observed in the vicinity of the station A0-140 is divided into three anomalies.

・Plan map of apparent resistivity n=3 (Figure 102)

The distribution pattern of the apparent resistivity is similar to that of the previous two plans n=1and 2. The zone of the low apparent resistivity less than 10 Ωm extending from the central parts to the southern parts of the prospect becomes further wider compare with that of the plans n=1 and 2. The extension parts of above low apparent resistivity forms an independent anomaly along the base line A0 in the northwestern mall high apparent resistivity anomaly exceeding 100 Ωm in the central parts is distributed in the vicinity of the stations from A3-120 to A3-130.

・Plan map of apparent resistivity n=4 (Figure 103)

The distribution pattern of the apparent resistivity is generally similar to that of the plans n=3. The low apparent resistivity anomaly less than 10 Ωm in the central parts is distributed at the section adjacent to the southwestern side of small high apparent resistivity anomaly in the central parts of the prospect.

・Plan map of observed chargeability n=1 (Figure 104)

The significant anomaly is not recognized except a weak and small measured chargeability anomaly exceeding 4mV/V is detected at the section between the stations A0-350 and A7-120 and between the stations A6-190 and A6-200 in the northern parts of the prospect.

・Plan map of observed chargeability n=2 (Figure 105)

A weak chargeability anomaly exceeding 4 mV/V is only observed at around the station A0-350 in the eastern parts of the prospect.

・Plan map of observed chargeability n=3 (Figure 106)

A weak chargeability anomaly exceeding 4 mV/V is only observed at around the station A5-65 in the southern parts of the prospect, however this is not recognized to be significant because of one point anomaly within the zone of the low apparent resistivity.

・Plan map of observed chargeability n=4 (Figure 107)

A weak chargeability anomaly exceeding 4 mV/V is only observed at section around the station A0-350 in the eastern parts of the prospect.

② Modeled Resistivity and Chargeability

Modeled resistivity in the prospect is ranging between 0.3 and 510 Ωm and an average value of about 22 Ωm is only approximately 10 percent of that in the Bazina Kebira prospect.

The resistivity distribution in this area is characterized by the distribution of two low resistivity zones less than 10 Ωm, which extends towards the southwestern parts in the NW-SE direction and in the vicinity of the lines A5 and A6 with the NE-SW or N-S directions.

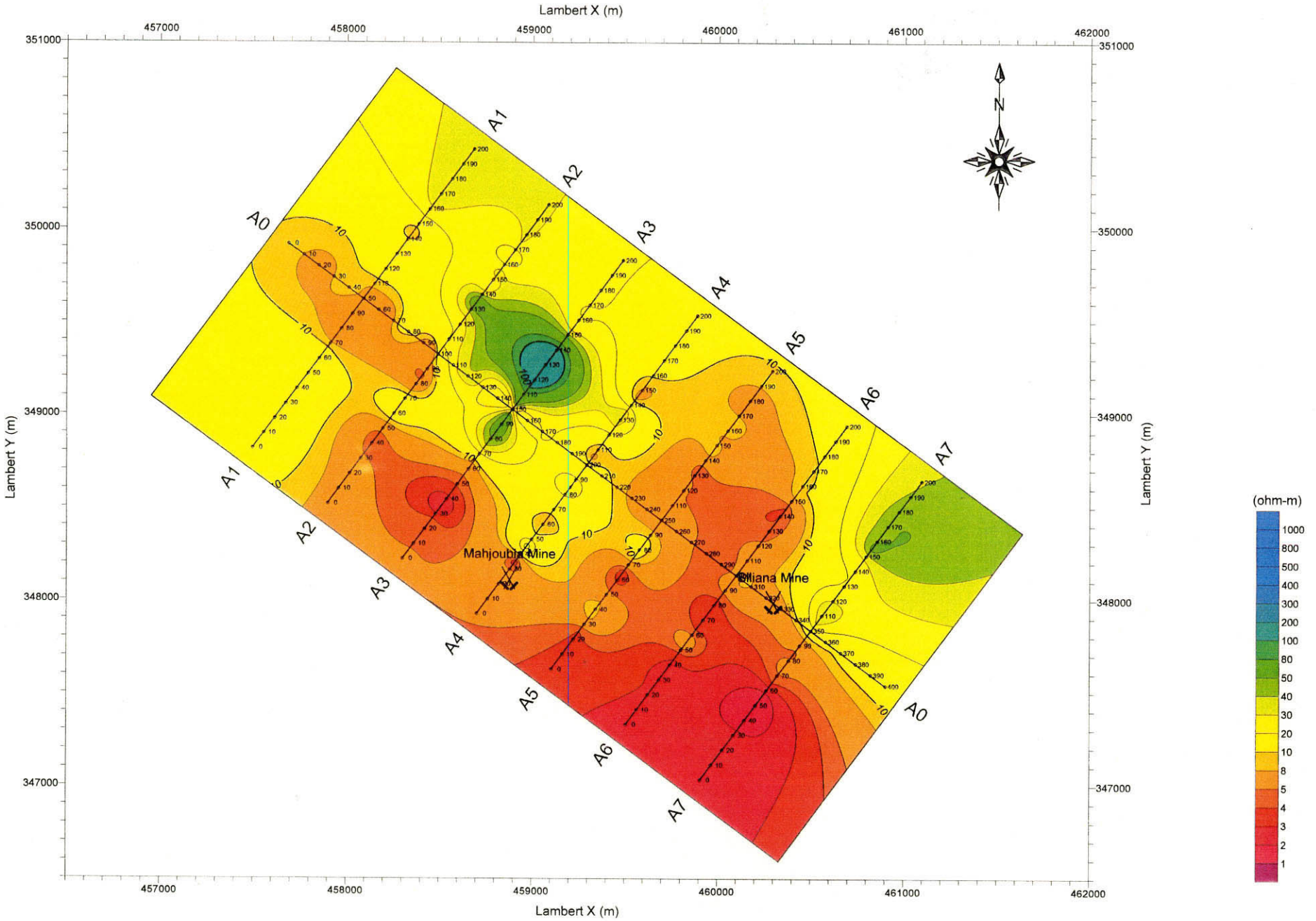


Figure 102 Plan map of apparent resistivity in Siliana prospect (n=3)

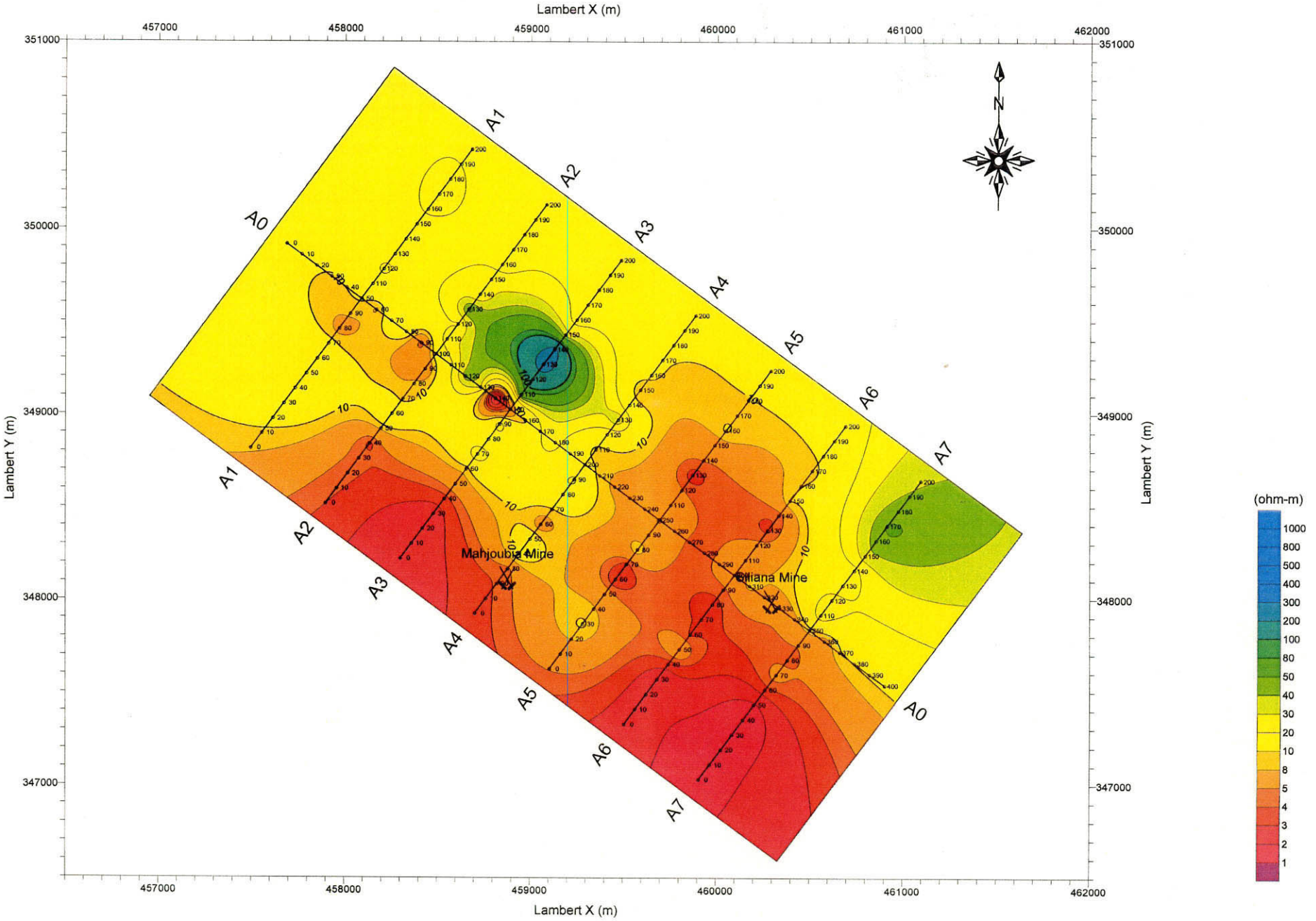


Figure 103 Plan map of apparent resistivity in Siliana prospect (n=4)

