working and the Rag el Bagrat mineral indication become greater.

・Plan map of resistivity at the altitude of 50 m in OC-OD sub-prospect (Figure 115)

This map has mainly same features of resistivity distribution as the plan map of the altitude of 150 m. Resistivity of the resistive area in the northwestern side of the both base lines become higher, and the area extends the southeastwards. Conductive anomalies below 30 Ωm continued fitfully in the southeastern side of the resistive area become smaller. Another conductive anomaly extending along the survey line OC4 in the NW-SE direction appears around the cross point between the base line OC0 and the survey line OC4 in the southwestern part of the sub-prospect.

・Plan map of chargeability at the altitude of 250 m in OC-OD sub-prospect (Figure 116)

In the vicinity of the Rag el Bagrat mineral indication in the central part of the sub-prospects a chargeability anomaly above 5 mV/V extends from the station OD1-60 to the OD2-70 in the NE-SW directions. A small chargeability anomaly above 5 mV/V lies in the boundary parts between the OC and OD sub-prospects around the Kef Lasfer old working. There is no valid chargeability anomaly in the vicinity of the Oued Jebes old working..

・Plan map of chargeability at the altitude of 150 m in OC-OD sub-prospect (Figure 117)

In this plan map the chargeability anomalies beyond 5 mV/V lie around the Rag el Bagrat mineral indication and the Kef Lasfer old working such as the plan map of the altitude of 250 m. These anomalies become smaller.

・Plan map of chargeability at the altitude of 50 m in OC-OD sub-prospect (Figure 118)

The chargeability anomaly beyond 5 mV/V around the Rag el Bagrat mineral indication becomes smaller, and the other anomaly around the Kef Lasfer old working disappears. Another chargeability anomaly above 5 mV/V appears between the station OC1-80 and 100 in the southern part in the OC sub-prospect.

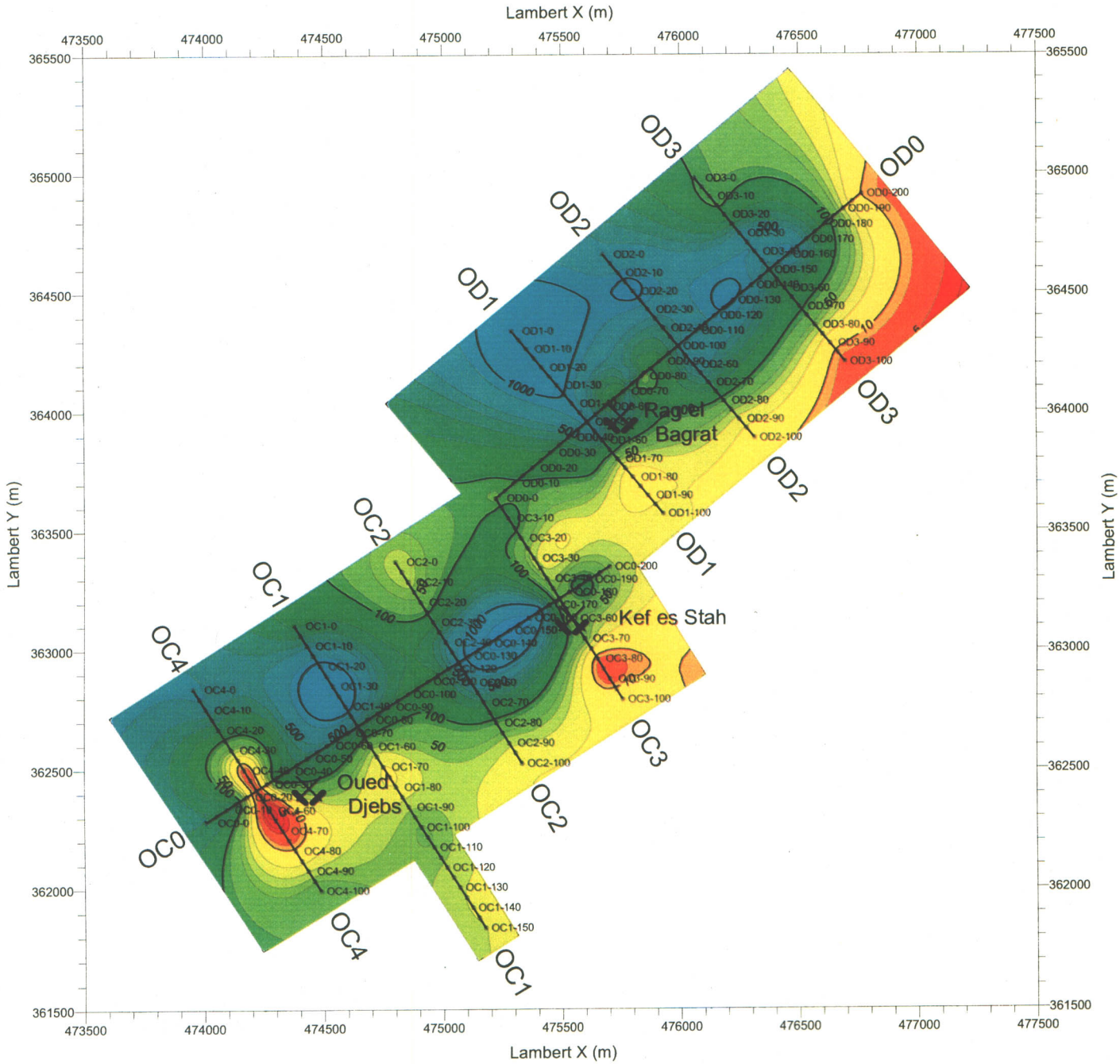
③Interpretation

The interpreted IP map composed of the valid anomalies of residual gravity, chargeability and resistivity on the geological map is shown in Figure 119 through 121. The Interpreted IP section, which the results of the 2-D analysis are overlaid on the result of the section analysis of gravity survey, is shown in Figure 122 through 125.

・OA sub-prospect (Figure 119 and 122)

The relationship among the results of geophysical prospecting on the plan map as shown Figure 120 is described as follows.

The distribution of resistivity high in the northwestern side of the base line OA0 corresponded to the Triassic systems. The results of the laboratory test lead the supposition that many dolomitic rocks are involved in the Triassic layers. Around the faults in the WNW-ESE and the E-W trending correspondence between resistivity high



