 4.2-1 Catchment areas during construction (until the second year).

During the **construction period**, temporary sedimentation ponds will be constructed along the watercourse to capture solid runoff and discharge clarified water into the Yuren Dere river valley.

No negative impact on surface waters is expected during the construction phase due to the absence of objective reasons for this.

During operation

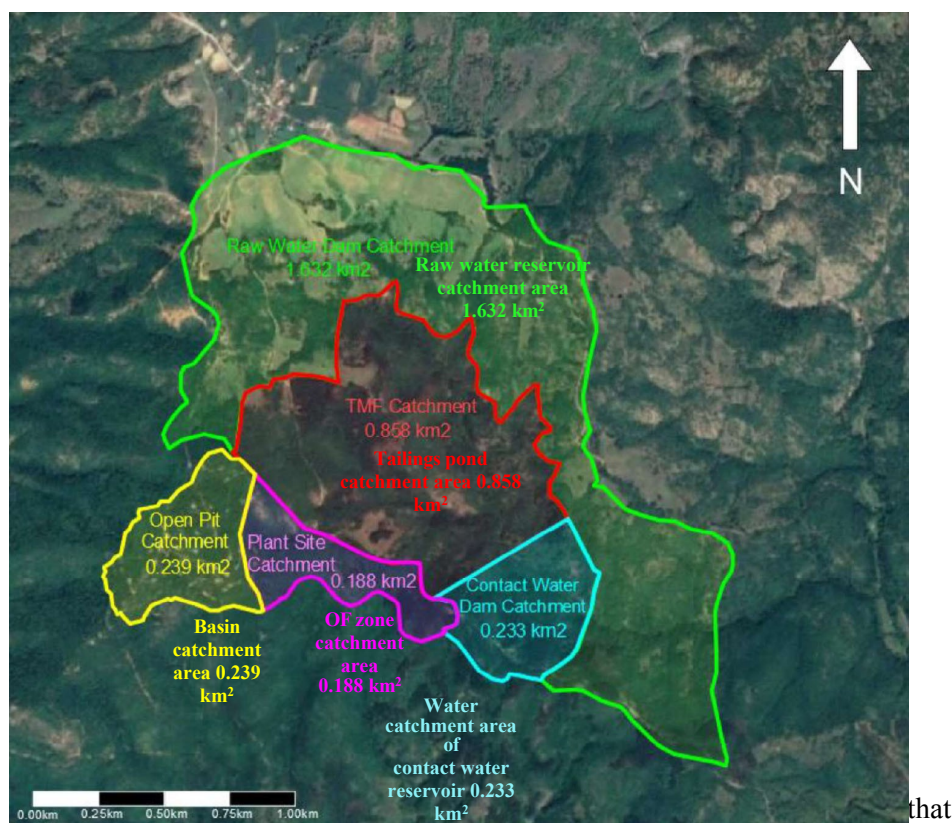
In order to manage the runoff from the areas above the facilities during the operation of the site, two channels have been developed - a northern diversion channel along the northeast side and a southern diversion channel south of the site. They will discharge collected water to the fresh water storage reservoir and, respectively, to the contact water storage lake. From the beginning of year 3 onwards, the northern diversion channel will start operating at the northeast end of the SMO, extending to the fresh water storage reservoir area north of the site. This configuration will remain unchanged until the end of mining operations prior to closure.

The catchment areas formed during the mine's operational period are shown in Figure 4.2-2, and the characteristics of the catchment areas are presented in Table 4.2-1.

Table 4.2-1 Characteristics of the catchment areas during the operational phase of the site.

Catchment	Area (km ²)	Length of watercourse, (m)	Average slope of the terrain, (%)	Flow time, (mins)
SMO	0.858	911	26.69	12.09
Contact water tank water	0.233	374	24.52	7.03
Fresh water tank	1.632	3482	22.67	48.27
Enrichment plant	0.118	899	19.75	14.89
Open pit mine	0.23	Not applicable	Not applicable	Not applicable mo

The bottom of the mine is expected to reach an elevation of 435 m. According to the drilling work carried out, no underground water has been reached at this elevation and therefore no additional water inflow to the pit is expected other than that from rainfall and snowfall.



that fall within the boundaries of the mine and the dumps as a result of rain and snowfall will be directed to the lowest parts of the respective facility. In the mine pit, a sump is planned to be formed at each working level to collect surface water, which will be used to irrigate the mine roads. Excess mine water

If necessary, pumps will be used to pump and redirect water to the contact water facility in order to replenish the circulating water. All dumps will be constructed and developed with slopes at each stage to ensure gravity drainage of surface water back to the outer edges. A surface water drainage system will be constructed and directed to the ore processing plant or the contact water reservoir. The upper horizons of the pit, which have an open contour, will facilitate the gravitational diversion of rainwater and its removal outside the perimeter of the pit, which would reduce the need for drainage during the extraction of the mine.

It is planned to pump water directly from the Arpa Dere River during the wet months of the year (from January to May inclusive). Water intake from the Arpa Dere River will be close to its confluence with the Yuren Dere River and adjacent to the existing pumping station in the village of Rozino. This pumping station is designed to pump water from a spring that flows into the whirlpool. The flow rate of this spring varies between 6 and 11 l/s throughout the year, depending on the season. It has been calculated that the flow rate required to maintain the village of Rozino is in the order of 0.34 l/s. The excess water from the spring, after the relevant justification, could be used for the industrial needs of the site throughout the year. It is planned that the water intake will be carried out from a naturally formed pool without the need to build a dam or other construction works blocking the river.

The surface runoff from the open pit mine will be used as the primary source of water for the production facility. This water is pumped from the sumps of the open pit mine to the OF reservoirs. The water stored in the SMO settling pond is the second source of water for the factory, with the fresh water reservoir being used as a source of supplementary water (third source) if the water from the open pit mine and the SMO is not sufficient or of the required quality to meet the factory's water needs.

During the operational phase, no negative impact on surface water is expected due to the absence of objective reasons for this.

During closure and recultivation

The possibilities for introducing accelerated evaporation technology to remove water from the contact water tank and the system as a whole during site closure and recultivation have been studied.

The concept of accelerated evaporation is to disperse approximately 5 l/s of water from the tank (for each device) 18 m into the air with an average droplet size of less than 100µm. This is achieved with mobile mechanical evaporation devices, allowing the goal of "zero discharge" at the site during the mine closure phase to be achieved. The devices are mounted either on the ground or on floating platforms. This allows for operational flexibility and relocation depending on wind direction. With this system, all water that has not evaporated is captured within the reservoir's catchment area.

The forecast for accelerated evaporation, even at a minimum efficiency of 30%, is up to 3028 m³ per month per device. The equipment will be actively used in the mine closure process (as envisaged in the investment intention 5-year

period of active conservation) when the collected drainage water in the contact reservoir will evaporate during the summer months to provide sufficient free volume for drainage water during the winter period when evaporation is ineffective.

The climate in the area is favorable for the application of enhanced evaporation. The high average temperatures and relatively low humidity during the months of April to September indicate that this could be the optimal period for enhanced evaporation.

Also, upon closure of the facility, the suction pipe of the pumping station drawing water from the Arpa River during the operation of the facility will be dismantled with minimal impact on the riverbed.

During the closure and recultivation phase, no negative impact on surface waters is expected due to the absence of objective reasons for this.

Hydrogeological conditions

The investment proposal for "Extraction and processing of polymetallic ores from the Rosino deposit, Tintyava area" involves limited and only necessary use of groundwater. The hydrogeological study conducted so far in the area of the deposit has established that the groundwater has an insignificant flow rate for technological needs. Therefore, an additional study of the hydrogeological conditions and the potential of the groundwater is planned.

The inflow of groundwater collected in the sumps of the pit will be pumped to the plant as a priority in order to meet the requirements of the technological plant. If there is excess water, it will be pumped to the SMO for temporary storage.

Groundwater from the open pit mine will be used as the primary water source for the production plant. This water is pumped from the sumps of the open pit mine to the OF tanks.

In order to reduce the amount of contact infiltrated water, a decision has been made to line the bottom and walls of the contact water tank with an insulating screen. In principle, no filtration water should seep from the tank, except in the event of a membrane defect. Water from any leaks will join the flow of filtration water coming from the SMO. The contact filtration water that has passed through any breaches in the screen, as well as the filtration water under the base of the facility, will enter the contact water reservoir either directly through the surface drainage or after being captured by the drainage curtain and pumped back into the contact water tank.

The filtered water passing through the curtain will be stopped by the injection barrier. The injection curtain acts as a barrier not only to the contact filtered water but also to the non-contact water. It prevents the mixing of the two flows, which is why we can say with certainty that the contact filtration flows are limited to the contact water reservoir and are not expected to cause groundwater contamination.

Morphology of the ore bodies

The main morphogenetic type of industrial significance in the Rozino section is

the vein-sprayed type of mineralization, developed in the Paleogene sediments. The ore bodies have a complex morphology, which can be conditionally divided into steep and gentle. The steep bodies are developed near the contact of the sediments with the bedrock rocks within the range of a north-northeast fault bundle. The gentle ore bodies are often buried and have no clear connection with fault structures. In these cases, the permeability and geochemical characteristics of the host rocks play a major role in ore control. Rare vein-type ore bodies are embedded in the rocks of the metamorphic basement. The bodies are subhorizontal to slightly inclined according to the dip and are always associated with the ore-bearing structure.

Three morphogenetic types of mineralization can be identified in the Rozino deposit: vein-sprayed, vein, and vein (gold-silver-polymetallic veins).

The steep bodies are developed near the contact between the sediments and the bedrock within the range of the north-northeast fault bundle – the Tashlushki fault – limiting the Paleogene sedimentary basin from the northeast. Along the fault contact zone, there is extremely rich mineralization (bonanza type) in which, together with gold, chalcopyrite, sphalerite, and galena are locally deposited. This mineralized shear zone has been traced along its length for a distance of 300 m, with the distribution of gold mineralization being very uneven, both laterally and vertically.

In the morphogenetic type of mineralization - vein and vein-like - they are observed both within the steep and sloping ore bodies described above, and independently, forming intersecting ore bodies. These ore bodies are best represented in the north-northeast pre-contact flank of the sedimentary basin, where they form a strip up to 80 m wide with a general direction of 130-150 degrees. Veins, veins, and vein bundles are observed on the surface and in boreholes.

The veins (especially those with fracture brecciation and silicification) show spatial correlation with a tectonically pronounced direction of 130-150 degrees. Many veins with voids and open spaces appear to occupy steep sections of extension near the faults, while others are subparallel to the faults. Observations on the veins show the following:

- Quartz-(carbonate)-pyrite-marcasite veins and quartz-(carbonate)-adularia veins are usually hollow and have significant open spaces. Crustiform, chalcedony-like, and moss-like textures are present;
- The pyrite, +/- quartz, veins have a similar orientation to the quartz veins, with most dipping at a moderate angle to the SW to SSW;
- Carbonate veins appear paragenetically late and dip at a moderate to steep angle to the SW, subparallel to late faults with a NW-SE direction.

Seismic data

According to the current seismic zoning of the Republic of Bulgaria, the deposit area falls within a territory with a probability of earthquake occurrence with an impact level of I-VII on the MSK scale. The seismicity coefficient for the area is $K_s = 0.10$.

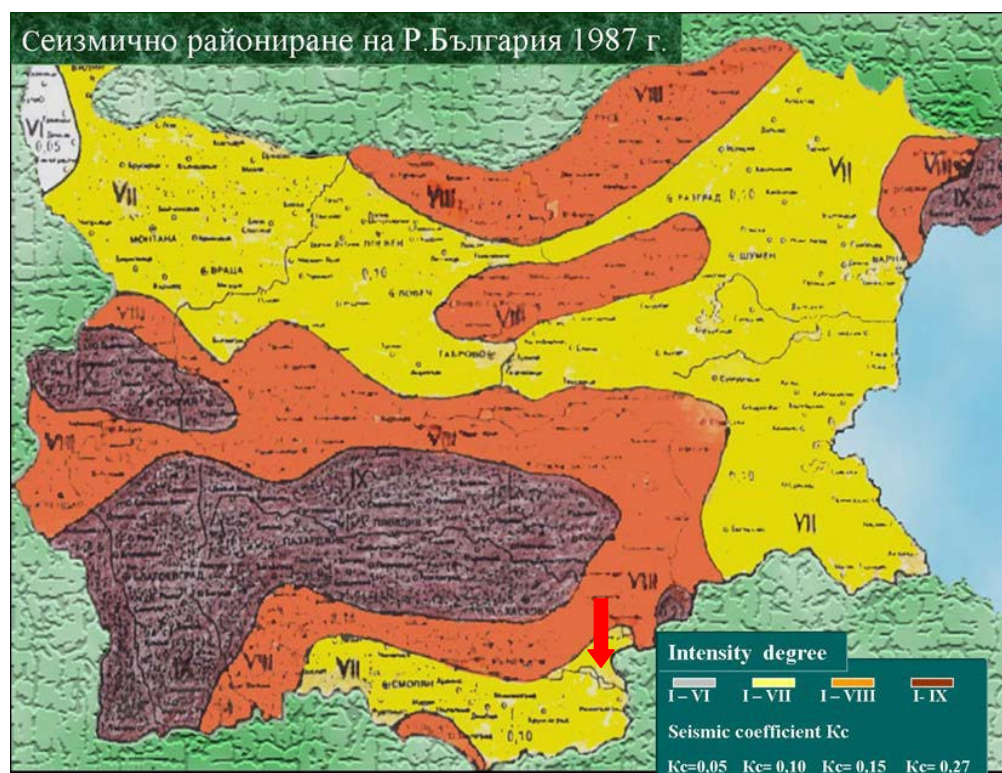


Figure No. 4.2-3. Seismic zoning of Bulgaria

Depending on the impact level of the earthquake, the following damage can be expected:

- up to VI degree – minor
- VI-IX degree – severe.

