PIDLISNA BLOCK OF TITANIUM AND ZIRCONIUM ORES

Mineral: titanium ores, zirconium ores.

Type, period of subsoil use: geological exploration and pilot production, 5 years.

Location: Zhytomyr district of Zhytomyr region, northeastern outskirts of Tesnivka village.

Block area: 571.35 ha.

Geological summary. In the geological structure of the region there lays a complex of precambrian crystalline rocks, and their residuum and sediments of Mesozoic and Cenozoic. Neogene system is presented by deposits of the Poltava series (Novopetrovsk formation) and an undivided stratum of the Middle Upper Sarmatian tier. Poltava series is represented by grayish-white sands and yellowish-light-gray sands with a thickness of 0.6-25.0 m. Quartz sands are fine-grained ones with lenses and layers of medium-grained sands. Undissected deposits of the middle-upper Sarmatian tier are represented by gray, light gray, greenish-gray mottled clays with ocher-yellow and cherry-red spots. Clays are dense, viscous, sometimes greasy. The mineral composition of clays is montmorillonite and galluazite with the presence of hydraulic mica. Quaternary sediments cover the entire area of work and are associated with glacial, lake-glacial, aeolian-deluvial, eluvial, aeolian, swampy, lake-swamp and alluvial strata. These deposits are represented by loams, sands and clays with the thickness from 0.5 to 30.0 m. The mineral is represented by ilmenite sands of the Poltava series, which are opened by wells at depths from 5.8 m (St. 1274) to 29.9 m (St. 1297). The thickness of Poltava deposits ranges from 0.5 m (St. 1298) to 16.5 m (St. 1312). Granulometric composition of Poltava sands is the following: fraction 1.6-1.0 mm - 0.24%; fraction 1.0-0.64 mm - 1.16%; fraction 0.63-0.05 mm - 61.82%; fraction 0.05-0.01 mm - 0.86%; fraction less than 0.01 mm - 25.92%. There is a plot with the content of conditional ilmenite from 8.05 to 267.8 kg/m3 within the Koziyivsky placer in sands of the Poltava series. The minerals in heavy residue are the following: zircon, rutile, garnet, ilmenite, leukoxene, sphen, distene, staurolite, tourmaline, hornblende. The content of heavy residue in ore sands ranges from proportion of percent to 5.4%. The content of minerals in heavy residue is distributed as follows: ilmenite - 44%; zircon - 23%; rutile - 16%; leukoxene - 3%; others - 14%. The average thickness of the ore placer is 6.5 m. The average thickness of the overburden is 17.0 m.

