Many lows magnetic distributions seen with a sharp angle (blue line in figure) are the results of demagnetization due to alteration process.

Several tectonic lines of "S" shape (yellow line in the figure) in a sedimentary basin, and upthrust of basement rocks cause these folding.

3-6 Results of Airborne Geophysics

As the results of airborne magnetic and radiometric surveys at the Western Erdenet area, in Area-1 it is detected an elongated magnetic lineament along NW-SE direction from the southeast corner to the center of the area with slight bending but showing a further westward continuation

This low magnetic zone, where Erdenet mine is located, are probably due to the results of demagnetization during the alteration process.

A tectonic line detected on the south part of Area-1 along an ENE-WSW seems to intersect the basement rocks and younger sedimentary basins. It is inferred that this tectonic ENE-WSW line controls the Western Erdenet area.

High Potassium anomalies are seen distributed along the same trend as the magnetic NW-SE trend in Area-1. Most of the strong potassium signatures are detected in the open pit of Erdenet mine. This NW-SE trend spreads through the westward and continues to Khujiriin Gol area.

From the interpretation of the aeromagnetic and radiometric data, most prospective zones were extracted. This zone includes a NW-SE magnetic lineament that continues westward in Area-1 and likely to be related to mineralization with potassium high signature zones.

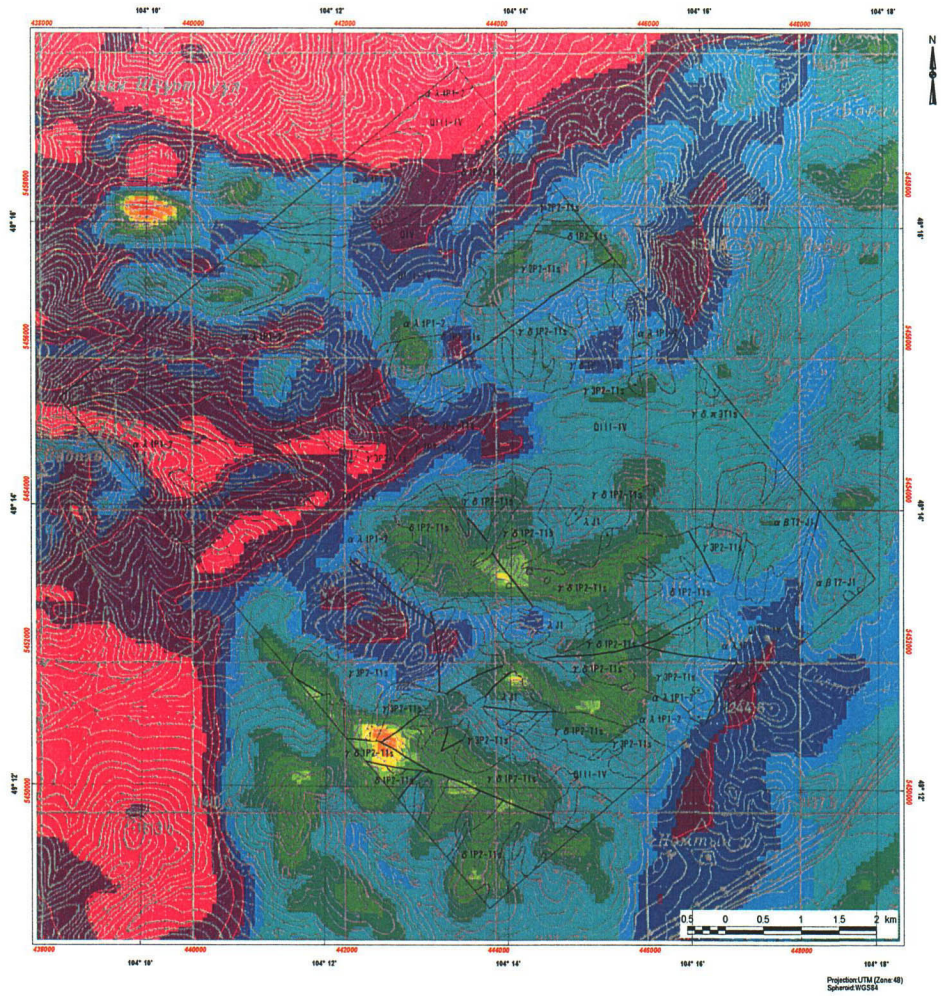
3-7 Airborne Survey Results for the Geological Survey Areas

3-7-1 Zuukhiin gol area

The TMI reduced to the pole map and the radiometrics potassium count map of the area are shown in Fig. II-3-12 and Fig. II-3-13. In the area, a part of the low magnetic anomalous zone can be seen but high potassic content is not confirmed.