There are no infrastructure facilities built on the territory of the deposit, with the exception of existing forest roads.

4.3. Presence of underground and above-ground communications, water bodies, sanitary protection zones (SPZ), buildings, and others in the area of the mining waste facility

No underground or above-ground communications have been identified.

The investment proposal for "Extraction and processing of polymetallic ores from the Rosino deposit," Tintyava area falls within the scope of the Basin Directorate for Water Management in the Eastern Black Sea Region – Plovdiv, the basin of the Biala River, water body (WB) BG3MA100R270 Biala River and its tributaries.

The area of the investment proposal **does not affect** facilities for the extraction of water for drinking and domestic needs, nor the established sanitary protection zones around them.

The nearest settlements are:

- the village of Rozino – distance from the boundaries of the IP to the nearest buildings – 580 m;
- Byalgradets village – distance from the boundaries of the IP to the nearest buildings – 1430 m;

- Gugutka village – distance from the boundaries of the investment project to the nearest buildings – 1770 m;
- village of Pastrook – distance from the boundaries of the investment project to the nearest buildings – 2580 m;

4.4. Protected areas and protected zones

The area of the investment project falls within two protected areas (PA) of the Natura 2000 National Ecological Network:

- PA "Rhodopes - East", code BG0001032, for the protection of natural habitats and wild flora and fauna;
- PA "Biala Reka", code BG0002019, for the protection of wild birds.

The area covered by the IP does not affect protected areas within the meaning of the Protected Areas Act. The nearest such area is the Protected Area (PA) "Hambar Dere", located approximately 1.6 km from the concession (distance between the nearest points of the concession boundaries and the PA).

4.5 Type and category of the mining waste facility

According to the ZPB, mining waste is deposited and stored at designated sites or landfills, referred to as mining waste facilities, whose location, construction, and management prevent or minimize their negative impact on the environment and human health, without causing disturbance through noise or odors and without adversely affecting places of special interest.

According to Article 16, paragraph 1, of the Mining Waste Ordinance, a mining waste facility is any space—a dump, tailings pond, or other, intended for the collection or disposal of mining waste in solid or liquid phase, solution, or suspension, for the following period:

1. unlimited – for Category A facilities and for waste facilities classified as hazardous in the waste management plan;
2. more than six months - for facilities for hazardous mining waste generated unexpectedly;
3. more than one year - for facilities for non-hazardous non-inert waste;
4. more than three years - for facilities for uncontaminated soil, non-hazardous waste from exploration, inert waste, and waste generated during the extraction, processing, and storage of peat.

According to the above criteria, when storing "...inert waste and waste from extraction..." for a period of more than three years, the landfill is ***a facility for storing mining waste***.

According to Article 22b, paragraph 4 of the ZPB, mining waste facilities are categorized according to their degree of danger and risk to the environment and human health as follows:

- 1. Category A facilities** - mining waste facilities which, as a result of unforeseen circumstances or poor management, may cause

a major accident, or those in which hazardous waste above the specified threshold is deposited, or which contain hazardous substances or mixtures within the meaning of the Law on Protection from the Harmful Effects of Chemical Substances and Mixtures above the permissible limits;

2. Category B facilities - all other mining waste facilities.

Based on the quality characteristics and composition of the mining waste, including changes resulting from possible secondary impacts, as well as the degree of stability of the facilities according to their technical characteristics, **the mining waste facilities at the "Rozino" should be categorized as "category B"** because:

- the facilities do not have the potential for a major accident as a result of unforeseen circumstances or poor management;
- the mining waste to be stored is non-inert and non-hazardous waste and does not contain hazardous substances.

This categorization is also justified in the following point.

5. PROJECT OPERATION	AND FOR	DOCUMENTATION CLOSURE WASTE	FOR	CONSTRUCTION, OF THE
WASTE				

Once a concession for the development of the Rozino deposit has been obtained, the facilities will be constructed in accordance with a comprehensive working design. The facility will be operated during the relevant years on the basis of agreed annual working designs that are consistent with the comprehensive design. The closure of the facilities will be considered in the project for the recultivation of the disturbed land.

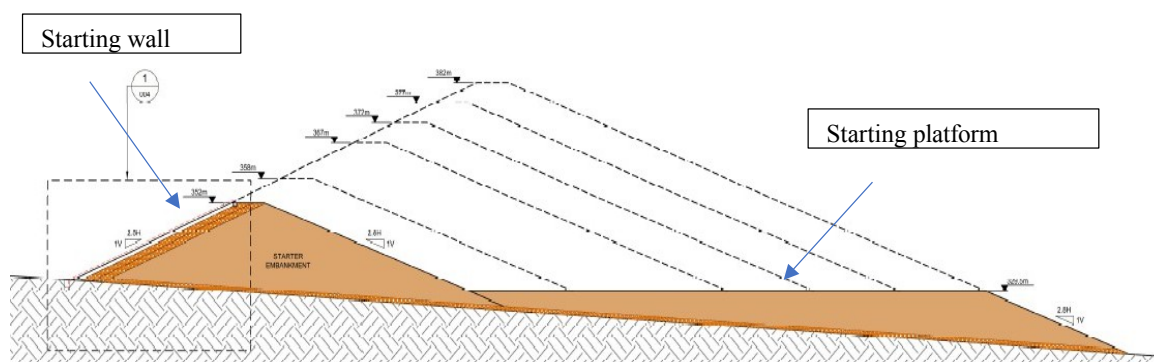
According to the technical data currently available, the storage facility for category B mining waste will have the following characteristics:

Phased development of the SMO

Construction of the starting wall

The start wall will be built to an elevation of 352 m above sea level before the SMO and OF are put into operation, which will be in the zero year. This construction will allow the flotation waste to be deposited immediately after the OF is started up.

The start wall will be built in stages as the mine develops and the sterile rock masses needed for the construction of the embankment are released. The extension will be carried out on top of the rock embankment already laid in the previous stage, with an increase along the air slope, a method that ensures maximum stability of the facility.



The seismic load was selected for an earthquake with a statistical recurrence interval of 1:10,000 years and an acceleration of 0.3 g.

Geotechnical parameters

The parameters are taken from laboratory studies, field tests, literature, and engineering practice. The materials are modeled as linear according to Mohr-Coulomb. Confirmation of the exact parameters is expected in the next phase of the project.

Stability modeling results

SMO – maximum profile:

Load	Slope	Allowable FoS	Calculated FoS
Static	Air	1.5	2.14
Pseudo-static	Air	1	1.0

Design solution for waterproofing

A 2 mm HDPE waterproofing layer is planned for the inner slopes of the starting wall and subsequent embankments. Its main purpose is to:

- minimize infiltration in the early stages,
- reduce pressure on the filtration system,
- extend the service life of the drainage structures.

A drainage filter of sand and gravel is laid under the membrane to capture local infiltrations.

Internal system for collecting and pumping infiltrate

The drainage system includes:

- filter layers above and below the membrane;
- a collection shaft with a submersible pump;
- drainage to the contact water tank.

Its function is to prevent the accumulation of a pressureless surface under the wall body.

Drainage at the base of the wall

A filter system made of sand and gravel is constructed under the wet slope, connected to the central drainage trench leading to the contact water reservoir.

Measures to control surface and filtration runoff, including:

- deflection channels;
- drainage curtains;
- injection curtains;
- a system for separating contact water from fresh water.

Emergency and post-reclamation spillways

An emergency spillway is planned to protect the wall in case of exceptional rainfall. As the lift progresses, the spillway is moved. Upon closure, a spillway is constructed, sized for a probable maximum flood (PMF) of 24 h.

Monitoring

Monitoring will cover the implementation of the following control and measuring devices devices:

- piezometers;
- geodetic benchmarks;
- system for real-time monitoring of wall deformation and settlement;
- monitoring and tracking the condition of the drainage system;
- measurement of infiltrate and contact water flows. Visual inspections and annual audits will be carried out.

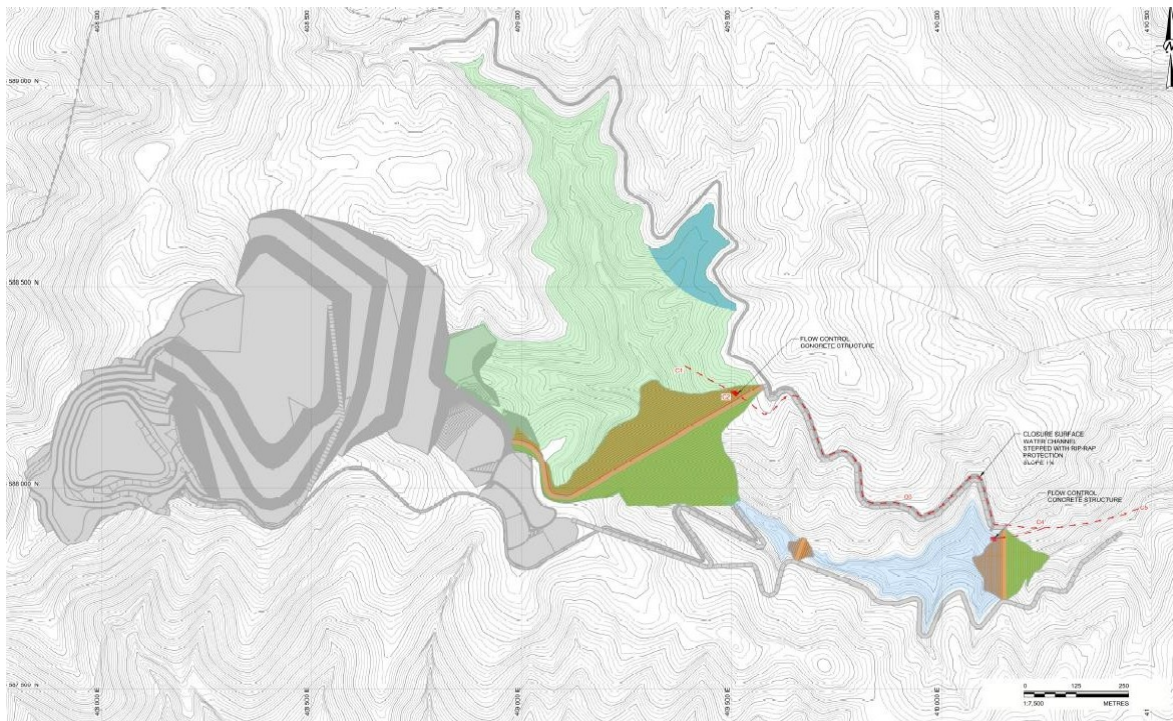
Closure and reclamation

Flotation tailings and sterile rock mass are assessed as **independent of acid drainage**.

Closure will include:

- laying ~0.5 m of sterile rock material,
- a layer of topsoil (min. 0.5 m or 2.0 m for afforestation under Ordinance 26),
- afforestation with native species (oak, black pine, etc.).

The SMO wall does not require additional profiling at a slope of 20°.



6. RISKS TO THE ENVIRONMENT AND TO HUMAN HEALTH AND SAFETY DURING THE OPERATION AND AFTER THE CLOSURE OF THE MINING WASTE FACILITY AND MEASURES TO PREVENT6.

6.1 Location of facilities

The location of the mining waste disposal facilities has been determined based on an analysis of the areas required for the disposal of waste and compliance with the legal requirement that they be built within the concession area, but outside the contour of the mineral reserves and in accordance with the restrictions arising from the protected area.

6.2. Physical stability of the facilities

With the development of the overall working project for the Rosino deposit, the designs for the mining waste facilities will also be prepared in order to ensure their stability.

6.3. Impact of geological, hydrological, hydrogeological, seismic, and geotechnical factors.

The impact on the geological and hydrogeological environment resulting from the construction of mining waste facilities can be defined as earthworks related to the extraction of minerals. As a result of the earthworks, only the local thickness of the covering horizon will change.

Future activity at the deposit sites involves one main way of impacting the geological environment: the formation of artificial voids in the geological environment.

6.4. Protection - in the short and long term, of soil, air, and water from pollution and the effective collection of contaminated water and infiltrate

Air

During the collection of the topsoil and overburden, short-term local dust emissions are possible, as detailed in the EIA report. The spoil heaps will then be recultivated in a timely and phased manner to limit dust emissions. Therefore, in the long term, the site is not expected to have an impact on the populated areas in the region and the quality of the ambient air will not be adversely affected.