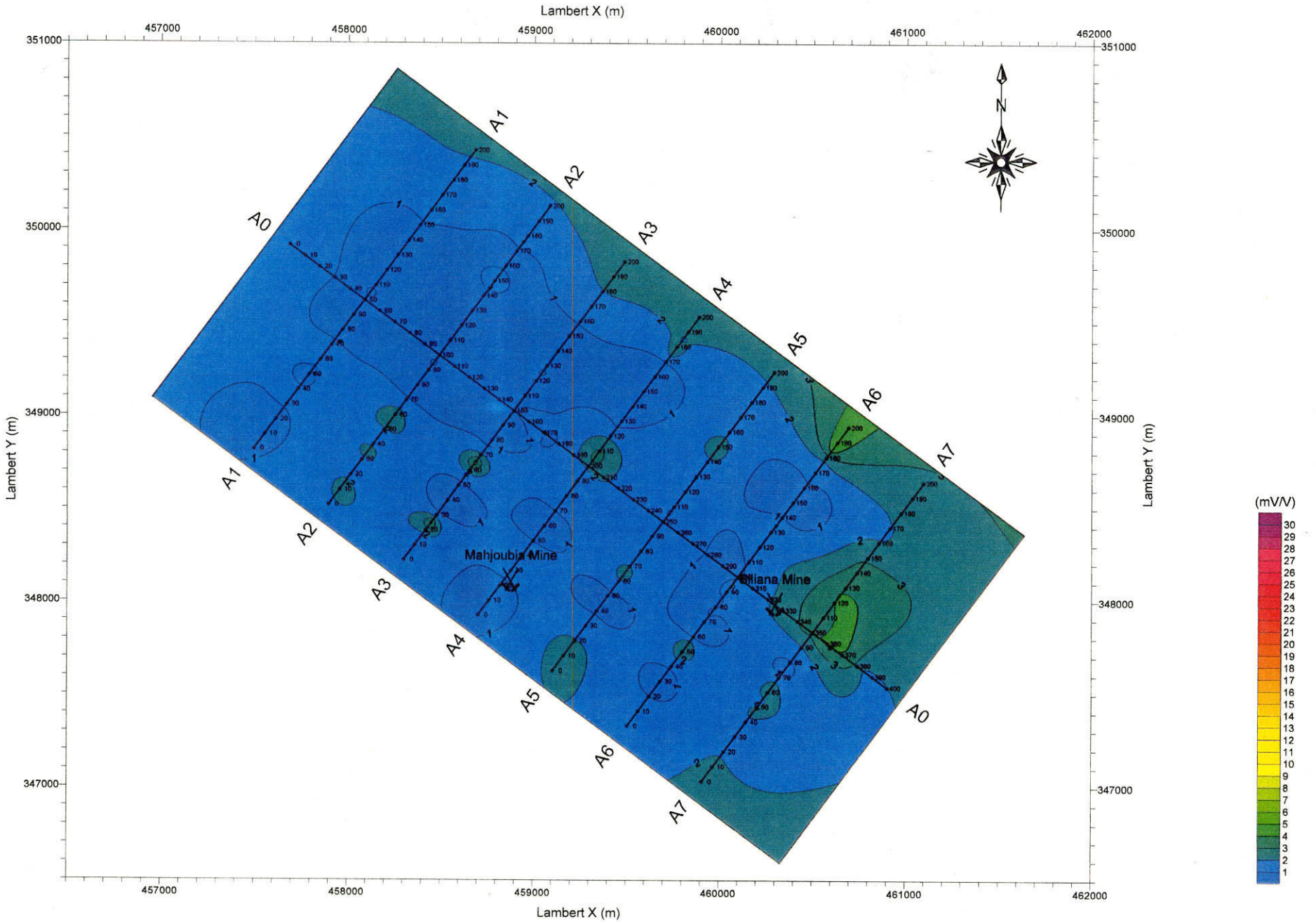


Figure 104 Plan map of observed chargeability in Siliana prospect (n=1)

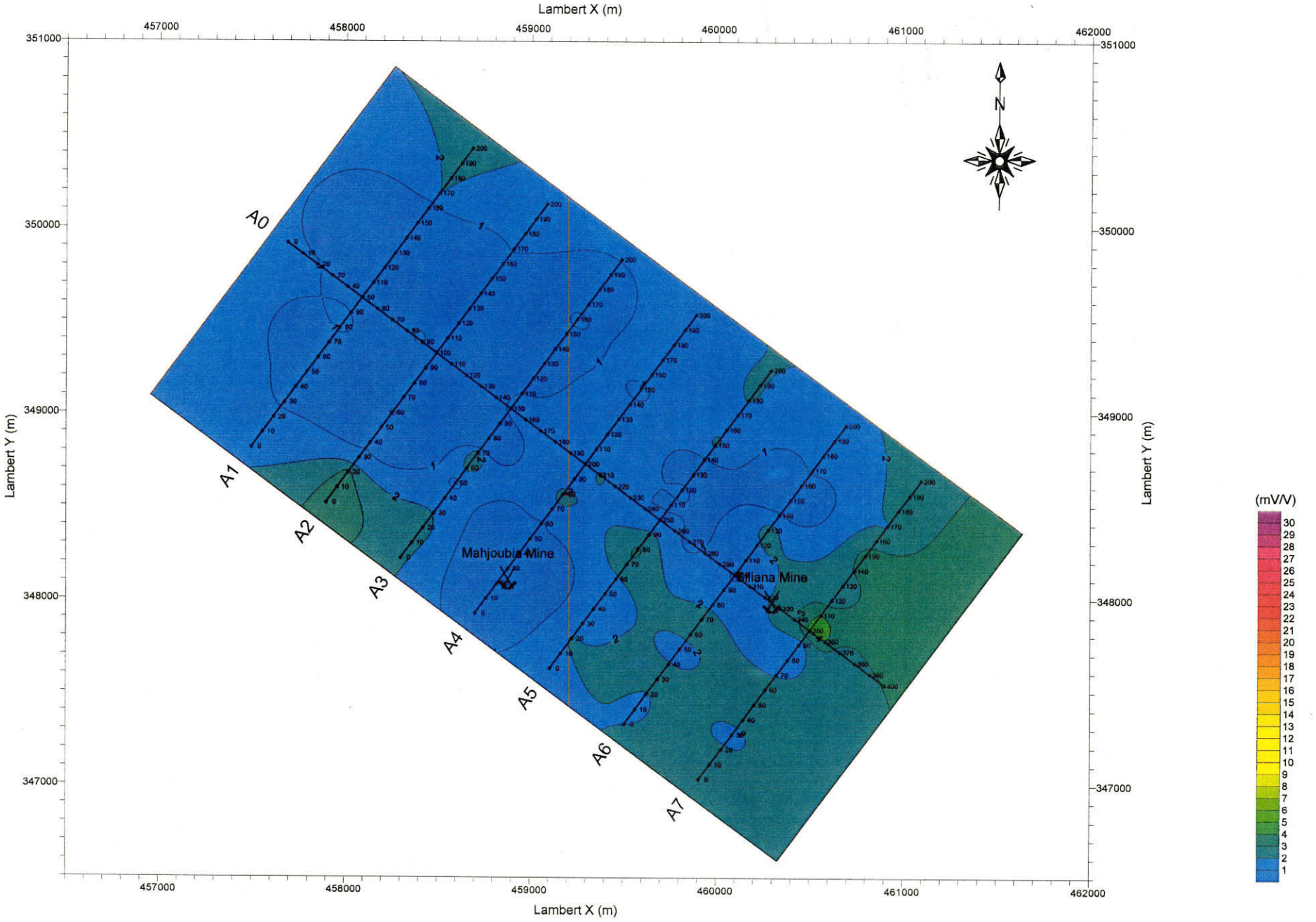


Figure 105 Plan map of observed chargeability in Siliana prospect (n=2)

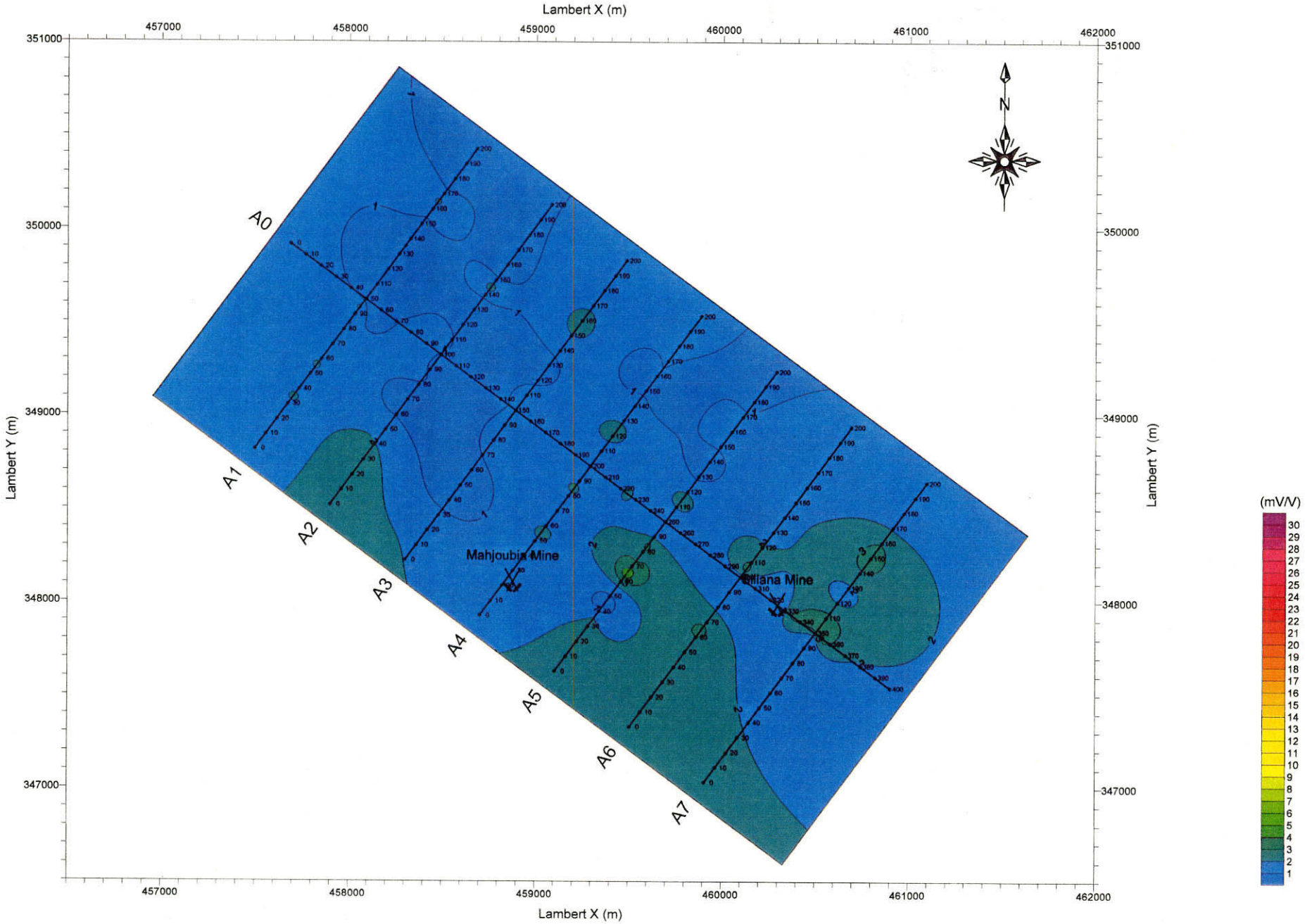


Figure 106 Plan map of observed chargeability in Siliana prospect (n=3)