Legend

Profiles for IP and Gravity survey

Stations

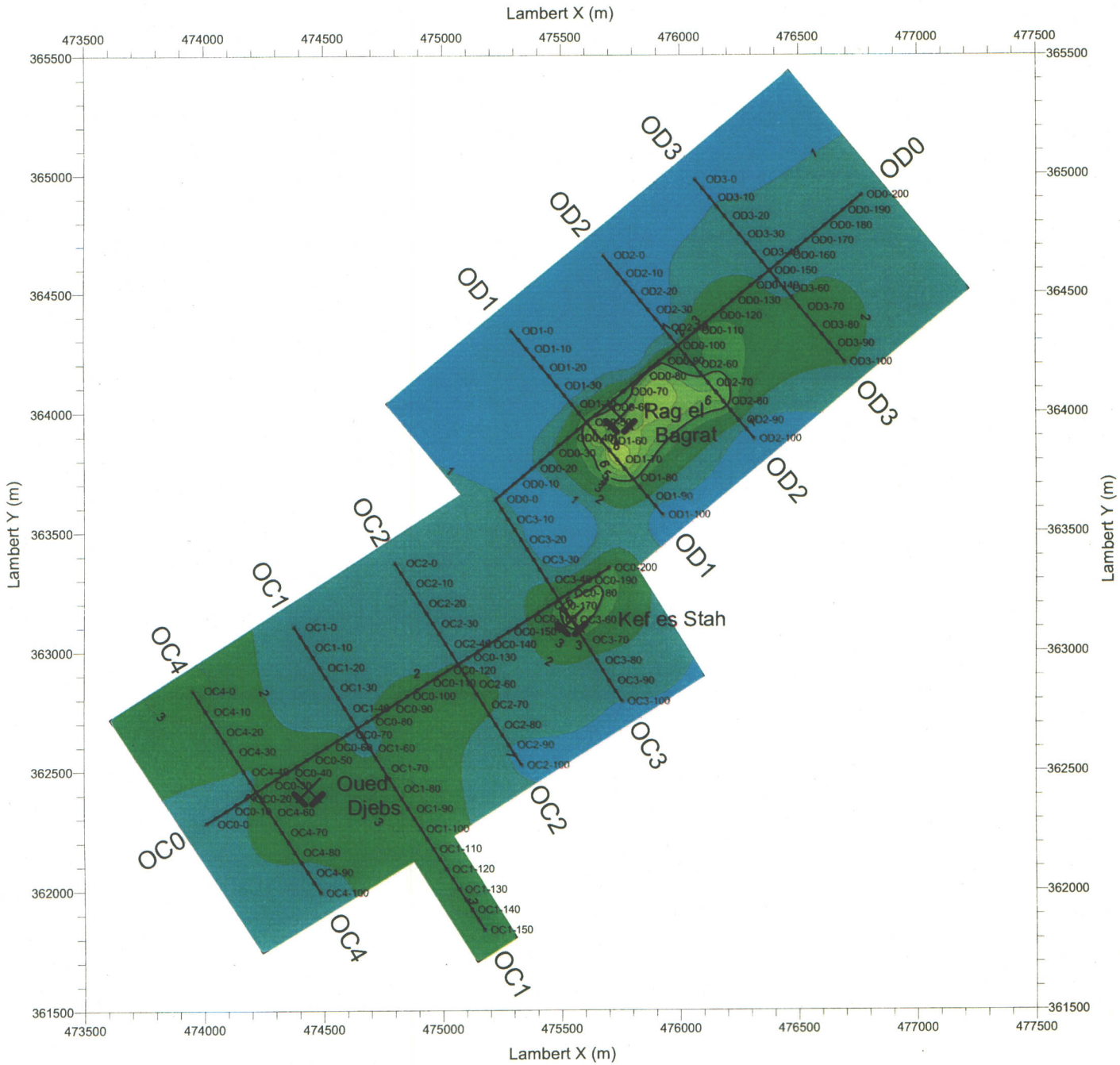
Ancient Works

Resistivity (ohm-m)

1 3 5 10 30 50 100 300 500 1000 3000 5000

(Scale 1:25,000)

Figure 115
Plan map of modeled resisitivity
in Oued Jebs-OC/OD prospect
(Altitude=50m)



Legend

Profiles for IP and Gravity survey

Stations

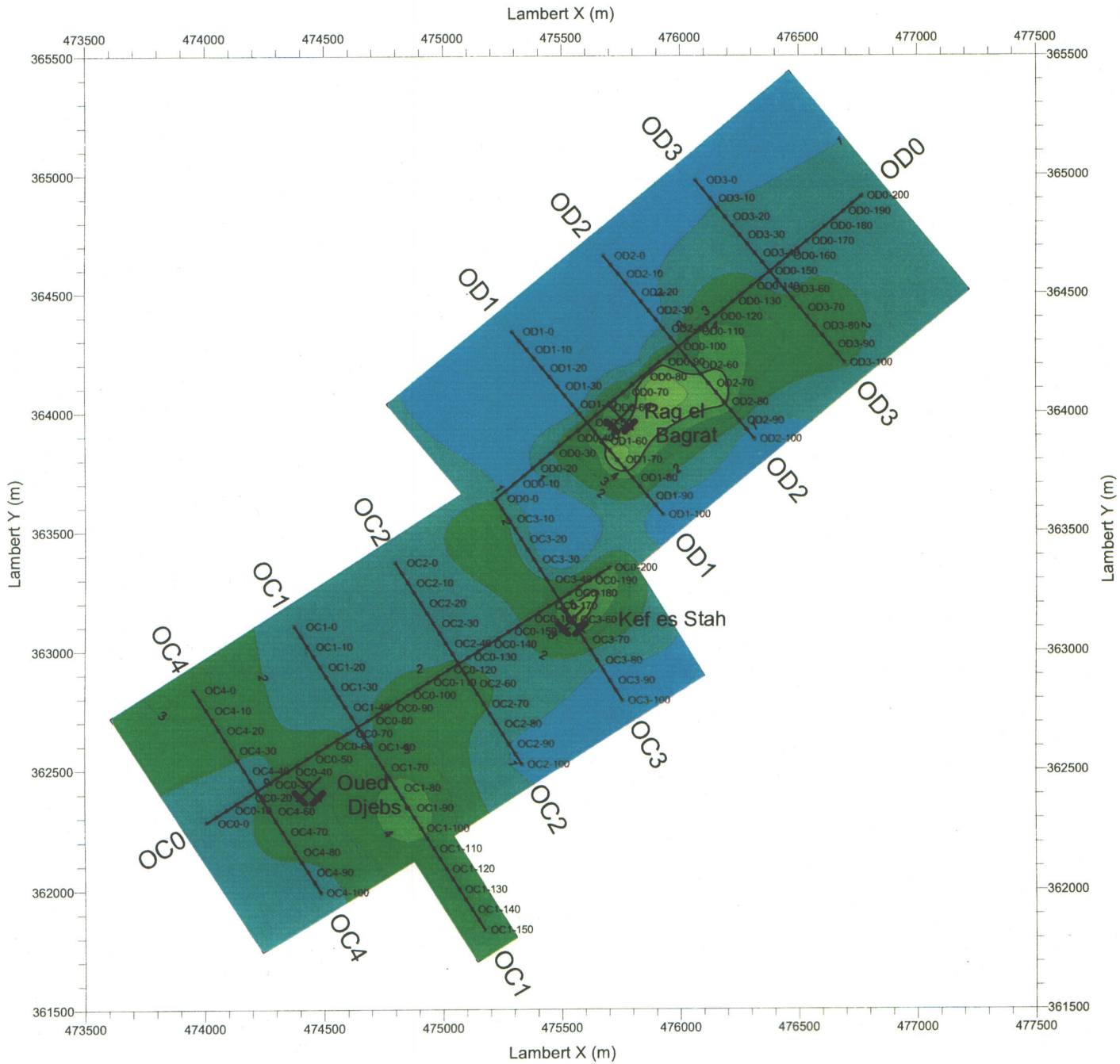
Ancient Works

Chargeability (mV/V)