Water

The mining waste facilities do not affect:

- the boundaries of populated areas with water sources built for the population's own needs;
- river beds in their natural state, river banks, and floodplains.

Therefore, no prohibitions are imposed on the planned activity in connection with the relevant provisions of the Water Act.

Mine drainage

Surface runoff from the open pit mine will be used as the primary source of water for the production facility. This water is pumped from the sumps of the open pit mine to the OF reservoirs. The water stored in the tailings pond is the second source of water for the plant, with the fresh water reservoir being used as a source of supplementary water (third source) if the water from the open pit mine and the tailings pond is not sufficient or of the required quality to meet the factory's water needs.

No oil, fuel, or any other technical or domestic pollutants may be discharged in the area of the sites. All activities involving such pollution shall be carried out at the locations and sites designated for this purpose. Repairs shall be carried out at the repair bases.

The service area shall be equipped with domestic trailers and a chemical toilet.

Soils

The expected impacts on land and soil during the construction of mining waste facilities are expressed in mechanical disturbance of the integrity of the soil profile on the developed areas.

Possible soil contamination in the vicinity during construction and mining activities is limited to the following:

- possible accidental spills of petroleum products - diesel fuel, motor, hydraulic and compressor oils used for mining and processing equipment. If the operating instructions for mining and construction equipment are followed and the equipment is properly maintained, the risk of such pollution will be minimal;

- dust pollution from excavation, filling, and transport activities.

The amount of dust from excavation, filling, and loading and unloading operations will also depend on climatic and meteorological factors. The chemical composition of the dust from excavation, filling, and loading and unloading works corresponds to that of the soil-forming materials in the area and, in this sense, does not pose a risk of changing soil properties and fertility;

- An impact on the soil can be expected from air pollution from unorganized sources—exhaust gases emitted by construction machinery—during the transport and storage of rock masses. The exhaust gases emitted into the atmosphere from internal combustion engines are mainly CO, NO_x, SO₂, CH₄ and dust. These harmful emissions are unlimited in time and quantity and have a local scope.

Collection of contaminated water and infiltrate

The drainage of the mine is described above. No contaminated water or infiltrate is expected.

6.5. Reduction of erosion caused by water and wind, as far as technically possible and economically justified.

Limited mechanical impact (compaction) from the heavy machinery used—excavators, bulldozers, heavy trucks—and local erosion processes can be expected on the land within the concession area. The proposed extraction technology includes measures that will significantly reduce the risk of soil erosion.

6.6. Landscape damage

During the construction and operation of the mining waste sites and facilities, the resource-containing and resource-reproducing function of the landscape will be disrupted. A typical man-made landscape with a changed visual appearance will be created there. It will be associated with the impact of the dumps for the duration of the concession, which will be limited to a certain extent by recultivation.

The impacts will be as follows:

- destruction of vegetation on the area occupied by mining waste facilities;
- change in the relief;
- temporary change in the quality of the components of the natural environment.

During operation, the areas of man-made landscapes will increase at the expense of the others. The construction of waste dumps will lead to changes in geographical forms and changes in land use. The processes of change will be reversible to a certain extent, subject to the implementation of the planned recultivation activities.

7. MEASURES TO PREVENT ACCIDENTS AND AVOID RISKS

7.1. Before and during the operation of the facilities.

The construction of the mining waste storage facilities will be carried out in accordance with working designs, which are part of the overall project for the development of the deposit and in accordance with the Mining Waste Management Plan.

The following measures will be observed to prevent accidents and incidents during the construction and operation of the dumps:

- compliance with the boundaries of the sites for the construction of the facilities;
- removal of the topsoil layer for subsequent use in recultivation;
- transport of materials to be deposited along precisely defined routes;
- compliance with instructions for working with vehicles and construction machinery;
- compliance with design solutions for shaping of the body of embankments;

- use of personal protective equipment and staff training related to safe working conditions;
- regular inspection of the stability of mining waste facilities.

7.2. *When recultivating land affected by mining waste facilities and closing them down;*

The following measures shall also be observed during the recultivation of mining waste facilities:

- preparation of a working project for closure and recultivation activities, post-closure care, and a monitoring plan, which shall be approved by the competent authorities;
- compliance with the design requirements for the construction of slopes and drainage systems;
- compliance with the design requirements for technical and biological recultivation;
- compliance with measures for safe work during recultivation activities.

8. CONTROL AND MONITORING PROCEDURES

8.1. *Plans and arrangements for monitoring mining waste facilities.*

Monitoring will be carried out after the closure of the mining waste facilities. The self-monitoring plan must include monitoring observations on the following components:

- ✓ atmospheric air;
- ✓ groundwater;
- ✓ subsurface (stability);
- ✓ soil;
- ✓ biodiversity.

A comprehensive working project for the technical and biological recultivation of the Rozino deposit will include a plan for monitoring the components of the environment.

8.2. *Plans and arrangements for the inspection of the mining waste facility by competent persons.*

Plans and arrangements for the inspection of mining waste facilities by competent persons will be drawn up after the start of the filling of the mining waste facilities. An own assessment will also be made of possible cases of imminent threat of environmental damage and of environmental damage caused, in accordance with *the Law on Liability for the Prevention and Remediation of Environmental Damage*.

8.3. *Actions taken in cases where monitoring or inspection results indicate instability of the facility or contamination of soil, air, and water.*

Specific actions will be planned and taken when monitoring results are available.

At this stage, the following control and monitoring procedures may be proposed for the implementation of the concession activity and the mining waste generated by it:

- Internal control shall be exercised over compliance with the parameters for excavation, extraction, and dumping works set out in the Comprehensive Working Project.
- Regular surveying control should be carried out to ensure compliance with the design decisions that will be set out in the Comprehensive Working Project for the exploitation of the deposit areas.
- Regular monitoring and control of the condition of the dumps shall be carried out in order to prevent in a timely manner the occurrence of hazards to the individual components of the environment and the health of people working in the quarry.

9. SITES OF ART. 16, PAR. 4.	FOR COLLECTION AND MINING WASTE FOR THE PERIODS SPECIFIED IN STORAGE
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According to Article 16, paragraph 4, the following are not mining waste facilities:

1. sites where the following are collected or deposited:
 - a) unexpectedly generated hazardous mining waste for a period of up to six months; b) non-hazardous non-inert mining waste for a period of up to one year;
 - c) uncontaminated soil, non-hazardous waste from exploration, inert waste, and waste generated during the extraction, processing, and storage of peat for a period of up to three years;
2. worked-out spaces formed as a result of underground or open-cast extraction of underground resources, in which mining waste is returned as filling material;
3. ramps, barriers, or other facilities related to production activities that are constructed with mining waste that meets the conditions of Article 22a, paragraph 5, items 1, 3, and 4 of the ZPB.

The hypothesis in item 2 above includes the worked-out areas of the deposit.

"Rosino", thus as part of the opening will be used for filling the worked-out space.

No other sites for the collection and storage of mining waste are planned for the periods specified in Article 16(4).

10. MINING WASTE INTENDED FOR FILLING EXHAUSTED SPACES RESULTING FROM UNDERGROUND OR OPEN-PIT MINING OF UNDERGROUND RESOURCES
--

At the Rozino deposit, the excavation works will have a volume of approximately 26.6 million tons or approximately 10.8 million m³ of excavated material.

The overburden from the mine will be deposited in two landfills for earth and humus, as

follows:

- Northeast with a single horizon at an approximate elevation of 495 m;
- Southwest with two horizons with approximate elevations of 377 m and 382 m

These spoil heaps are expected to develop during the mining construction period and will be closed after the end of reclamation. It should be noted that during the development of the overall project for the exploitation and reclamation of the affected lands, it is possible to choose a system of phased reclamation.

The sterile mass is planned to be dumped in the SMO, east of the mine pit.

An external facility for flotation waste is also planned.

11. CLOSURE AND RECLAMATION OF MINING WASTE FACILITIES AND AFFECTED LAND.

The main tasks set and solved with the development of the reclamation project, in accordance with *Ordinance No. 26/1996 on the reclamation of disturbed land, improvement of low-yield land, removal and utilization of topsoil*, are:

- removal, storage, and utilization of the available topsoil and geological materials from the excavation, suitable for the needs of reclamation;
- selection of a suitable method and stages for the reclamation of disturbed terrain;
- restoration or improvement of disturbed terrain and land in a manner that does not threaten the surrounding landscape and allows for the appropriate integration of the reclaimed area into the environment;
- development of a project for the gradual reclamation of areas disturbed by mining, which will be in line with the overall project schedule for the exploitation of the deposit's reserves.

Reclamation includes two main groups of activities – technical reclamation and biological reclamation.

12. PROGRAMS FOR PREVENTING THE DETERIORATION OF WATER QUALITY AND THE POLLUTION OF AIR AND SOIL

According to the requirements of Article 20, paragraph 1, items 1 and 2, the company must prepare programs to prevent the deterioration of water, air, and soil. This is an obligation under Chapter IV, "Construction, operation, and closure of mining waste facilities," of the Mining Waste Management Ordinance.

A comprehensive and annual project for the development of the deposit, a technical liquidation project, a reclamation project, and a final plan for the management of mining waste are to be prepared. Then, actual programs to prevent the deterioration of water, air, and soil will be prepared.

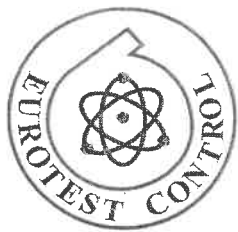
13. DOCUMENTS PROVING THE THE OPERATOR'S TECHNICAL SKILLS AND ABILITY TO ACHIEVE THE OBJECTIVES OF THE MINING WASTE MANAGEMENT PLAN
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Tintyava Exploration AD has the necessary qualified personnel and technical skills to achieve the objectives of the mine waste management plan, as well as the necessary technical and financial resources to implement the activities under the plan.

Tintyava Exploration AD develops, implements, and maintains the basic principles of environmental management systems, health and safety of people, in line with internationally recognized standards, voluntary practices of mining companies, in accordance with Bulgarian laws and relevant European and international guidelines, in strict compliance with good European and global practices. The company's priority is to minimize the risk of damage to the environment and to protect the health of employees, visitors, and people in the area.

14. APPENDICES

14.1. Appendix No. 1 – Test report No. 728/22.07.2020; Test report No. 730/22.07.2020; Test Report No. 731/22.07.2020 from the tests and analyses carried out by the accredited laboratory Eurotest Control EAD, Sofia.



TESTING LABORATORY DIRECTORATE EUROTEST-CONTROL EAD

108 Besarabia St, 1517 Sofia, tel. + 359 2 4470 360; tel./fax + 359 2 8720 596; www.eurotest-control.bg,
e-mail: office@eurotest-control.bg

QF 708-3EN
version 3/2020

REPORT

№ 3 -0065 /25.06.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 sample

(number, quantity, etc.)

6. Test method(s): ETC 7.2.1-33/2014

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234 / 24.06.2020

(number and date of the request of test request)

8. Test performing period: 24.06.2020 to 25.06.2020

9. Location of test performance: „Testing Laboratory Directorate“ at “Eurotest - Control” EAD, 108 Besarabia St, 1517 Sofia

DIRECTOR OF TESTING LABORATORY DIRECTORATE:

/Yuliana Akrabova /



10. Test results from determination of particle size distribution by laser diffraction

Sample № RE003-FLW, Lab. № 2004310.

10.1. Particle size distribution, expressed as differential percentages

Particle size, μm	Content, vol. %
< 1.0	3.2
< 2.0	7.7
< 3.0	11.7
< 4.0	15.1
< 5.0	18.1
< 6.0	20.9
< 7.0	23.5
< 8.0	26.0
< 9.0	28.5
< 10.0	31.0
< 20.0	55.6
< 30.0	74.8
< 40.0	87.2
< 50.0	94.2
< 60.0	97.7
< 70.0	99.3
< 80.0	99.8
< 90.0	100.0

Content, vol. %	to 10 %	to 50 %	to 90 %
Particle size, μm	2.5	17,6	43,2

NOTES:

1. Test results refer only to the tested samples.
2. TLD is not responsible for the sampling accuracy, sample storage term and sample storage conditions preceding the submission to the laboratory.
3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. Additional information for interpretation of the testing results which may be required for the specific test method by the client or the competent authority: according to Annex 1
5. The content in % (volume %) and particle size in μm is given as an arithmetic mean from 3 tests.
6. Additions, deviations or exceptions from the test methods: No.
7. TDL does not provide any comments or interpretation of the test results.
8. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory.