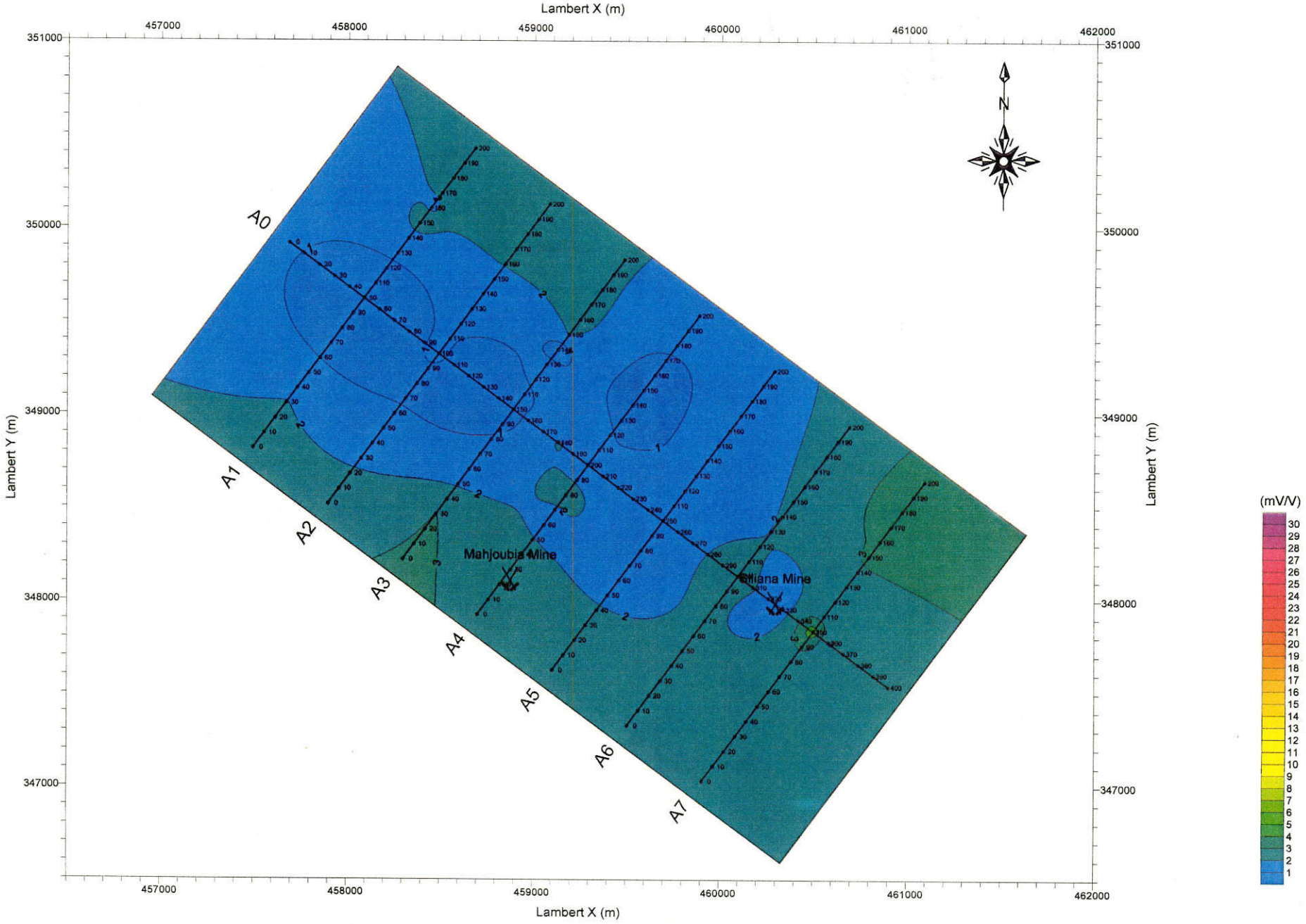


Figure 107 Plan map of observed chargeability in Siliana prospect (n=4)

Western side of the former low resistivity zone is correlated to the distribution of the Cretaceous limestone, that agrees with the laboratory test results of the sample indicating relatively high resistivity, and the latter low resistivity zone is considered to correlate with the Quaternary system extending along the Siliana River. Both resistivity zones intersect at the southwestern parts of line A6. The low resistivity anomalies less than 10Ωm are distributed at shallow depth of the stations between A0-10 and A0-80 in the northwestern parts of the base line A0, and at depth of the stations between A2-80 and A0-140 in the central parts of the base line A0. The high resistivity anomaly exceeding 100Ωm is distributed at shallow depth around the station A0-150 in the central parts of the prospect. The high resistivity zone exceeding 100Ωm is distributed at depth of the section covering the stations from A1-120 to A3-130 with the NW-SE direction in the northeastern side. This high resistivity zone can be correlated to the distribution of the Triassic dolomite, the samples of which indicate the high resistivity at the laboratory test.

Modeled chargeabilities in this prospect are generally low and its maximum and approximate average values are 5 mV/V and 2 mV/V respectively. The useful chargeability can not be observed in some areas due to the low resistivity, where the negative chargeability is Modeled just on a calculation. Two small chargeability anomalies are detected at shallow depth of the section around the stations between A6-190 and A6-200, and between A0-360 and A7-120 in the eastern parts of the prospect.

Brief characteristics on the cross sections and the plans at elevations of -50, 50 and 150 m are described.

· Cross Section A0 (Figure 108)

This is a longitudinal section through the Siliana deposit crosscutting from the northwestern hill site to the southeastern plain area in the prospect. The resistivity distribution in the cross section is characterized with the low zone of the resistivity less than 20 Ωm which is dominated in the entire cross section, excepting the high resitivity anomalies detected at the elevation of 100m around the stations from A0-100 to A0-120 in the northwestern of the line , and at near the surface of the stations between A0-130 and A-160. The low anomalies of the resistivity less than 10 Ωm extend to near the surface of the northwestern end of the line, at the lower section of the high resistivity anomaly and to the section from the central parts to the southeastern parts. The low resistivity anomalies less than 5 Ωm are also detected in the above low resistivity anomalies. The zone of the low resistivity less than 5 Ωm underlain by the Triassic dolomite body with high density may cause the low gravity residual anomaly detected at the same place. The Siliana deposit is

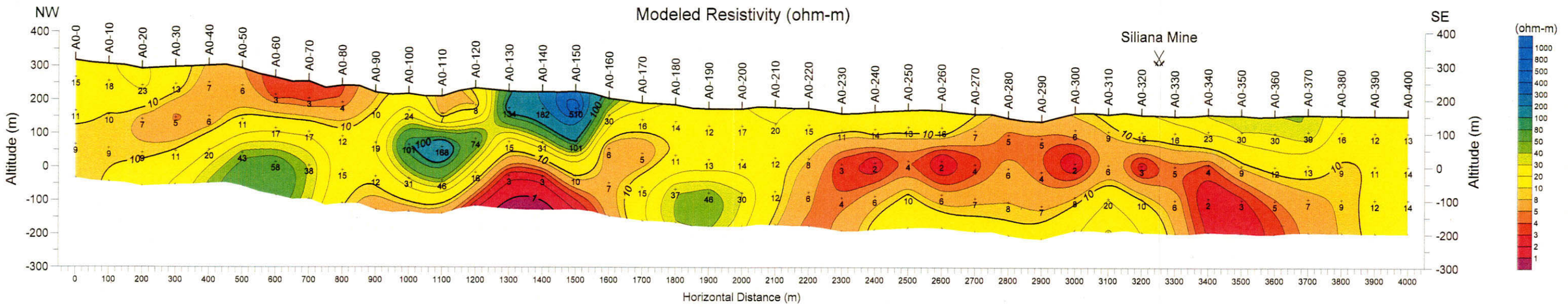


Figure 108 Modeled IP section (Line A0)

situated in the northwestern margin of the extent where the thin and relatively high resistivity anomaly exceeding 20 Ωm is distributed at near the surface in the southeastern parts of the line. This thin and high resistivity anomaly can be correlated to distribution of the Cretaceous limestone. The significant chargeability anomalies are not recognized except the small and weak anomaly exceeding 4mV/V detected at near the surface of the stations between A0-360 and A0-370 in the southeastern end of the line. The ore sample from the Siliana deposit shows strong chargeability value, however such strong chargeability anomaly is not obtained over the Siliana deposit. Therefore, the width of the Siliana working is considered to be the narrower compared with the electrode separations and the thickness of that is also considered to be only about 10m.

・Cross Section A1(Figure 109)

This cross section is running over the hill site in the northwest parts of the prospect from southwest to northeast. The low resistivity layer less than 10Ωm extends at near the surface with the thickness ranging from several 10 to 100m in the central parts of the cross section. The high resistivity layer exceeding 50Ωm and the high resistivity anomaly exceeding 100 Ωm are distributed at the lower section of the above low resistivity layer and at the northeastern parts. The low resistivity anomaly less than 10Ωm, dividing the above high resistivity layer, is detected at the stations between A1-80 and A1-150.

The significant chargeability anomaly is not detected in this cross section.

・Cross Section A2(Figure 110)

This section runs in the NE-SW direction at 500 m to the southeast of the cross section A1. The zones of the low resistivity less than 10 Ωm extend towards the surface from the deep part of the stations between A2-40 and A2-80 in the southwestern parts, at depth of the stations between A2-80 and A2-110 in the central parts of the cross section. The low resistivity anomaly less than 10Ωm in the vicinity of the station A2-130 may reflect the fault in the northeastern site of the cross section.

The significant chargeability anomaly is not detected in this cross section.

・Cross Section A3 (Figure 111)

This section runs over the hill site in the NE-SW direction at 500 m to the southeast of the cross section A2. Low resistivity anomalies less than 10 Ωm is distributed in the southwestern side from the vicinity of the station A3-60. The high resistivity zone exceeding 100 Ωm is distributed at the stations between A3-80 and A3-160 in the central parts. This high resistivity zone can be correlated to the Triassic dolomite body. The small low resistivity anomaly is recognized at depth in the vicinity of the station A3-100. The southwestern

