



Shevchenko Field of Lithium Ores

Mineral: lithium ores, accompanying minerals: tantalum ores, niobium ores, beryllium ores, quartz, feldspar, muscovite.

Type, term of subsoil use: extraction, 20 years.

Location: Velykonovosilkivskiy district of Donetsk region, on the Eastern outskirts of Shevchenko Village. The distance to the highway "C-050409" - 1 km to the South; the distance to the highway "C-050419" - 1 km to the West. The distance to the demarcation line is 60 km.

Plot area: 39.84 hectares.

Geological Summary. Within the field there are six pegmatite bodies identified, belonging to a single vein system constantly declining westward at angles 55–88°. Lithium mineralization is confined to three zones, located in the central parts of the veins: albite-spodumene; microcline-spodumene; petalite-spodumene. Spodumene variety of ores is common in all ore-bearing pegmatite bodies; the overall balance of lithium ores is 90%. The detected pegmatite veins have compact placement, steep decline, northern extension, complex zonal structure, with abrupt fluctuations in capacity. The main ore minerals are spodumene and petalite; accompanying minerals - lithium mica and lithium phosphates, minerals niobium, tantalum and beryllium, which are present in form of the accessory impurities. Lithium is the main ore component of pegmatites and is associated with two own minerals - spodumene and rarely petalite. Apart from the main component - lithium, the field accumulates other rare elements. These include rubidium, cesium, tantalum, niobium, beryllium, tin. Rock-forming minerals and feldspars are withal used in the ceramic and glass productions. Water inflows to the excavation site will be formed due to the Miocene and Cretaceous aquifers, as well as groundwaters of fractured zones of crystalline rocks. Groundwaters do not meet the requirements of water quality standards for drinking water supply or irrigation and can only be used for industrial and technical water supply. Mining-geological field operating conditions - steep decline of ore bodies (65-85°), relatively deep bedding (up to 500 m) and thick capping (up to 120 m) determine the underground method of mining. The field is relatively small (the ore field length 1100 m, width 220 m) which can be worked out by a single mine. The total volume of excavation works is estimated at 358.3-375.7 thousand m³. The field is classified as the one with a very complex geological structure (Group 3).

Available geological information. The field was discovered in 1982 during deep geological mapping.

Estimation of reserves/stock: Reserves and resources of lithium ores in the deposit were approved by the decisions of the State Commission of Ukraine on Mineral Resources (protocol of 02.11.2017 No. 4152-DSK) estimated reserves of lithium ores code classes 121 (category of geological study C₁) and 122 (category of geological study C₂) with an average Li₂O content of 1.24%.

According to the United Nations Framework Classification (UNSC-2009), lithium ore reserves are classified as potentially commercial reserves the feasibility of the development of which requires further evaluation (class code 121+122).

