

Fig. II -5-22(4) TDIP plane maps in Tawi Rakah area for N=4

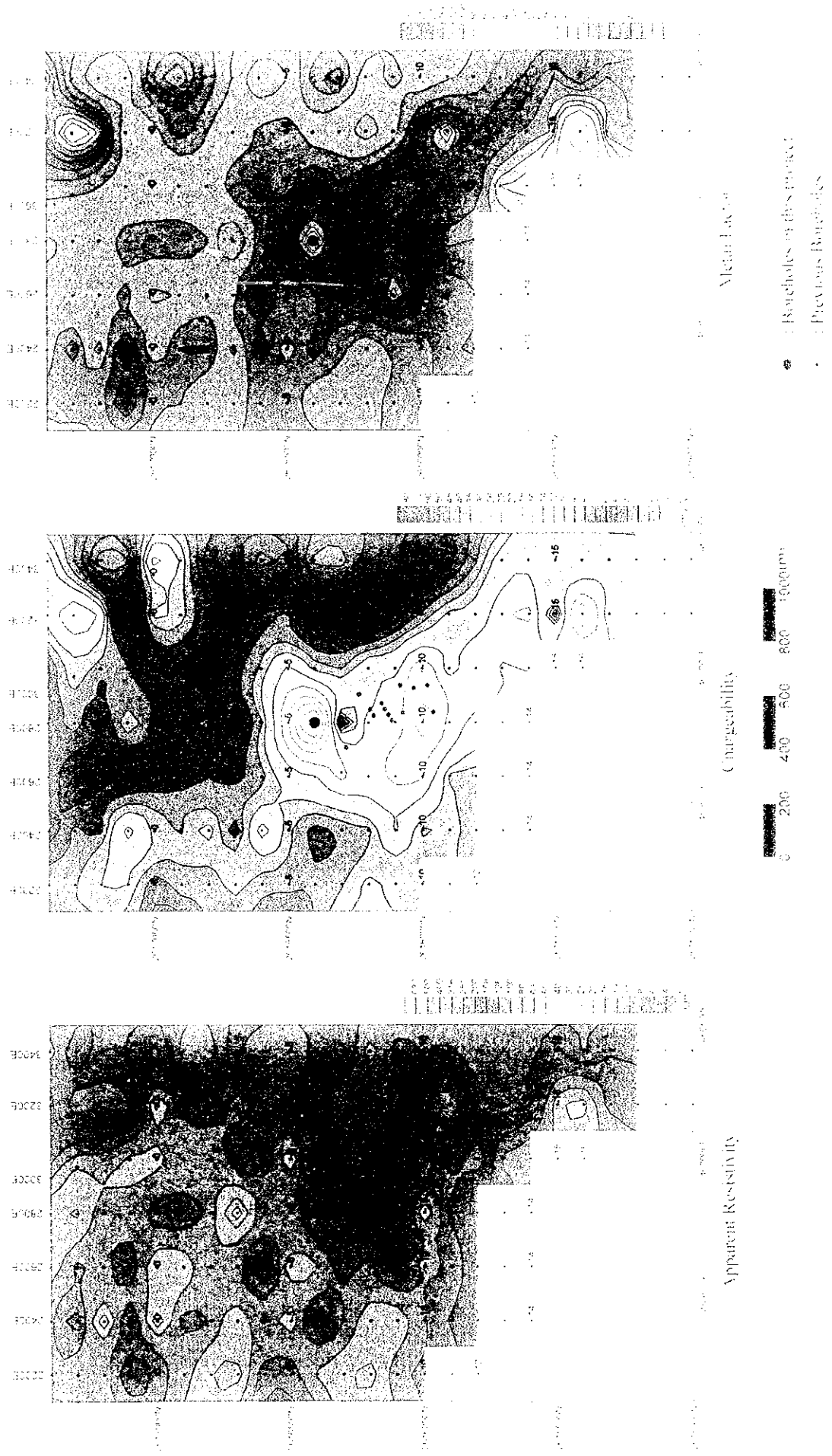
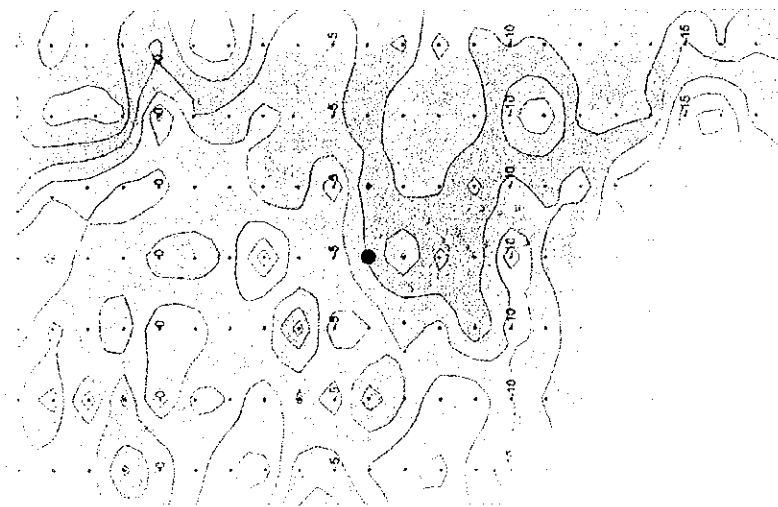
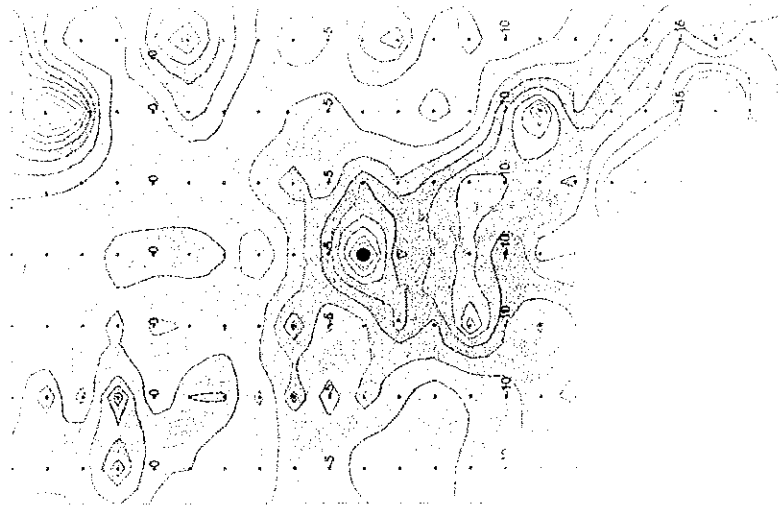