3-7-2 Mogoin gol/Khujiriin gol area

The TMI reduced to the pole map and the radiometrics potassium count map of the area are shown in Fig. II-3-14 and Fig. II-3-15. In the Mogoin gol mineral showing area, a part of the low magnetic anomalous zone is included. In northern part of the area, high potassic content cannot be confirmed. However, high potassic content is confirmed in southern part of the area. In the Khujiriin gol area, relative high magnetic anomalous zones and high potassium content zones can be confirmed.



LEGEND

Sedimentary Rocks

Quaternary	QIV	Recent sediments: alluvial deposits: gravels, sand, silt and clay
	QIII–IV	Upper - Recent sediments; alluvial and colluvial deposits: gravels, sand, silt and clay
Jurassic	λ J1	Mogod suite: volcanic rocks and dykes: microdiorite, andesite, porphyry, liparite, dacite and tuffaceous conglomerate.
Triassic to Jurassic	α β T2–J1	Mogod suite; volcanic rock and dyke of liparite, dacite, andesite and their tuff.
Permian	α λ P1–2	Lower Hanuigol Formation: volcanic rock and dyke of basalt, andesite, dacite and liparite.

Plutonic Rocks

Triassic	γ δ π T1s	Selenge Complex: Lower Triassic: fine grained granodiorite porphyry.
Permian to Triassic	γ P2–T1s	Selenge Complex: granite.
	γ P2–T1s	Selenge Complex: granite.
	γ δ P2–T1s	Selenge Complex: granodiorite.
	δ P2–T1s	Selenge Complex: diorite.

Structure

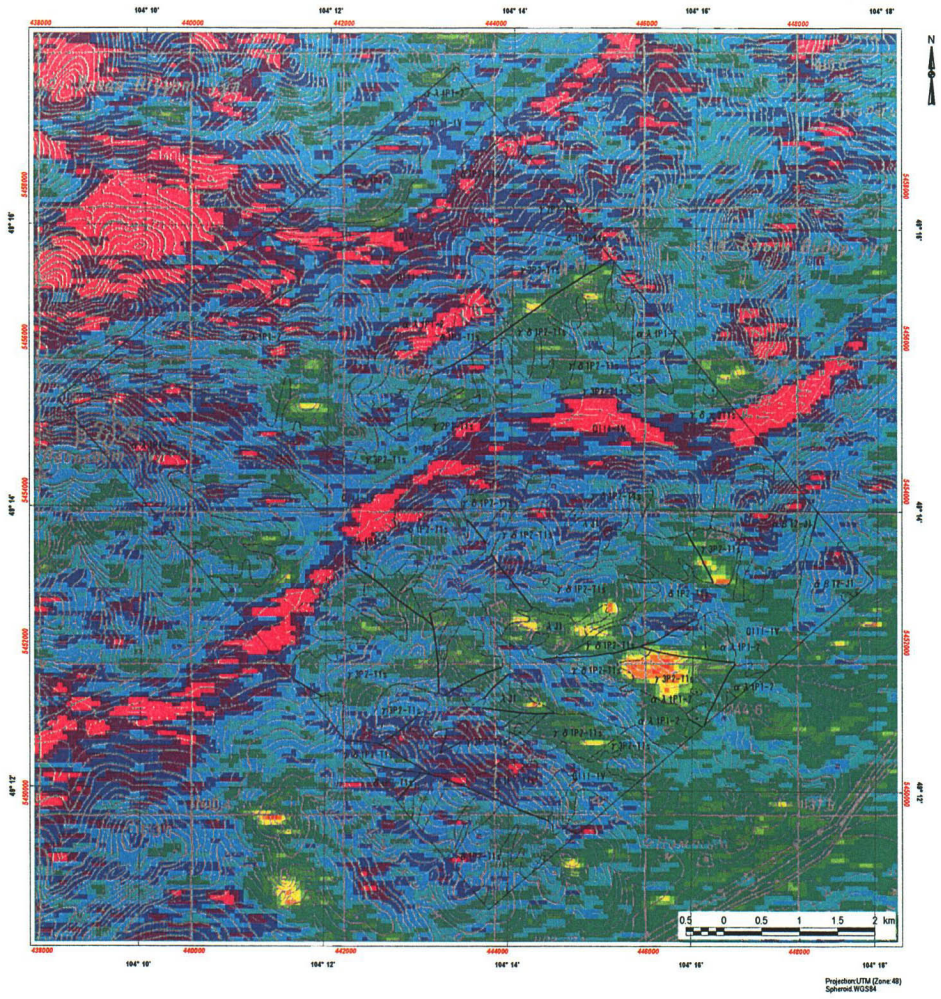
Fault

Airborne survey

Reduced to Pole Magnetic Field (nT)