HEAD OF DEPARTMENT:
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LABORATORY DIRECTORATE:
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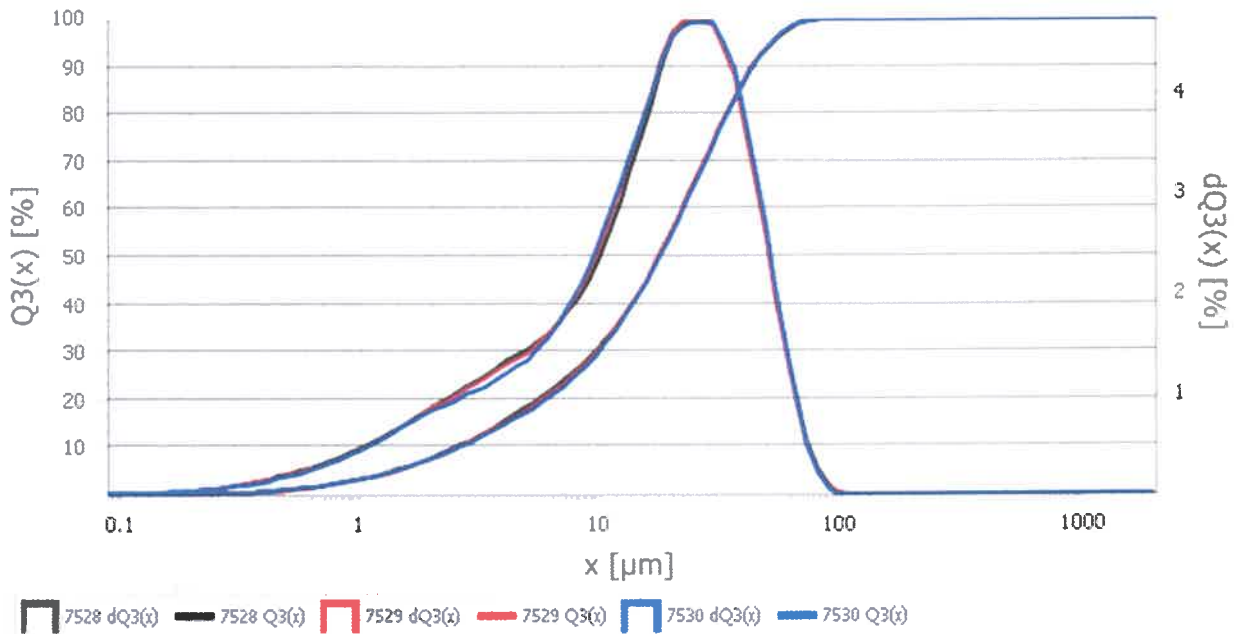
ANNEX № 1

TO

REPORT № 3 -0065 /25.06.2020

Sample № RE003-FLW, Lab. № 2004310

Overview of all Measurements

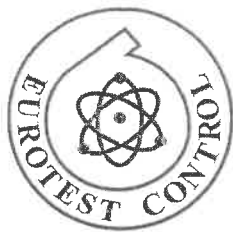


Q3(x) in %	x in μm	CV in %	M7528	M7529	M7530
10	2.5	1.6	2.5	2.6	2.6
50	17.6	0.6	17.7	17.5	17.7
90	43.2	0.6	43.5	42.9	43.4

x in μm	Q3(x) in %	CV in %	M7528	M7529	M7530
1	3.2	2.1	3.3	3.1	3.2
2	7.7	1.5	7.9	7.7	7.7
3	11.7	1.8	12.0	11.7	11.5
4	15.1	2.2	15.5	15.2	14.7
5	18.1	2.5	18.7	18.2	17.6
6	20.9	2.4	21.4	21.0	20.2
7	23.5	2.2	24.1	23.6	22.8
8	26.0	1.9	26.5	26.1	25.4
9	28.5	1.5	29.0	28.6	27.9
10	31.0	1.2	31.4	31.1	30.5
20	55.6	0.5	55.4	56.0	55.4
30	74.8	0.4	74.6	75.2	74.6
40	87.2	0.3	87.1	87.5	87.1
50	94.2	0.2	94.0	94.4	94.2

x in μm	Q3(x) in %	CV in %	M7528	M7529	M7530
60	97.7	0.1	97.6	97.8	97.7
70	99.3	0.1	99.2	99.3	99.3
80	99.8	0	99.8	99.8	99.8
90	100.0	0	100.0	100.0	100.0

Prepared by:.....
/ V.Tsaneva /



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QF 708-3EN
version 3/2020

REPORT

№ 3 -0110 /17.07.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 sample

(number, quantity, etc.)

6. Test method(s): ETC 7.2.1-29/2016

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234 / 24.06.2020

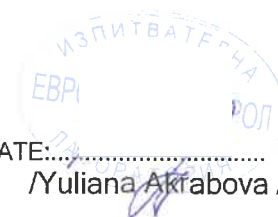
(number and date of the request of test request)

8. Test performing period: 24.06.2020 to 17.07.2020

9. Location of test performance: „Testing Laboratory Directorate“ at “Eurotest - Control” EAD, 108 Besarabia St, 1517 Sofia

DIRECTOR OF TESTING LABORATORY DIRECTORATE:.....

/Yuliana Akrabova /



10. Test results from X-ray diffraction analysis

Sample № RE001-LGR, Lab. № 2004308

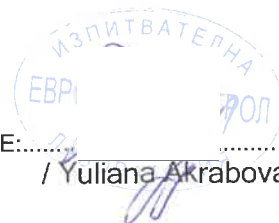
№	Mineral composition	Content, %
1	2	3
1	Quartz (SiO_2)	55
2	Muscovite $\{\text{KAl}_2[\text{AlSi}_3\text{O}_{10}](\text{OH})_2\}$	14
3	Orthoclase (KAlSi_3O_8)	12
4	Clinocllore $\{[\text{Mg,Al,Fe}]_6[\text{Si,A;}]_4\text{O}_{10}(\text{OH})_8\}_{11}$	9
5	Calcite (CaCO_3)	4
6	Dolomite $\text{CaMg}(\text{CO}_3)_2$	4
7	Pyrite (FeS_2)	1

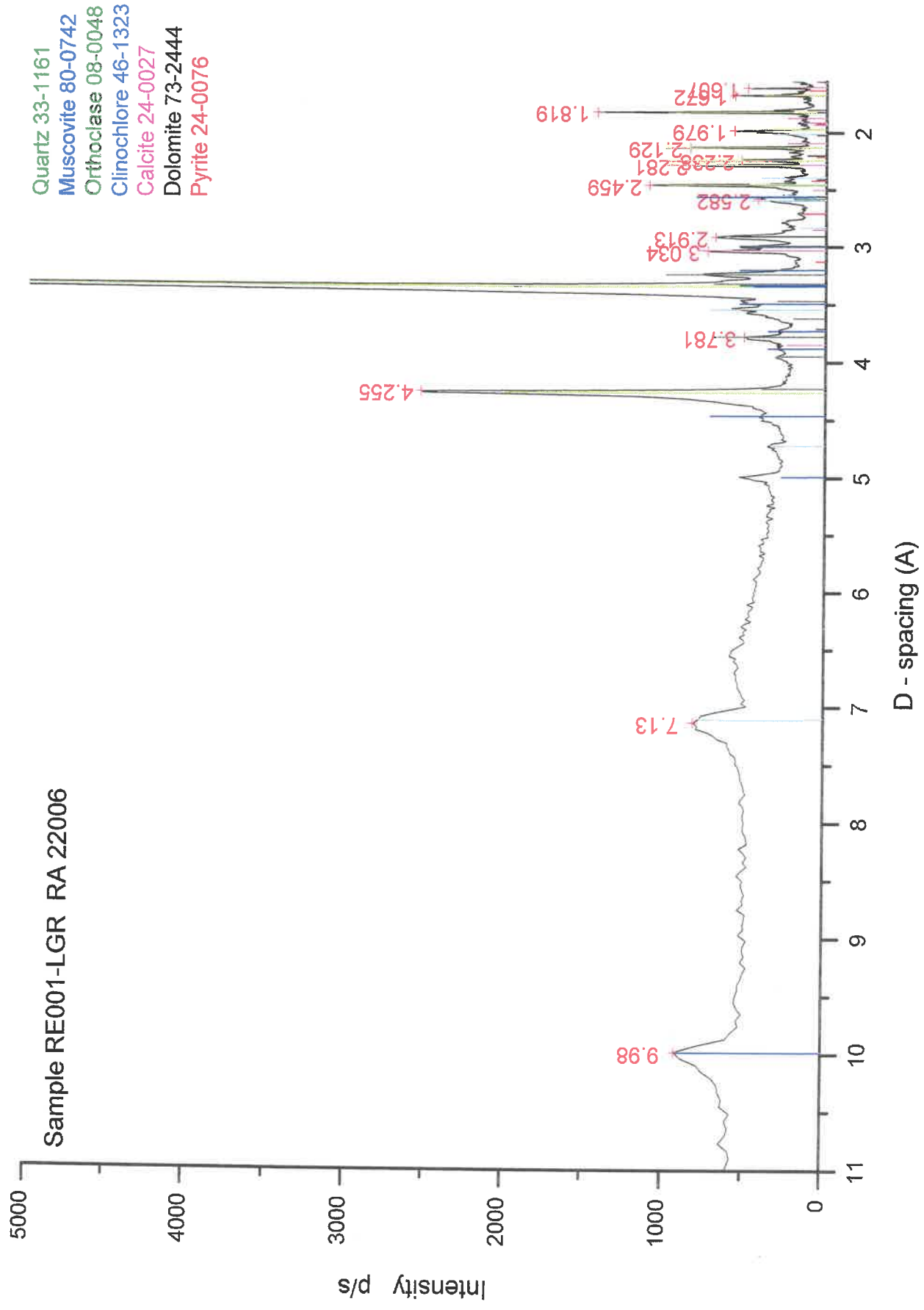
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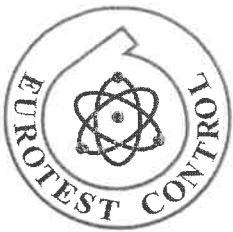
1. Test results refer only to the tested samples.
2. TLD is not responsible for the sampling accuracy, sample storage term and sample storage conditions preceding the submission to the laboratory.
3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. Additional information for interpretation of the testing results which may be required for the specific test method by the client or the competent authority: Experimental patterns № RA 22006.
5. Additions, deviations or exceptions from the test methods: No.
6. TDL does not provide any comments or interpretation of the test results.
7. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory.

HEAD OF DEPARTMENT:
Hristo Stanchev /

DIRECTOR OF TESTING
LABORATORY DIRECTORATE:
/ Yuliana Akrabova /







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QF 708-3EN
version 3/2020

REPORT

№ 3 -0111 /17.07.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 sample

(number, quantity, etc.)

6. Test method(s): ETC 7.2.1-29/2016

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234 / 24.06.2020

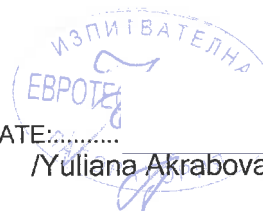
(number and date of the request of test request)

8. Test performing period: 24.06.2020 to 17.07.2020

9. Location of test performance: „Testing Laboratory Directorate“ at “Eurotest - Control” EAD, 108 Besarabia St, 1517 Sofia

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/Yuliana Akrafova /



10. Test results from X-ray diffraction analysis

Sample № RE002-WST, Lab. № 2004309

№	Mineral composition	Content, %
1	2	3
1	Quartz (SiO_2)	43
2	Clinocllore $\{[\text{Mg,Al,Fe}]_6[\text{Si,A;}]_4\text{O}_{10}(\text{OH})_8\}_{11}$	23
3	Muscovite $\{\text{KAl}_2[\text{AlSi}_3\text{O}_{10}](\text{OH})_2\}$	17
4	Orthoclase (KAlSi_3O_8)	10
5	Calcite (CaCO_3)	3
6	Dolomite $\text{CaMg}(\text{CO}_3)_2$	2
7	Pyrite (FeS_2)	1

NOTES:

1. Test results refer only to the tested samples.
2. TLD is not responsible for the sampling accuracy, sample storage term and sample storage conditions preceding the submission to the laboratory.
3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. Additional information for interpretation of the testing results which may be required for the specific test method by the client or the competent authority: Experimental patterns № RA 22007.
5. Additions, deviations or exceptions from the test methods: No.
6. TDL does not provide any comments or interpretation of the test results.
7. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory.

