

The Inception Workshop
of the Project to Strengthen the Safety
of Mining Operations, in particular
tailings management facilities (TMFs),
in Kazakhstan and beyond in Central Asia



Astana (Kazakhstan)

November 7-8, 2018



Presentation of the initial map of TMFs in Armenia, Georgia, Kazakhstan and Kyrgyzstan

ALEKSANDRA LOGUNOVA

**“SUSTAINABLE DEVELOPMENT PLATFORM”
NCO, DNEPR, UKRAINE**

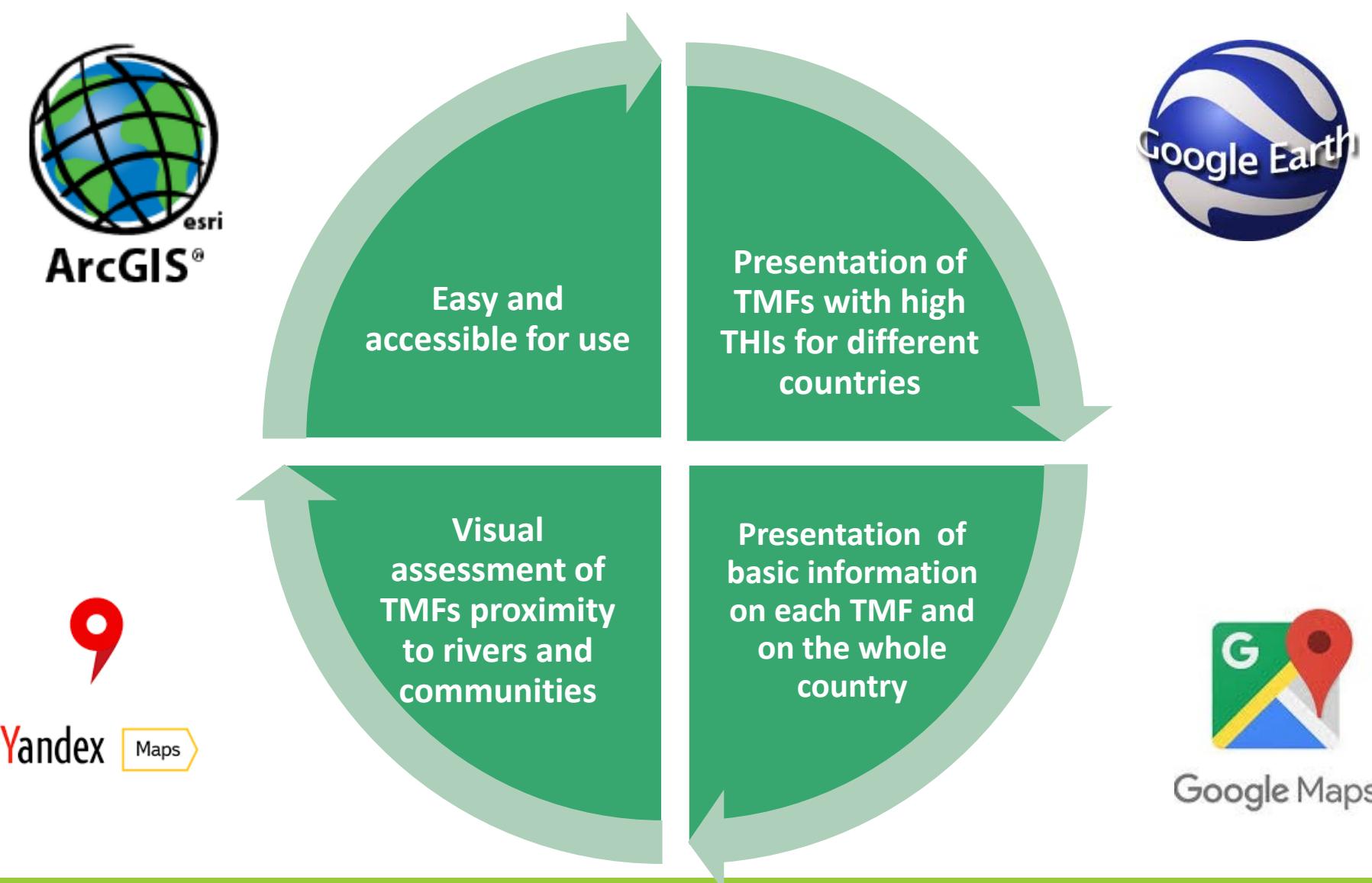
UNECE Convention on the
Transboundary Effects of
Industrial Accidents