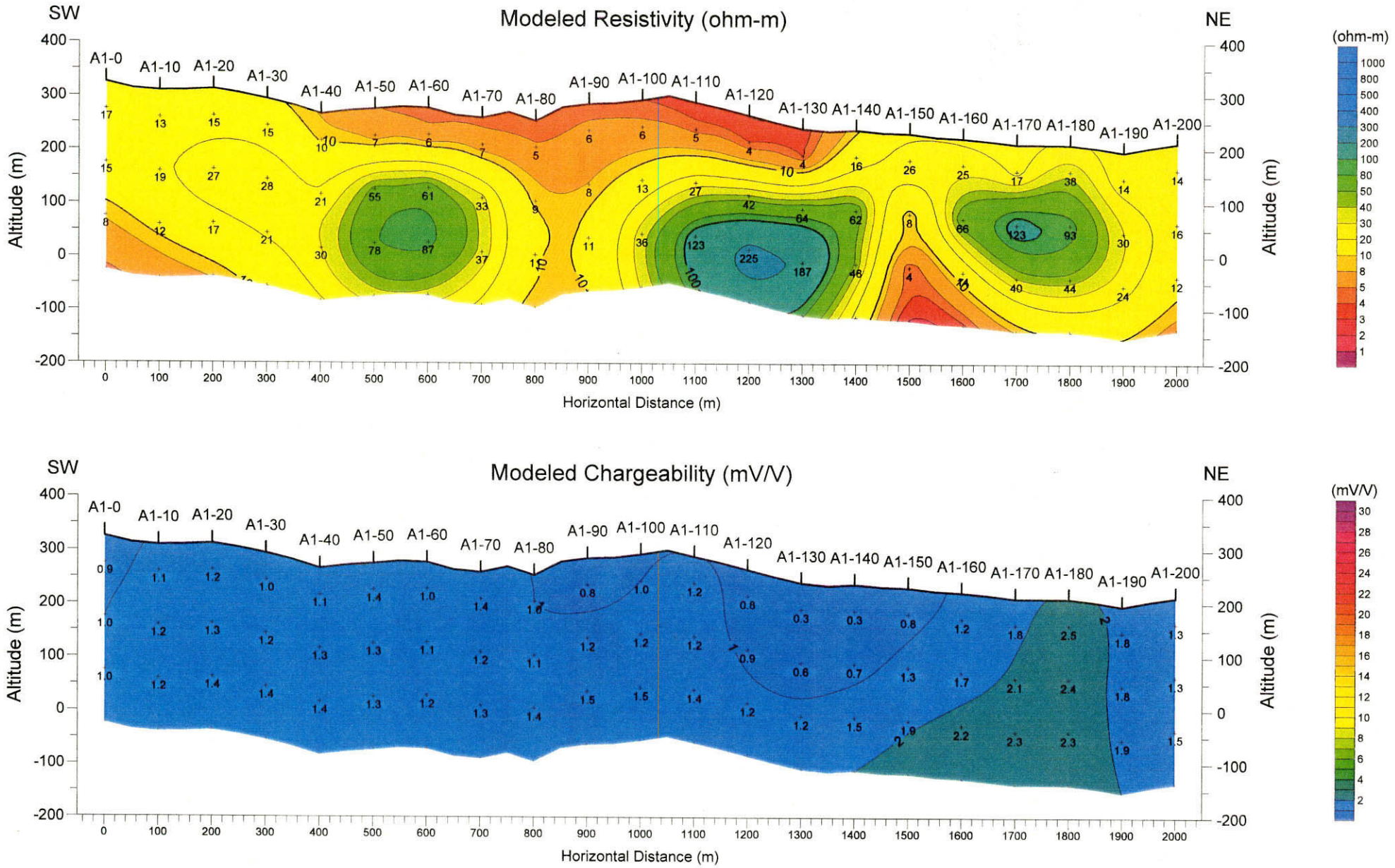


Figure 109 Modeled IP section (Line A1)

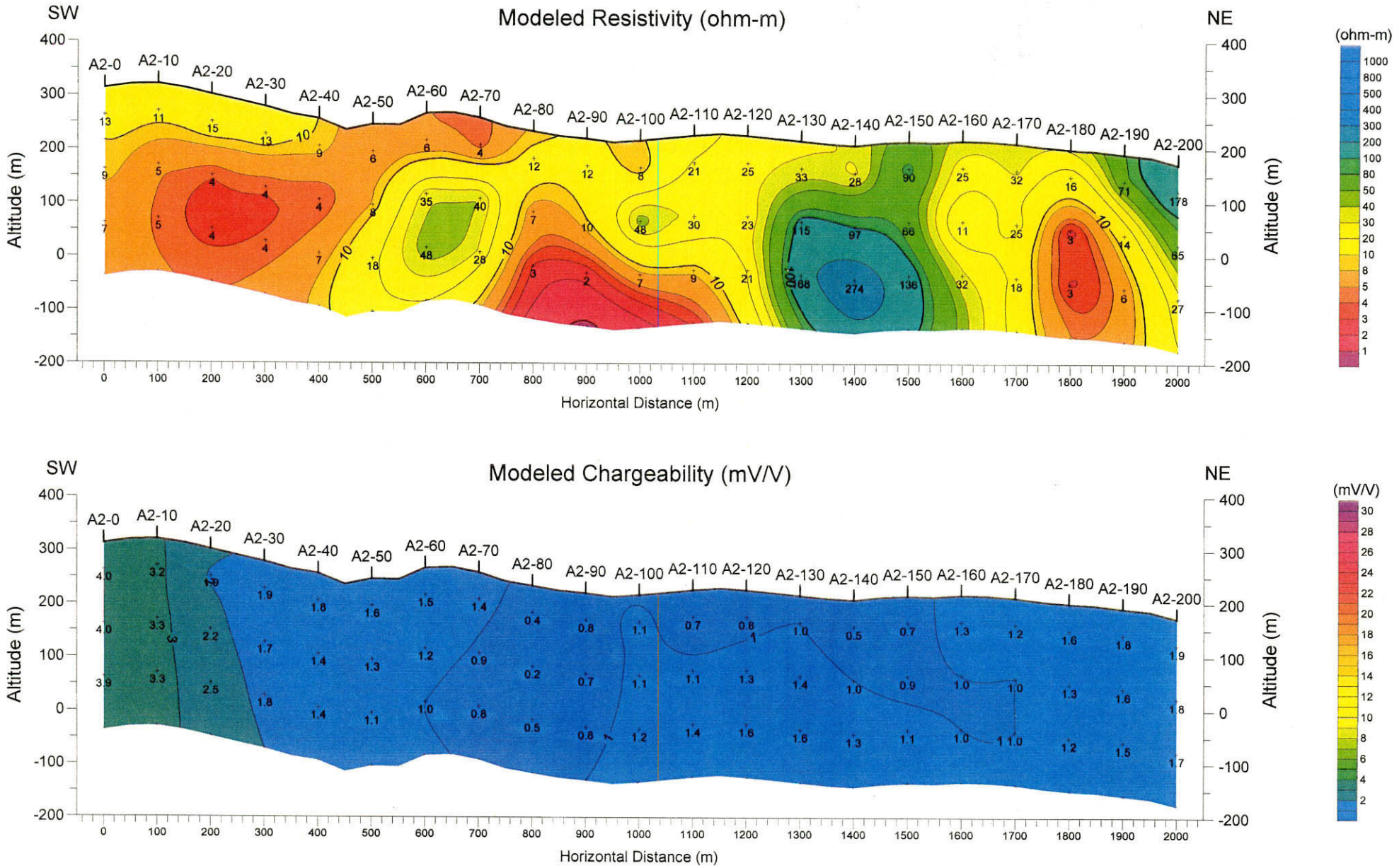


Figure 110 Modeled IP section (Line A2)

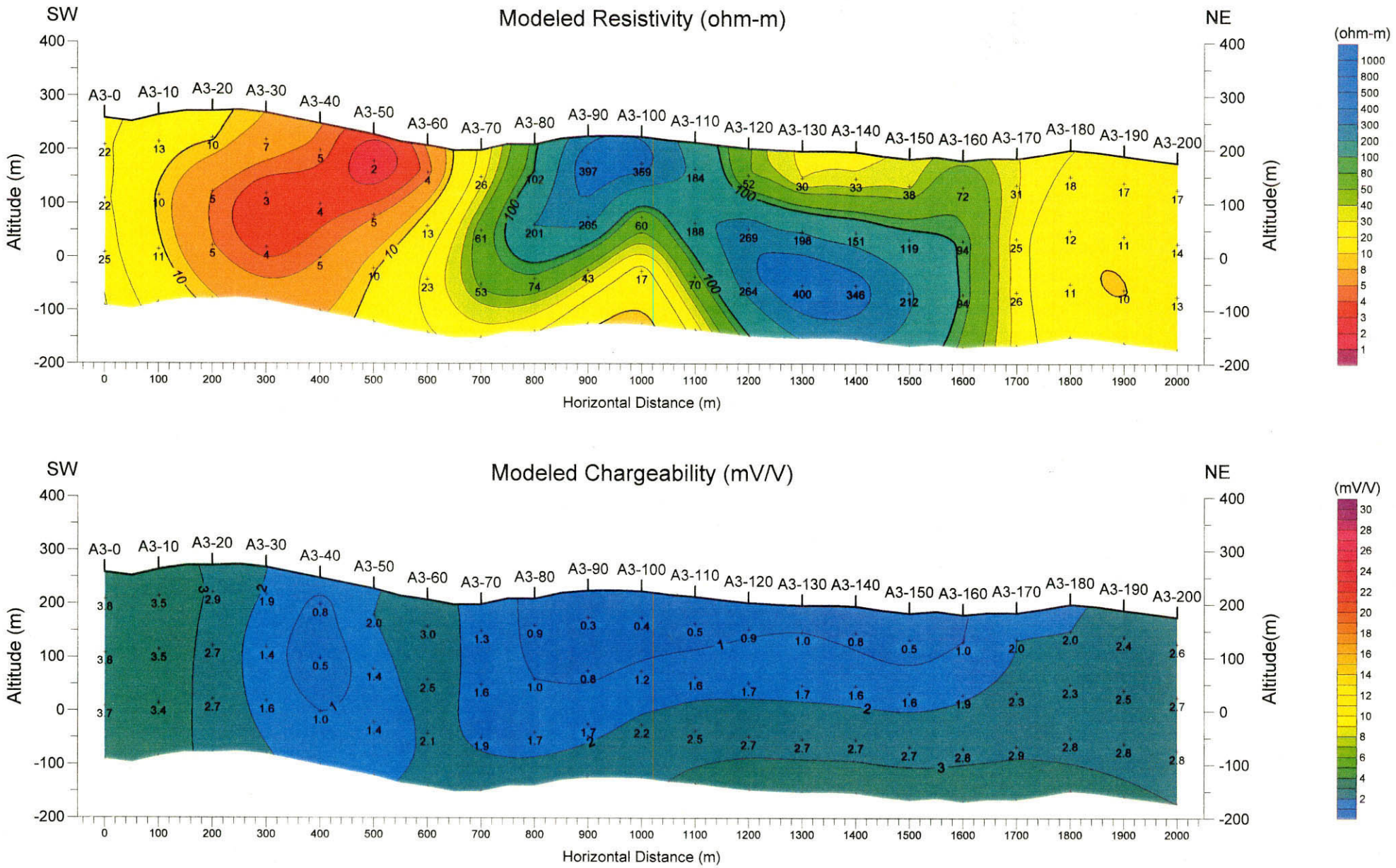


Figure 111 Modeled IP section (Line A3)

margin of this high resistivity zone around the stations A3-70 and A3-170 form a line of the resistivity discontinuity suggesting the fault.

The significant chargeability anomaly is not detected in this cross section.

・Cross Section A4 (Figure 112)

This section runs over the hill site through the Mahjobia deposit with the NE-SW direction in the central parts of the prospect. Low resistivity less than 20 Ωm is dominated in the entire cross section except small high resistivity anomalies exceeding 50 Ωm at the stations between A4-80 and A4-90 , and at around the station A4-130. The low resistivity anomalies less than 10 Ωm extend at the stations between A4-10 and A4-50 in the southwestern end, at depth of the stations between A4-70 and A4-110 in the central parts and at the stations between A4-160 and A4-170 in the northeastern parts of the cross section. Low resistivity anomaly in the northern parts may indicate an existence of a crushing zone. The Mahjobia working is situated in the vicinity of a line of the resistivity discontinuity inferred at the northeastern side of the low resistivity anomaly in the southwestern end of the cross section.

The significant chargeability anomaly is not detected in this cross section including the Mahjobia deposit site notwithstanding that the laboratory data obtained from the Mahjobia working shows the strong chageability values. Therefore, the Mahjobia is considered to be small in extent and thickness same as that of the Siliana working.