Fig. II-5-22(4) 1DIP plane maps in fawi Rakah area for N 4





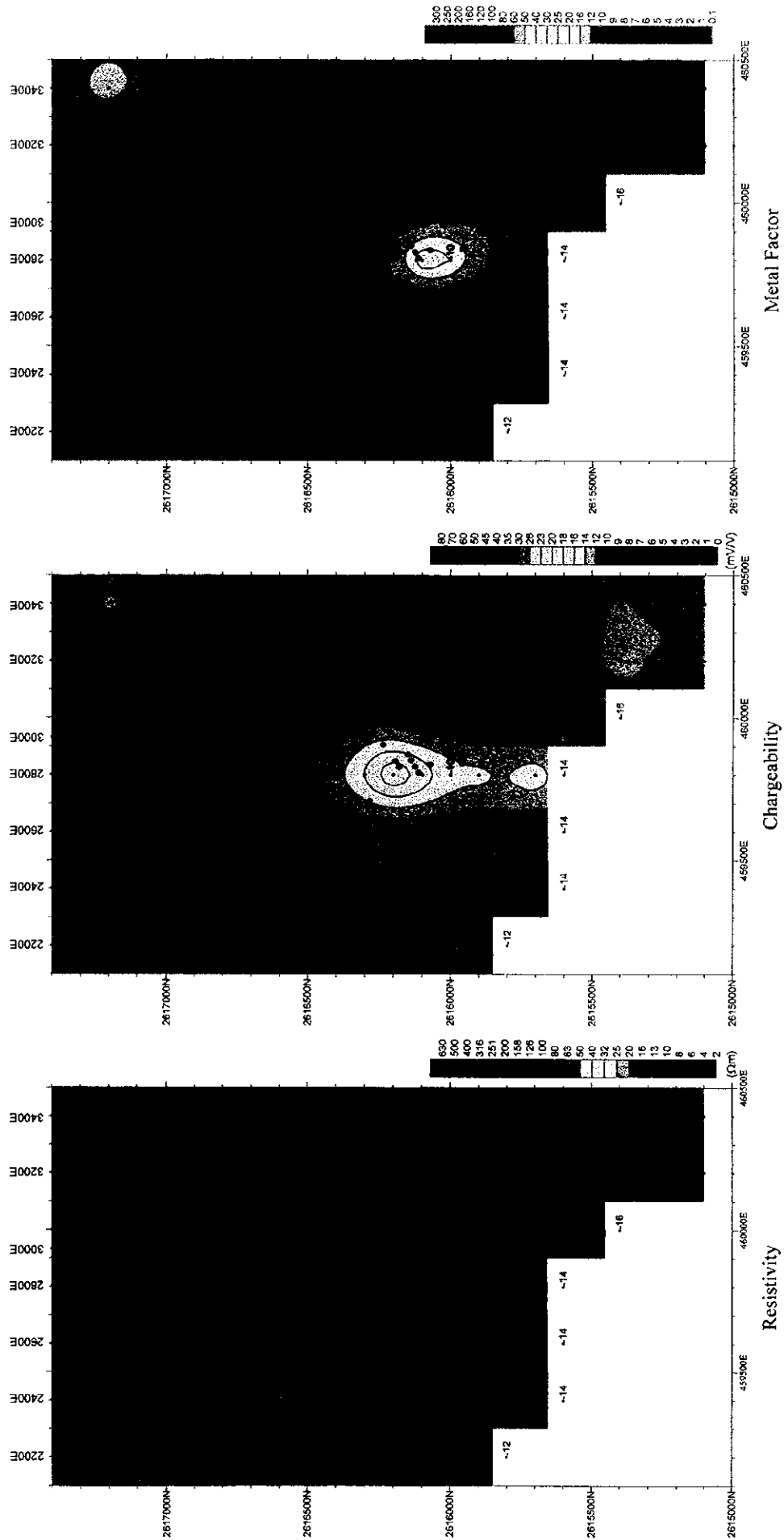


Fig. II -5-23(1) 2D analysis plane maps in Tawi Rakah area at 100m depth

