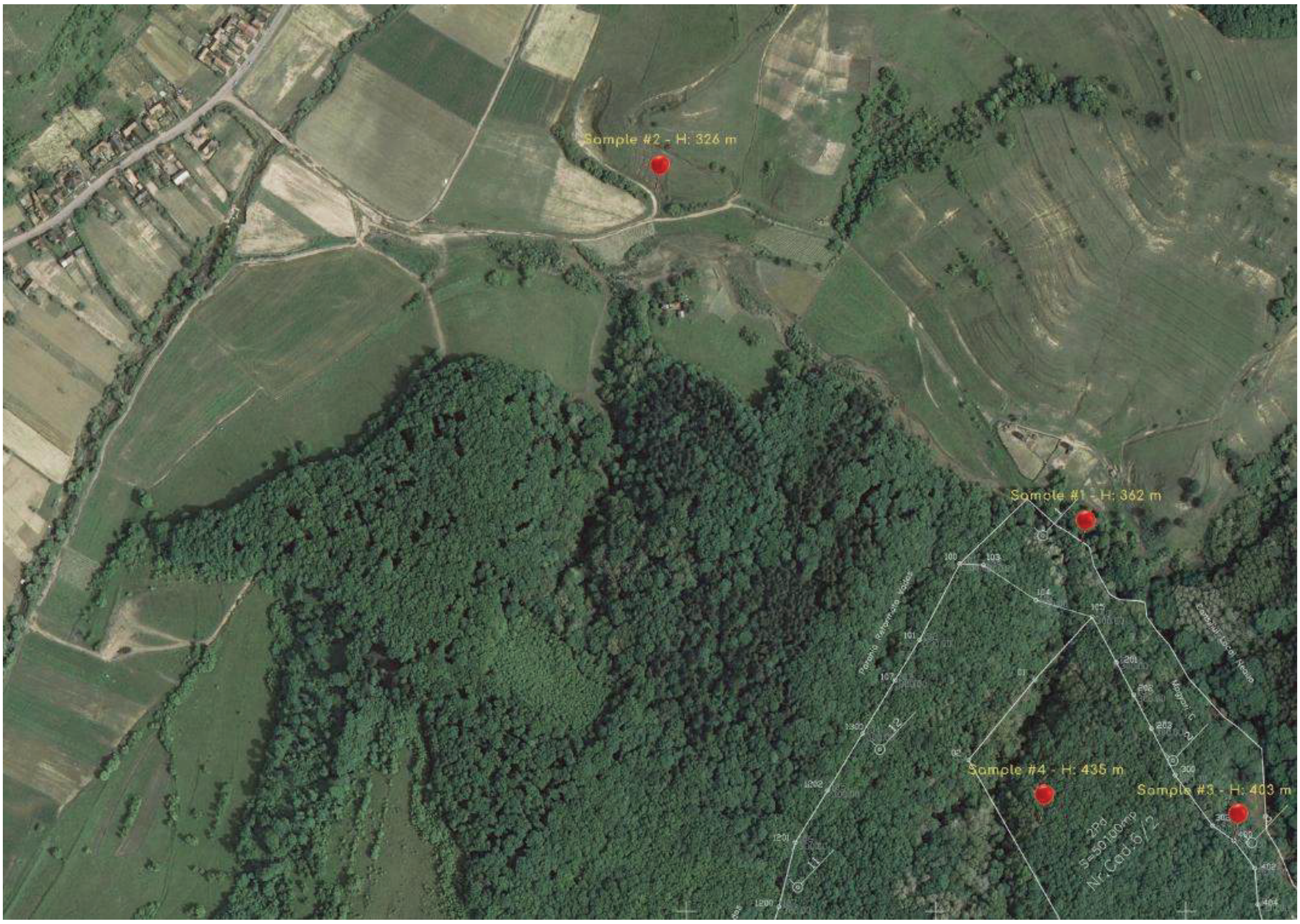
Additional Geological Assessment: 326m – 360m elevation

The assessment of the below ground geological layering – was performed for the underground level quota between 326 m – 360 m, on the 10th of October, 2023, Sample 1 taken at an elevation of c.362m and sample 2 from an elevation ofc.326m and taking into consideration the main characteristic of anticipated horizontality of the geological layering of the alternating sand and clay layers, then the geology encountered at the sample 2 location *is assumed to extend horizontally below the extraction site with a floor*). Quartz sand samples were collected from the four pinned sample locations to enable physical and chemical analyses to be undertaken at those elevations:



- ***Sample #1*** **–** raw polymictic quartz-calcite sand of a pale grey color from the alt. of 362 m above sea level (2kg)