・Cross Section A5 (Figure 113)

This section runs in the NE-SW direction from the northwestern hill site to the southeastern plain area at 500 m to the southeast of the cross section A4. Low resistivity less than 20 Ωm are dominated in the entire cross section except the high resistivity exceeding 50 Ωm at around the station A5-90 in the central parts of the cross section. An extensive low resistivity anomaly less than 10 Ωm is distributed at the stations between A5-10 and A-5-60 in the southwestern parts of the cross section and the northeastern side of that anomaly around the station A5-60 forms a line of the resistivity discontinuity which may indicate the fault. The low resistivity layer less than 10 Ωm also extends at the stations between A5-100 in the central parts and A5-180 in the northeastern parts of the cross section.

The significant chargeability anomaly is not recognized except the weak anomaly, which can be correlated with the high resistivity, detected at depth around the station A5-70.

・Cross Section A6 (Figure.114)

This section crosscuts the plain area in the southeastern parts of the cross section from southwest to northeast. Low resistivity less than 10 Ωm are dominated in the entire cross section except the northeastern end of the cross section. The northeastern end of this low

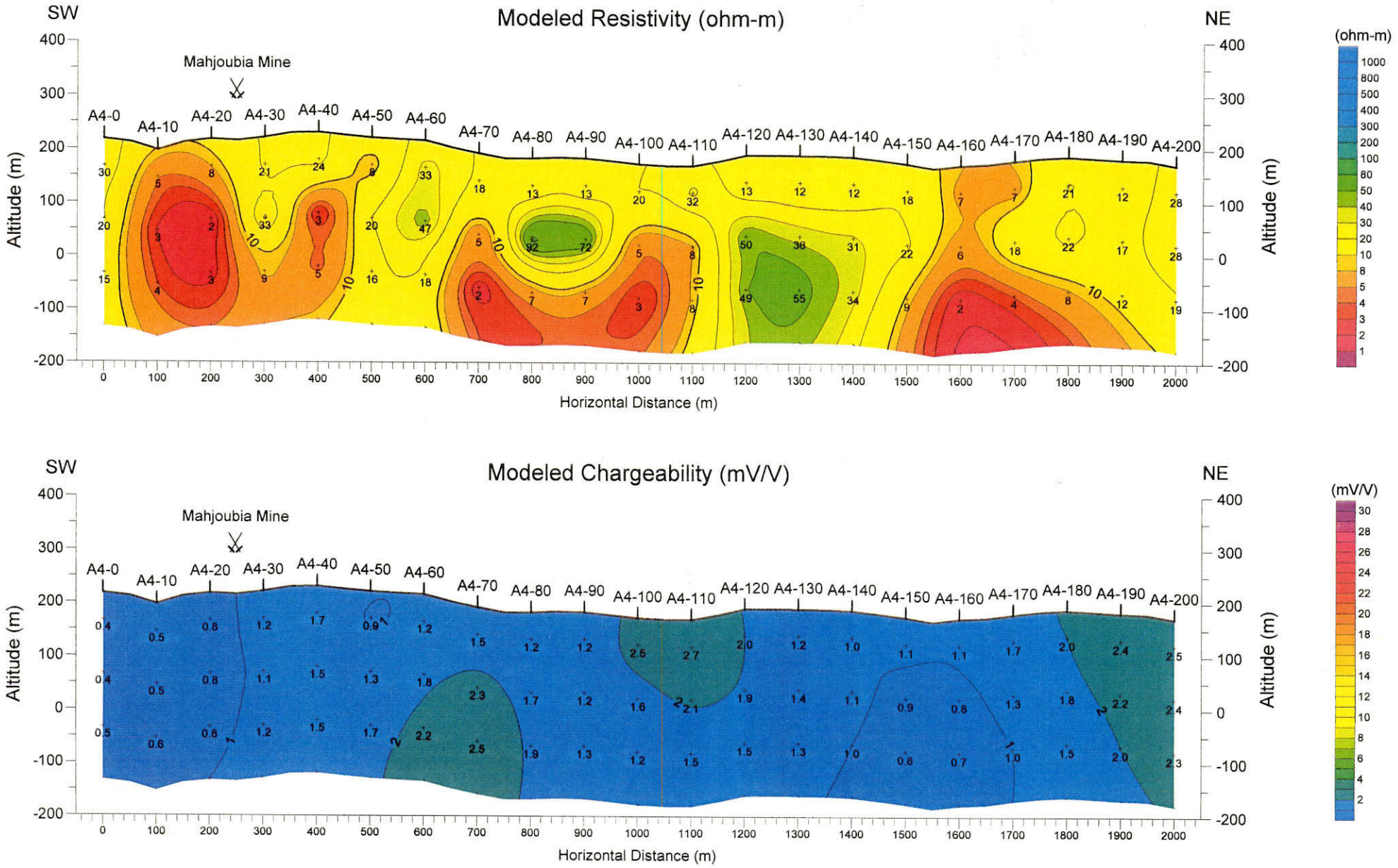


Figure 112 Modeled IP section (Line A4)

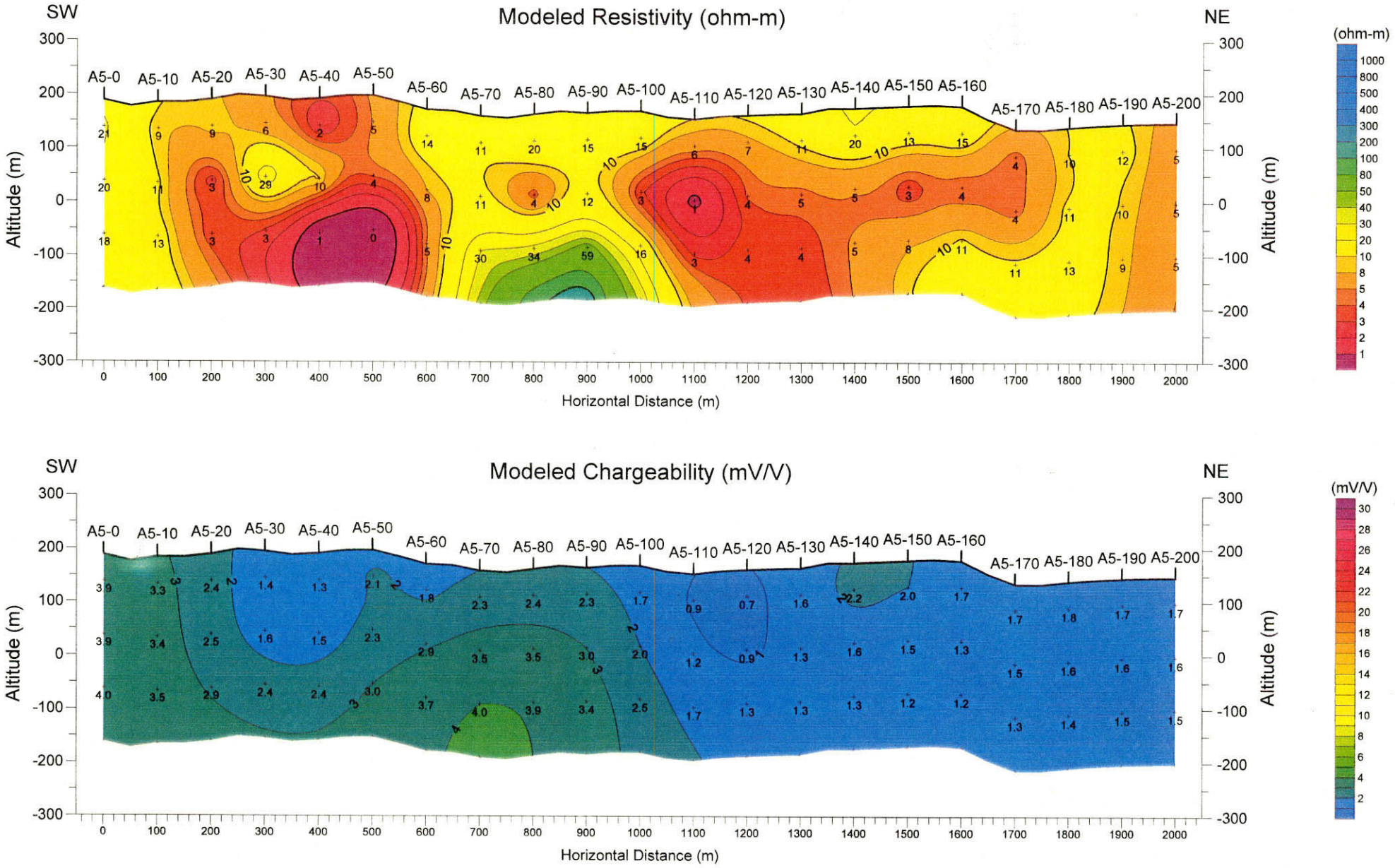


Figure 113 Modeled IP section (Line A5)

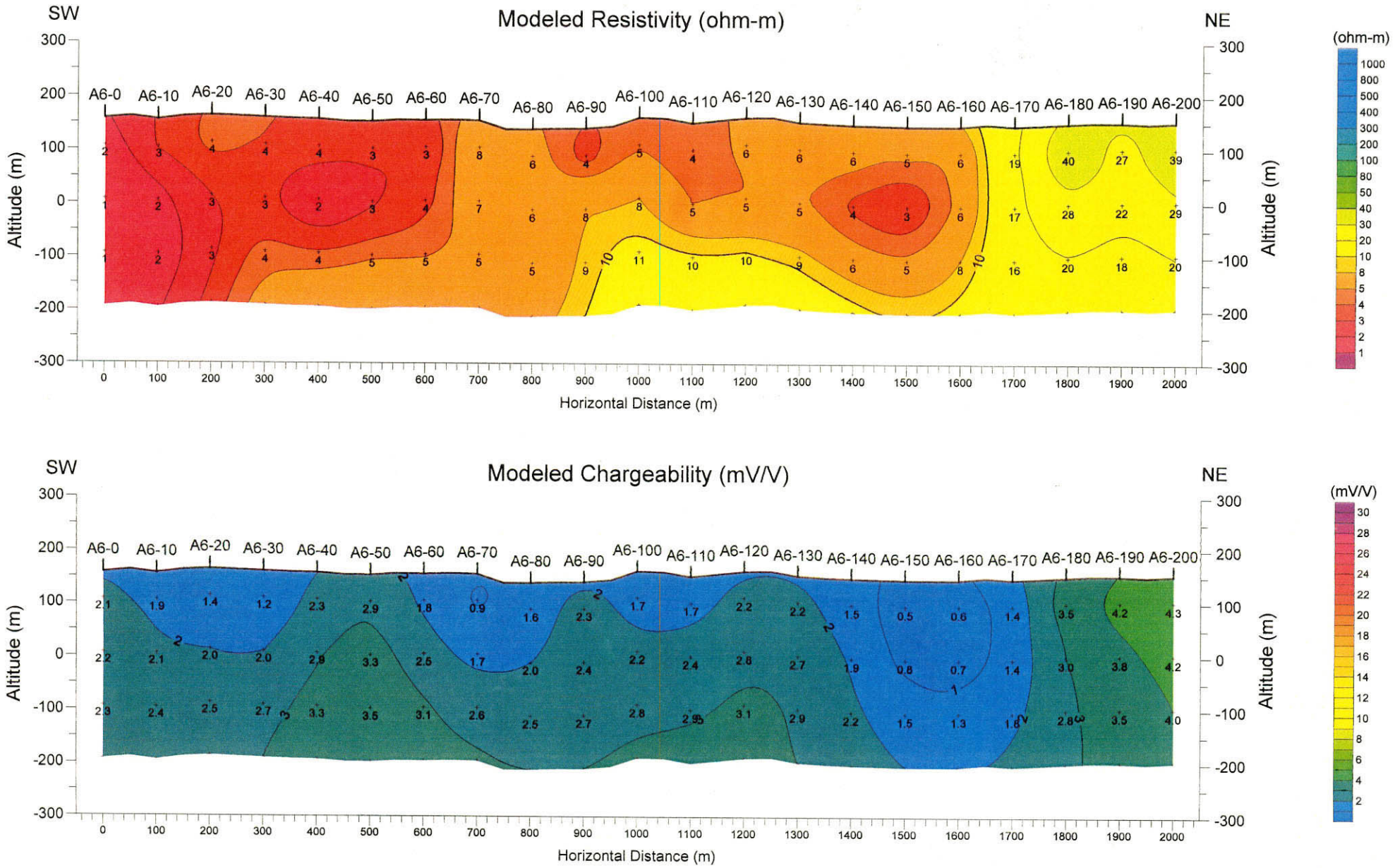


Figure 114 Modeled IP section (Line A6)

resistivity zone may reflect a line of the resistivity discontinuity.