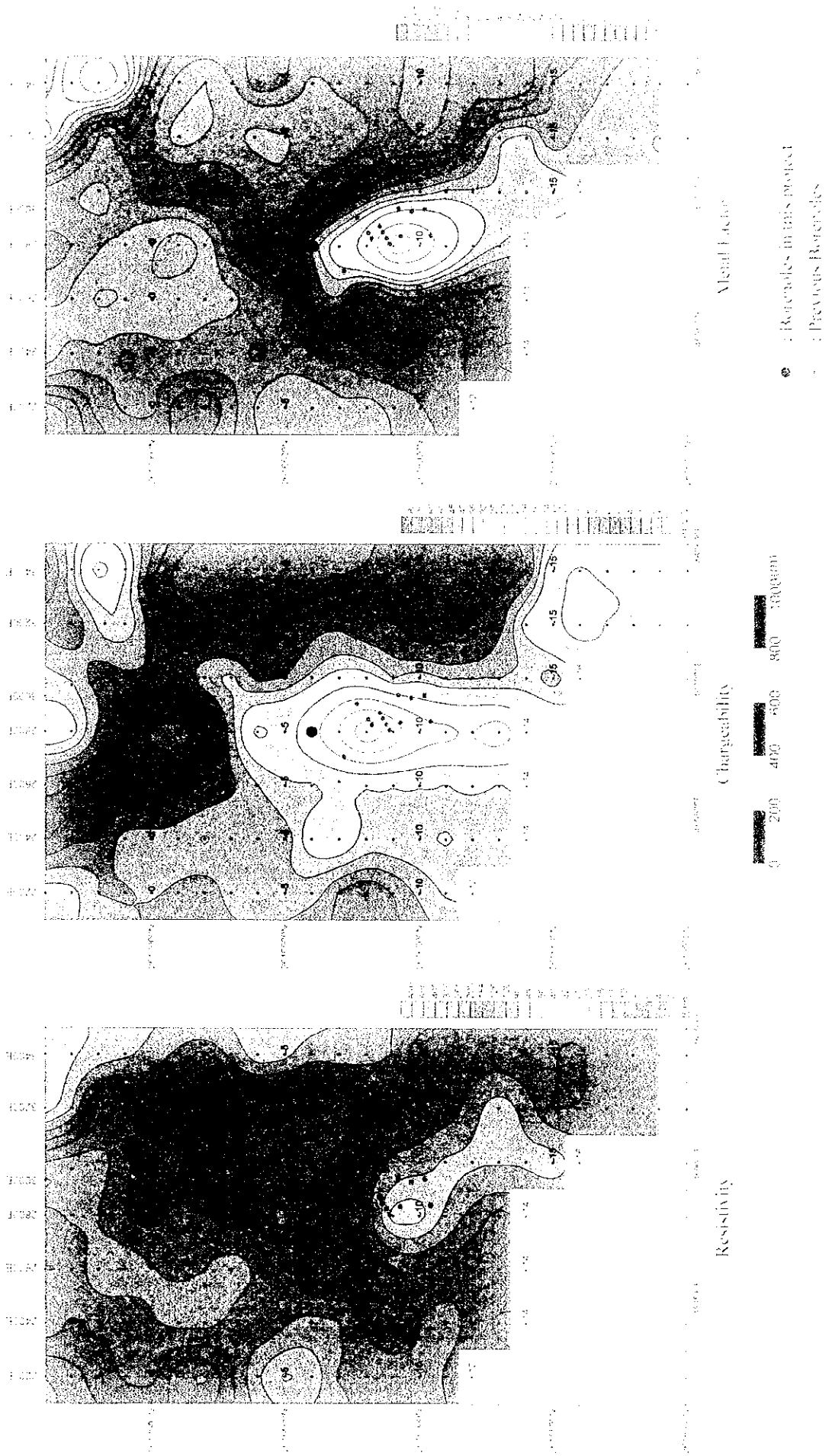


Fig. (5-23D) 2D analysis plane maps in Fawi Rakah area at 100m depth



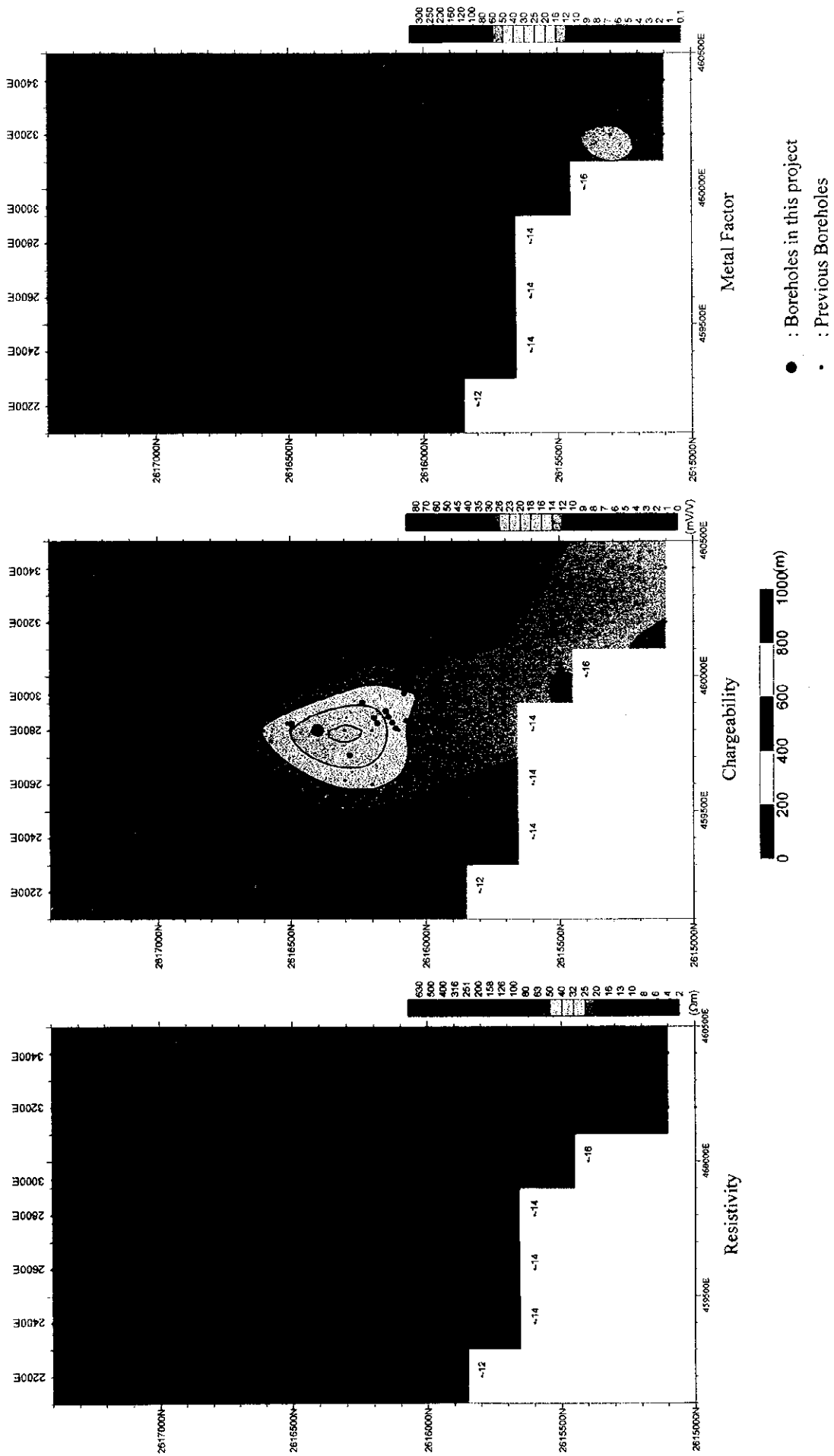


Fig. II -5-23(2) 2D analysis plane maps in Tawi Rakah area at 150m depth