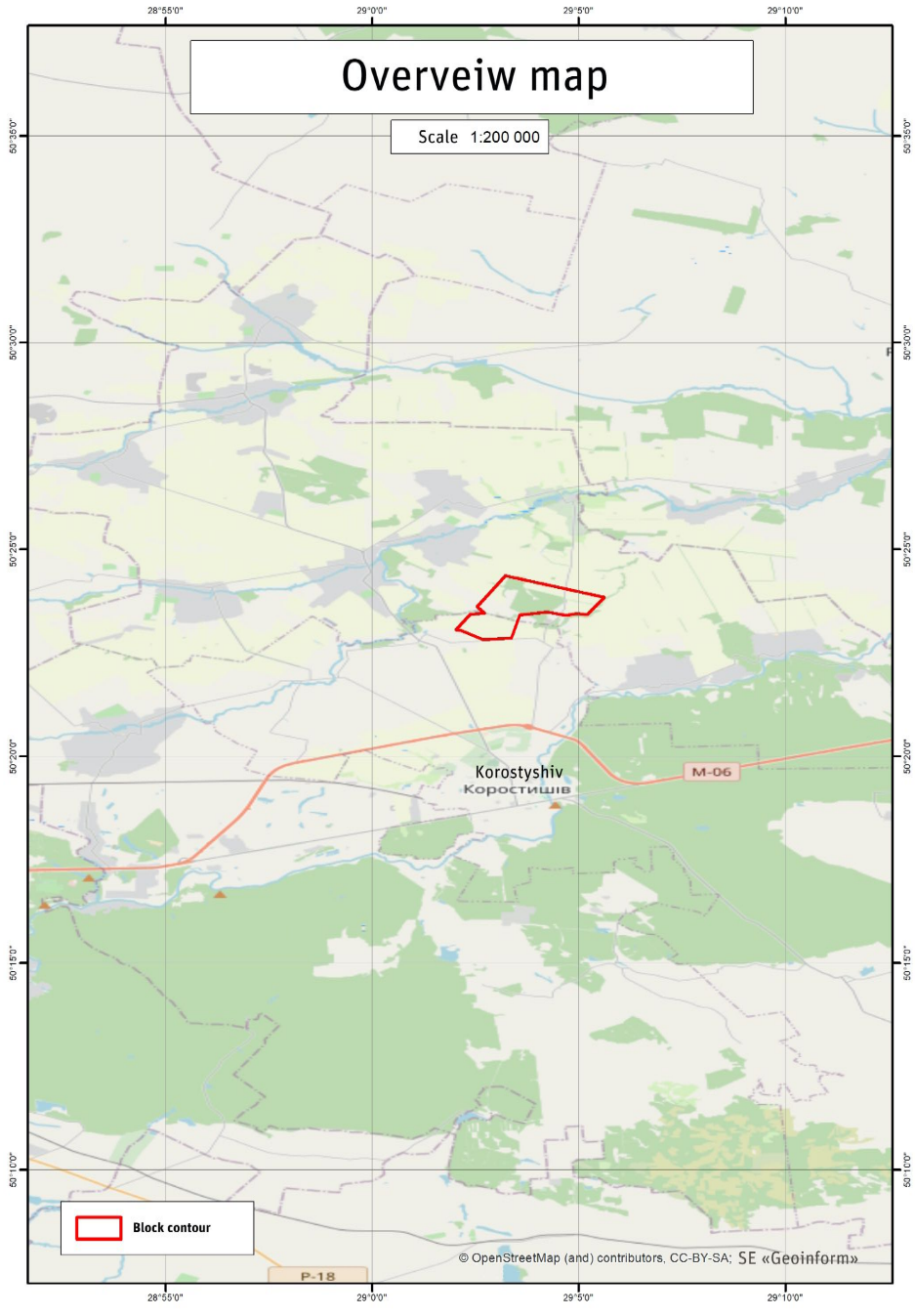
Available geological information. In 1972-1973, the first information about significant concentrations of ilmenite was received during geological surveying on a scale of 1:200 000 and 1:50 000.

Resources/reserves assessment. Not estimated.