The significant chargeability anomaly is not recognized except the weak anomaly detected at around the station A6-200 in the northeastern end of the cross section.

・Cross Section A7 (Figure 115)

This section crosscuts the plain in the southeast parts of the prospect from southwest to northeast. An extensive low resistivity anomaly less than 10 Ωm is widely distributed from the southwestern end to a dry riverbed of the Siliana River in the vicinity of the station A7-80. The low resistivity layer less than 10 Ωm is detected at depth of the stations between A7-90 and A7-140. The high resistivity layer exceeding 10Ωm, thickness of which is 140m, extends at shallow depth of the stations from A7-90 in the central parts to the northeastern end of the cross section. The high resistivity anomaly exceeding 100 Ωm is detected at around the station A7-170.

The significant chargeability anomaly is not recognized, except the weak anomaly exceeding 4 mV/V detected at near the surface of the stations between A7-120 and A7-130 in the northeastern end of the cross section.

・Plan map of modeled resistivity altitude=-50m (Figure 116)

An extensive zone of the low resistivity less than 10Ωm is distributed from the southern parts of the prospect correlate to the margin of the El Aroussa plain towards north. The northeastern side of this low resistivity zone forms a line of the resistivity discontinuity having the direction NE-SW that suggests an exisitance of the fault. The low resistivity anomaly less than 5 Ωm extends towards the NW-SE direction in the southern side of above low resistivity anomaly and the Mahjobia working is situated at the northwestern margin of that anomaly. The zone of the low resistivity less than 10 Ωm extends towards northwest from above low resistivity anomaly. The small low resistivity anomaly less than 5 Ωm is distributed at around the station A0-340 in the southeastern section of the base line A0 and the Siliana working is situated in the northwestern end of that anomaly. The low anomaly of the resistivity less than 10 Ωm extends in the ESE direction covering the stations from A2-80 to A0-130. The high resistivity zone exceeding 50 Ωm in the northern side of this low anomaly extends in the SE direction at the stations between A1-120 and A4-120, and the high resistivity anomaly exceeding 100 Ωm is distributed within that high resistivity zone. The eastern end of the survey site also shows the high resistivity exceeding 50 Ωm.

・Plan map of modeled resistivity altitude=50m (Figure 117)

Resistivity distribution is similar pattern with that of previous plan, however the resistivity becomes entirely higher. The low resistivity anomaly extending at the zone covering the

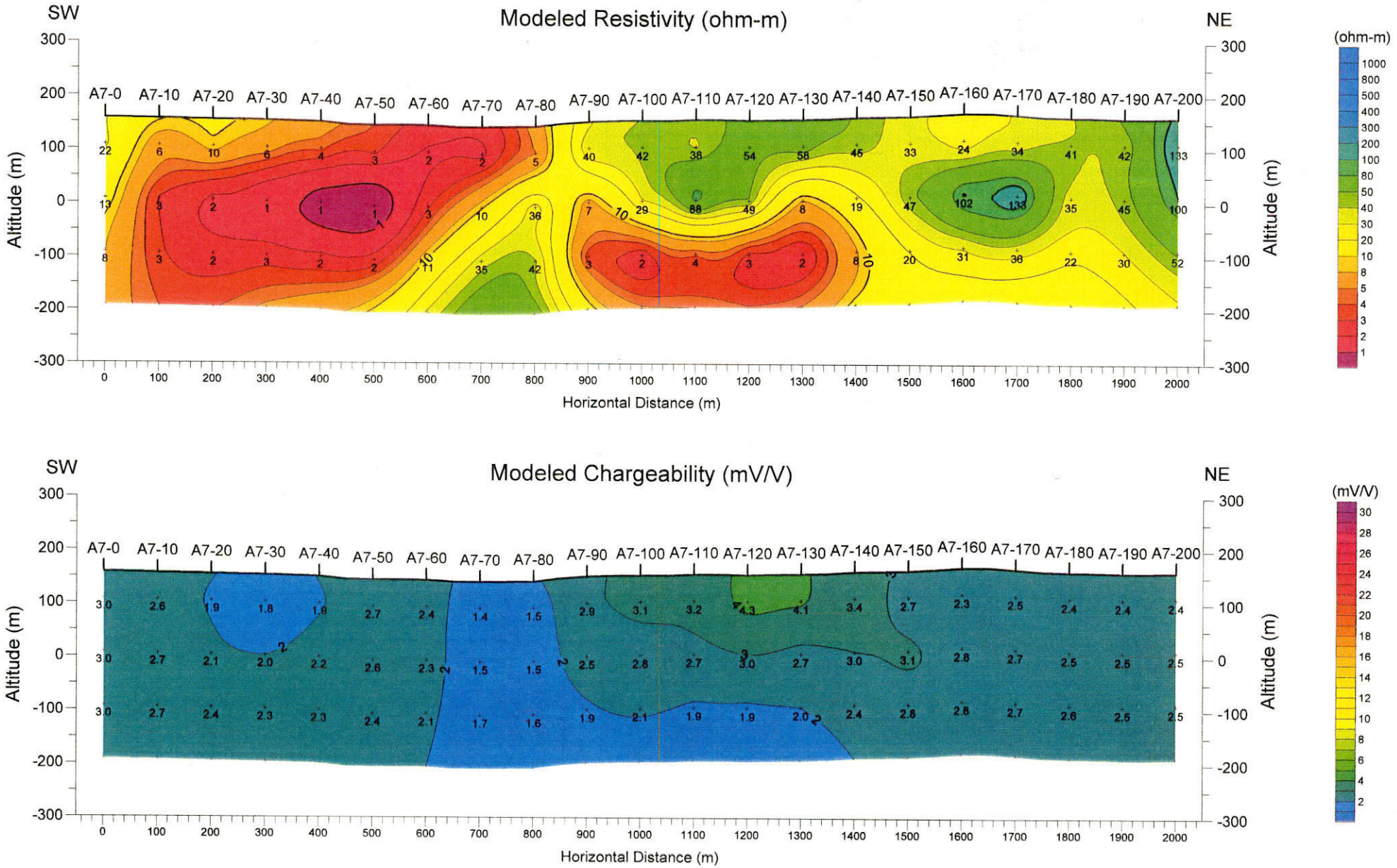


Figure 115 Modeled IP section (Line A7)

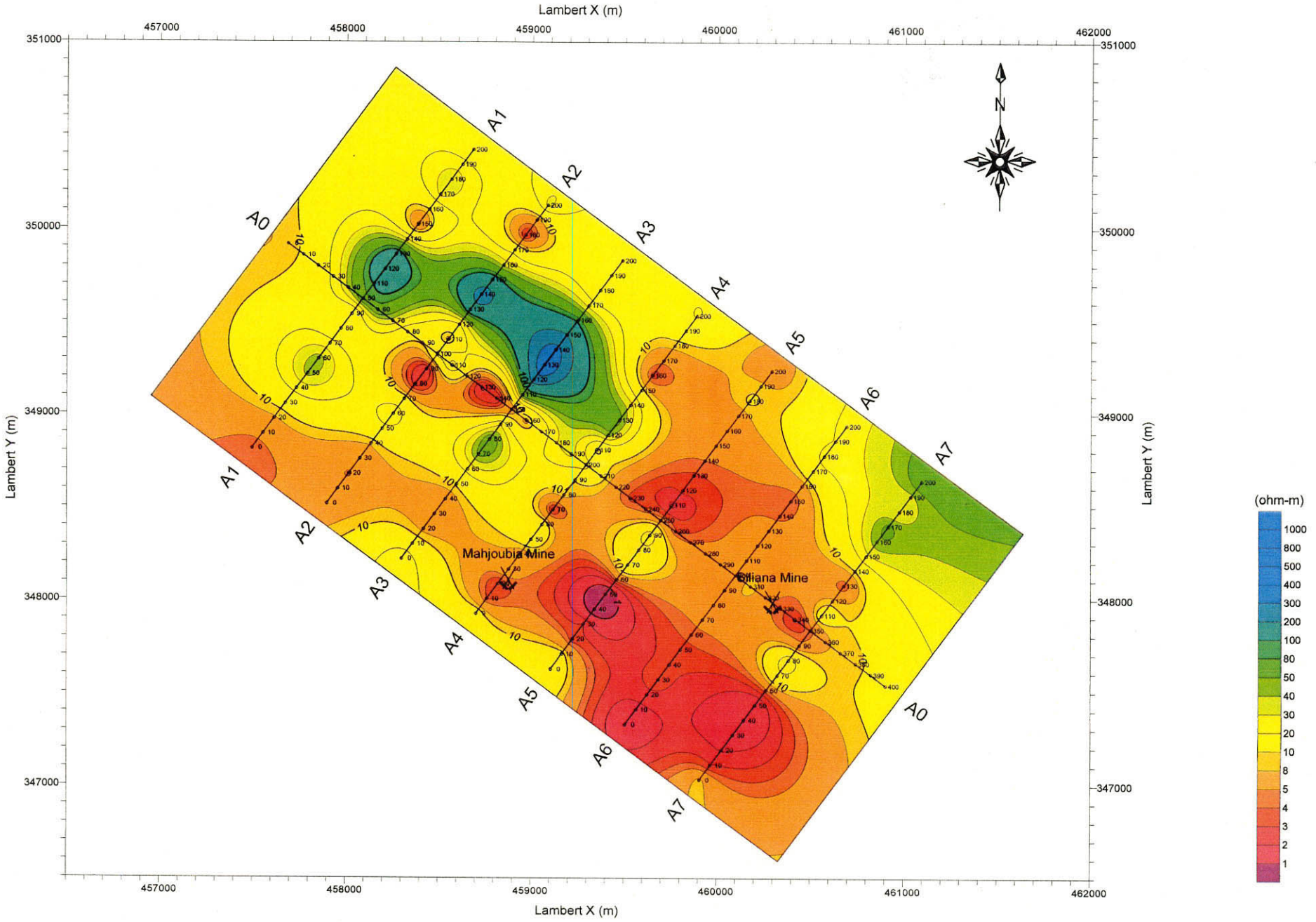


Figure 116 Plan map of modeled resistivity in Siliana prospect (Altitude=-50m)