60500 - 62355
60400 - 60500
60300 - 60400
60200 - 60300
60100 - 60200
60000 - 60100
59900 - 60000
59800 - 59900
59700 - 59800
59600 - 59700
59500 - 59600
59400 - 59500
59300 - 59400
59200 - 59300
59100 - 59200
59000 - 59100
58900 - 59000
58050 - 58900

Fig. II-3-12 Total magnetic intensity of airborne survey in the Zuukhiin gol area



LEGEND

Sedimentary Rocks

Quaternary	QIV	Recent sediments: alluvial deposits: gravels, sand, silt and clay
	QIII–IV	Upper - Recent sediments; alluvial and colluvial deposits: gravels, sand, silt and clay
Jurassic	λ J1	Mogod suite: volcanic rocks and dykes: microdiorite, andesite, porphyry, liparite, dacite and tuffaceous conglomerate.
Triassic to Jurassic	α βT2–J1	Mogod suite: volcanic rock and dyke of liparite, dacite, andesite and their tuff.
Permian	α λ tP1–2	Lower Hanuigol Formation: volcanic rock and dyke of basalt, andesite, dacite and liparite.

Plutonic Rocks

Triassic	γ δ ж3T1s	Selenge Complex: Lower Triassic: fine grained granodiorite porphyry.
Permian to Triassic	γ3P2–T1s	Selenge Complex: granite.
	γ2P2–T1s	Selenge Complex: granite.
	γ δ tP2–T1s	Selenge Complex: granodiorite.
	δ tP2–T1s	Selenge Complex: diorite.

Structure

Fault

Airborne survey

Radiometric Potasium Count

180 - 255
170 - 180
160 - 170
150 - 160
140 - 150
130 - 140
120 - 130
110 - 120
100 - 110
90 - 100
80 - 90
70 - 80
60 - 70
50 - 60
-20 - 50

Fig. II-3-13 Radiometric potassium count of airborne geological survey in the Zuukhiin gol area