http://geoinf.kiev.ua/wp/geologichni-zviti.php?rep=fnd_shifr.rdf&schifr=35302

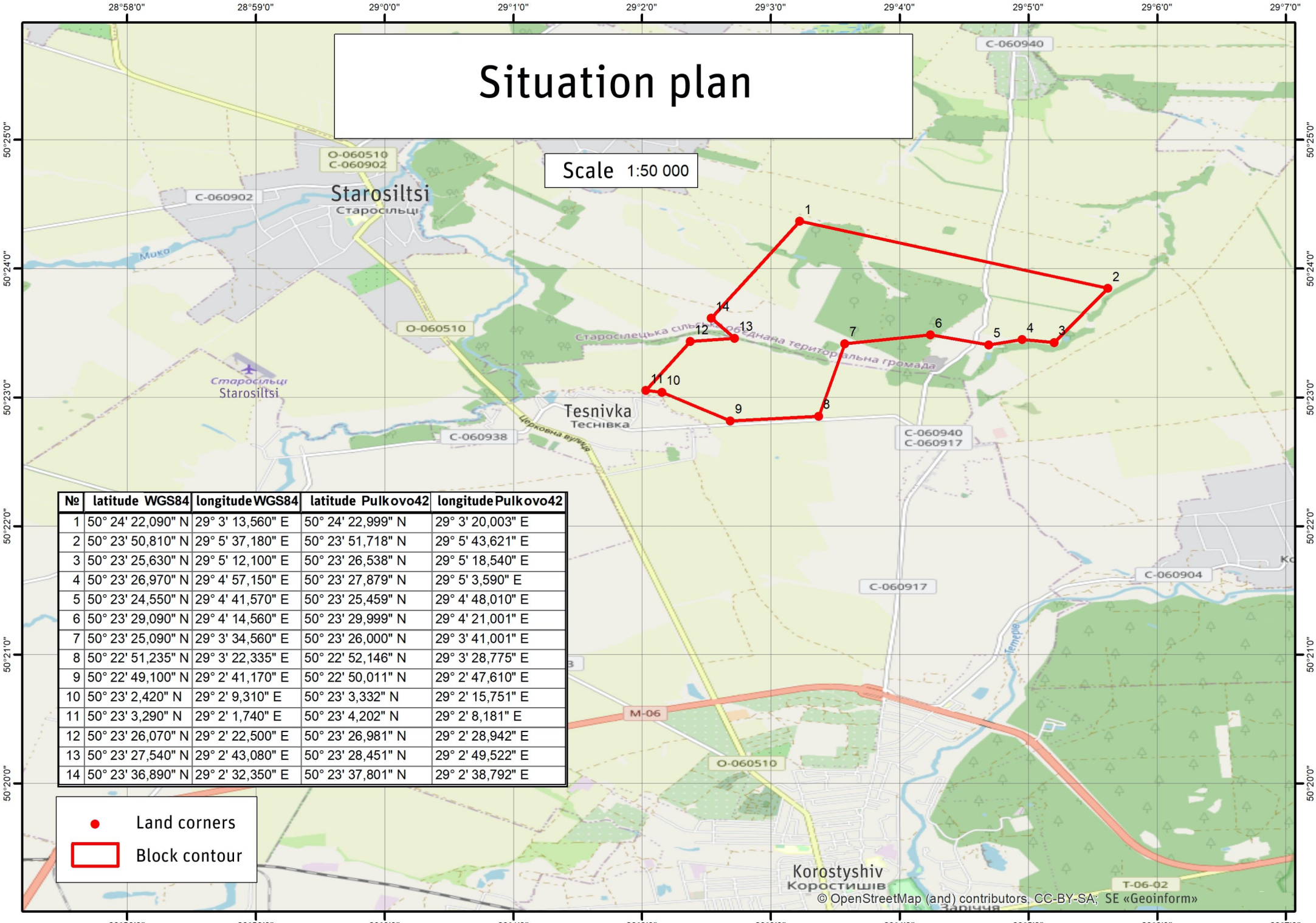
http://geoinf.kiev.ua/wp/geologichni-zviti.php?rep=fnd_shifr.rdf&schifr=62097

Minimum work program. Provided by agreements on terms and conditions of subsoil resources and defined in the Work Program appendix. Sample agreements can be found at: https://www.geo.gov.ua/primirni-ugodi-pro-umovi-koristuvannya-nadrami/



Situation plan

Scale 1:50 000



№	latitude WGS84	longitude WGS84	latitude Pulkovo42	longitude Pulkovo42
1	50° 24' 22,090" N	29° 3' 13,560" E	50° 24' 22,999" N	29° 3' 20,003" E
2	50° 23' 50,810" N	29° 5' 37,180" E	50° 23' 51,718" N	29° 5' 43,621" E
3	50° 23' 25,630" N	29° 5' 12,100" E	50° 23' 26,538" N	29° 5' 18,540" E
4	50° 23' 26,970" N	29° 4' 57,150" E	50° 23' 27,879" N	29° 5' 3,590" E
5	50° 23' 24,550" N	29° 4' 41,570" E	50° 23' 25,459" N	29° 4' 48,010" E
6	50° 23' 29,090" N	29° 4' 14,560" E	50° 23' 29,999" N	29° 4' 21,001" E
7	50° 23' 25,090" N	29° 3' 34,560" E	50° 23' 26,000" N	29° 3' 41,001" E
8	50° 22' 51,235" N	29° 3' 22,335" E	50° 22' 52,146" N	29° 3' 28,775" E
9	50° 22' 49,100" N	29° 2' 41,170" E	50° 22' 50,011" N	29° 2' 47,610" E
10	50° 23' 2,420" N	29° 2' 9,310" E	50° 23' 3,332" N	29° 2' 15,751" E
11	50° 23' 3,290" N	29° 2' 1,740" E	50° 23' 4,202" N	29° 2' 8,181" E
12	50° 23' 26,070" N	29° 2' 22,500" E	50° 23' 26,981" N	29° 2' 28,942" E
13	50° 23' 27,540" N	29° 2' 43,080" E	50° 23' 28,451" N	29° 2' 49,522" E
14	50° 23' 36,890" N	29° 2' 32,350" E	50° 23' 37,801" N	29° 2' 38,792" E

Land corners

Block contour