- ***Sample #2 –*** raw polymictic quartz-calcite sand of a yellow/brown color from the alt. of 326 m above sea level (2kg)

- ***Sample #3 –*** raw polymictic quartz-calcite sand of a white/yellow color from the alt. of 403 m above sea level (2kg)

- ***Sample #4 –*** raw polymictic quartz-calcite sand of a pale grey color from the alt. of 436 m above sea level (2kg)

All the samples were collected into sterile plastic containers to avoid any additional contamination that could alter the result of the chemical analysis and were dispatched to the laboratory of MINESA Cluj Napoca (*Institute for Mining Research and Planning - https://minesa.ro/*) where they underwent proper physical and chemical analysis (*a further sample of 100kg will be sent to CDE Ireland for processing technology fine-tuning & capacity testing purposes*):

The analysis results are shown below:

MINESA-INSTITUTUL DE CERCETĂRI ȘI PROIECTĂRI MINIERE S.A.

Str. Vladimirescu Tudor, 15-17, Cluj-Napoca, Cluj, 400225 Tel: 0040 264 435 011 | Fax: 0040 264 435 030
E-mail: contact@minesa.ro, laborator@minesa.ro
BRD Cluj-Napoca RO49 BRDE130SV07994731300
O.R.C. nr. J12/3252/1993 Cod de înregistrare în scopuri TVA RO4688949

Atestari:
*Registrul expertilor atestati pentru elaborarea de studii de mediu Nr. certificat Seria RGX nr.324/21.07.2022 pentru: BM, RA, valabil pana la 21.07.2025
*Ministerul Apelor si Padurilor - Certificat de atestare nr.102/ 03.02.2022 pentru: intocmirea studiilor hidrogeologice si pentru elaborarea documentatiilor pentru obtinerea avizului/autorizatiei de gospodarire a apelor;
*A.N.R.M. Certificat de atesstare nr. 1771/14.09.2016-Lucrari de cercetare - dezvoltare si exploatare a substantelore nemetalifere;
*RENAR - Certificat de acreditare nr. LI 1167/13.03.2022 - SR EN ISO / CEI 17025: 2018 - Laborator de incercari
*I.S.C.-Autorizatie nr. 3275/26.07.2022

RAPORT DE INCERCARE nr. 313 din 25.10.2023
Exemplarul nr. 2 din 2

Beneficiar: IMMOBILIARAE S.A, JUD. MUREȘ, TÂRGU MUREȘ, STR. AVRAM IANCU, NR.37
Nr. comandă: 3338/13.010.2023
Nr. probe: 4;
Cod proba: 995-998- Nisip Targu Mures
Descrierea probei: 995- proba 1 Nisip, 996- proba 2 Nisip, 997- proba 3 Nisip, 998- proba 4 Nisip,
Data recepţiei: 13.10.2023;
Perioada încercărilor: 13.10.2023-25.10.2023;
Prelevator probă: Beneficiar;

Nr. crt.	Indicatori determinaţi	Metoda de încercare	Standardul de referinţă	Valoarea determinată		U.M
				Cod probă		
				995	996	
1.	Pierdere calcinare	P.S. CHS- 150	STAS 9163/3/73	4.7	5.96	%
2.	SiO_2	P.S. CHS- 151	STAS 9163/4/73	86.06	84.69	%
3.	Al_2O_3	P.S. CHS- 152	STAS 9163/6/89	3.04	3.11	%
4.	Fe_2O_3	P.S. CHS- 153	STAS 9163/5/73	3.067	3.136	%
5.	CaO	P.S. CHS- 154	STAS 9163/9/89	1.122	1.122	%
6.	MgO	P.S. CHS- 155	STAS 9163/10/73	0.605	0.202	%
7.	K_2O	P.S. CHS- 156	STAS 9163/11/94	0.175	0.277	%
8.	Na_2O	P.S. CHS- 157	STAS 9163/11/94	0.073	0.124	%
9.	TiO_2	P.S. CHS- 158	STAS 9163/7/73	1.092	1.326	%
10.	Substante solubile in HCl			4.252	4.369	%
Nr. crt.	Indicatori determinaţi	Metoda de încercare	Standardul de referinţă	Valoarea determinată		U.M
				Cod probă		
				997	998	
1.	Pierdere calcinare	P.S. CHS- 150	STAS 9163/3/73	6.45	5.69	%
2.	SiO_2	P.S. CHS- 151	STAS 9163/4/73	83.45	84.47	%
3.	Al_2O_3	P.S. CHS- 152	STAS 9163/6/89	3.22	2.73	%
4.	Fe_2O_3	P.S. CHS- 153	STAS 9163/5/73	3.587	3.881	%
5.	CaO	P.S. CHS- 154	STAS 9163/9/89	1.682	1.402	%
6.	MgO	P.S. CHS- 155	STAS 9163/10/73	0.403	0.202	%
7.	K_2O	P.S. CHS- 156	STAS 9163/11/94	0.175	0.175	%
8.	Na_2O	P.S. CHS- 157	STAS 9163/11/94	0.154	0.073	%
9.	TiO_2	P.S. CHS- 158	STAS 9163/7/73	0.702	1.17	%
10.	Substante solubile in HCl			4.952	5.105	%