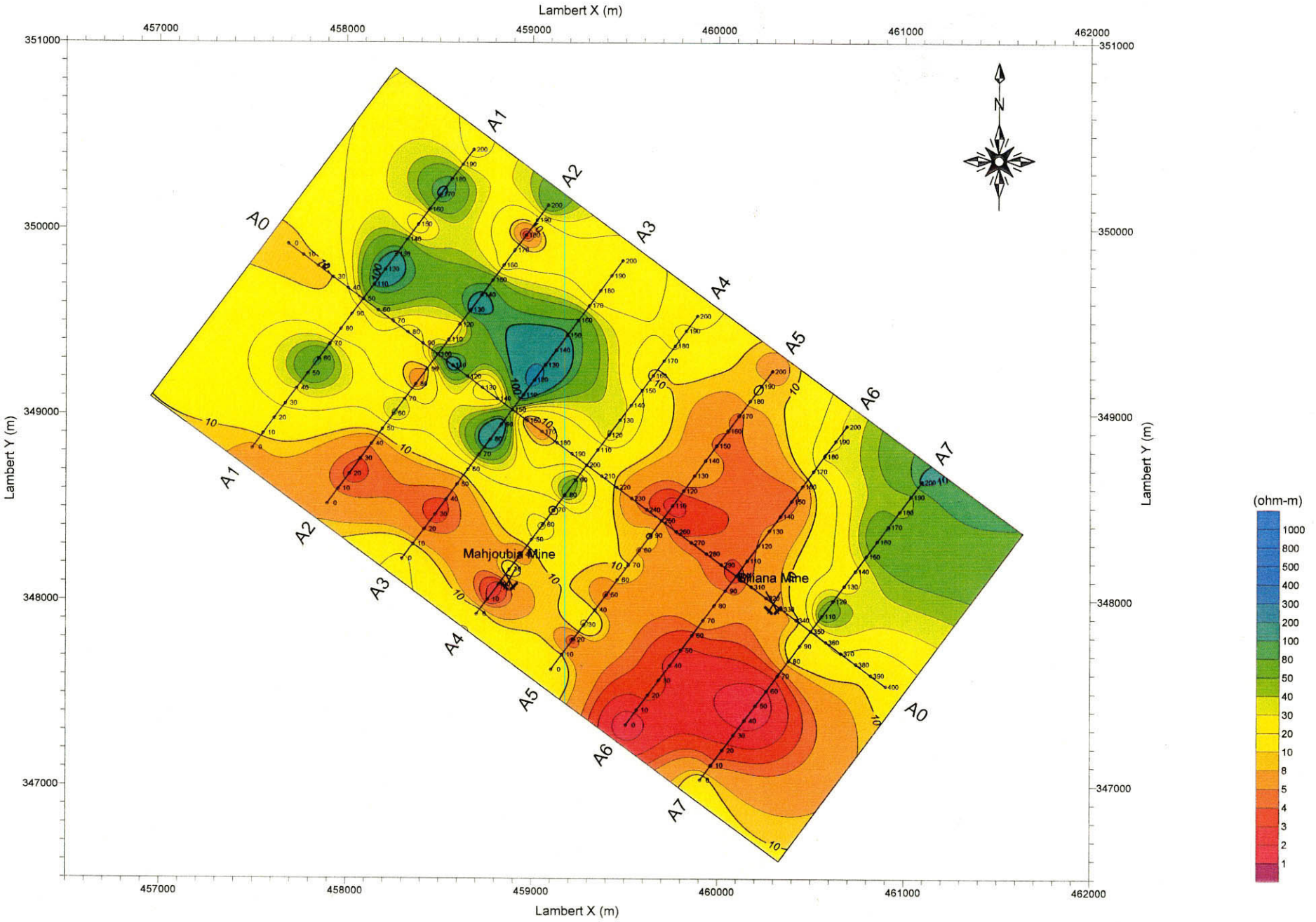


Figure 117 Plan map of modeled resistivity in Siliana prospect (Altitude=50m)

stations A2-80 and A0-130 in the central parts of the prospect on previous plan is disappeared. The Mahjobia working is situated in the low resistivity zone less than 10 Ωm extending towards southwest in the NW-SE direction. The Siliana deposit is situated in the vicinity of a line of the resistivity discontinuity at the eastern margin of an extensive low resistivity zone less than 10Ωm distributing from south to north.

・Plan map of modeled resistivity altitude=150m ( Figure 118)

The resistivity becomes furthermore higher than that of the previous plans. An extensive low resistivity anomaly, the center of which is in around the station A6-40, is distributed in the northern parts of the survey area. The low resistivity zones less than 10 Ωm, extending towards the NW-SE direction, are distributed in the lines A2 and A3 in the central parts of the prospect and in the northwestern side of the base line A0. The high resistivity zone exceeding 40 Ωm extends towards a small high resistivity anomaly in around the northern station A2-200 from the high resistivity anomaly exceeding 100 Ωm in around the station A0-140 in the central parts of the prospect. The high resistivity anomaly exceeding 40 Ωm is dominated in the area covering the eastern parts of the survey area, the northeastern parts of the line A7and the northeastern end of the line A6. The Mahjobia working is situated at the section of the low resistivity jut stretching to southeastwards in the central parts. The Siliana working is situated at an intersection between the NW-SE and NE-SW lines of the resistivity discontinuity.

・Plan map of modeled chargeability altitude=-50m (Figure 119)

The significant chargeability anomaly is not recognized in this plan.

・Plan map of modeled chargeability altitude=50m (Figure 120)

The significant chargeability anomaly is not recognized except two small and weak anomalies exceeding 4mV/V detected at the stations between A0-360 in the southeastern parts and A6-200 eastern parts of the survey area.

・Plan map of modeled chargeability altitude=150m (Figure 121 )

The significant chargeability anomaly is not recognized except two small and weak anomalies exceeding 4mV/V detected at the stations between A0-360 and A1-120 in the southeastern parts and A6-200 eastern parts of the survey area.

③Interpretation

IP survey results superimposed over the geological map and the residual gravity anomaly map is shown in Figure.122. The results of the cross section analysis superimposed over the geological cross section are also shown in Figures 123 and 124.

The Triassic system can be indicated as the bodies with the low density and high resistivity

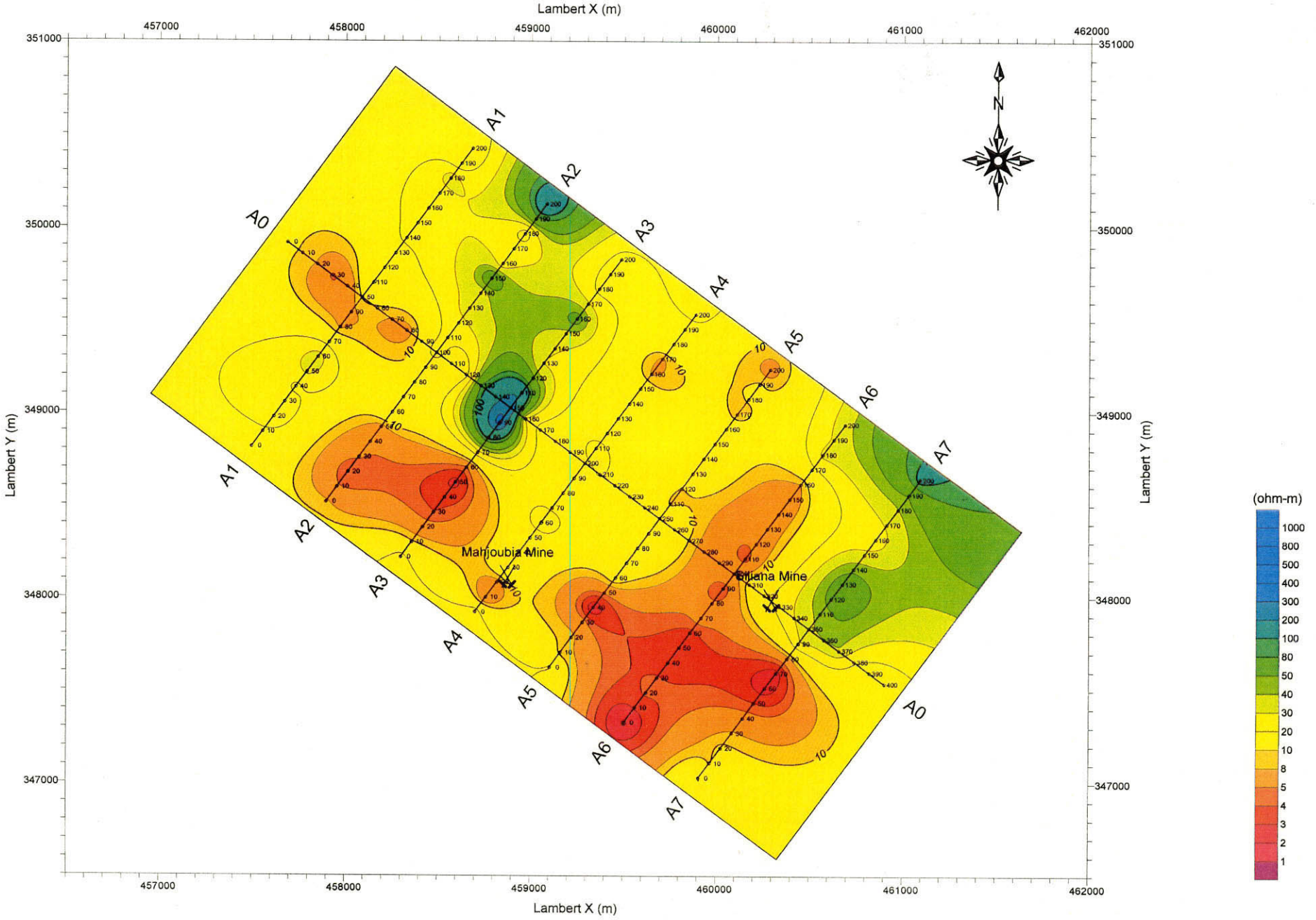


Figure 118 Plan map of modeled resistivity in Siliana prospect (Altitude=150m)