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

(Scale 1:25,000)

Figure 116
Plan map of modeled chargeability
in Oued Jebs-OC/OD prospect
(Altitude=250m)



Legend

Profiles for IP and Gravity survey

Stations

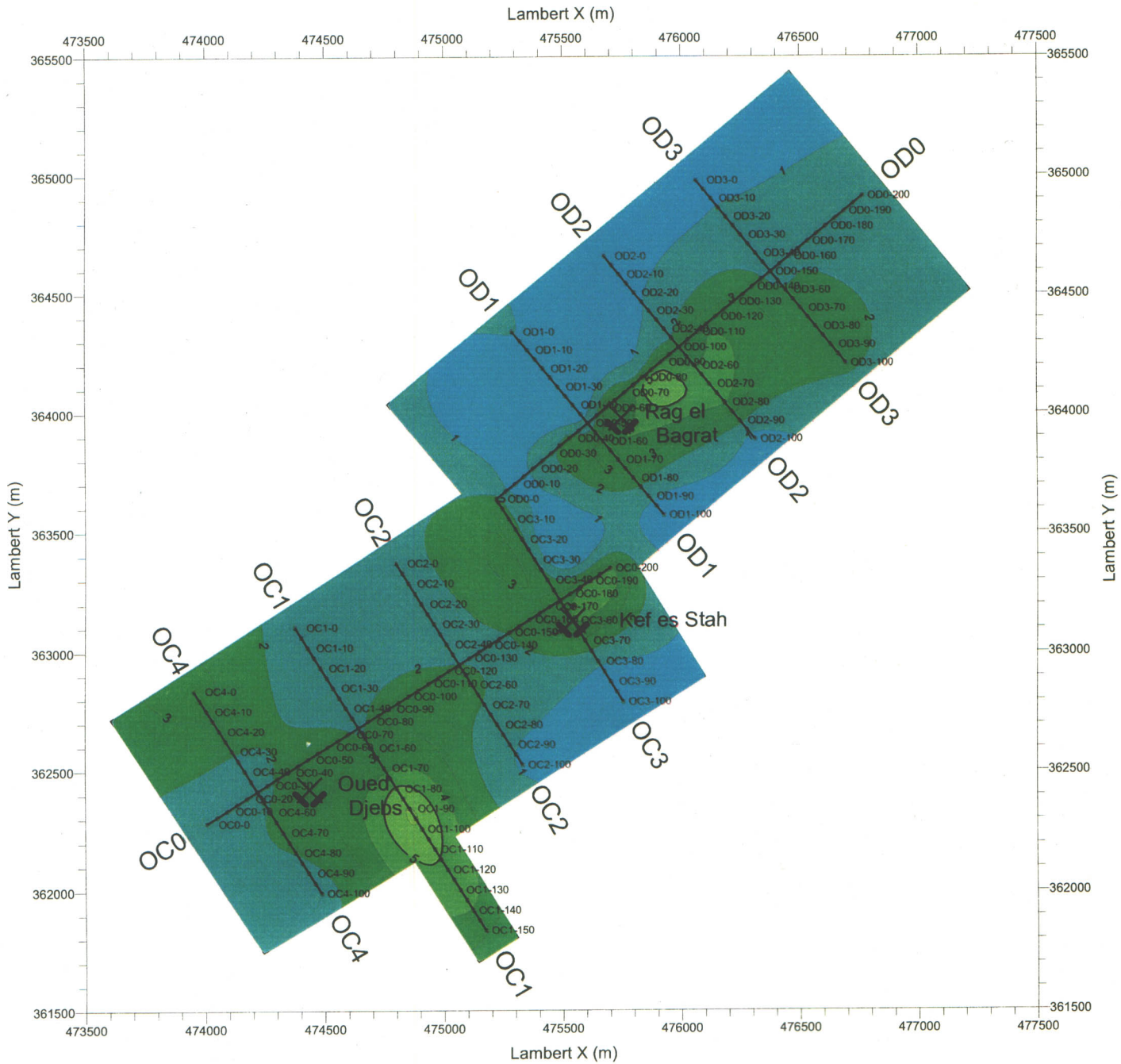
Ancient Works

Chargeability (mV/V)

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

(Scale 1:25,000)

Figure 117
Plan map of modeled chargeability in Oued Jebs-OC/OD prospect (Altitude=150m)