**Assistance
Programme**



Organised jointly by the UN ECE Convention on Transboundary Effects
of Industrial Accidents and the Government of Kazakhstan

The objectives set for the map development



The initial map of TMFs in countries - project participants

Project "ASSISTANCE FOR ENHANCEMENT OF TMFs SAFETY IN ARMENIA AND GEORGIA"

Armenia

23 TMFs

Georgia

5 TMFs

Kyrgyzstan

16 TMFs

Romania

119 TMFs

Hungary

35 TMFs

Serbia

23 TMFs

The data necessary for the mapping

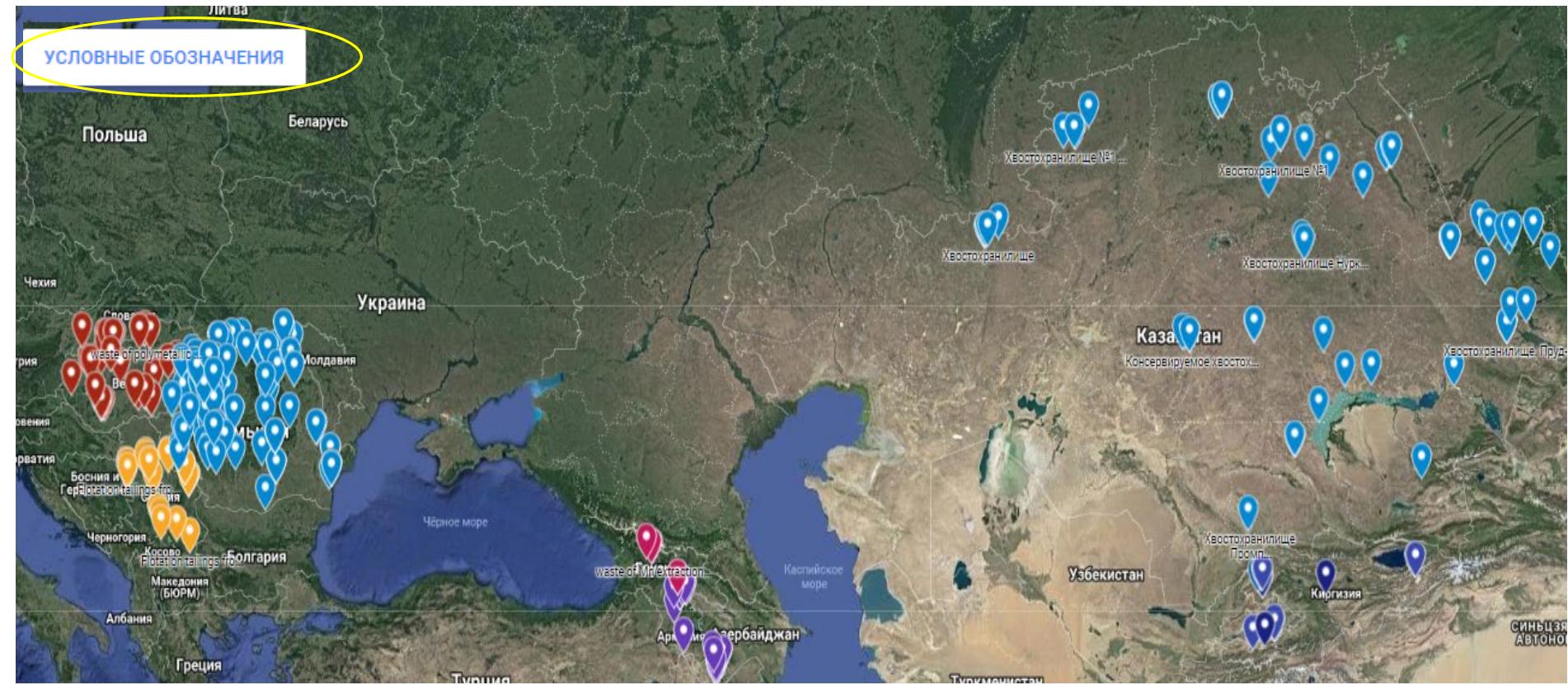
TMF name

**Region, city /
district**

Latitude, longitude

**Volume of the
tailings materials
stored**

The general view of the TMFs map



Sample presentation of TMFs at the map (Armenia)

≡ Карта хвостохранилищ ⌂ :

Հայաստան

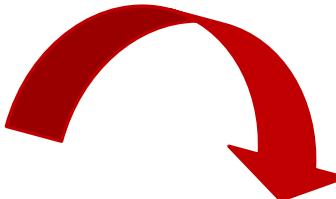
Armenia

- Tukhmanuk of Mego Gold LLC
- Ararat gold extraction plan of GeoProMi...
- Nahatak of Akhtala Ore Processing Plant...
- Explosive substances gorge of Akhtala ...