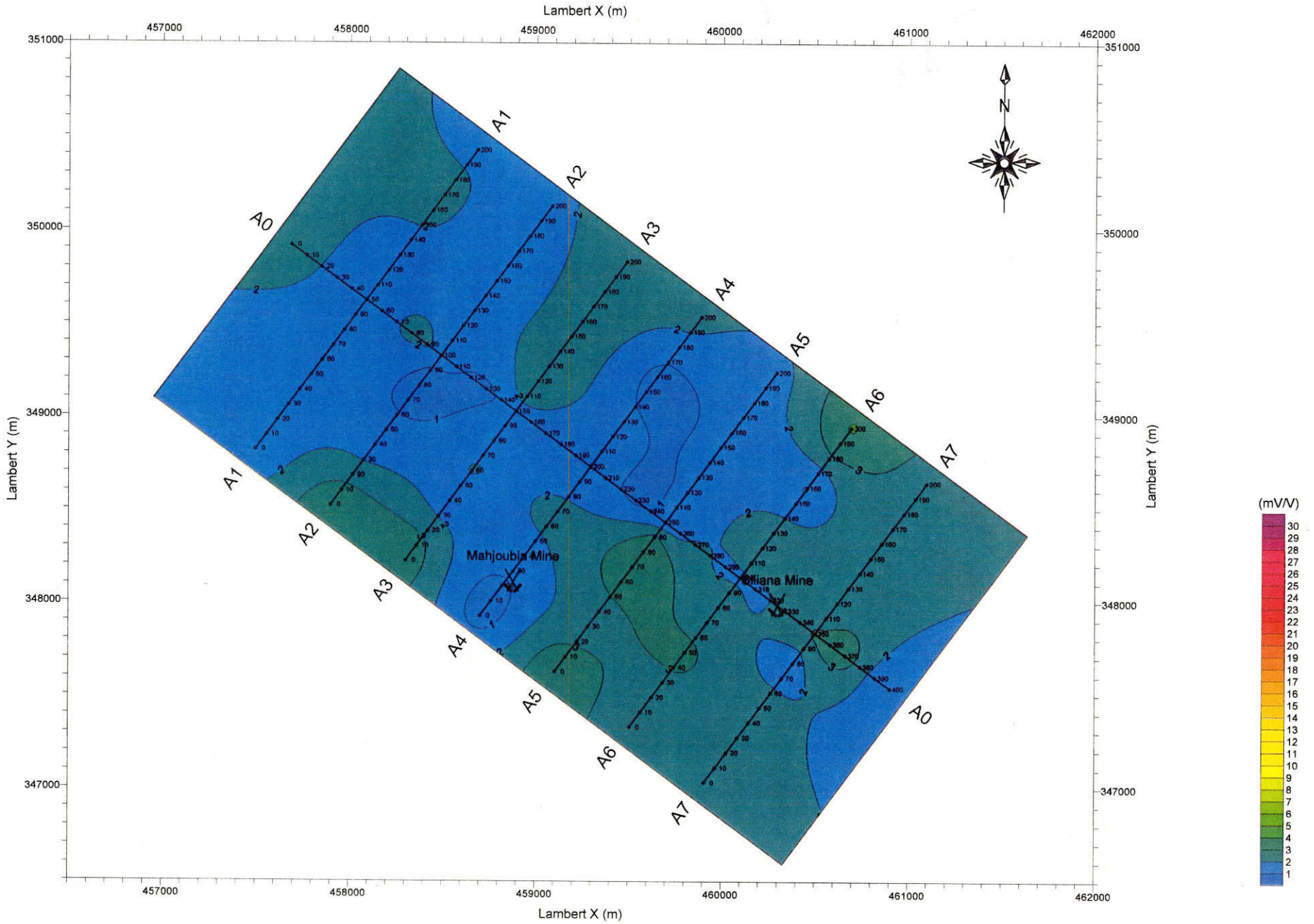


Figure 119 Plan map of modeled chargeability in Siliana prospect (Altitude=-50m)

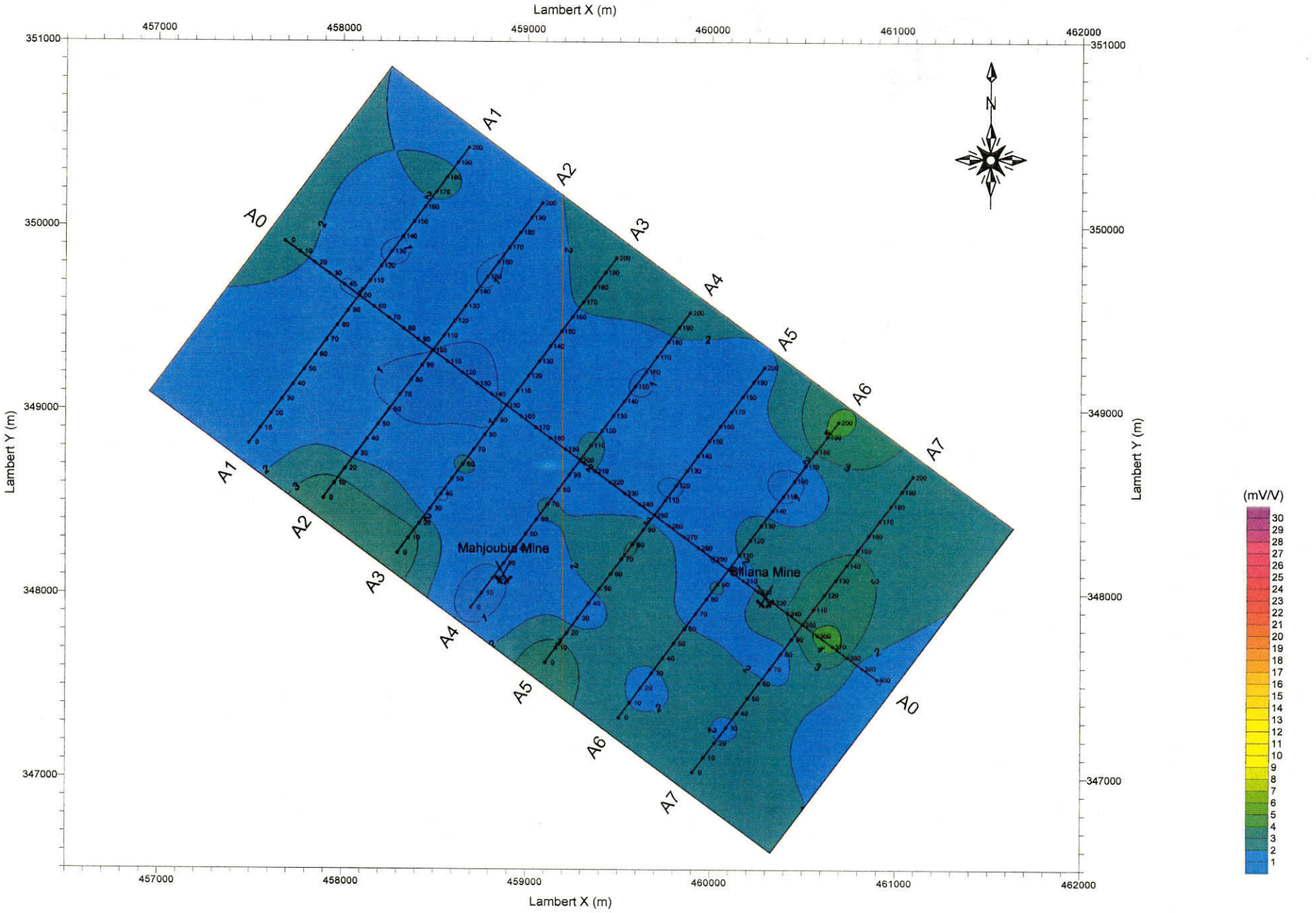


Figure 120 Plan map of modeled chargeability in Siliana prospect (Altitude=50m)

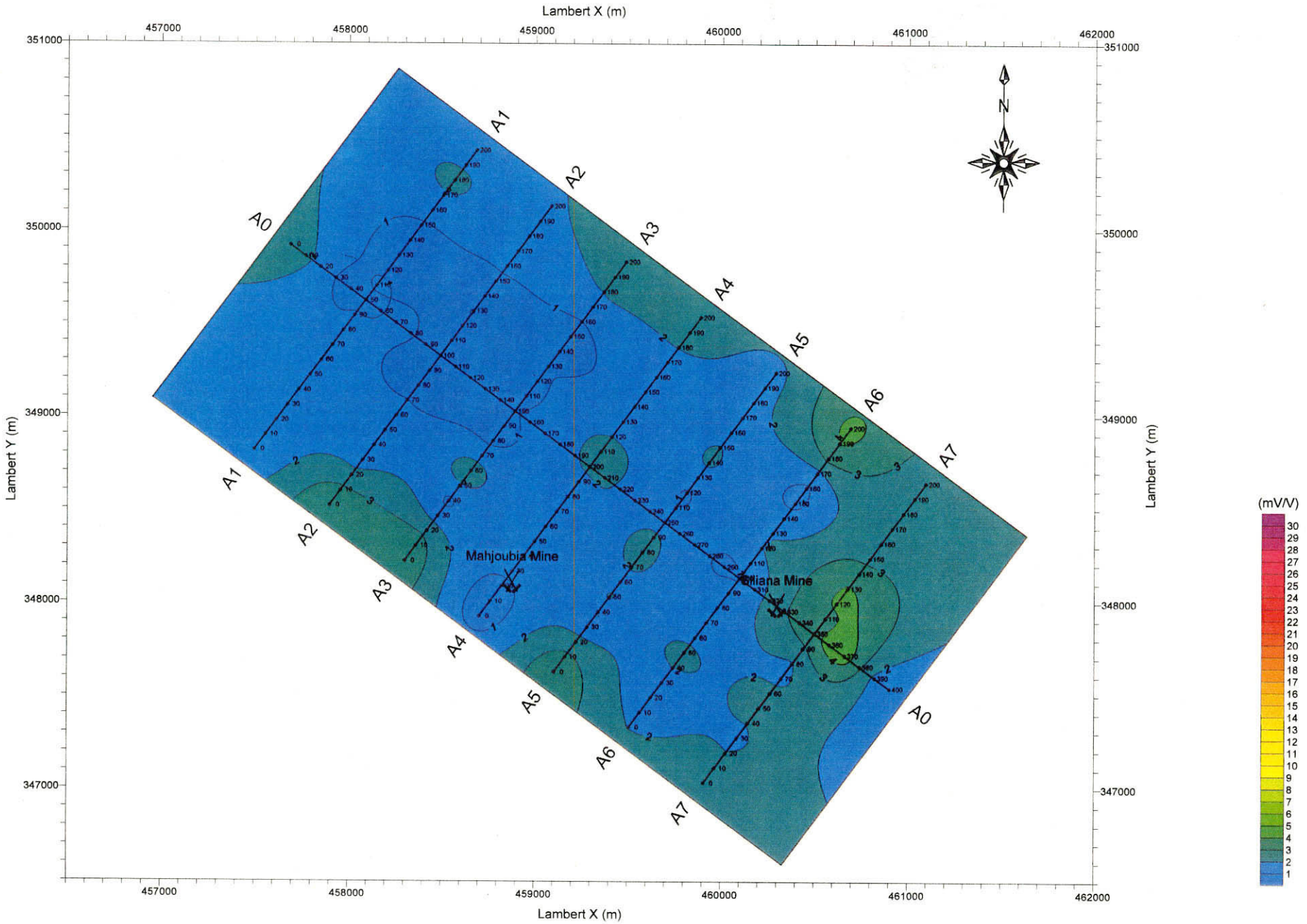


Figure 121 Plan map of modeled chargeability in Siliana prospect (Altitude=150m)