Legend

Profiles for IP and Gravity survey

Stations

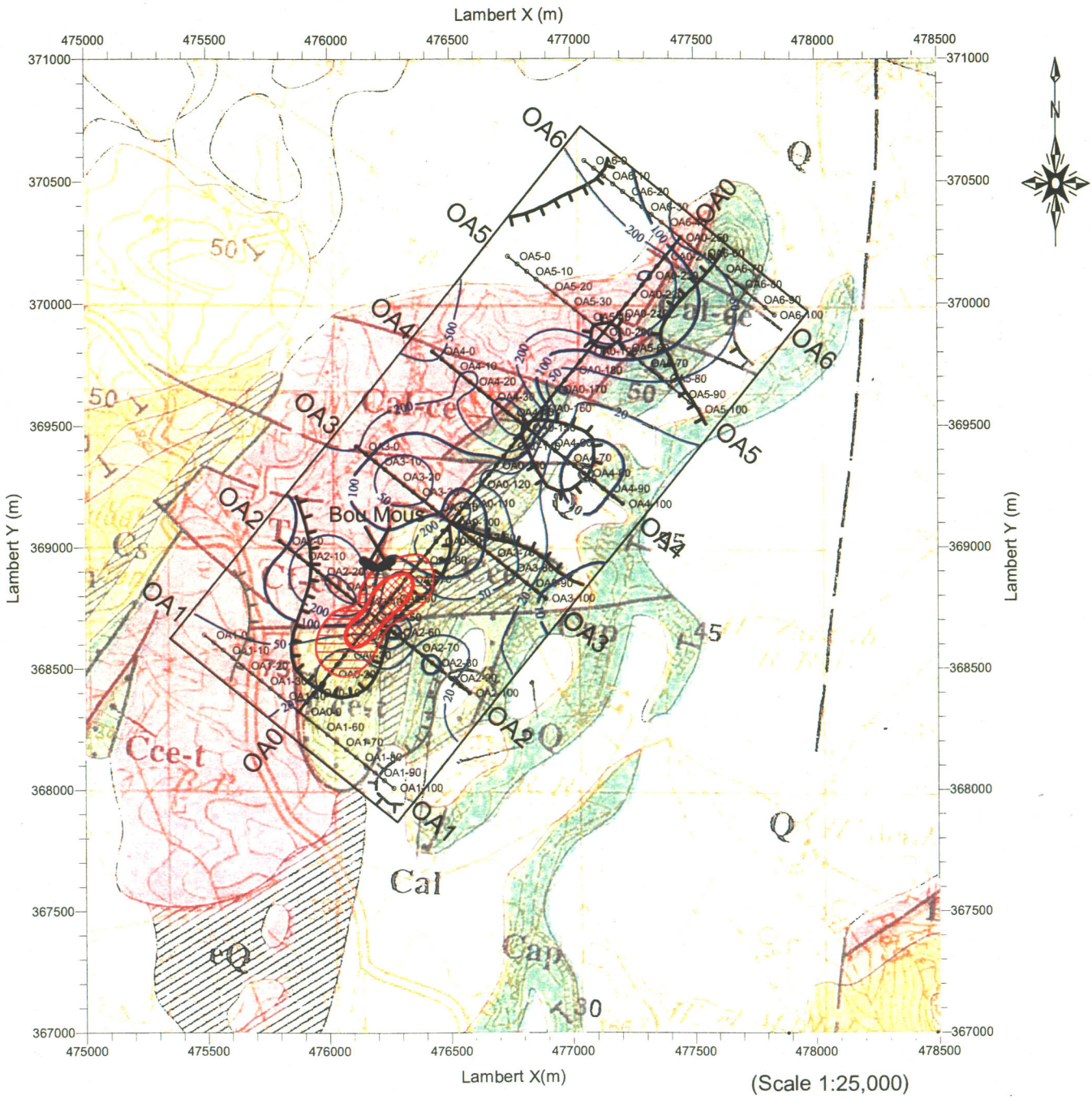
Ancient Works

Chargeability (mV/V)

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

(Scale 1:25,000)

Figure 118
Plan map of modeled chargeability
in Oued Jebs-OC/OD prospect
(Altitude=-50m)



Legend

Modeled Chargeability > 7mV/V
(Altitude -50m)

Modeled Chargeability > 5mV/V
(Altitude -50m)

Modeled Resistivity
(Altitude -50m)

(Unit : Ωm)

50

100

Residual Gravity > 0.5mgal

Residual Gravity < -0.05mgal

Profiles for IP and Gravity survey

Profiles for Gravity survey

Stations

Ancient Works

Figure 119 Interpreted IP map in Oued Jebs-OA prospect

and the Triassic system is not so much well, and low resistivity anomalies cut into resistive zone along faults. The fact suggests that fractured zones were generated near faults.

Low zone of residual gravity below -0.05 mgal are approximately corresponded to the Triassic systems agreed with high resistivity. This low residual gravity extends southeastwards between the survey line OA3 and OA5 in the central part of the sub-prospect. Faults with the WNW-ESE trending line up in this extended low residual gravity zone. The fact supports the previous described idea that fractured zones were generated near faults.

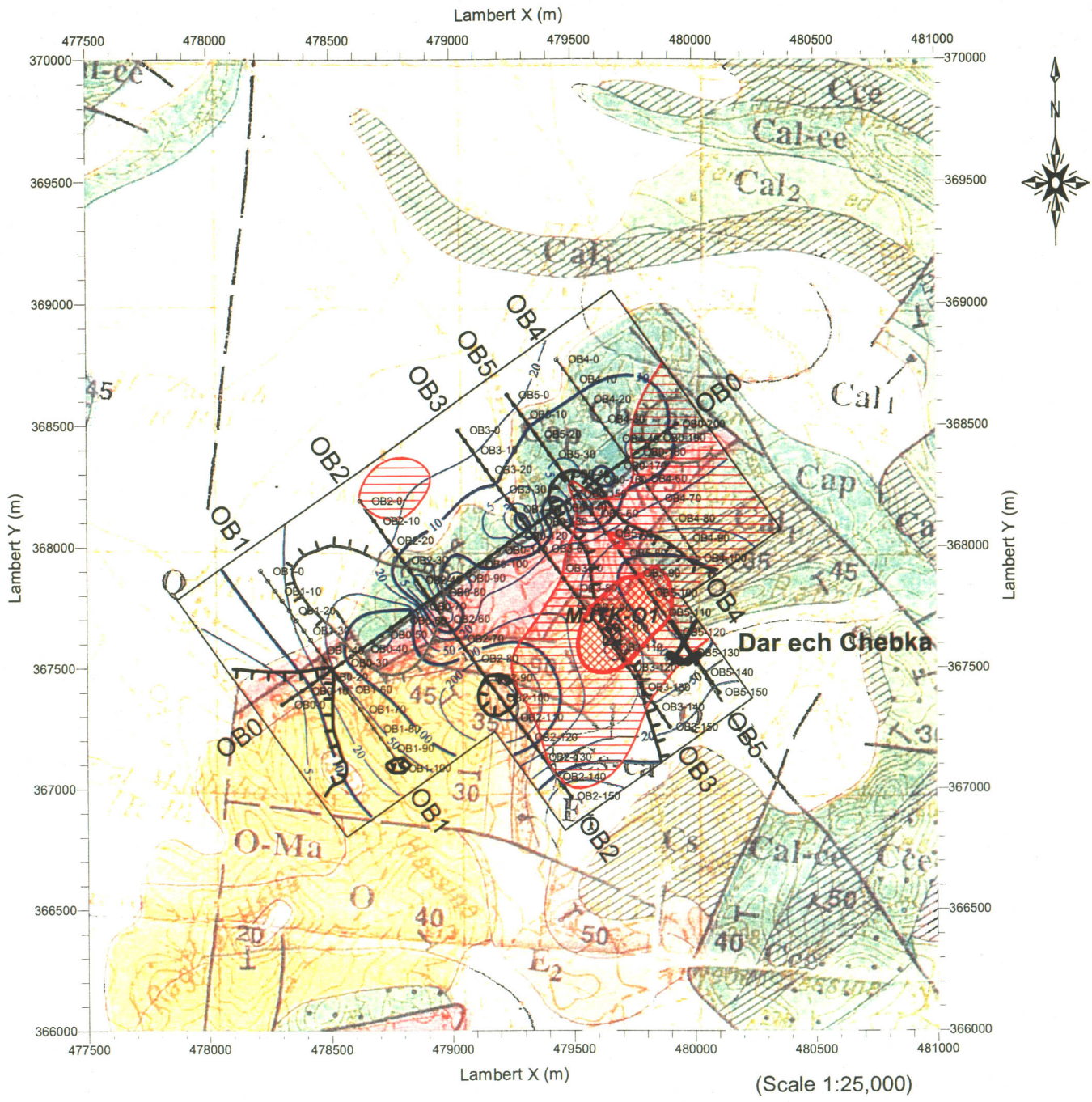
A valid chargeability anomaly is recognized only in the vicinity of the Bou Mouss old working in the southwestern part of the OA sub-prospect. Though the Cretaceous system distribute around this anomaly, the low residual gravity anomaly, which may reflect the Triassic system, is extending from the north. The layouts of contours of the residual gravity and resistivity around the anomaly are strongly affected by two faults with the E-W and the NNE-SSW trending through the cross point between the base line OA0 and the line OA2. The weak chargeability anomaly above 4 mV/V is recognized around the OA0-120 in the plan map of the altitude of -150 m, where a fault with the E-W trending intersects the base line. These facts suggest the idea that chargeability anomalies in the OA sub-prospect are related to faults with the E-W trending.