и ещё 19

Georgia

- Copper-pyrite tailings of the Madneuli, Ri...
- Barite tailings of the Madneuli, Rich Met...
- Tailings of agglomerates of Georgian ma...
- Chiatura site 1 "Ghurgumela" of Georgia...



← Nahatak of Akhtala Ore Pr... ⌂

Name of TMF

Nahatak of Akhtala Ore Processing Plant CJSC

Region, district

Lori, Mets Ayrum village

Latitude, Longitude

41.17249, 44.82076

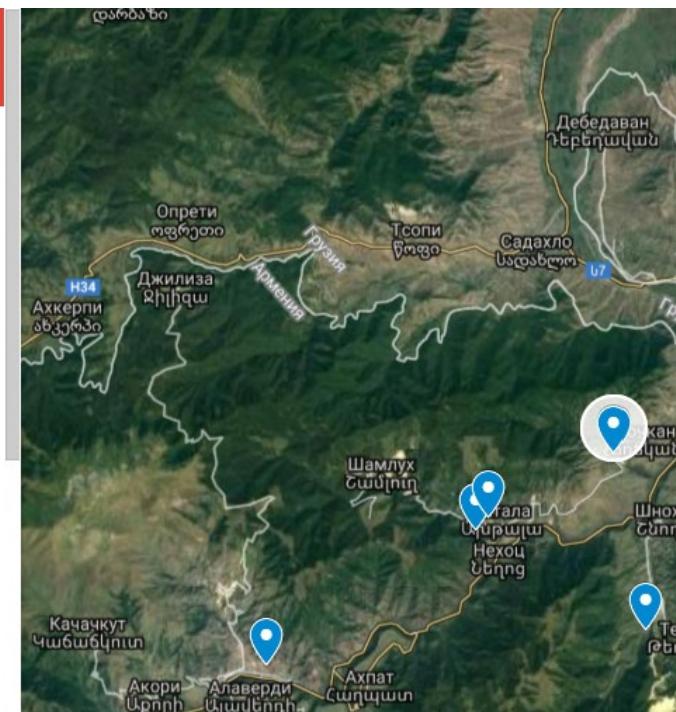
Capacity, mln m³, Design

3.75

Volume of stored tailings materials, Mio m³

3.3500

Status



Sample presentation of TMF information

← Nahatak of Akhtala Ore Pr... ⌂

Name of TMF

Nahatak of Akhtala Ore Processing Plant CJSC

Region, district

Lori, Mets Ayrum village

Latitude, Longitude

41.17249, 44.82076