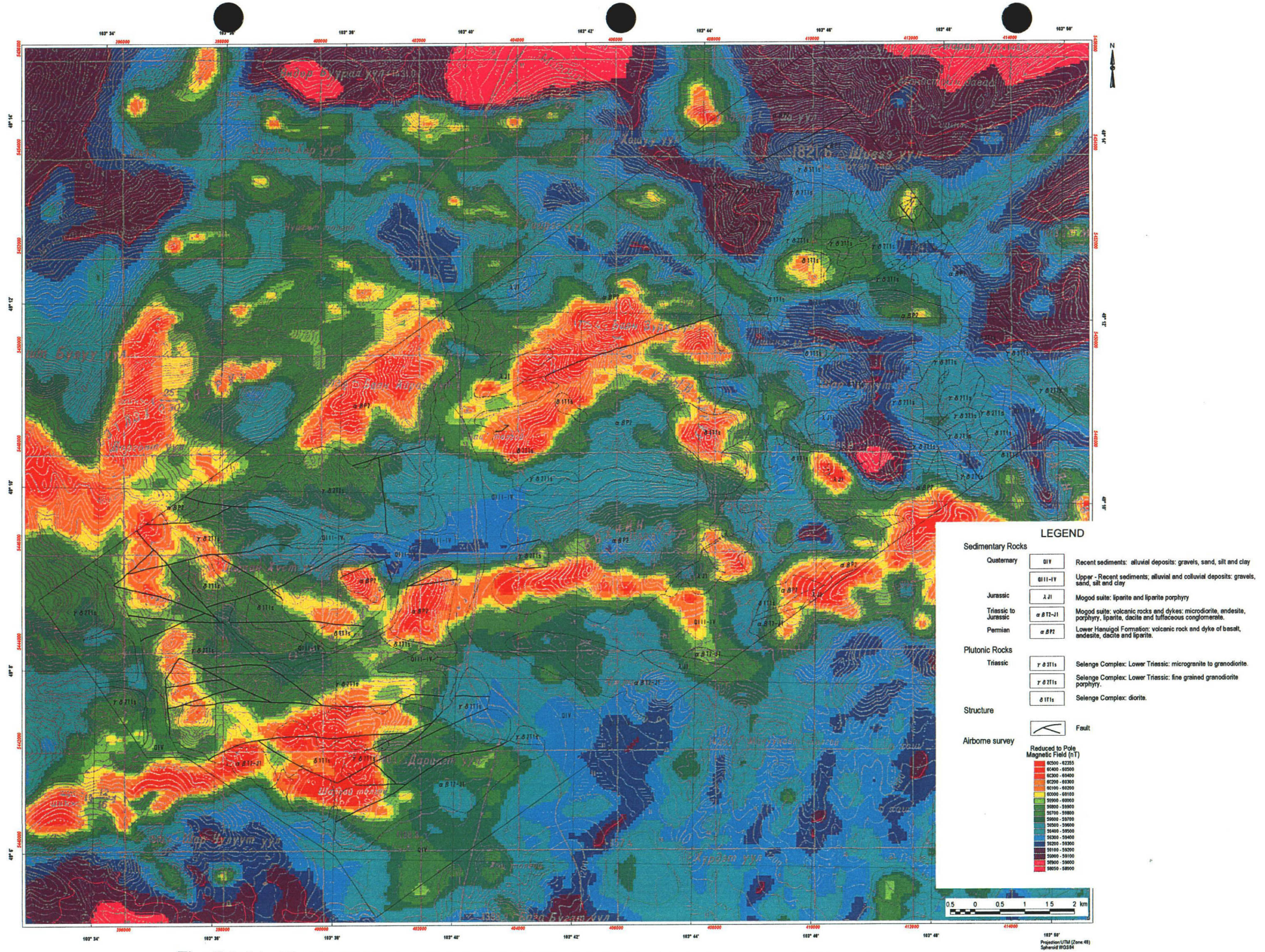


Fig. II-3-14 Total magnetic intensity of airborne survey in the Mogoin gol/Khujiriin gol area