In the interpreted IP sections as shown Figure 122 the chargeability anomaly exceeding 7 mV/V is located in the boundary part between the southwestern resistive zone and the northeastern conductive zone. This boundary lies between the two low-density layers, which may reflect fractured zone accompanied with faults. The fact also supports that the chargeability anomaly around the Bou Mouss old working is related to the faults intersecting the base line OA0.

・OB sub-prospect (Figure 120 and 123)

The relationship among the results of geophysical prospecting on the plan map as shown Figure 120 is described as follows.

The southeastern edge of the conductive anomaly less than 10 Ωm extending in the NE-SW direction in the northwestern side of the base line is well corresponded to the contact zone between the Triassic systems and the Cretaceous systems. It is supposed that this conductive anomaly has same natures as those of contact zones between the Triassic systems and the Cretaceous system in the Bou K'hil, the Bazina Kebira and the Siliana prospects. The fact that electrical conductivity of the water collected from the drill hole MJTK-A1 conducted in the Siliana prospect is very conductive of 91 mS/cm, which is three times of the seawater lead the idea that these conductive layer are saturated with the high conductive pore water. The Tertiary system lying in the southern side of the Triassic systems indicates high resistivity. Dar ech Chebka small



Legend

- Modeled Chargeability > 7mV/V (Altitude -150m)
- Modeled Chargeability > 5mV/V (Altitude -150m)
- Modeled Resistivity (Altitude -150m) (Unit : Ωm)
- Residual Gravity > 0.5mgal
- Residual Gravity < -0.05mgal
- Profiles for IP and Gravity survey
- Profiles for Gravity survey
- Stations
- Ancient Works
- Diamond Drill-Hole

Figure 120 Interpreted IP map in Oued Jebs-OB prospect

old working is located in the southern marginal part of a resistive anomaly.

In the OB sub-prospect it is very difficult to identify the geology using the residual gravity and resistivity directly. Low residual gravity anomaly is corresponded to the high resistivity around the station OA2-100 and the OB5-100 in the southeastern part, where the Tertiary system distributes. The outlines of the low anomaly of residual gravity below -0.05 mgal extending northwestwards along the survey line OA5 agreed with two faults running in the NW-SE direction through the Tertiary system. The Dar ech Chebka small old working is located within this low residual gravity.

The weak chargeability anomaly above 5 mV/V extends from the vicinity of the Dar ech Chebka small old working to the northeastern end of the base line OB0. Because the IP survey is not applied to the line OB4, the area included in this anomaly is not valid yet. The maximum chargeability of this anomaly exceeds 7mV/V in the northwestern side of the Dar ech Chebka small old working. This anomaly may relate to the low residual gravity lying between two faults running in the NW-SE direction. It is difficult to estimate validity of the weak chargeability anomaly in the northwestern end of the line OB2 because the surface above the anomaly is covered with the Quaternary system.

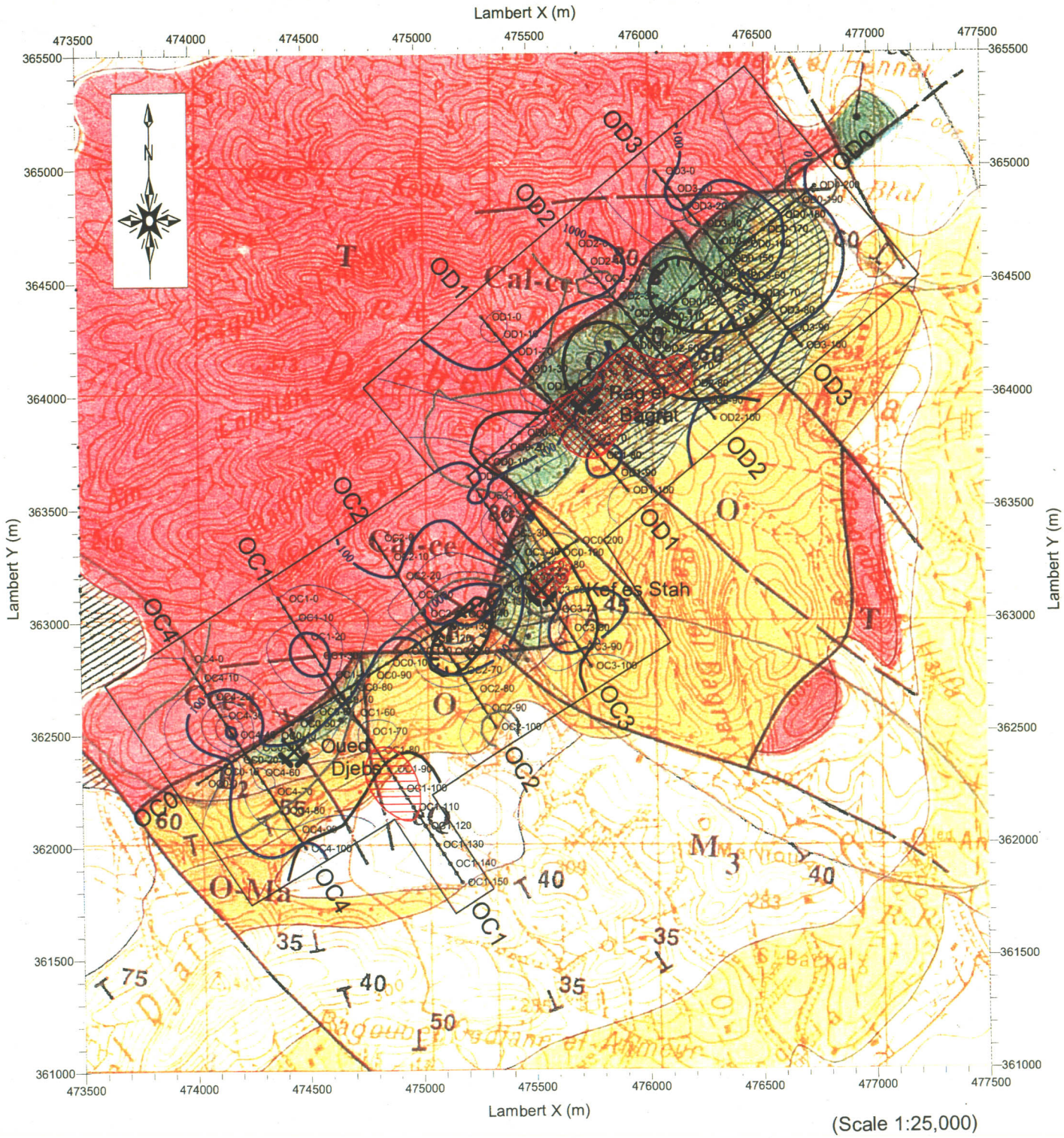
In the interpreted IP sections as shown Figure 122 it is recognized that the chargeability distribution in the survey line OB5 through the Dar ech Chebka small old working is similar to that in the neighboring line OB3. In both sections chargeability anomalies extend in the central deep part and rise up to the shallow part around the highest point in their topographic section. The Dar ech Chebka small old working is located in the southeastern end of the anomaly beyond 5 mV/V.