Capacity, mln m³, Design

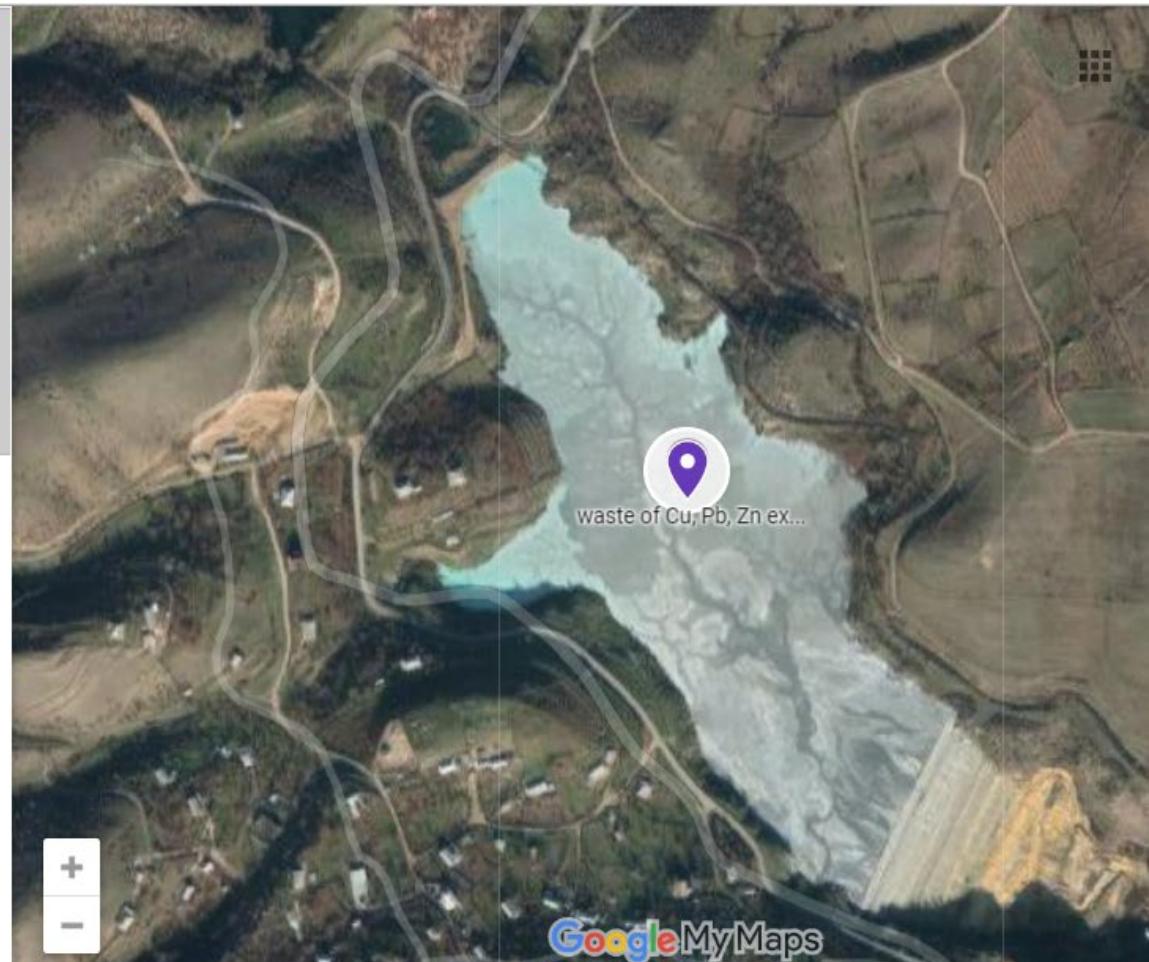
3.75

Volume of stored tailings materials, Mio m³

3.3500

Status

Active



Information on TMFs

TMF name	Region, city / district	Latitude, longitude	Volume of tailings materials stored
Materials stored	Hazard class	Status	Peak ground acceleration
Flood frequency (HQ-100)	Dam: material	Dam: crest width	Year of commissioning
THI extended		THI range	

THI range

Country	THI min.	THI max.
Armenia	11.9	16.6
Georgia	12.2	16.5
Kyrgyzstan	11.5	15.9
Hungary	8.0	12.9
Romania	6.3	14.8
Serbia	11.3	16.3

General THI for countries

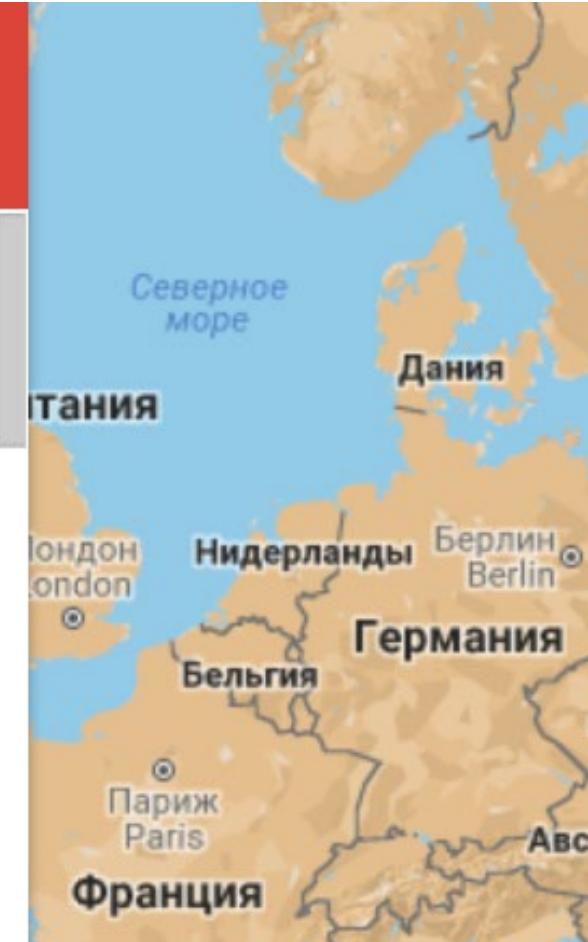
Country	General THI for country
Armenia	14.00
Georgia	14.00
Kyrgyzstan	13.38
Hungary	10.80
Romania	11.53
Serbia	14.13