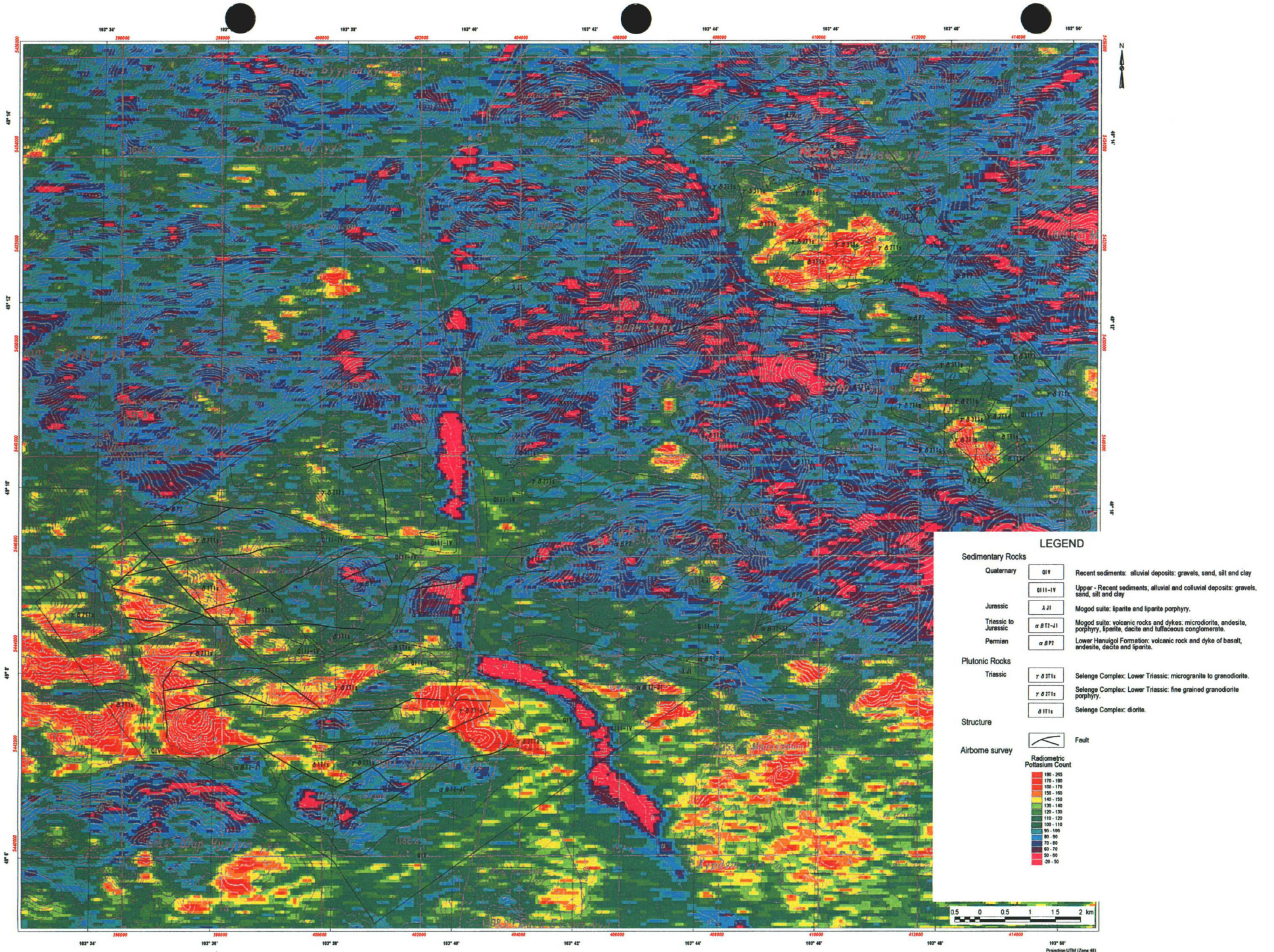


Fig. II-3-15 Radiometric potassium count of airborne geological survey in the Mogoin gol /Khuiiriin gol area

3-7-3 Tsagaan Chuluut area

The TMI reduced to the pole map and the radiometrics potassium count map of the area are shown in Fig. II-3-16 and Fig. II-3-17. In the area, relative high magnetic anomalous zones and high potassium content zones cannot be confirmed.

3-7-4 Erdenet mine area

The TMI reduced to the pole map and the radiometrics potassium count map of the area are shown in Fig. II-3-18 and Fig. II-3-19. In the Erdenet mine area of the porphyry type copper – molybdenum ore deposit, lowest magnetic anomalous zones and high potassium content zones are distributed. The Erdenet Central, the Erdenet Intermediate and Erdenet southeast ore deposits are located in the lowest magnetic anomalous zone. The Erdenet southeast ore deposit is including in the

3-7-5 Danbatseren area

The TMI reduced to the pole map and the radiometric potassium count map of the area are shown in Fig. II-3-20 and Fig. II-3-21. In the area, a part of the low magnetic anomalous zone and high potassic content is not confirmed.

3-7-6 Undrakh area

The TMI reduced to the pole map and the radiometric potassium count map of the area are shown in Fig. II-3-22 and Fig. II-3-23. The area is located in the high magnetic anomalous zone and high potassic content is not confirmed.