・OC-OD sub-prospects (Figure 121, 124 and 125)

The relationship among the results of geophysical prospecting on the plan map as shown Figure 121 is described as follows.

Such as the OA sub-prospect high resistivity zone beyond 100 Ωm extending in the northwestern side of the base line OC0, the line OC3 and the base line OD0 is corresponded to the distribution of the Triassic system. High resistivity may reflect much content of the dolomite. In the OD sub-prospect expansion of this high resistivity zone southeastwards into the distribution area of the Cretaceous system may indicates hidden Triassic layer under the Cretaceous systems. Distribution of high resistivity clearly represents the geological structures shifted along a fault with NW-SE trending in the boundary between the OC and OD sub-prospect. A conductive anomaly extending in the northeastern side of the fault suggests a fracture zone accompanied with faults. Three mineral indications of the Oued Jebes, the Kef Lasfer and the Rag el Bagrat are located in the southeastern marginal zone of the high resistivity zone extended.

High residual gravity zone exceeding 0.5 mgal is corresponded to the resistive zone beyond 100 Ωm, which may reflect the Triassic system. A low anomaly of residual



Legend

- Modeled Chargeability > 5mV/V (Altitude 250m)
- Modeled Chargeability > 5mV/V (Altitude 50m)
- Modeled Resistivity (Altitude 150m) (Unit : Ωm)
- Residual Gravity > 0.5mgal
- Residual Gravity < -0.05mgal
- Profiles for IP and Gravity survey
- Profiles for Gravity survey
- Stations
- Ancient Works

Figure 121 Interpreted IP map in Oued Jebs-OC/OD prospect

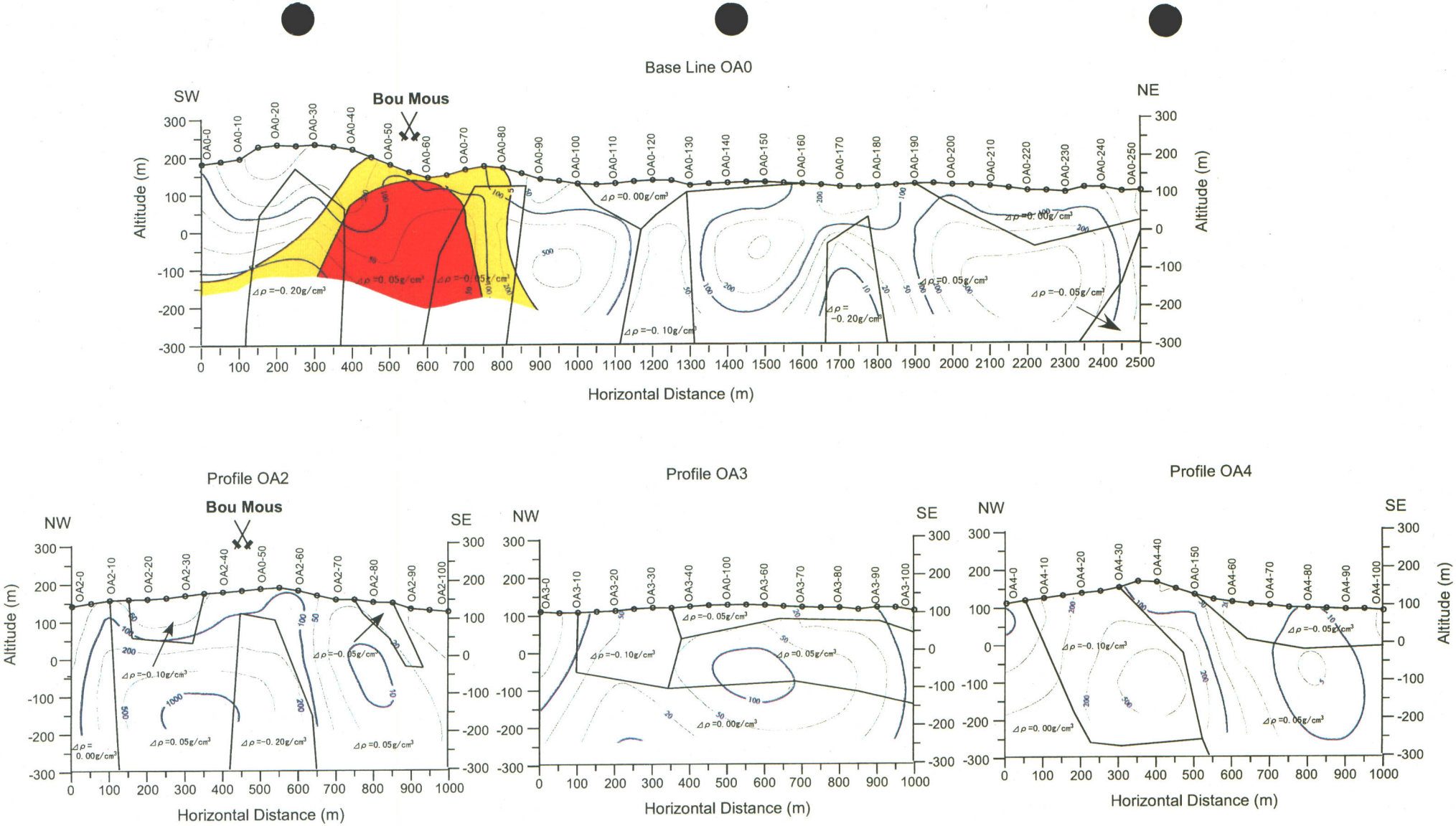


Figure 122 Interpreted IP section (OA0, OA2, OA3, OA4)