Presentation of information on the map

≡ Карта хвостохранилищ ⚡

▲ Total THI for countries: ★
Armenia - 14.00
Georgia - 14.00
Kyrgyzstan - 13.38
Hungary - 10.8
Romania - 11.53
Serbia - 14.13
48 просмотров

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THI range for the international level

THI range

Low level
5.5-9.4

Medium level
9.5-13.4

High level
13.5-17.5

Visualisation aspects: the case of European TMFs

Map of TMFs



Низкий уровень

 Romania

 Hungary

Средний уровень

 Romania

 Hungary

 Armenia

 Kyrgyzstan

 Serbia

 Georgia

Высокий уровень

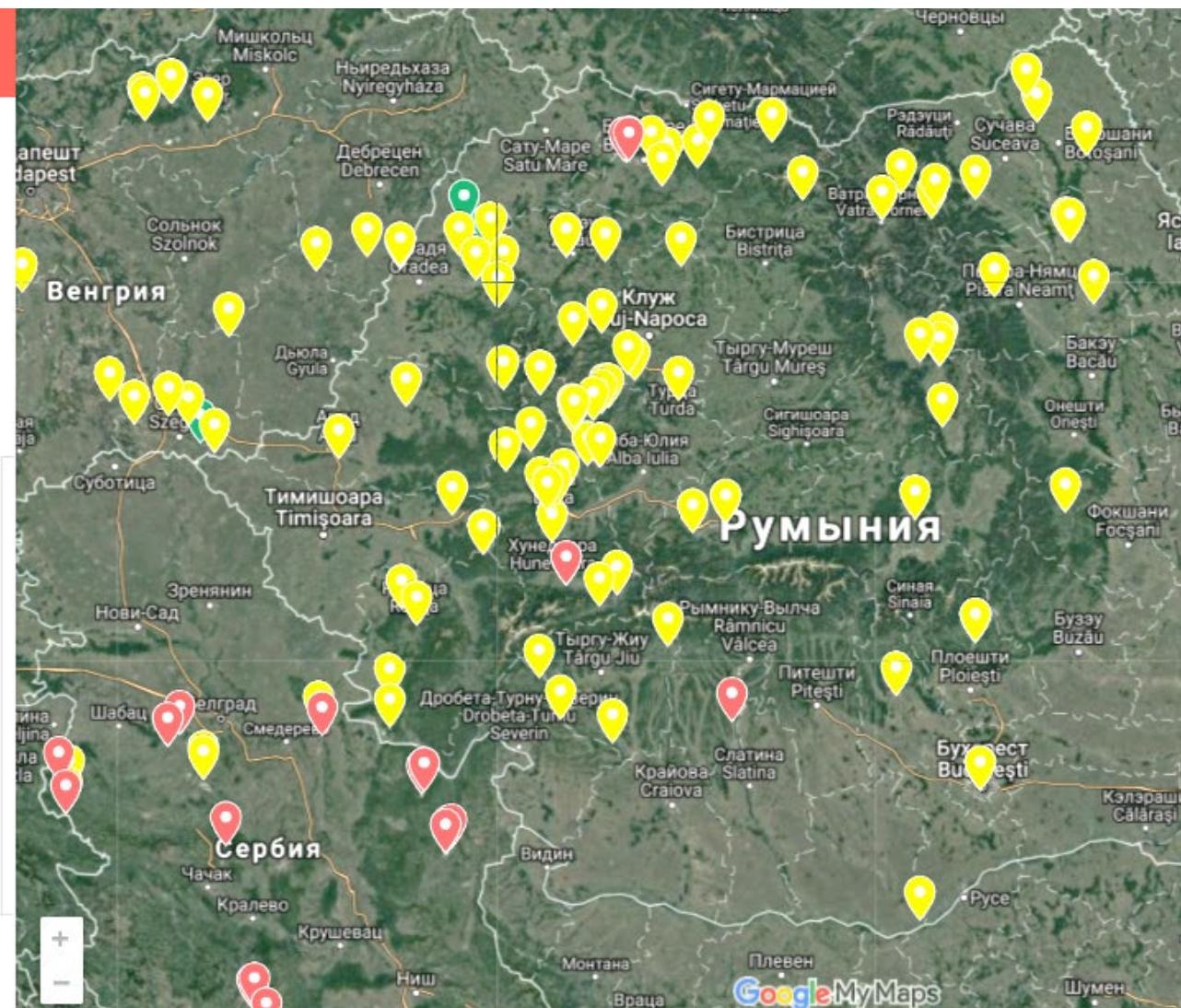
 Serbia

 Armenia

 Kyrgyzstan

 Romania

 Georgia



Map showing the distribution of TMFs (Transportation Management Facilities) across Eastern Europe. The map includes labels for major cities in Hungary, Romania, Serbia, and Georgia. Yellow location pins indicate facilities at the low level, while red pins indicate facilities at the medium level.

Labels visible on the map include:

- Hungary: Мишкольц Miskolc, Ньиредъхаза Nyíregyháza, Дебрецен Debrecen, Сату-Маре Satu Mare, Орадя Oradea, Бистрица Bistrița, Клуж Cluj-Napoca, Тыргу-Муреш Târgu Mureș, Сигишоара Sighișoara, Плао-Нямц Piatra Neamț, Бакэу Bacău.
- Romania: Бухарест Bucharest, Плоешти Ploiești, Синая Sinaia, Бузэу Buzău, Кэлэраш Călărași, Рымнику-Вылча Râmnicu Vâlcea, Тыргу-Жиу Târgu Jiu, Питешти Pitești, Слатина Slatina, Крайова Craiova, Монтана Montana, Враца Vratsa, Ниш Niš, Крушевача Krusevac, Кралево Kraljevo, Чачак Čačak, Шабац Šabac, Смедерево Smederevo, Дробыта-Турну-Серверин Drobeta-Turnu Severin, Видин Vidin, Монтана Montana, Плевен Pleven, Радэуци Rădăuți, Сучава Suceava, Ботошани Botoșani, Черновцы Chernivtsi.