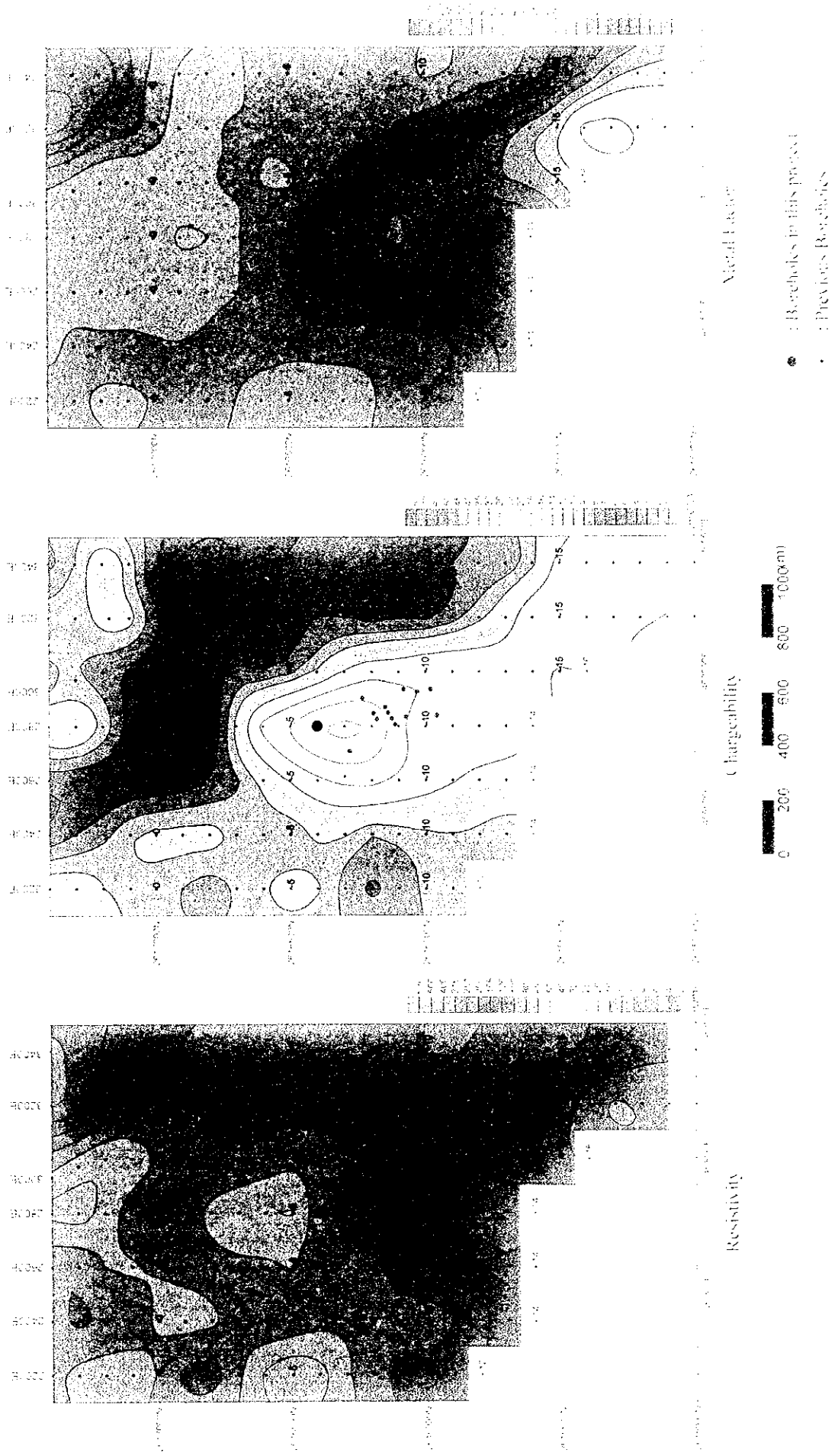
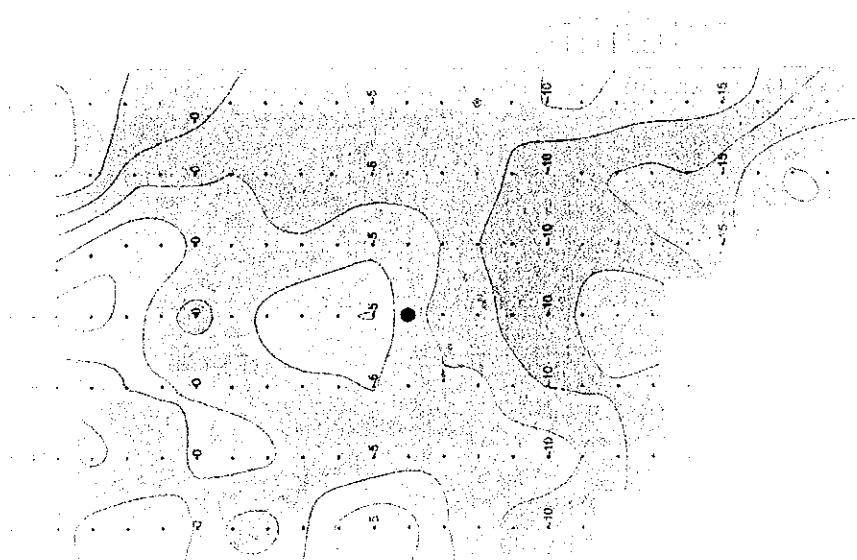
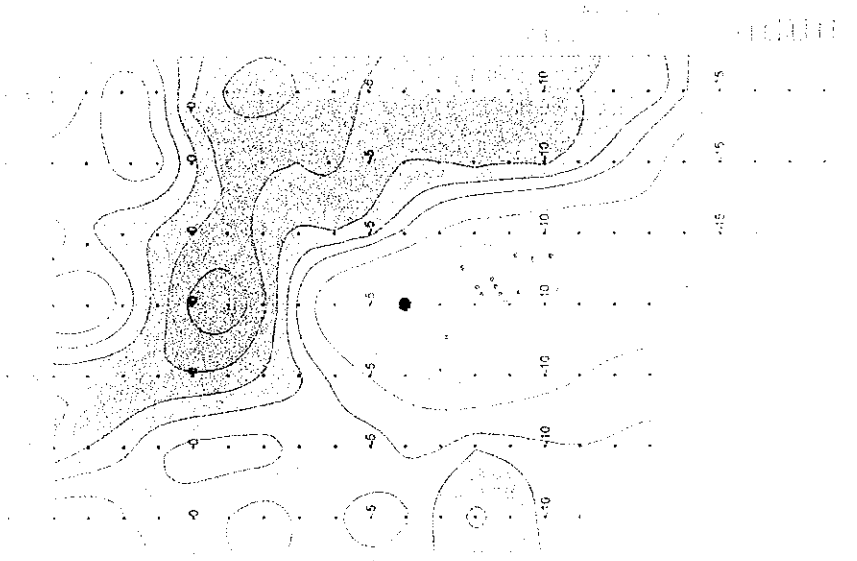
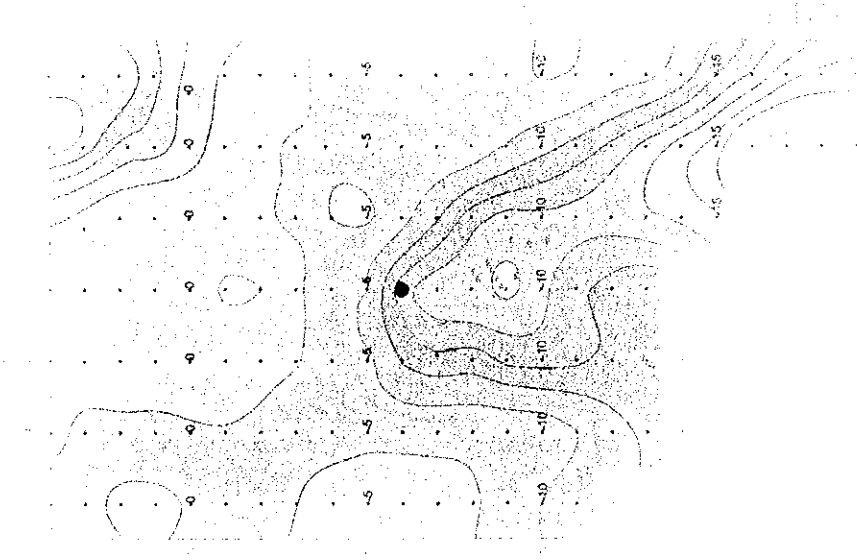


Fig. II-5-23(2) 2D analysis plane maps in Iawi Rakah area at 150m depth



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1:10,000

1:10,000

Figure 1. Topographic maps of the study area.