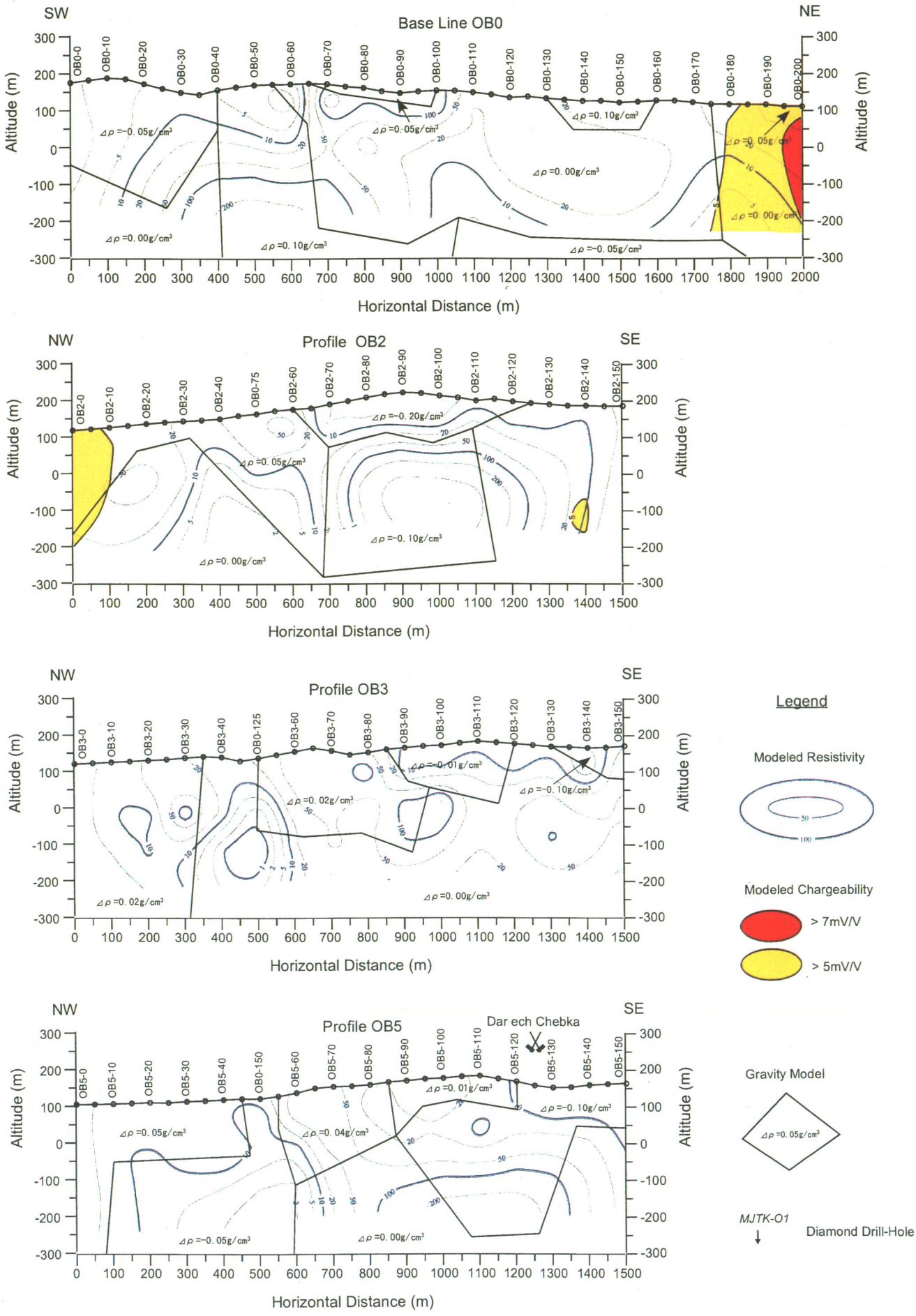


Figure 123 Interpreted IP section (OB0, OB2, OB3, OB5)

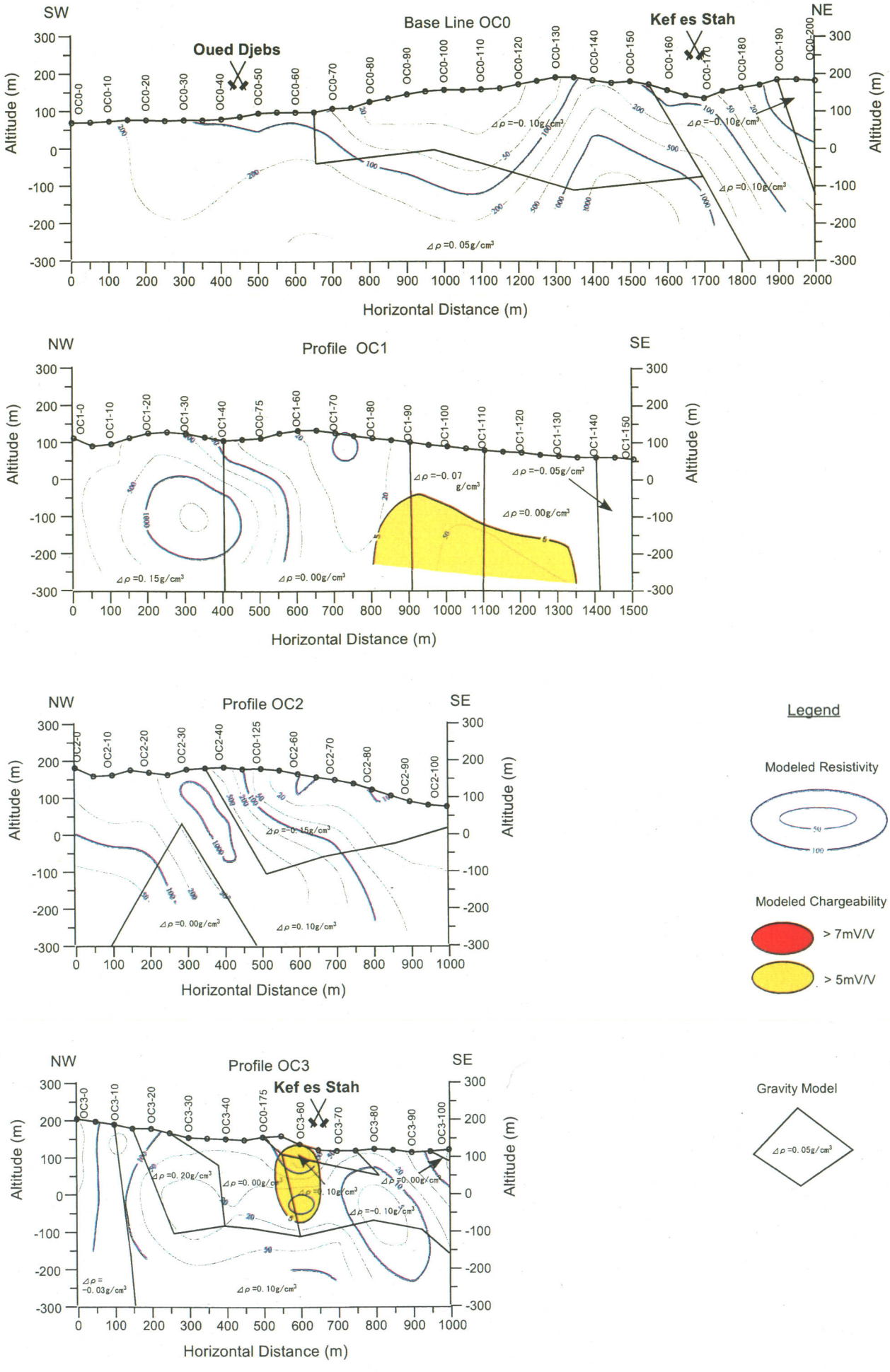
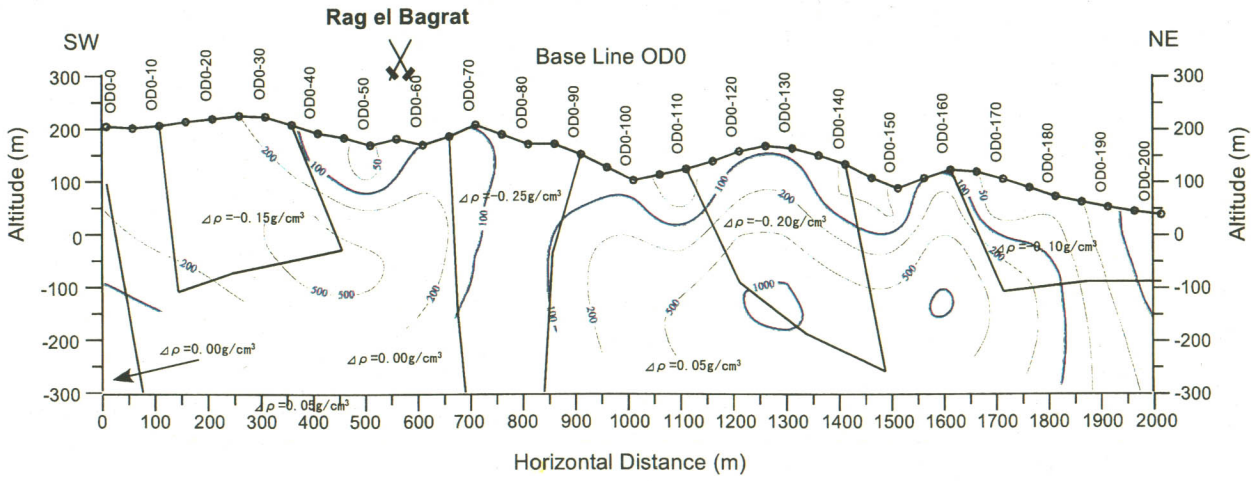
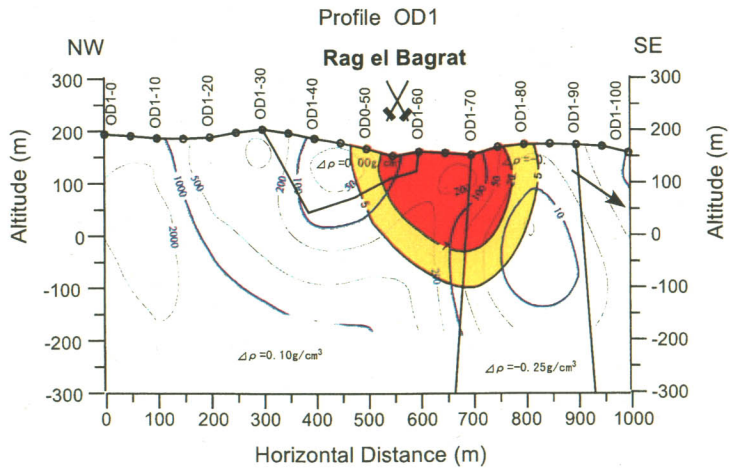
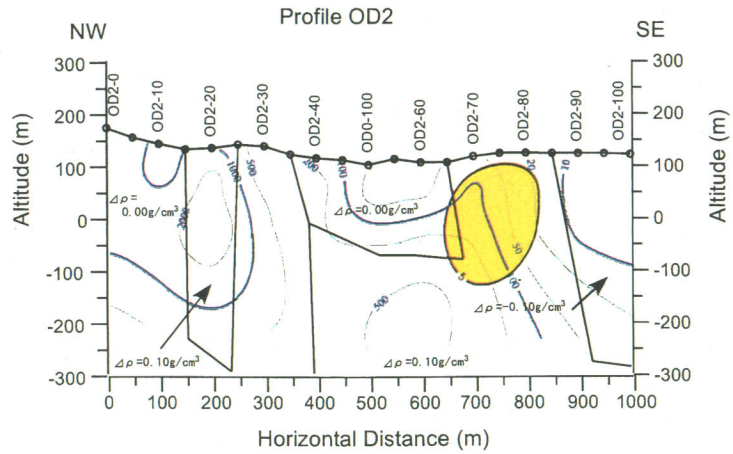
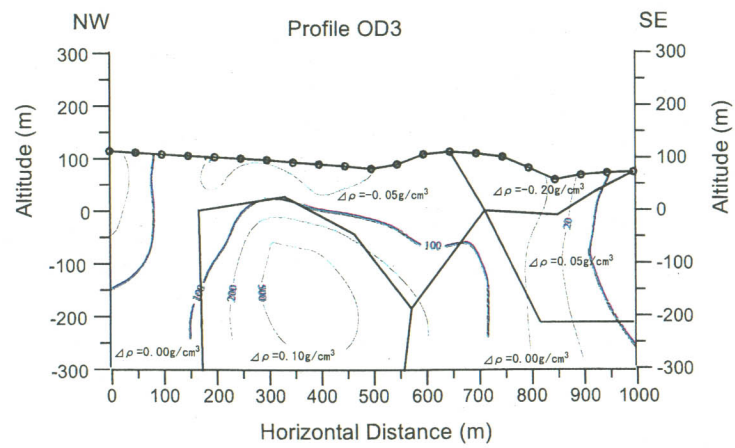