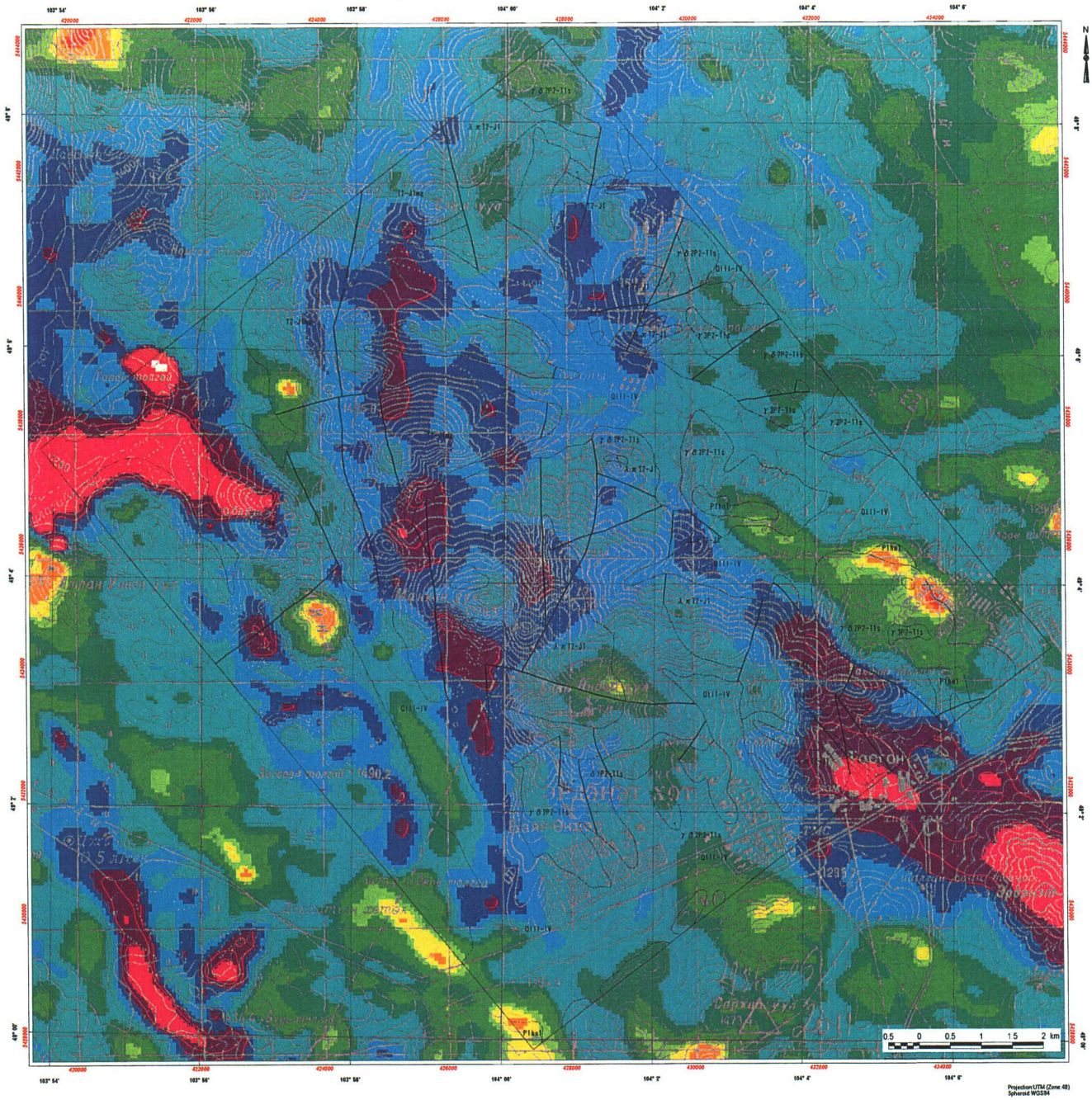
3-7-7 Tsookher mert area

The TMI reduced to the pole map and the radiometric potassium count map of the area are shown in Fig. II-3-24 and Fig. II-3-25. The high magnetic anomalous zone cannot be seen in the area but high potassic content is widely confirmed in the area. The high potassic content zone is located in the syenite rock, which include many potassic feldspars.

3-7-8 Summary

As the results of airborne geophysical survey, it is characteristics of the Erdenet mine area that intensity of TMI reduced to the pole is lower to lowest and radiometric potassium count is highest.

The same pattern and nature of TMI reduced to the pole and radiometric potassium count such as Erdenet mine cannot be confirmed in other areas. However, the Zuukhiin gol area has a low magnetic anomaly and high potassium content in small scale.



LEGEND

Sedimentary Rocks

Quaternary	Q III–IV	Upper - Recent sediments; alluvial and colluvial deposits: gravels, sand, silt and clay
Triassic to Jurassic	λ πT2–J1	Mogod suite: volcanic rocks and dykes: porphyry, liparite and dacite.
	T2–J1mg	Mogod suite: volcanic rocks and dykes: microdiorite, andesite, porphyry, liparite, dacite and tuffaceous conglomerate.
Permian	P1hn1	Lower Hanuigol Formation: volcanic rock and dyke of basalt, andesite, dacite and liparite.

Plutonic Rocks

Permian to Triassic	γ δ P2–T1s	Selenge Complex: Lower Triassic: fine grained granodiorite porphyry.
	γ δ P2–T1s	Selenge Complex: Lower Triassic: fine grained granodiorite porphyry.
	δ P2–T1s	Selenge Complex: diorite.