HEAD OF DEPARTMENT:

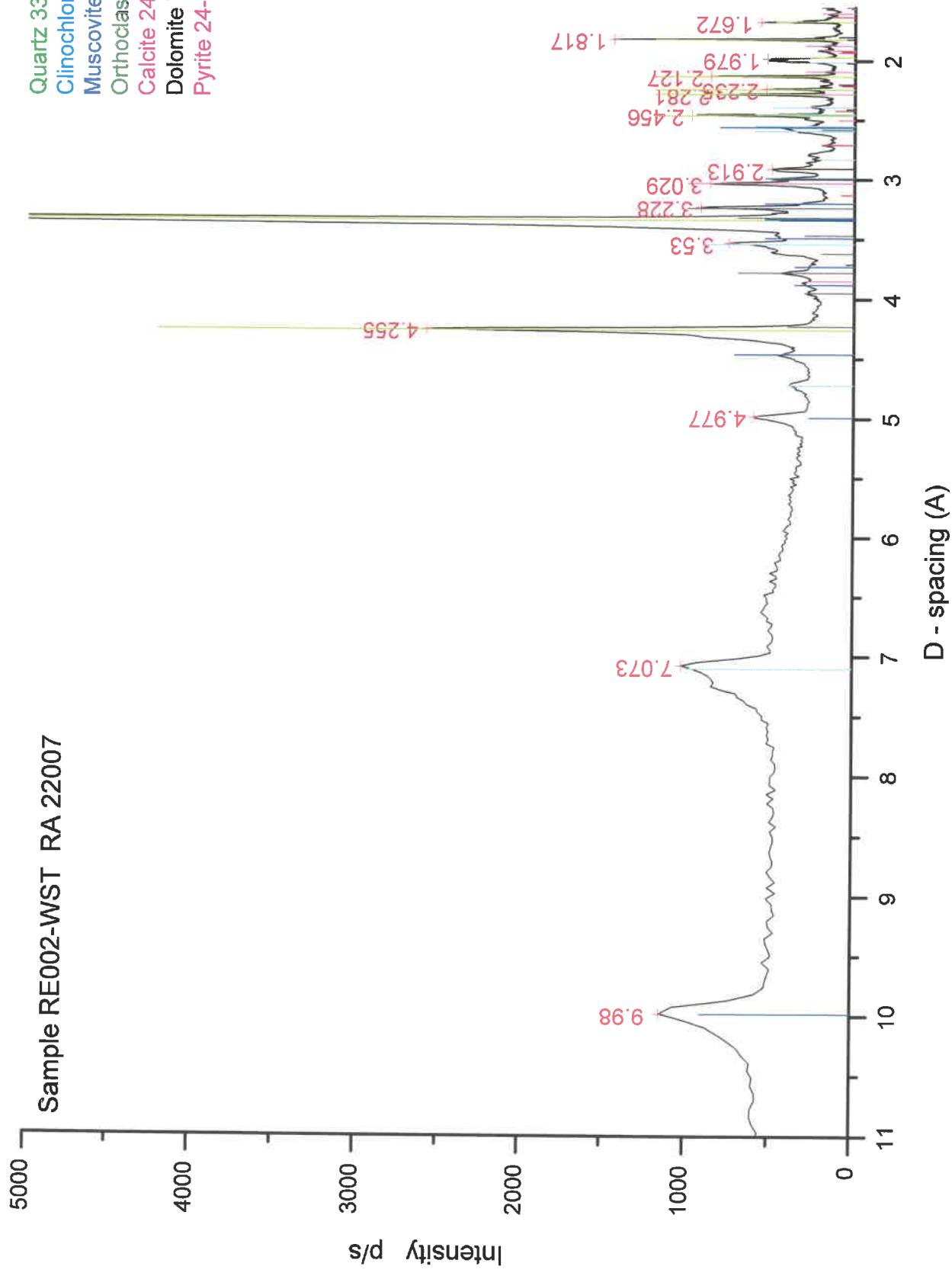
/ Hristo Stanchev /

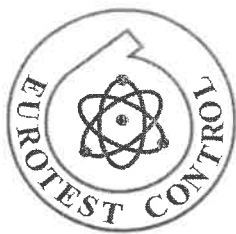
DIRECTOR OF TESTING

LABORATORY DIRECTORATE:

/ Yuliana Akrabova /







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QF 708-3EN
version 3/2020

REPORT

№ 3 -0112 /17.07.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 sample

(number, quantity, etc.)

6. Test method(s): ETC 7.2.1-29/2016

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234 / 24.06.2020

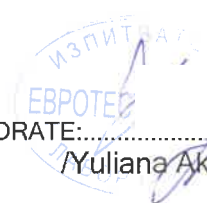
(number and date of the request of test request)

8. Test performing period: 24.06.2020 to 17.07.2020

9. Location of test performance: „Testing Laboratory Directorate“ at “Eurotest - Control” EAD, 108 Besarabia St, 1517 Sofia

DIRECTOR OF TESTING LABORATORY DIRECTORATE:.....

/Yuliana Akrabova /



10. Test results from X-ray diffraction analysis

Sample № RE003-FLW, Lab. № 2004310

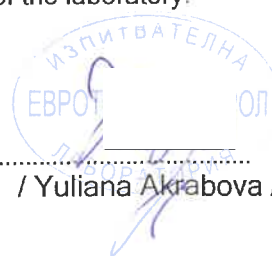
№	Mineral composition	Content, %
1	2	3
1	Quartz (SiO_2)	45
2	Muscovite $\{\text{KAl}_2[\text{AlSi}_3\text{O}_{10}](\text{OH})_2\}$	20
3	Clinocllore $\{[\text{Mg,Al,Fe}]_6[\text{Si,A;}]_4\text{O}_{10}(\text{OH})_8\}_{11}$	18
4	Orthoclase (KAlSi_3O_8)	8
5	Calcite (CaCO_3)	5
6	Dolomite $\text{CaMg}(\text{CO}_3)_2$	3

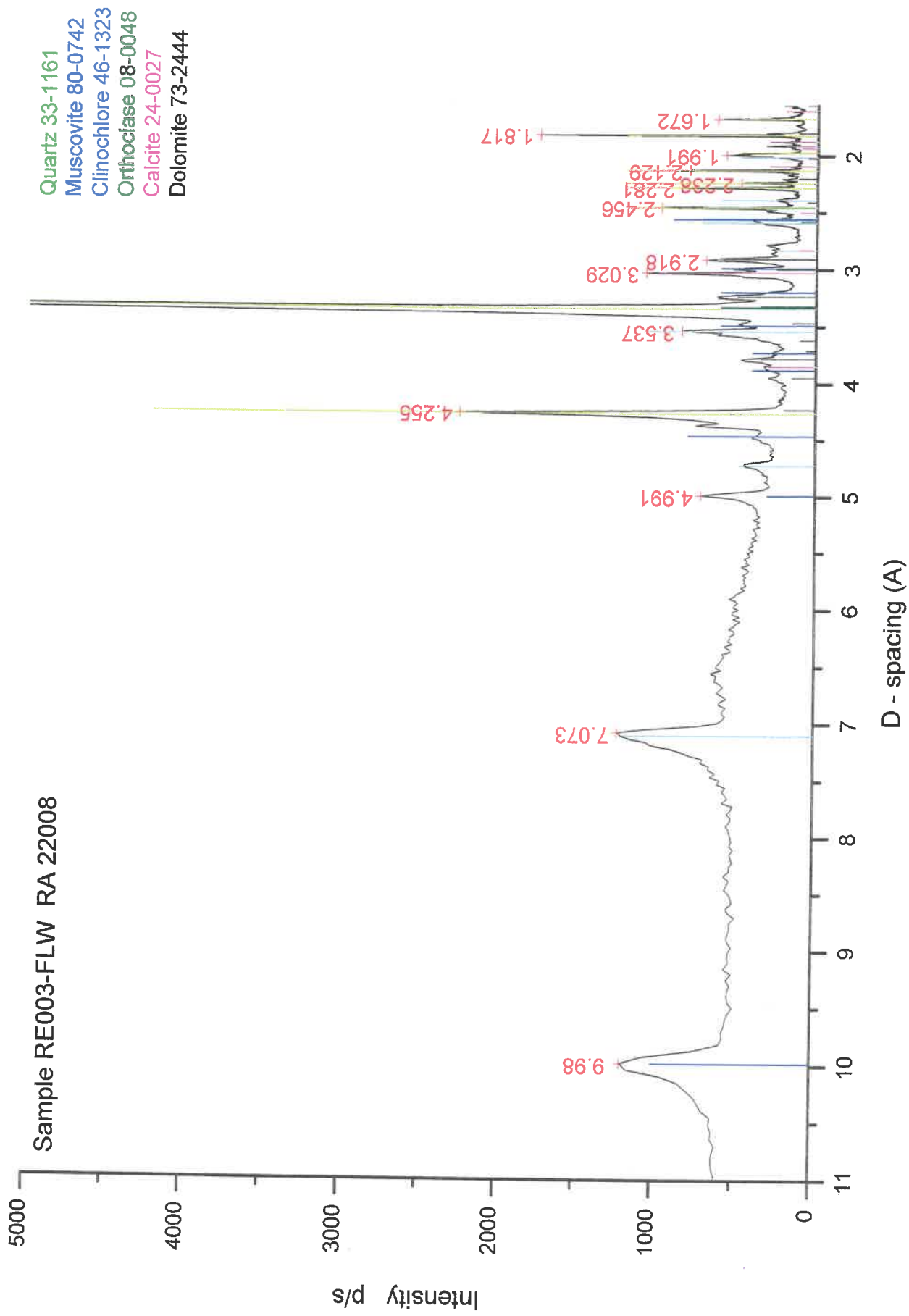
NOTES:

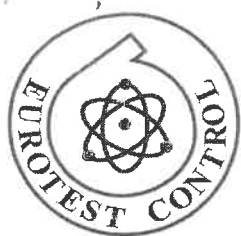
1. Test results refer only to the tested samples.
2. TLD is not responsible for the sampling accuracy, sample storage term and sample storage conditions preceding the submission to the laboratory.
3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. Additional information for interpretation of the testing results which may be required for the specific test method by the client or the competent authority: Experimental patterns № RA 22008.
5. Additions, deviations or exceptions from the test methods: No.
6. TDL does not provide any comments or interpretation of the test results.
7. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory.

HEAD OF DEPARTMENT:
/ Hristo Stanchev /

DIRECTOR OF TESTING
LABORATORY DIRECTORATE:
/ Yuliana Akrebova /



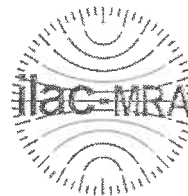




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QF 708-1/2EN
version 2 / 2020



TEST REPORT № 728 / 22.07.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 composite sample from rock material

(number, quantity, etc.)

6. Test method(s): ETC 7.1-16/2014; ETC 7.1-25/2017; ETC 7.1-3/2019; ETC 7.1-38/2014; ETC 7.1-40/2016; ETC 7.3-2/2016; ETC 7.3-7/2018; БДС EN 1484:2001; БДС EN 15169:2008; БДС EN 15216:2008; БДС EN 15875:2011; БДС EN 15933:2012; БДС EN ISO 10304-1:2009; БДС EN ISO 10523:2012; БДС EN ISO 11885:2009

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234/ 24.06.2020

(number and date of the request for testing)

8. Test performing period: 24.06.2020 to 22.07.2020

9. Location of test performance: „Testing Laboratory Directorate“ at „Eurotest - Control“ EAD, 108 Besarabia St, 1517 Sofia

DIRECTOR OF TESTING
LABORATORY DIRECTORATE:
/ Yuliana Akrapova /



10. Test results

Laboratory № 2004308

Sample data: sample № , object: RE001-LGR, composite sample from low grade rock material, composed of 1/4 HQ diameter drilling core.

Range (norm, category) according to: Ordinance №6/2013 amended in SG, issue 13/2017. Limit values from leaching of granular non-hazardous waste, stocked in landfills for non-hazardous waste, point 2.2.2.3 - table 5

№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
1	Eluate 10 l/kg				-	
	pH	БДС EN ISO 10523:2012	-	8.73 ± 0.11	-	t of the eluate 24.1 °C
	Antimony	БДС EN ISO 11885:2009	mg/kg	<0.050	0.7	t (22±4) °C RH (30+60)%
	Arsenic	БДС EN ISO 11885:2009	mg/kg	<0.10	2	t (22±4) °C RH (30+60)%
	Barium	БДС EN ISO 11885:2009	mg/kg	<0.010	100	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-40/2016	mg/kg	<0.005	0.2	t (22±4) °C RH (30+60)%
	Cadmium	БДС EN ISO 11885:2009	mg/kg	<0.010	1	t (22±4) °C RH (30+60)%
	Copper	БДС EN ISO 11885:2009	mg/kg	<0.030	50	t (22±4) °C RH (30+60)%
	Molybdenum	БДС EN ISO 11885:2009	mg/kg	<0.050	10	t (22±4) °C RH (30+60)%
	Nickel	БДС EN ISO 11885:2009	mg/kg	<0.020	10	t (22±4) °C RH (30+60)%
	Lead	БДС EN ISO 11885:2009	mg/kg	<0.10	10	t (22±4) °C RH (30+60)%
	Dissolved Organic Carbon (DOC)	БДС EN 1484:2001	mg/kg	<50	800	t (22±4) °C RH (30+60)%
	Total dissolved solids	БДС EN 15216:2008	mg/kg	1040 ± 104	60000	t (22±4) °C RH (30+60)%
	Selenium	БДС EN ISO 11885:2009	mg/kg	<0.10	0.5	t (22±4) °C RH (30+60)%
	Sulphates	БДС EN ISO 10304-1:2009	mg/kg	82 ± 8	20000	t (22±4) °C RH (30+60)%
	Fluorides	БДС EN ISO 10304-1:2009	mg/kg	2.4 ± 0.2	150	t (22±4) °C RH (30+60)%
	Chlorides	БДС EN ISO 10304-1:2009	mg/kg	16.6 ± 1.7	15000	t (22±4) °C RH (30+60)%
	Chromium (total)	БДС EN ISO 11885:2009	mg/kg	<0.010	10	t (22±4) °C RH (30+60)%
	Zinc	БДС EN ISO 11885:2009	mg/kg	<0.010	50	t (22±4) °C RH (30+60)%
2	Eluate 2 l/kg				-	
	pH	БДС EN ISO 10523:2012	-	8.45 ± 0.11	-	t of the eluate 24.1 °C
	Antimony	БДС EN ISO 11885:2009	mg/kg	<0.01	0.2	t (22±4) °C RH (30+60)%
	Arsenic	БДС EN ISO 11885:2009	mg/kg	<0.02	0.4	t (22±4) °C RH (30+60)%
	Barium	БДС EN ISO 11885:2009	mg/kg	<0.002	30	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-40/2016	mg/kg	<0.001	0.05	t (22±4) °C RH (30+60)%
	Cadmium	БДС EN ISO 11885:2009	mg/kg	<0.002	0.6	t (22±4) °C RH (30+60)%