Sef Laborator încercări
ing.chim. Florin Todor

Executat
dr.chim. Harsa Teodora

Declarație: Raportul de incercare se referă numai la probele analizate, menționate. Analizele s-au efectuat în conformitate cu referențialele specificate.
Avertisment: Se interzice reproducerea parțială a raportului de încercare. Reproducerea în totalitate se face cu aprobarea scrisă a laboratorului.

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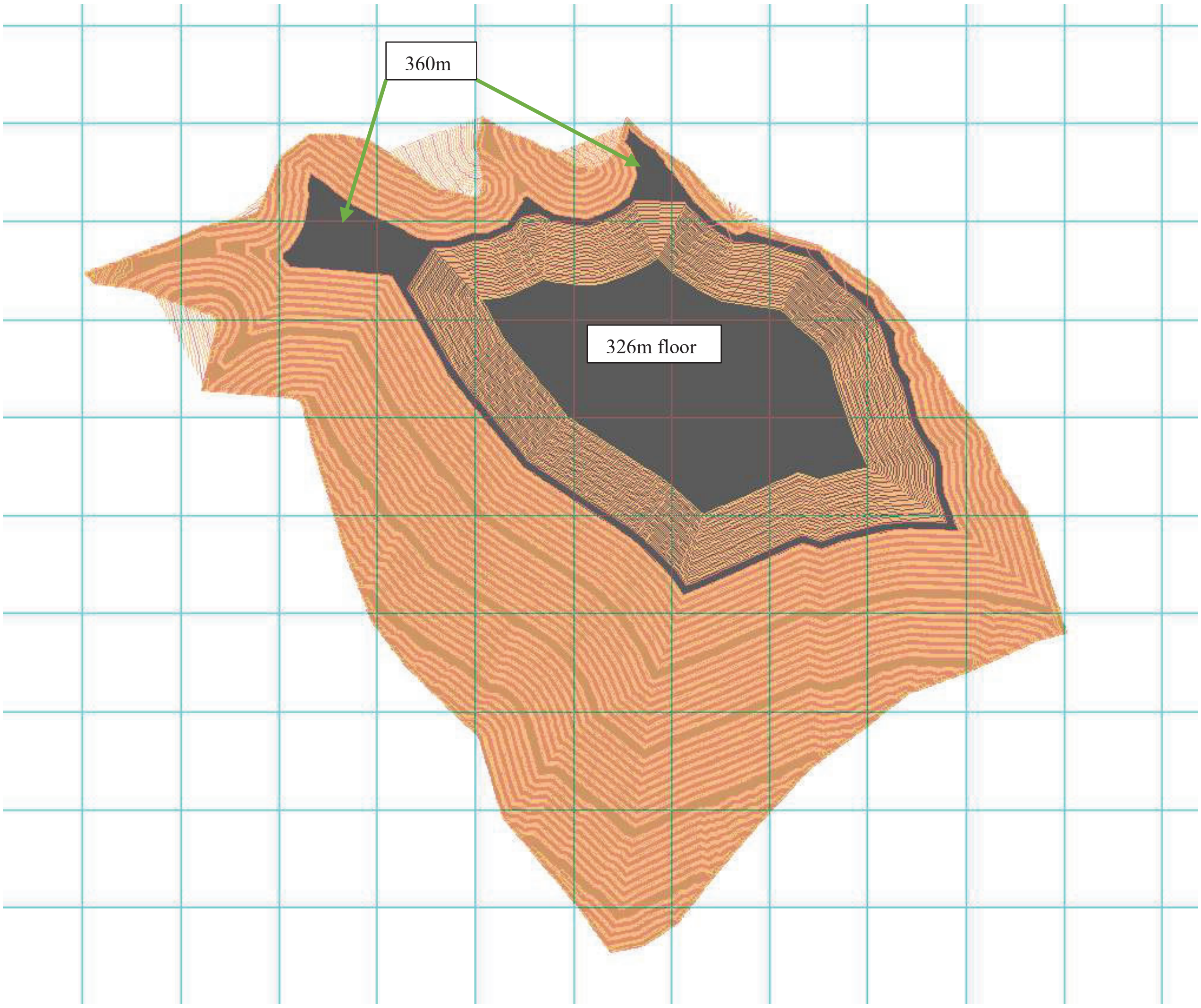
Conclusions