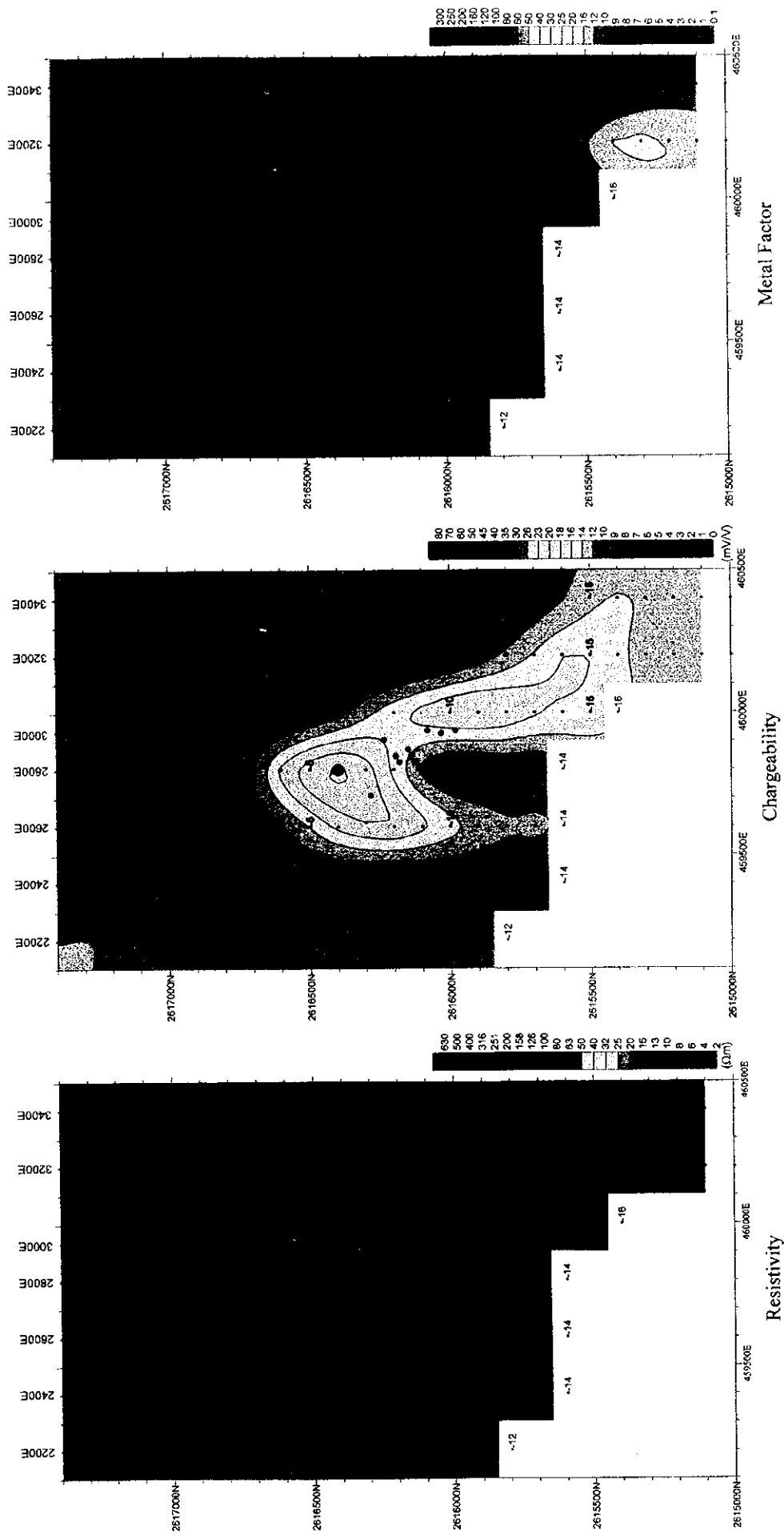


Fig. II -5-23(3) 2D analysis plane maps in Tawi Rakah area at 200m depth

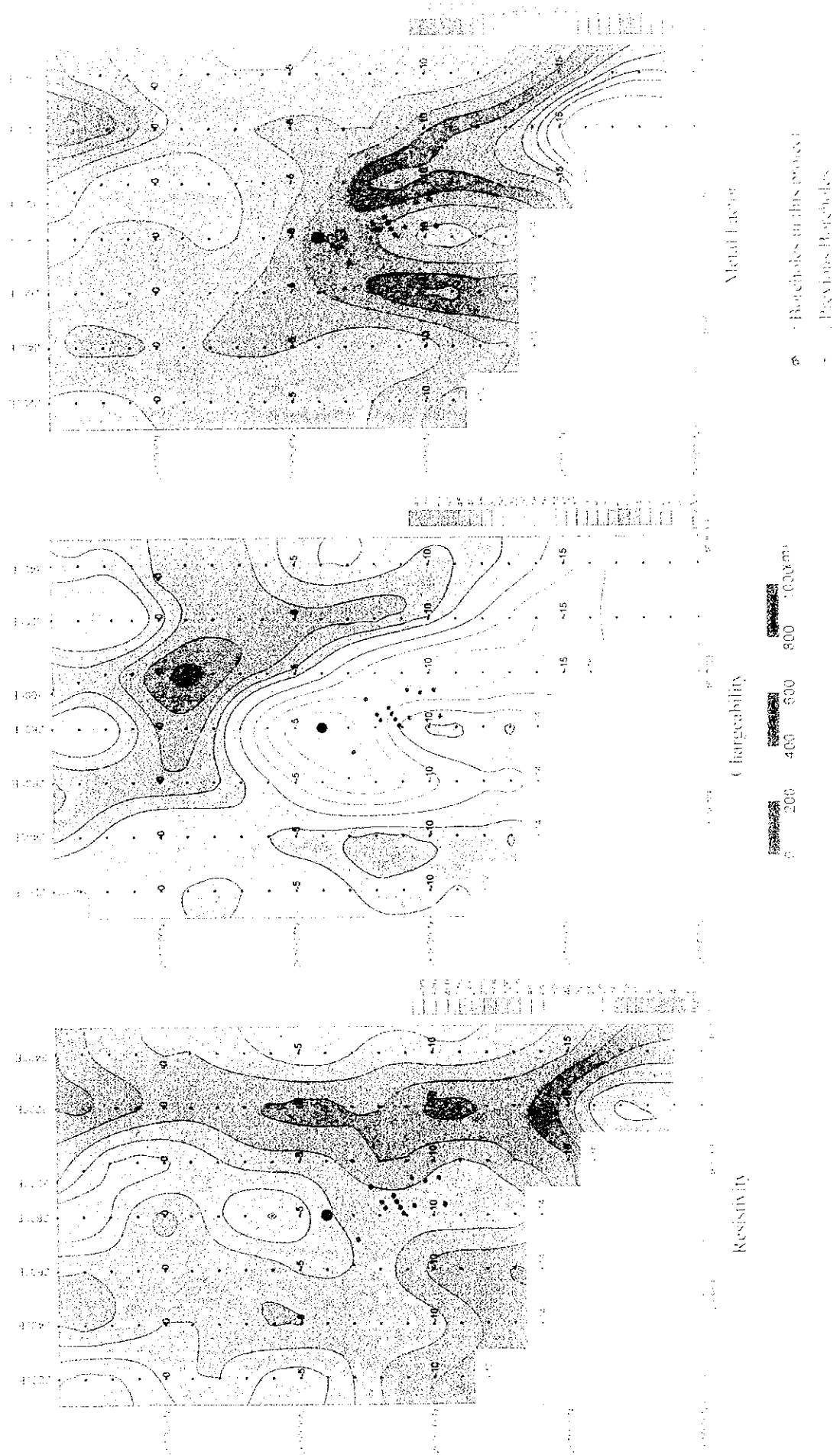