№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
2	Eluate 2 l/kg				-	
	Copper	БДС EN ISO 11885:2009	mg/kg	<0.006	25	t (22±4) °C RH (30+60)%
	Molybdenum	БДС EN ISO 11885:2009	mg/kg	0.053 ± 0.005	5	t (22±4) °C RH (30+60)%
	Nickel	БДС EN ISO 11885:2009	mg/kg	<0.004	5	t (22±4) °C RH (30+60)%
	Lead	БДС EN ISO 11885:2009	mg/l	<0.02	5	t (22±4) °C RH (30+60)%
	Dissolved Organic Carbon (DOC)	БДС EN 1484:2001	mg/kg	<10.0	380	t (22±4) °C RH (30+60)%
	Total dissolved solids	БДС EN 15216:2008	mg/kg	482 ± 24	40000	t (22±4) °C RH (30+60)%
	Selenium	БДС EN ISO 11885:2009	mg/kg	<0.02	0.3	t (22±4) °C RH (30+60)%
	Sulphates	БДС EN ISO 10304-1:2009	mg/kg	82 ± 4	10000	t (22±4) °C RH (30+60)%
	Fluorides	БДС EN ISO 10304-1:2009	mg/kg	1.2 ± 0.1	60	t (22±4) °C RH (30+60)%
	Chlorides	БДС EN ISO 10304-1:2009	mg/kg	14.6 ± 0.7	10000	t (22±4) °C RH (30+60)%
	Chromium (total)	БДС EN ISO 11885:2009	mg/kg	<0.002	4	t (22±4) °C RH (30+60)%
	Zinc	БДС EN ISO 11885:2009	mg/kg	<0.002	25	t (22±4) °C RH (30+60)%
3	Neutralization Potential Ratio (NPR)	БДС EN 15875:2011	-	12.8	-	t (22±4) °C RH (30+60)%
4	Wastes - solid				-	t (22±4) °C RH (30+60)%
	pH	БДС EN 15933:2012	-	8.93 ± 0.21	-	t (22±4) °C RH (30+60)%
	Arsenic	ETC 7.1-38/2014	mg/kg	67 ± 10	-	t (22±4) °C RH (30+60)%
	Vanadium	ETC 7.1-38/2014	mg/kg	78 ± 12	-	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-16/2014	mg/kg	<0.20	-	t (22±4) °C RH (30+60)%
	Cadmium	ETC 7.1-38/2014	mg/kg	<1.0	-	t (22±4) °C RH (30+60)%
	Cobalt	ETC 7.1-38/2014	mg/kg	15 ± 2	-	t (22±4) °C RH (30+60)%
	Molybdenum	ETC 7.1-38/2014	mg/kg	<3.0	-	t (22±4) °C RH (30+60)%
	Copper	ETC 7.1-38/2014	mg/kg	48 ± 7	-	t (22±4) °C RH (30+60)%
	Nickel	ETC 7.1-38/2014	mg/kg	65 ± 10	-	t (22±4) °C RH (30+60)%
	Total inorganic carbon	ETC 7.3-2/2016	mg/kg	10300 ± 700	-	t (22±4) °C RH (30+60)%
	Total Organic Carbon (TOC)	ETC 7.3-2/2016	mg/kg	1500 ± 200	-	t (22±4) °C RH (30+60)%
	Lead	ETC 7.1-38/2014	mg/kg	19 ± 3	-	t (22±4) °C RH (30+60)%
	Chromium (total)	ETC 7.1-38/2014	mg/kg	78 ± 12	-	t (22±4) °C RH (30+60)%
	Zinc	ETC 7.1-38/2014	mg/kg	59 ± 9	-	t (22±4) °C RH (30+60)%

№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
4	Wastes - solid				-	t (22±4) °C RH (30÷60)%
	Sulphur (total)	ETC 7.3-7/2018	%	0.24 ± 0.02	-	t (22±4) °C RH (30÷60)%
	Sulphur (sulphate)	ETC 7.1-25/2017	%	<0.10	-	t (22±4) °C RH (30÷60)%
	Sulphur (sulphide)	ETC 7.1-25/2017	%	0.18 ± 0.04	-	t (22±4) °C RH (30÷60)%
	Al ₂ O ₃	ETC 7.1-3/2019	%	12.01 ± 0.36	-	t (22±4) °C RH (30÷60)%
	CaO	ETC 7.1-3/2019	%	3.77 ± 0.23	-	t (22±4) °C RH (30÷60)%
	Fe ₂ O ₃	ETC 7.1-3/2019	%	4.99 ± 0.20	-	t (22±4) °C RH (30÷60)%
	K ₂ O	ETC 7.1-3/2019	%	4.14 ± 0.17	-	t (22±4) °C RH (30÷60)%
	MgO	ETC 7.1-3/2019	%	2.20 ± 0.16	-	t (22±4) °C RH (30÷60)%
	MnO	ETC 7.1-3/2019	%	0.18 ± 0.02	-	t (22±4) °C RH (30÷60)%
	Na ₂ O	ETC 7.1-3/2019	%	0.38 ± 0.08	-	t (22±4) °C RH (30÷60)%
	P ₂ O ₅	ETC 7.1-3/2019	%	0.15 ± 0.02	-	t (22±4) °C RH (30÷60)%
	SiO ₂	ETC 7.1-3/2019	%	66.28 ± 0.40	-	t (22±4) °C RH (30÷60)%
	TiO ₂	ETC 7.1-3/2019	%	0.57 ± 0.06	-	t (22±4) °C RH (30÷60)%
	Loss on ignition	БДС EN 15169:2008	%	3.98 ± 0.20	-	t (22±4) °C RH (30÷60)%

NOTES:

1. Test results refer only to the tested samples.
2. TLD is not responsible for the sampling accuracy, sample storage term and sample storage conditions preceding the submission to the laboratory.
3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. The reported expanded uncertainty is gives as a standard uncertainty multiplied by the coefficient of coverage k=2, which in a normal distribution corresponds to a confidence probability of approximately 95 %.
5. The reported expanded uncertainty includes the sampling uncertainty only when the sampling was performed by the laboratory.
6. Additional information for interpretation of the testing results which may be required for the specific test method. by the client or the competent authority: According to annex №1 and annex №2.
7. Additions, deviations or exceptions from the test methods: No.
8. TDL does not provide any comments or interpretation of the test results.
9. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory.

HEAD OF DEPARTMENT:

/ eng. Iveta Vutova /

DIRECTOR OF TESTING
LABORATORY DIRECTORATE:

/ Yuliana Akrabova /



ANNEX № 1


TO TEST REPORT № 728 / 22.07.2020

№	Lab. №	Sample №	Sulphur (sulphide) %	Acid potential (AP), expressed as content of H ⁺ mol/kg	Neutralisation potential (NP), expressed as content of H ⁺ mol/kg	Net neutralisation potential (NNP), expressed as content of H ⁺ mol/kg	Neutralization Potential Ratio (NRP) $NRP = \frac{NP}{AP}$
1	2004308	RE001-LGR - composite sample from low grade rock material, composed of 1/4 HQ diameter drilling core	0.18	0.11	1.41	1.30	12.8

Notes: I. If NRP < 1 no capacity to neutralize the released acidity and the sample is acid-generating.
If NRP > 1 there is a capacity to neutralize the released acidity and the sample is not acid-generating.

II. The results for acid potential(AP), neutralization potential (NP) and net neutralization potential(NNP) are not under scope of accreditation, according to БДС EN ISO/IEC 17025:2018.

III. The samples are not acid-generating at sulphur (sulphide) content < 0.10 %.

Prepared by:  / eng. Silviya Dimitrova /

ANNEX № 2
TO
TEST REPORT № 728 / 22.07.2020

For the tested characteristics in eluate 10 l / kg, the leaching was performed according to BDS EN 12457-2:2003 at its own pH.


For the tested characteristics in eluate 2 l / kg, the leaching was performed according to BDS EN 12457-1:2003 at its own pH.

According to the requirements of БДС EN ISO 10523:2012:
The pH test was performed with automatic temperature compensation.

According to the requirements of БДС EN 15933:2012:
The pH characteristic is determined in an aqueous extract.

According to the requirements of БДС EN 1484:2001:
The test was performed on the same day after obtaining the eluate and the liquid-solid substance separation procedure.

According to the requirements of БДС EN 15216:2008:
The total dissolved solids test (TDS) was performed by drying in a drying cabinet with temperature control at $(105 \pm 3) ^\circ\text{C}$.

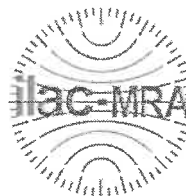
Prepared by: 
/ eng. Elza Sabeva /



TESTING LABORATORY DIRECTORATE EUROTEST-CONTROL EAD

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QF 708-1/2EN
version 2 / 2020



TEST REPORT № 730 / 22.07.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 composite sample from rock material

(number, quantity, etc.)

6. Test method(s): ETC 7.1-16/2014; ETC 7.1-25/2017; ETC 7.1-3/2019; ETC 7.1-38/2014; ETC 7.1-40/2016; ETC 7.3-2/2016; ETC 7.3-7/2018; БДС EN 1484:2001; БДС EN 15169:2008; БДС EN 15216:2008; БДС EN 15875:2011; БДС EN 15933:2012; БДС EN ISO 10304-1:2009; БДС EN ISO 10523:2012; БДС EN ISO 11885:2009

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234/ 24.06.2020

(number and date of the request for testing)

8. Test performing period: 24.06.2020 to 22.07.2020

9. Location of test performance: „Testing Laboratory Directorate“ at „Eurotest - Control“ EAD, 108 Besarabia St, 1517 Sofia

DIRECTOR OF TESTING
LABORATORY DIRECTORATE:
/ Yuliana Akrabova /



10. Test results

Laboratory № 2004309

Sample data: sample № , object: RE002-WST, composite sample from sterile rock material, composed of 1/4 HQ diameter drilling core.

Range (norm, category) according to: Ordinance №6/2013 amended in SG, issue 13/2017. Limit values from leaching of granular non-hazardous waste, stocked in landfills for non-hazardous waste, point 2.2.2.3 - table 5

№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
1	Eluate 10 l/kg				-	
	pH	БДС EN ISO 10523:2012	-	8.90 ± 0.11	-	t of the eluate 24.1 °C
	Antimony	БДС EN ISO 11885:2009	mg/kg	<0.050	0.7	t (22±4) °C RH (30+60)%
	Arsenic	БДС EN ISO 11885:2009	mg/kg	<0.10	2	t (22±4) °C RH (30+60)%
	Barium	БДС EN ISO 11885:2009	mg/kg	<0.010	100	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-40/2016	mg/kg	<0.005	0.2	t (22±4) °C RH (30+60)%
	Cadmium	БДС EN ISO 11885:2009	mg/kg	<0.010	1	t (22±4) °C RH (30+60)%
	Copper	БДС EN ISO 11885:2009	mg/kg	0.063 ± 0.006	50	t (22±4) °C RH (30+60)%
	Molybdenum	БДС EN ISO 11885:2009	mg/kg	<0.050	10	t (22±4) °C RH (30+60)%
	Nickel	БДС EN ISO 11885:2009	mg/kg	<0.020	10	t (22±4) °C RH (30+60)%
	Lead	БДС EN ISO 11885:2009	mg/kg	<0.10	10	t (22±4) °C RH (30+60)%
	Dissolved Organic Carbon (DOC)	БДС EN 1484:2001	mg/kg	<50	800	t (22±4) °C RH (30+60)%
	Total dissolved solids	БДС EN 15216:2008	mg/kg	420 ± 42	60000	t (22±4) °C RH (30+60)%
	Selenium	БДС EN ISO 11885:2009	mg/kg	<0.10	0.5	t (22±4) °C RH (30+60)%
	Sulphates	БДС EN ISO 10304-1:2009	mg/kg	117 ± 11	20000	t (22±4) °C RH (30+60)%
	Fluorides	БДС EN ISO 10304-1:2009	mg/kg	1.4 ± 0.1	150	t (22±4) °C RH (30+60)%
	Chlorides	БДС EN ISO 10304-1:2009	mg/kg	6.4 ± 0.7	15000	t (22±4) °C RH (30+60)%
	Chromium (total)	БДС EN ISO 11885:2009	mg/kg	<0.010	10	t (22±4) °C RH (30+60)%
	Zinc	БДС EN ISO 11885:2009	mg/kg	<0.010	50	t (22±4) °C RH (30+60)%
2	Eluate 2 l/kg				-	
	pH	БДС EN ISO 10523:2012	-	8.37 ± 0.11	-	t of the eluate 24.1 °C
	Antimony	БДС EN ISO 11885:2009	mg/kg	<0.01	0.2	t (22±4) °C RH (30+60)%
	Arsenic	БДС EN ISO 11885:2009	mg/kg	<0.02	0.4	t (22±4) °C RH (30+60)%
	Barium	БДС EN ISO 11885:2009	mg/kg	<0.002	30	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-40/2016	mg/kg	<0.001	0.05	t (22±4) °C RH (30+60)%
	Cadmium	БДС EN ISO 11885:2009	mg/kg	<0.002	0.6	t (22±4) °C RH (30+60)%