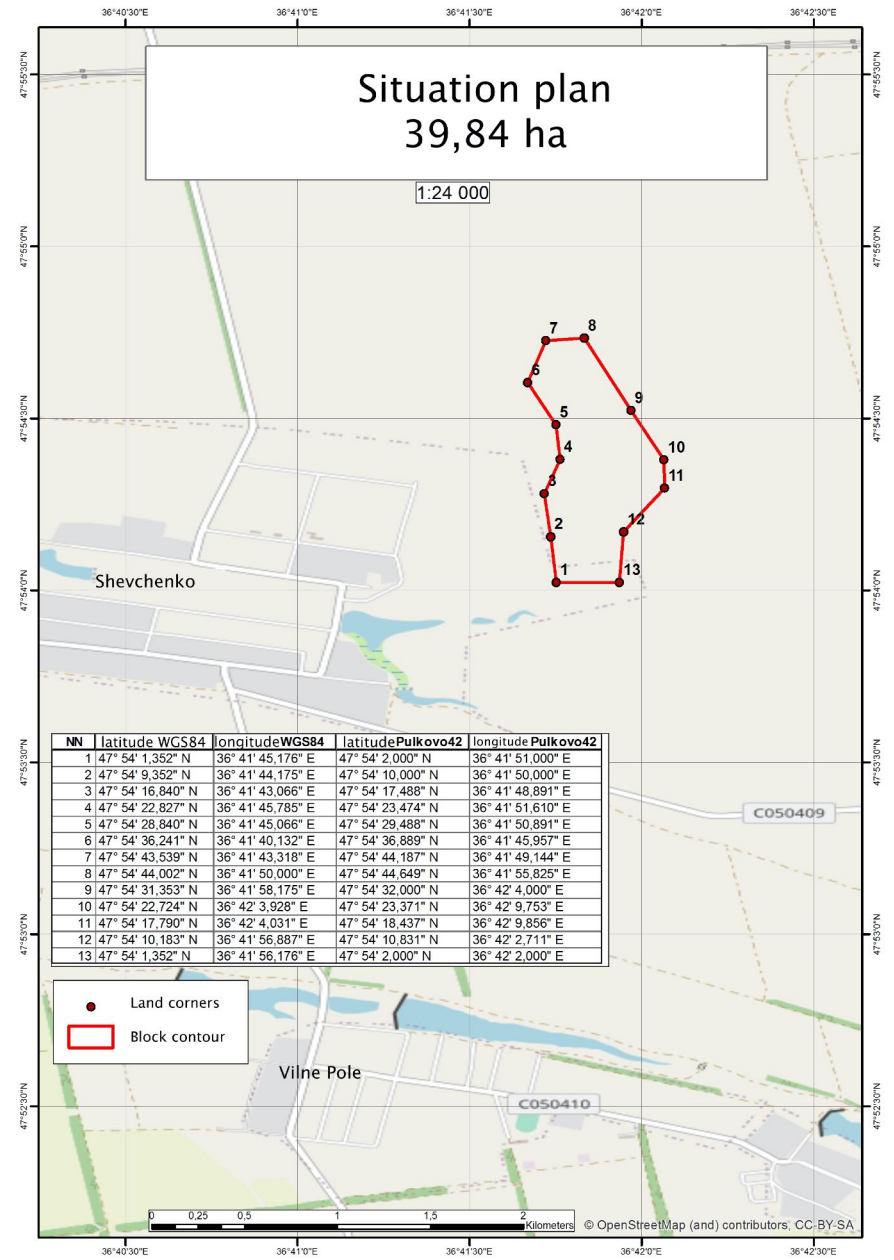
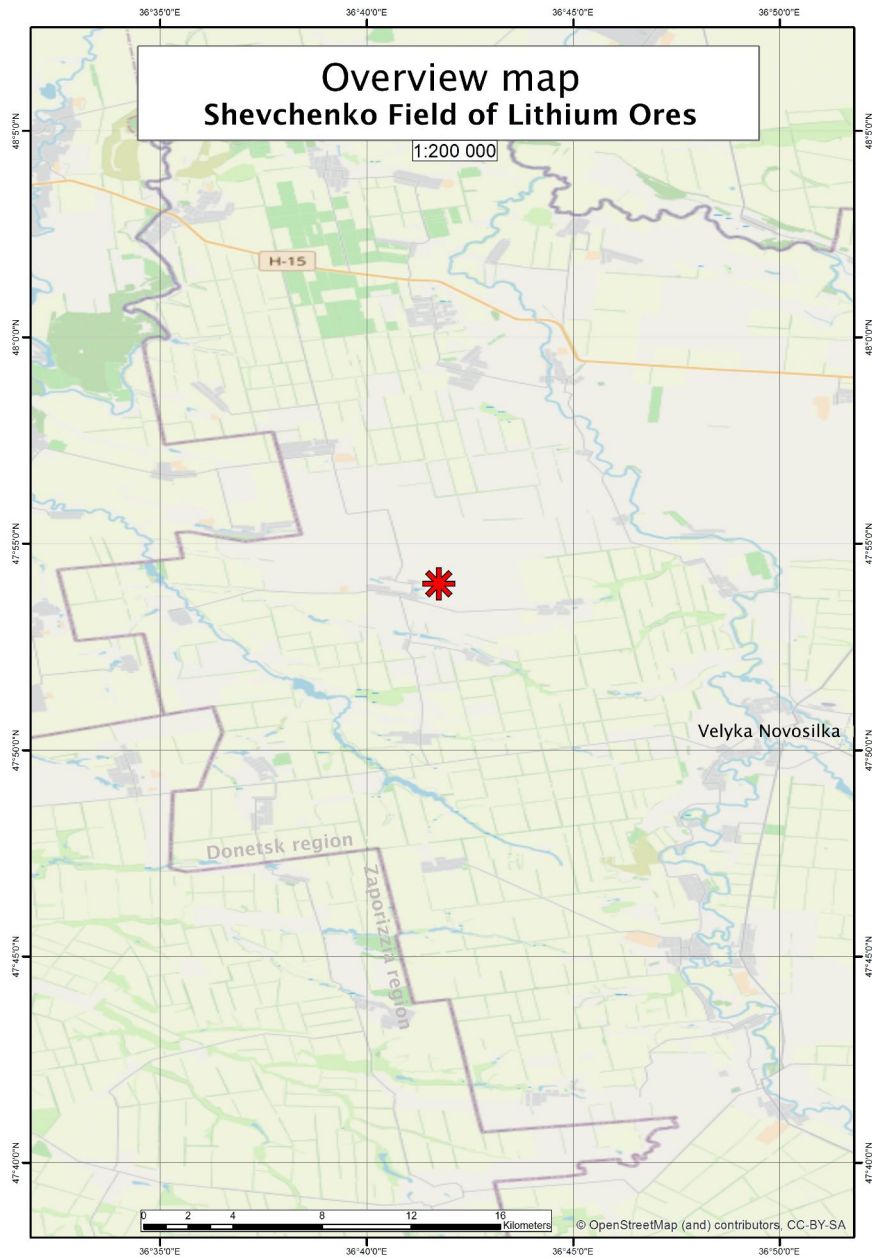
Information on the volumes of lithium reserves has limited access.

http://geoinf.kiev.ua/wp/geologichni%zviti.php?rep=fnd_shifr.rdf&schifr=51341.

http://geoinf.kiev.ua/wp/geologichni%zviti.php?rep=fnd_shifr.rdf&schifr=65581.

Minimum work program. Provided by Mining terms Model agreements and defined in "Work Program" annex.

Model agreements are listed at the link: <https://www.geo.gov.ua/primirni-ugodi-pro-umovi-koristuvannya-nadrami/>



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List of cadastral numbers of land plots, within the contour of the deposit



- 1 1421286600:01:001:0675
- 2 1421286600:01:001:0676
- 3 1421286600:01:001:0677
- 4 1421286600:01:001:0678
- 5 1421286600:01:001:0679
- 6 1421286600:01:001:1364
- 7 1421286600:01:001:1365
- 8 1421286600:01:001:1366
- 9 1421286600:01:001:1363
- 10 1421286600:01:001:1362
- 11 1421286600:01:001:1361
- 12 1421286600:01:001:1367
- 13 1421286600:01:001:1340
- 14 1421286600:01:001:1386
- 15 1421286600:01:001:1409
- 16 1421286600:01:001:1136
- 17 1421286600:01:001:1135
- 18 1421286600:01:001:1380
- 19 1421286600:01:001:1379

▪ Private property

Information on land plots, in particular by cadastral number, can be obtained on the Public Cadastral Map of Ukraine:
<https://cutt.ly/Fx0CuBg>