Structure

Fault

Airborne survey

Reduced to Pole Magnetic Field (nT)

60500 - 62355
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60300 - 60400
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59500 - 59600
59400 - 59500
59300 - 59400
59200 - 59300
59100 - 59200
59000 - 59100
58900 - 59000
58850 - 58900

Fig. II-3-16 Total magnetic intensity of airborne survey in the Tsagaan Chuluut area

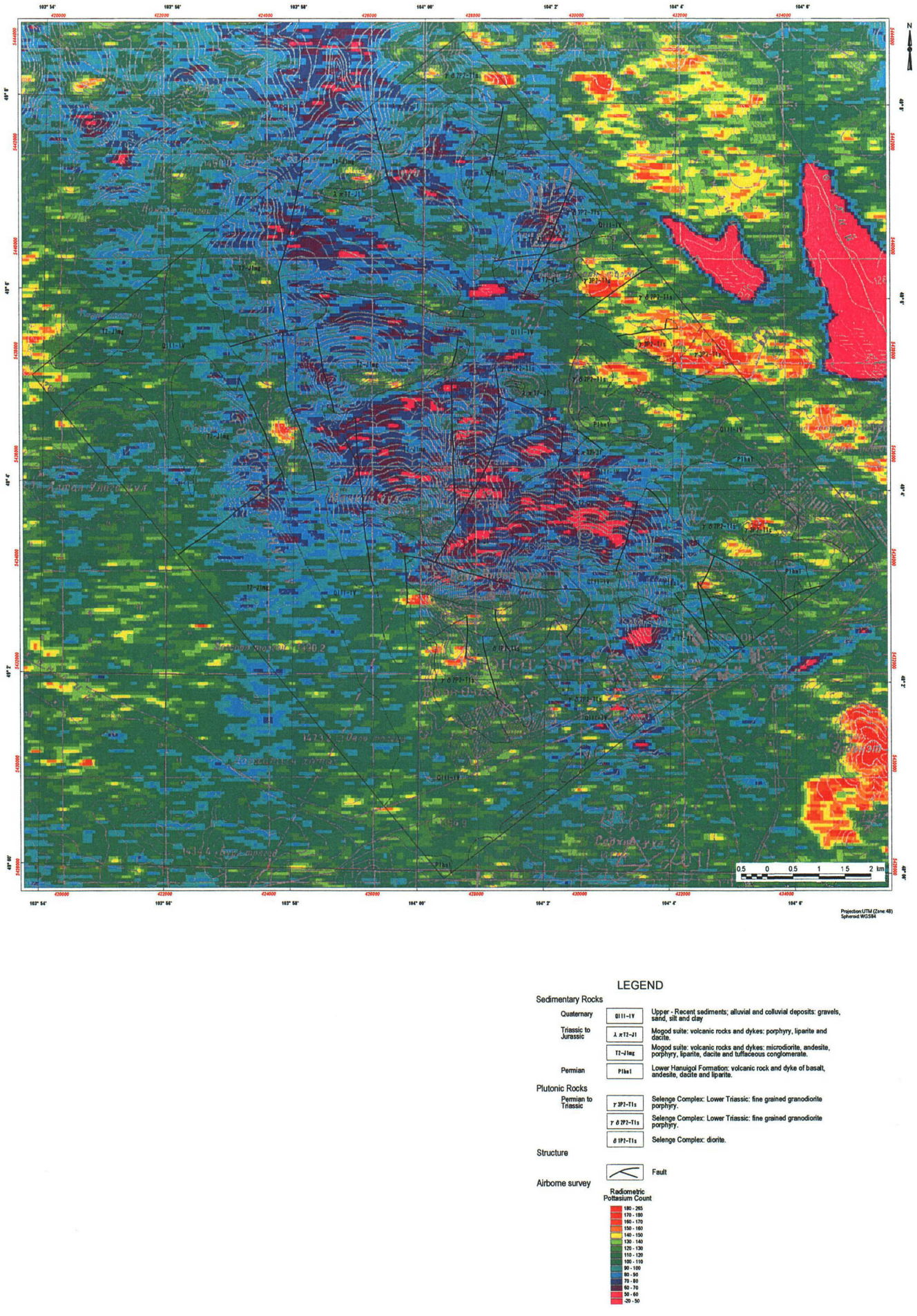

Fig. II-3-17 Radiometric potassium count of airborne geological survey in the Tsagaan Chuluut area