№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
2	Eluate 2 l/kg				-	
	Copper	БДC EN ISO 11885:2009	mg/kg	<0.006	25	t (22±4) °C RH (30÷60)%
	Molybdenum	БДC EN ISO 11885:2009	mg/kg	0.014 ± 0.001	5	t (22±4) °C RH (30÷60)%
	Nickel	БДC EN ISO 11885:2009	mg/kg	<0.004	5	t (22±4) °C RH (30÷60)%
	Lead	БДC EN ISO 11885:2009	mg/l	<0.02	5	t (22±4) °C RH (30÷60)%
	Dissolved Organic Carbon (DOC)	БДC EN 1484:2001	mg/kg	<10.0	380	t (22±4) °C RH (30÷60)%
	Total dissolved solids	БДC EN 15216:2008	mg/kg	442 ± 22	40000	t (22±4) °C RH (30÷60)%
	Selenium	БДC EN ISO 11885:2009	mg/kg	<0.02	0.3	t (22±4) °C RH (30÷60)%
	Sulphates	БДC EN ISO 10304-1:2009	mg/kg	116 ± 5	10000	t (22±4) °C RH (30÷60)%
	Fluorides	БДC EN ISO 10304-1:2009	mg/kg	1.6 ± 0.1	60	t (22±4) °C RH (30÷60)%
	Chlorides	БДC EN ISO 10304-1:2009	mg/kg	3.0 ± 0.4	10000	t (22±4) °C RH (30÷60)%
	Chromium (total)	БДC EN ISO 11885:2009	mg/kg	<0.002	4	t (22±4) °C RH (30÷60)%
	Zinc	БДC EN ISO 11885:2009	mg/kg	<0.002	25	t (22±4) °C RH (30÷60)%
3	Neutralization Potential Ratio (NPR)	БДC EN 15875:2011	-	20.2	-	t (22±4) °C RH (30÷60)%
4	Wastes - solid				-	t (22±4) °C RH (30÷60)%
	pH	БДC EN 15933:2012	-	9.20 ± 0.21	-	t (22±4) °C RH (30÷60)%
	Arsenic	ETC 7.1-38/2014	mg/kg	36 ± 5	-	t (22±4) °C RH (30÷60)%
	Vanadium	ETC 7.1-38/2014	mg/kg	81 ± 12	-	t (22±4) °C RH (30÷60)%
	Mercury	ETC 7.1-16/2014	mg/kg	<0.20	-	t (22±4) °C RH (30÷60)%
	Cadmium	ETC 7.1-38/2014	mg/kg	<1.0	-	t (22±4) °C RH (30÷60)%
	Cobalt	ETC 7.1-38/2014	mg/kg	16 ± 2	-	t (22±4) °C RH (30÷60)%
	Molybdenum	ETC 7.1-38/2014	mg/kg	<3.0	-	t (22±4) °C RH (30÷60)%
	Copper	ETC 7.1-38/2014	mg/kg	45 ± 8	-	t (22±4) °C RH (30÷60)%
	Nickel	ETC 7.1-38/2014	mg/kg	78 ± 12	-	t (22±4) °C RH (30÷60)%
	Total inorganic carbon	ETC 7.3-2/2016	mg/kg	9200 ± 600	-	t (22±4) °C RH (30÷60)%
	Total Organic Carbon (TOC)	ETC 7.3-2/2016	mg/kg	2200± 300	-	t (22±4) °C RH (30÷60)%
	Lead	ETC 7.1-38/2014	mg/kg	18 ± 3	-	t (22±4) °C RH (30÷60)%
	Chromium (total)	ETC 7.1-38/2014	mg/kg	93 ± 14	-	t (22±4) °C RH (30÷60)%
	Zinc	ETC 7.1-38/2014	mg/kg	57 ± 9	-	t (22±4) °C RH (30÷60)%



№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
4	Wastes - solid				-	t (22±4) °C RH (30+60)%
	Sulphur (total)	ETC 7.3-7/2018	%	0.17 ± 0.02	-	t (22±4) °C RH (30+60)%
	Sulphur (sulphate)	ETC 7.1-25/2017	%	<0.10	-	t (22±4) °C RH (30+60)%
	Sulphur (sulphide)	ETC 7.1-25/2017	%	0.10 ± 0.02	-	t (22±4) °C RH (30+60)%
	Al ₂ O ₃	ETC 7.1-3/2019	%	14.63 ± 0.38	-	t (22±4) °C RH (30+60)%
	CaO	ETC 7.1-3/2019	%	4.45 ± 0.24	-	t (22±4) °C RH (30+60)%
	Fe ₂ O ₃	ETC 7.1-3/2019	%	5.54 ± 0.17	-	t (22±4) °C RH (30+60)%
	K ₂ O	ETC 7.1-3/2019	%	4.16 ± 0.17	-	t (22±4) °C RH (30+60)%
	MgO	ETC 7.1-3/2019	%	2.94 ± 0.21	-	t (22±4) °C RH (30+60)%
	MnO	ETC 7.1-3/2019	%	0.17 ± 0.02	-	t (22±4) °C RH (30+60)%
	Na ₂ O	ETC 7.1-3/2019	%	0.38 ± 0.08	-	t (22±4) °C RH (30+60)%
	P ₂ O ₅	ETC 7.1-3/2019	%	0.16 ± 0.02	-	t (22±4) °C RH (30+60)%
	SiO ₂	ETC 7.1-3/2019	%	61.40 ± 0.46	-	t (22±4) °C RH (30+60)%
	TiO ₂	ETC 7.1-3/2019	%	0.65 ± 0.06	-	t (22±4) °C RH (30+60)%
	Loss on ignition	БДС EN 15169:2008	%	4.10 ± 0.21	-	t (22±4) °C RH (30+60)%

NOTES:

1. Test results refer only to the tested samples.
2. TLD is not responsible for the sampling accuracy, sample storage term and sample storage conditions preceding the submission to the laboratory.
3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. The reported expanded uncertainty is gives as a standard uncertainty multiplied by the coefficient of coverage k=2, which in a normal distribution corresponds to a confidence probability of approximately 95 %.
5. The reported expanded uncertainty includes the sampling uncertainty only when the sampling was performed by the laboratory.
6. Additional information for interpretation of the testing results which may be required for the specific test method. by the client or the competent authority: According to annex №1 and annex №2.
7. Additions, deviations or exceptions from the test methods: No.
8. TDL does not provide any comments or interpretation of the test results.
9. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory.

HEAD OF DEPARTMENT:...

/ eng. Iveta Yutova /

DIRECTOR OF TESTING
LABORATORY DIRECTORATE:...

/ Yuliana Akrabova /



ANNEX № 1

TO TEST REPORT № 730 / 22.07.2020

№	Lab. №	Sample №	Sulphur (sulphide) %	Acid potential (AP), expressed as content of H ⁺ mol/kg	Neutralisation potential (NP), expressed as content of H ⁺ mol/kg	Net neutralisation potential (NNP), expressed as content of H ⁺ mol/kg	Neutralization Potential Ratio (NPR) $NRP = \frac{NP}{AP}$
1	2004309	RE002-WST - composite sample from sterile rock material, composed of 1/4 HQ diameter drilling core	0.10	0.063	1.27	1.21	20.2

Notes: I. If $NRP < 1$ no capacity to neutralize the released acidity and the sample is acid-generating.

If $NRP > 1$ there is a capacity to neutralize the released acidity and the sample is not acid-generating.

II. The results for acid potential(AP), neutralization potential (NP) and net neutralization potential(NNP) are not under scope of accreditation, according to БДС EN ISO/IEC 17025:2018.

III. The samples are not acid-generating at sulphur (sulphide) content < 0.10 %.

Prepared by:
/ eng. Silviya Dimitrova /

ANNEX № 2

TO

TEST REPORT № 730 / 22.07.2020

For the tested characteristics in eluate 10 l / kg, the leaching was performed according to BDS EN 12457-2:2003 at its own pH.

For the tested characteristics in eluate 2 l / kg, the leaching was performed according to BDS EN 12457-1:2003 at its own pH.

According to the requirements of БДС EN ISO 10523:2012:
The pH test was performed with automatic temperature compensation.

According to the requirements of БДС EN 15933:2012:
The pH characteristic is determined in an aqueous extract.

According to the requirements of БДС EN 1484:2001:
The test was performed on the same day after obtaining the eluate and the liquid-solid substance separation procedure.

According to the requirements of БДС EN 15216:2008:
The total dissolved solids test (TDS) was performed by drying in a drying cabinet with temperature control at $(105 \pm 3) ^\circ\text{C}$.

Prepared by:.....
/ eng. Elza Sabeva /

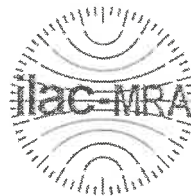


TESTING LABORATORY DIRECTORATE

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e-mail: office@eurotest-control.bg

QF 708-1/2EN
version 2 / 2020



TEST REPORT

№ 731 / 22.07.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 composite sample from flotation waste

(number, quantity, etc.)

6. Test method(s): ETC 7.1-16/2014; ETC 7.1-25/2017; ETC 7.1-3/2019; ETC 7.1-38/2014; ETC 7.1-40/2016; ETC 7.3-2/2016; ETC 7.3-7/2018; БДС EN 1484:2001; БДС EN 15169:2008; БДС EN 15216:2008; БДС EN 15875:2011; БДС EN 15933:2012; БДС EN ISO 10304-1:2009; БДС EN ISO 10523:2012; БДС EN ISO 11885:2009

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234/ 24.06.2020

(number and date of the request for testing)

8. Test performing period: 24.06.2020 to 22.07.2020

9. Location of test performance: „Testing Laboratory Directorate“ at “Eurotest - Control” EAD, 108 Besarabia St, 1517 Sofia

DIRECTOR OF TESTING
LABORATORY DIRECTORATE: /...

/ Yuliana Akrapova /



10. Test results

Laboratory № 2004309

Sample data: sample № , object: RE003-FLW, composite sample from flotation waste, composed of 1/4 HQ diameter drilling core.