- Serbia: Белград Belgrade, Нови-Сад Novi Sad, Зренянин Zrenjanin, Суботица Subotica, Шабац Šabac, Чачак Čačak, Краљево Kraljevo, Крушевача Krusevac, Видин Vidin, Ниш Niš, Крушевача Krusevac, Кралево Kraljevo, Шумен Shumen.
- Georgia: Грузия Georgia.

Google MyMaps

13

THI assessment at the national level: the case of Kyrgyzstan

Карта хвостохранилищ

- 11.5
TMF of LLC Full Golg Mining
- 11.7
Terek TMF of open JSC Kyrgyzaltn
- 12.2
TMF of LLC Kazakhmys Gold Kyrgyz...
- 12.6
TMF at the At-Jailoo deposit of Kyrgy...
- 13.3
Salt storage of open JSK Kadamzhay...
- 14.0
TMF Nr.1, responsibility of Ministry o...
- 14.1



The initial map of Kazakhstan TMFs (76 TMFs)

Severo-Kazakhstanskaya oblast

1 TMF

Akmolinskaya oblast

10 TMFs

Zhambylskaya oblast

4 TMFs

Kostanayskaya oblast

7 TMFs

Vostochno-Kazakhstanskaya oblast

25 TMFs

Pavlodarskaya oblast

8 TMFs

Karagandinskaya oblast

15 TMFs

Aktyubinskaya oblast

6 TMFs

Sample visual presentation of Kazakhstan TMFs on the map

≡ Карта хвостохранилищ :

▼ Total THI for countries:

Armenia - 14.00

Georgia - 14.00

6 просмотров

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Kyrgyzstan

Kazakhstan

Хвостохранилище флотации №1

Хвостохранилище сорбции №2

Пруд отстойник №3

Хвостохранилище №1

и ещё 72

Armenia

Georgia

Sebia



Sample visual evaluation of TMFs proximity to the river (Kazakhstan)

← Постоянное хвостохрани...