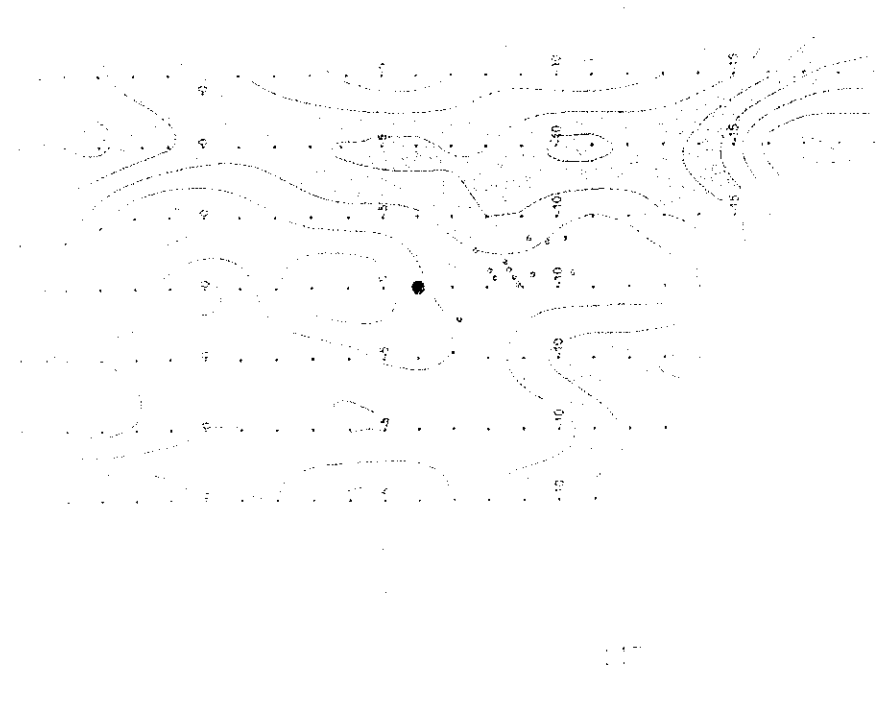
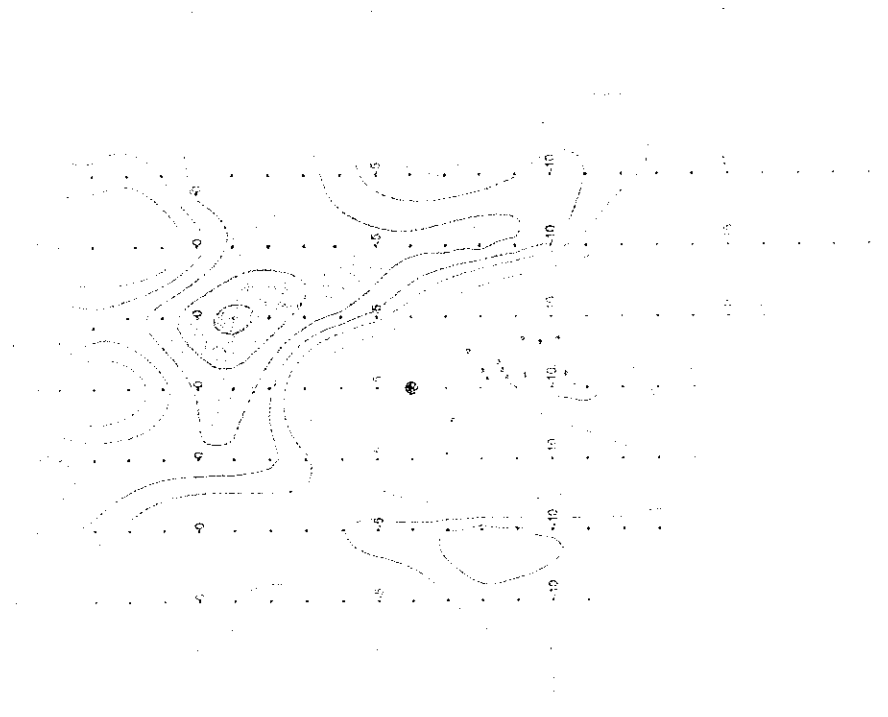
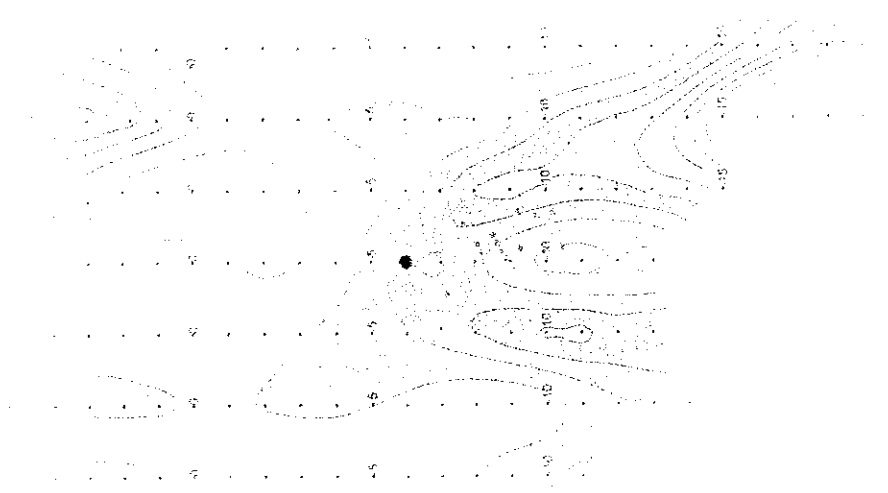