Range (norm, category) according to: Ordinance №6/2013 amended in SG, issue 13/2017. Limit values from leaching of granular non-hazardous waste, stocked in landfills for non-hazardous waste, point 2.2.2.3 - table 5

№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
1	Eluate 10 l/kg				-	
	pH	БДС EN ISO 10523:2012	-	9.12 ± 0.11	-	t of the eluate 24.1 °C
	Antimony	БДС EN ISO 11885:2009	mg/kg	<0.050	0.7	t (22±4) °C RH (30+60)%
	Arsenic	БДС EN ISO 11885:2009	mg/kg	<0.10	2	t (22±4) °C RH (30+60)%
	Barium	БДС EN ISO 11885:2009	mg/kg	<0.010	100	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-40/2016	mg/kg	<0.005	0.2	t (22±4) °C RH (30+60)%
	Cadmium	БДС EN ISO 11885:2009	mg/kg	<0.010	1	t (22±4) °C RH (30+60)%
	Copper	БДС EN ISO 11885:2009	mg/kg	0.053 ± 0.005	50	t (22±4) °C RH (30+60)%
	Molybdenum	БДС EN ISO 11885:2009	mg/kg	0.056 ± 0.006	10	t (22±4) °C RH (30+60)%
	Nickel	БДС EN ISO 11885:2009	mg/kg	<0.020	10	t (22±4) °C RH (30+60)%
	Lead	БДС EN ISO 11885:2009	mg/kg	<0.10	10	t (22±4) °C RH (30+60)%
	Dissolved Organic Carbon (DOC)	БДС EN 1484:2001	mg/kg	<50	800	t (22±4) °C RH (30+60)%
	Total dissolved solids	БДС EN 15216:2008	mg/kg	550 ± 55	60000	t (22±4) °C RH (30+60)%
	Selenium	БДС EN ISO 11885:2009	mg/kg	<0.10	0.5	t (22±4) °C RH (30+60)%
	Sulphates	БДС EN ISO 10304-1:2009	mg/kg	99 ± 5	20000	t (22±4) °C RH (30+60)%
	Fluorides	БДС EN ISO 10304-1:2009	mg/kg	<1.0	150	t (22±4) °C RH (30+60)%
	Chlorides	БДС EN ISO 10304-1:2009	mg/kg	8.6 ± 1.0	15000	t (22±4) °C RH (30+60)%
	Chromium (total)	БДС EN ISO 11885:2009	mg/kg	<0.010	10	t (22±4) °C RH (30+60)%
	Zinc	БДС EN ISO 11885:2009	mg/kg	<0.010	50	t (22±4) °C RH (30+60)%
2	Eluate 2 l/kg				-	
	pH	БДС EN ISO 10523:2012	-	8.53 ± 0.11	-	t of the eluate 24.1 °C
	Antimony	БДС EN ISO 11885:2009	mg/kg	<0.01	0.2	t (22±4) °C RH (30+60)%
	Arsenic	БДС EN ISO 11885:2009	mg/kg	<0.02	0.4	t (22±4) °C RH (30+60)%
	Barium	БДС EN ISO 11885:2009	mg/kg	<0.002	30	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-40/2016	mg/kg	<0.001	0.05	t (22±4) °C RH (30+60)%
	Cadmium	БДС EN ISO 11885:2009	mg/kg	<0.002	0.6	t (22±4) °C RH (30+60)%



№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
2	Eluate 2 l/kg				-	
	Copper	БДC EN ISO 11885:2009	mg/kg	<0.006	25	t (22±4) °C RH (30+60)%
	Molybdenum	БДC EN ISO 11885:2009	mg/kg	0.064 ± 0.006	5	t (22±4) °C RH (30+60)%
	Nickel	БДC EN ISO 11885:2009	mg/kg	<0.004	5	t (22±4) °C RH (30+60)%
	Lead	БДC EN ISO 11885:2009	mg/l	<0.02	5	t (22±4) °C RH (30+60)%
	Dissolved Organic Carbon (DOC)	БДC EN 1484:2001	mg/kg	<10.0	380	t (22±4) °C RH (30+60)%
	Total dissolved solids	БДC EN 15216:2008	mg/kg	326 ± 33	40000	t (22±4) °C RH (30+60)%
	Selenium	БДC EN ISO 11885:2009	mg/kg	<0.02	0.3	t (22±4) °C RH (30+60)%
	Sulphates	БДC EN ISO 10304-1:2009	mg/kg	102 ± 5	10000	t (22±4) °C RH (30+60)%
	Fluorides	БДC EN ISO 10304-1:2009	mg/kg	0.48 ± 0.05	60	t (22±4) °C RH (30+60)%
	Chlorides	БДC EN ISO 10304-1:2009	mg/kg	4.8 ± 0.5	10000	t (22±4) °C RH (30+60)%
	Chromium (total)	БДC EN ISO 11885:2009	mg/kg	<0.002	4	t (22±4) °C RH (30+60)%
	Zinc	БДC EN ISO 11885:2009	mg/kg	<0.002	25	t (22±4) °C RH (30+60)%
3	Neutralization Potential Ratio (NPR)	БДC EN 15875:2011	-	25.9	-	t (22±4) °C RH (30+60)%
4	Wastes - solid				-	t (22±4) °C RH (30+60)%
	pH	БДC EN 15933:2012	-	9.57 ± 0.21	-	t (22±4) °C RH (30+60)%
	Arsenic	ETC 7.1-38/2014	mg/kg	58 ± 9	-	t (22±4) °C RH (30+60)%
	Vanadium	ETC 7.1-38/2014	mg/kg	84 ± 13	-	t (22±4) °C RH (30+60)%
	Mercury	ETC 7.1-16/2014	mg/kg	<0.20	-	t (22±4) °C RH (30+60)%
	Cadmium	ETC 7.1-38/2014	mg/kg	<1.0	-	t (22±4) °C RH (30+60)%
	Cobalt	ETC 7.1-38/2014	mg/kg	13 ± 2	-	t (22±4) °C RH (30+60)%
	Molybdenum	ETC 7.1-38/2014	mg/kg	<3.0 ± 2	-	t (22±4) °C RH (30+60)%
	Copper	ETC 7.1-38/2014	mg/kg	15 ± 2	-	t (22±4) °C RH (30+60)%
	Nickel	ETC 7.1-38/2014	mg/kg	44 ± 7	-	t (22±4) °C RH (30+60)%
	Total inorganic carbon	ETC 7.3-2/2016	mg/kg	15500 ± 1100	-	t (22±4) °C RH (30+60)%
	Total Organic Carbon (TOC)	ETC 7.3-2/2016	mg/kg	1300 ± 200	-	t (22±4) °C RH (30+60)%
	Lead	ETC 7.1-38/2014	mg/kg	15 ± 2	-	t (22±4) °C RH (30+60)%
	Chromium (total)	ETC 7.1-38/2014	mg/kg	100 ± 15	-	t (22±4) °C RH (30+60)%
	Zinc	ETC 7.1-38/2014	mg/kg	53 ± 8	-	t (22±4) °C RH (30+60)%



№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Measurement value and range defined by specification	Environmental conditions
1	2	3	4	5	6	7
4	Wastes - solid				-	t (22±4) °C RH (30+60)%
	Sulphur (total)	ETC 7.3-7/2018	%	0.13 ± 0.01	-	t (22±4) °C RH (30+60)%
	Sulphur (sulphate)	ETC 7.1-25/2017	%	<0.10	-	t (22±4) °C RH (30+60)%
	Sulphur (sulphide)	ETC 7.1-25/2017	%	<0.10	-	t (22±4) °C RH (30+60)%
	Al ₂ O ₃	ETC 7.1-3/2019	%	13.40 ± 0.40	-	t (22±4) °C RH (30+60)%
	CaO	ETC 7.1-3/2019	%	6.52 ± 0.33	-	t (22±4) °C RH (30+60)%
	Fe ₂ O ₃	ETC 7.1-3/2019	%	4.92 ± 0.20	-	t (22±4) °C RH (30+60)%
	K ₂ O	ETC 7.1-3/2019	%	4.15 ± 0.17	-	t (22±4) °C RH (30+60)%
	MgO	ETC 7.1-3/2019	%	2.36 ± 0.16	-	t (22±4) °C RH (30+60)%
	MnO	ETC 7.1-3/2019	%	0.22 ± 0.02	-	t (22±4) °C RH (30+60)%
	Na ₂ O	ETC 7.1-3/2019	%	0.56 ± 0.06	-	t (22±4) °C RH (30+60)%
	P ₂ O ₅	ETC 7.1-3/2019	%	0.18 ± 0.08	-	t (22±4) °C RH (30+60)%
	SiO ₂	ETC 7.1-3/2019	%	59.78 ± 0.48	-	t (22±4) °C RH (30+60)%
	TiO ₂	ETC 7.1-3/2019	%	0.64 ± 0.06	-	t (22±4) °C RH (30+60)%
	Loss on ignition	БДС EN 15169:2008	%	3.22 ± 0.16	-	t (22±4) °C RH (30+60)%

NOTES:

1. Test results refer only to the tested samples.
2. TLD is not responsible for the sampling accuracy, sample storage term and sample storage conditions preceding the submission to the laboratory.
3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. The reported expanded uncertainty is gives as a standard uncertainty multiplied by the coefficient of coverage k=2, which in a normal distribution corresponds to a confidence probability of approximately 95 %.
5. The reported expanded uncertainty includes the sampling uncertainty only when the sampling was performed by the laboratory.
6. Additional information for interpretation of the testing results which may be required for the specific test method. by the client or the competent authority: According to annex №1 and annex №2.
7. Additions, deviations or exceptions from the test methods: No.
8. TDL does not provide any comments or interpretation of the test results.
9. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory.

HEAD OF DEPARTMENT:...

/ eng. Iveta Vutova /

DIRECTOR OF TESTING
LABORATORY DIRECTORATE:

/ Yuliana Akrafova /



ANNEX № 1

TO TEST REPORT № 731 / 22.07.2020

№	Lab. №	Sample №	Sulphur (total) %	Sulphur (sulphide) %	Acid potential (AP), expressed as content of H ⁺ mol/kg	Neutralisation potential (NP), expressed as content of H ⁺ mol/kg	Net neutralisation potential (NNP), expressed as content of H ⁺ mol/kg	Neutralization Potential Ratio (NPR) $NPR = \frac{NP}{AP}$
1	2004309	RE003-FLW - composite sample from flotation waste	0.13	<0.10	0.081	2.10	2.02	25.9

Notes: I. If NRP < 1 no capacity to neutralize the released acidity and the sample is acid-generating.

If NRP > 1 there is a capacity to neutralize the released acidity and the sample is not acid-generating.

II. The results for acid potential(AP), neutralization potential (NP) and net neutralization potential(NNP) are not under scope of accreditation, according to БДС EN ISO/IEC 17025:2018.

III. The samples are not acid-generating at sulphur (sulphide) content < 0.10 %.

IV. The acid potential (AP) value is calculated based on the Sulphur (total) content.

Prepared
/ eng. Silviya Dimitrova /

ANNEX № 2

TO

TEST REPORT № 731 / 22.07.2020

For the tested characteristics in eluate 10 l / kg, the leaching was performed according to BDS EN 12457-2:2003 at its own pH.

For the tested characteristics in eluate 2 l / kg, the leaching was performed according to BDS EN 12457-1:2003 at its own pH.

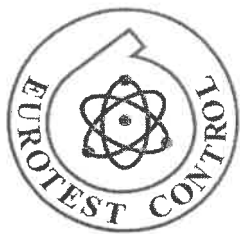
According to the requirements of БДС EN ISO 10523:2012:
The pH test was performed with automatic temperature compensation.

According to the requirements of БДС EN 15933:2012:
The pH characteristic is determined in an aqueous extract.

According to the requirements of БДС EN 1484:2001:
The test was performed on the same day after obtaining the eluate and the liquid-solid substance separation procedure.

According to the requirements of БДС EN 15216:2008:
The total dissolved solids test (TDS) was performed by drying in a drying cabinet with temperature control at $(105 \pm 3) ^\circ\text{C}$.

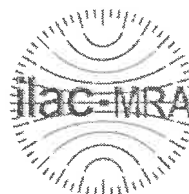
Prepared by:.....
/ eng. Elza Sabeva /



TESTING LABORATORY DIRECTORATE EUROTEST-CONTROL EAD

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e-mail: office@eurotest-control.bg

QF 708-1/3EN
version 2/2020



TEST REPORT № 827 / 29.07.2020

1. Wastes

(product designation-type, brand, sort, etc.)

2. Customer: "Tintyava Exploration" AD, Ivaylovgrad

(name and address of the customer)

3. Object: Rozino

(description of the object/location of sampling)

4. Sampling: The sample has been provided by the customer.

(sampling plan, sampling report, sampling method, additions, deviations or exclusions from the sampling method)

5. Description of the samples: 1 samples

(number, quantity, etc.)

6. Test method(s): БДС ISO 2591-1:1997

(identification of the test method(s) used)

7. Incoming number and date of receipt of the test sample(s): 1234 / 24.06.2020

(number and date of the request of test request)

8. Test performing period: 24.06.2020 to 29.07.2020

9. Location of test performance: „Testing Laboratory Directorate“ at “Eurotest - Control” EAD, 108 Besarabia St, 1517 Sofia

DIRECTOR OF TESTING LABORATORY DIRECTORATE:.....

/ Yuliana Akrabova /



10. Test results

Laboratory № 2004310

Sample data: sample № , object: RE003-FLW, composite sample, flotation waste

№	Measurand	Standards / validated methods	Unit	Measurement result (quantity value, expanded uncertainty)	Environmental conditions
1	2	3	4	5	6
1	Particle size distribution				t (22±4) °C RH (30±60)%
	>0.20 mm	БДС ISO 2591-1:1997	%	0.32	t (22±4) °C RH (30±60)%
	0.20 - 0.125 mm	БДС ISO 2591-1:1997	%	0.24	t (22±4) °C RH (30±60)%
	0.125 - 0.075 mm	БДС ISO 2591-1:1997	%	13.77	t (22±4) °C RH (30±60)%
	< 0.075 mm	БДС ISO 2591-1:1997	%	83.67	t (22±4) °C RH (30±60)%

NOTES:

1. Test results refer only to the tested samples.
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3. TLD is responsible for the whole information in the test report with exception of the information provided by the client in items 1 to 5 (included) and the information for the sample in item 10. TLD is not responsible if the information provided by the client may affect the results validity.
4. Additional information for interpretation of the testing results which may be required for the specific test method by the client or the competent authority: Not required.
5. Additions, deviations or exceptions from the test methods: No.
6. TDL does not provide any comments or interpretation of the test results.
7. The test report shall not be reproduced if is not in its fullness without written approval of the laboratory

HEAD OF DEPARTMENT:.....

/ Nikolay Petrov /

DIRECTOR OF TESTING

LABORATORY DIRECTORATE:.....

/ Yuliana Akrabova /