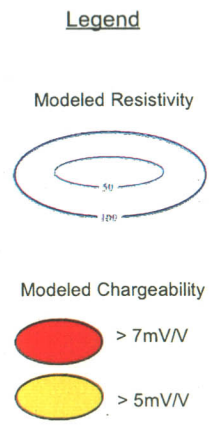
Figure 124 Interpreted IP section (OC0, OC1, OC2, OC3)











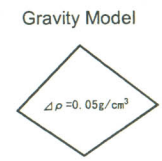


Figure 125 Interpreted IP section (OD0, OD1, OD2, OD3)

gravity less than -0.05 mgal stretches from the southeast northwestwards to the Rag el Bagrat mineral indication such as the vicinity of the Dar ech Chebka small old working. It is supposed that this low residual gravity anomaly well corresponded to the conductive anomaly may reflect a fractured zone with faults. The features in the eastern side of the fault running from the station OC1-90 through the OC2-70 tend to indicate low residual gravity and low resistivity, but are not so much clearly recognized.

Chargeability anomalies exceeding 5 mV/V appear in the shallow part around the Rag el Bagrat mineral indication, in the shallow part around the Kef Lasfer old working and in the deep part around the station OD1-100. It is guessed that the first and third anomalies located within areas indicating low resistivity and low residual gravity have a close relation to fracture zones accompanied with faults. In the vicinity of the Kef Lasfer old working the small chargeability anomaly lies in the area, where both properties of resistivity and residual garavity decline northeastwards sharply. There is, however, no valid chargeability anomaly in the vicinity of the biggest Oued Jebes old working in the current prospect.

In the interpreted IP sections of the OC sub-prospect as shown Figure 124 it is recognized that discontinuity of resistivity and the low density layer with density difference of -0.07 g/cm3 around the station OC1-90 in the section OC1, where the weak anomaly of chargeability above 5 mV/V lies in the deep part, may reflect structure such as a fault. In the section OC3 the weak anomaly of chargeability above 5 mV/V is located in the northwestern side of discontinuity of resistivity suggesting a fault structure. This chargeability anomaly lies in the lower boundary of the high-density and resistive overburden corresponded to the Cretaceous system in the vicinity of the Kef Lasfer old working.

In the interpreted IP sections of the OD sub-prospect as shown Figure 125 the chargeability anomalies exceeding 5 mV/V are recognized in the southeastern part of the survey line OD1 and the line OD2. They lies in the boundary part between the high-density and resistive layer in the northwestern side and the low-density conductive layer in the southeastern side, which is corresponded to the Tertiary system.