Name of the TMF site

Постоянное хвостохранилище Карагайлинской обогатительной фабрики. Обогатительный промизводственный комплекс ТОО «Корпорация Казахмыс»

Location of the TMF site, Region, district

Казахстан, Карагандинская область, Каркаралинский район, поселок Карагайлы пром.зона

Latitude

48.504713889

Longitude

83.250869

Volume of stored tailings materials, Mio m³

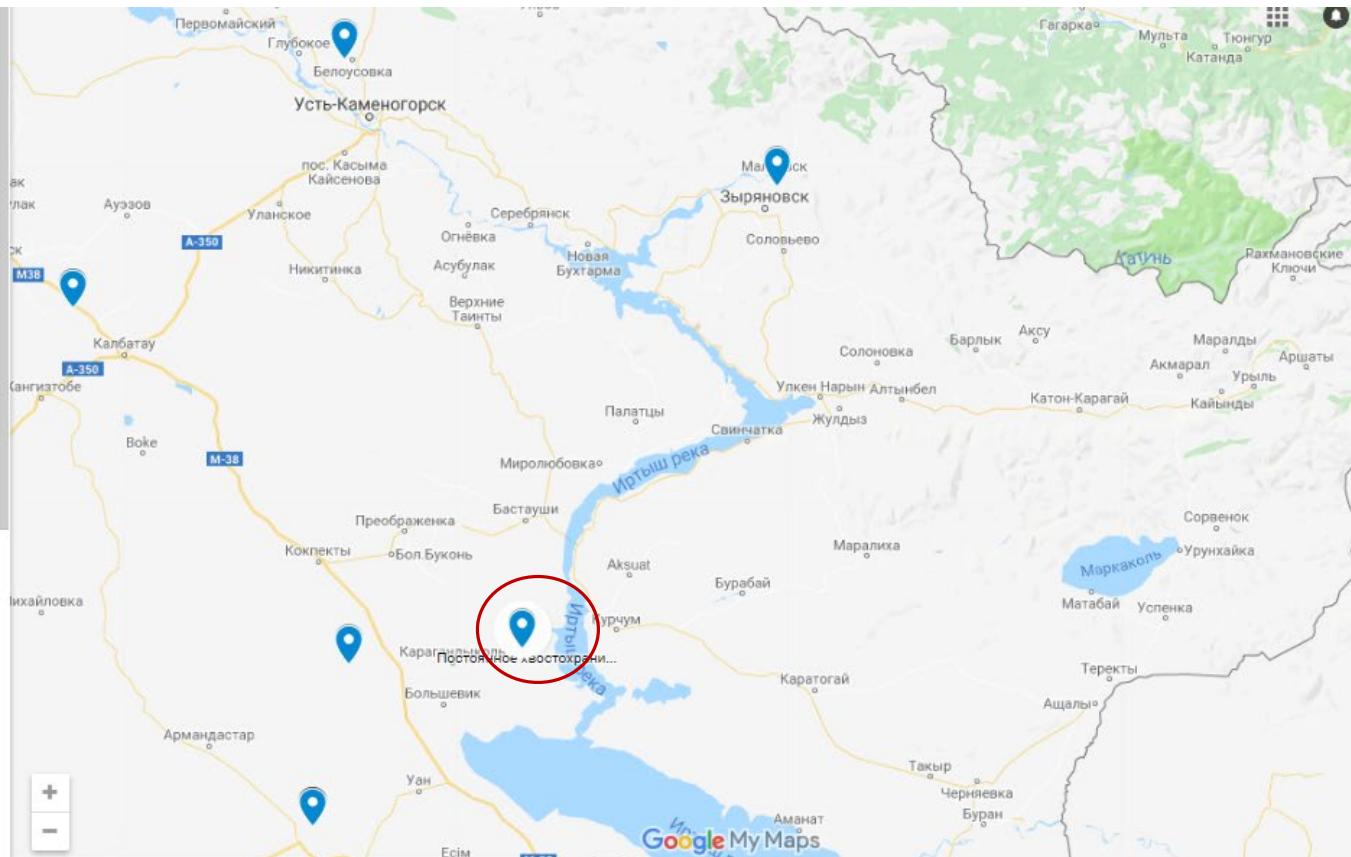
4.9160

Tailings materials, Material stored
хвосты обогащения

Hazard Class

4

Status



Thank you for your attention!