1. ***Additional possible sand resources*** *below* ***the original quarry floor*** – based on this recent geological assessment and sample collecting, another 34 meters below the 360m ground level to 326m are assumed to have the same configuration of horizontally interbedded sand and clay layers as per the deposit above the 360m level. 3D modelling of a maximum void from 360-326m and using a single slope at 1:1.75 (V:H), rather than a fully benched model, indicates an additional maximum volume of ~3.2 million m3 or ~6.2 million tons. Assuming 85% sand and 15% clay as used previously and without including any matrix loss, this volume equates to ~5.2 million tons sand and ~925,000 tons clay.

   The figure below shows the previously issued benched void from ~540m to a floor of 360m (brown color hatch).

   The 360-540m benched void has an overall slope angle of 1(V):1.75(H), comprising 5m high faces/slopes at 1:1 (45 degree) separated by 3m wide flat benches. Every 40m in vertical height a wider 8m bench is shown in place of a 3m bench. A total of 36, 5m high faces are included in the design from the quarry floor at 360m to the highest elevation of 540m. The wider benches are appropriate to break up such a large vertical difference, providing better access at those intervals and maintaining the overall slope angle of c.1:1.75 (30 degrees).

   The benched model is for visualisation purposes only and to provide volumetric estimates for the void. It is not a final quarry design for the site. The model is based on the information available and what it considered to be typical and fair design criteria (face heights, bench widths, overall slope angle) for a sand deposit. A geotechnical specialist must derive site specific design criteria for the deposit, after understanding the properties of the sand and clay layers and their inclination (if any), and after considering the significant vertical extent of the deposit. The border of the brown and the dark grey hatches is at the proposed quarry floor level of 360m and the dark grey hatch shows a 360m floor, where space is too constrained for excavation, and then a single slope at 1:1.75 down to the floor of 326m. There is no suggestion that this or any part of the deposit should be worked as a single slope, the use of a single slope was purely for speed and to provide estimate volumes on the additional deeper resource.



In addition, in a later stage, if necessary, there is the possibility of a horizontal expansion due to the exclusive purchasing rights that results from the initial ownership of the original quarry surface, exercisable on the neighboring plots (*approx. 20 additional hectares*), extending therefore our potential operational time till depletion as well, limited only by sand deposit presence. The CDE processing plant and the underlying technology being modular in nature, there is always the possibility to easily extend its capacity, thus to adapt to a potentially higher than estimated market demand for our products.

2. ***High pure quartz granules (SiO_2) content*** – this recent chemical analysis of the collected samples is in close consistency with the analysis made in 2007, 2011 and the several ones performed in 2024 by independent third-party expert laboratories as well, confirming the high value of the sand deposit due to the high content (*84 – 86%*) of the pure quartz (SiO_2) granules. Due to the sedimentary origin of the whole deposit, the impurities (*Fe_2O_3, Al_2O_3, MgO, CaO, Na_2O, K_2O, TiO_2*) are either separately present in the raw content or crust-covering the pure quartz granules in a cohesive environment, but not infiltrating them, like in the case of crushed quartz ores, therefore significantly simplifying the processing plant configuration (*by requiring less complicated purifying technologies and modules*) and lowering the operational costs of the purification process, getting rid of the impurity crust of the quartz granules being a much more energy saving procedure than eliminating the infiltrates from the crushed quartz ore based granules. Capturing the valuable by-products (*$CaCO_3$, TiO_2, $ZrSiO_4$, micas*) from the resulting gravity separated heavy mineral content and flotation separated sludge from the washing and acid leaching processes will be performed by additional separation and purification modules that will be annexed to the basic processing plant.

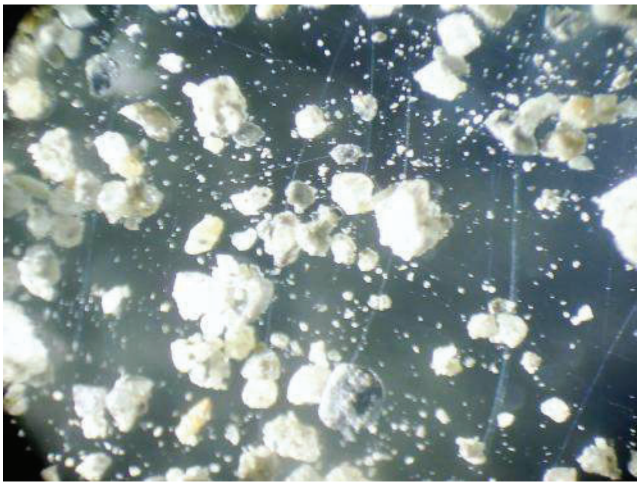


Fig. A – Impurities crust-covering the raw quartz granules

Fig. B – Crust impurities removed by attritioning

3. ***Homogeneity of the resource*** – The recent geological assessment, supported by chemical and physical analyses conducted on raw samples extracted from multiple stratigraphic depths within the Neaua silica sand deposit (*specifically at 326 m, 362 m, 403 m, and 436 m — representing an approximately 110 m section of the stratigraphic column*), demonstrates a degree of consistency in both particle size distribution and chemical composition across the examined layers.

To establish a more precise and comprehensive understanding of the overall homogeneity of the entire deposit, further systematic drilling and sampling will be necessary, in the mandatory exploration phase during the permitting procedures. This should encompass the full vertical extent of the stratigraphic column and the entire horizontal spread of the deposit (*incl. potentially land plots outside of Thesaur ownership that could represent potential horizontal expansion possibilities*). Such an extensive exploration campaign would provide statistically robust data to confirm the uniformity of granulometry and chemical composition throughout the resource body, thereby enabling an even more accurate assessment of its intrinsic geological consistency and value. The high degree of homogeneity found in the deposit presents a significant strategic and operational advantage for the downstream processing phase. Consistency in raw material characteristics facilitates the initial configuration and calibration of the processing plant, enabling more precise adaptation to the specific properties of the input material. This uniformity will enhance the operational stability of the plant by minimizing variations in feed quality, which in turn reduces the need for continuous adjustments and real-time fine-tuning.

From a technical and economic perspective, a homogeneous feedstock reduces wear and tear on processing equipment and minimizes the consumption of reagents and other consumables required for corrective processing. This translates into a reduction in operational costs and increased processing efficiency, as the plant can operate under stable and optimized conditions without the interruptions and inefficiencies typically caused by variable input material quality. Furthermore, process consistency will enhance product quality control, contributing to higher yields of high-purity silica and valuable secondary byproducts such as titanium dioxide, zirconia, and calcium carbonate, thereby improving overall plant performance and profitability.
In summary, the intrinsic homogeneity of the deposit enhances not only the technical feasibility of the processing setup but also its economic viability, positioning the operation for long-term stability and cost efficiency.

4. ***Additional valuable by-products presence –*** from this recent chemical analysis and the thorough XRD and GDMS analyses performed on the heavy mineral content of the sinks resulting from the Heavy Liquid Separation performed on the raw sand samples results the presence of a Total Heavy Mineral content of approx. 5-6% consisting of both less valuable (Hematite, Hornblende, Anatase, Enstatite, Epidote, Columbite, Siderite, Goethite, Biotite, Dolomite, Andradite, Kaolinite, Palgioclase, Chlorite) and highly valuable components, like the Titanium Dioxide ($TiO_{2)}$ in amount of 1-1.5% in the form of Ilmenite and Rutile, and Zircon ($ZrSiO_4$) in amount of 0.3%. Taking into consideration the bulk sales price of the TiO_2 of approx. 5 €/kg (*Germany - https://medium.com/intratec-products-blog/titanium-dioxide-prices-latest-historical-data-in-several-countries-24ec1864a198*) and approx. 28 €/kg (*https://www.statista.com/statistics/1318970/average-price-of-zirconium*) for the Zirconium, it is worth supplementing the processing plant with adequate fine and coarse spiral gravity separation modules that could capture and concentrate these by-products of the silica sand purifying procedure (the Total Heavy Mineral content), obtaining a significant additional revenue.

Fig. A – Parallel Spiral Gravity Separation Modules - The ore is washed through a series of spiral separators to separate the heavy mineral content from the lighter quartz and clay impurities.

5. Due to the high market demand and significant unit value of the heavy minerals concentrated during the processing phase (including ilmenite, leucoxene, rutile, and zircon), these minerals will serve as the foundation for a partial trade-in strategy aimed at securing solar- and electronic-grade polysilicon ((>6N purity, corresponding to 99.9999% Si and respectively >9N purity, corresponding to 99.9999999% Si). This polysilicon is the essential raw material for the production of silicon ingots (solar- and electronic-grade) and wafers.

Fig. A – Electronic Grade (>9N purity Si) Polysilicon