Fig. II-5-2-3(3) 2D analysis plane maps in Lavi-Rukah area at 200m depth



1. The function $f(x, y) = x^2 + y^2$ has a local minimum at $(0, 0)$.
 2. The function $f(x, y) = x^2 - y^2$ has a saddle point at $(0, 0)$.
 3. The function $f(x, y) = -x^2 - y^2$ has a local maximum at $(0, 0)$.
 4. The function $f(x, y) = x^2 + y^2 + z^2$ has a local minimum at $(0, 0, 0)$.
 5. The function $f(x, y, z) = x^2 + y^2 - z^2$ has a saddle point at $(0, 0, 0)$.
 6. The function $f(x, y, z) = -x^2 - y^2 - z^2$ has a local maximum at $(0, 0, 0)$.
 7. The function $f(x, y) = x^2 + y^2 + 2x + 2y$ has a local minimum at $(-1, -1)$.
 8. The function $f(x, y) = x^2 + y^2 + 2x - 2y$ has a local minimum at $(-1, 1)$.
 9. The function $f(x, y) = x^2 + y^2 + 2x + 2y + 2$ has a local minimum at $(-1, -1)$.
 10. The function $f(x, y) = x^2 + y^2 + 2x - 2y + 2$ has a local minimum at $(-1, 1)$.
 11. The function $f(x, y) = x^2 + y^2 + 2x + 2y + 2$ has a local minimum at $(-1, -1)$.
 12. The function $f(x, y) = x^2 + y^2 + 2x - 2y + 2$ has a local minimum at $(-1, 1)$.
 13. The function $f(x, y) = x^2 + y^2 + 2x + 2y + 2$ has a local minimum at $(-1, -1)$.
 14. The function $f(x, y) = x^2 + y^2 + 2x - 2y + 2$ has a local minimum at $(-1, 1)$.
 15. The function $f(x, y) = x^2 + y^2 + 2x + 2y + 2$ has a local minimum at $(-1, -1)$.
 16. The function $f(x, y) = x^2 + y^2 + 2x - 2y + 2$ has a local minimum at $(-1, 1)$.
 17. The function $f(x, y) = x^2 + y^2 + 2x + 2y + 2$ has a local minimum at $(-1, -1)$.
 18. The function $f(x, y) = x^2 + y^2 + 2x - 2y + 2$ has a local minimum at $(-1, 1)$.
 19. The function $f(x, y) = x^2 + y^2 + 2x + 2y + 2$ has a local minimum at $(-1, -1)$.
 20. The function $f(x, y) = x^2 + y^2 + 2x - 2y + 2$ has a local minimum at $(-1, 1)$.



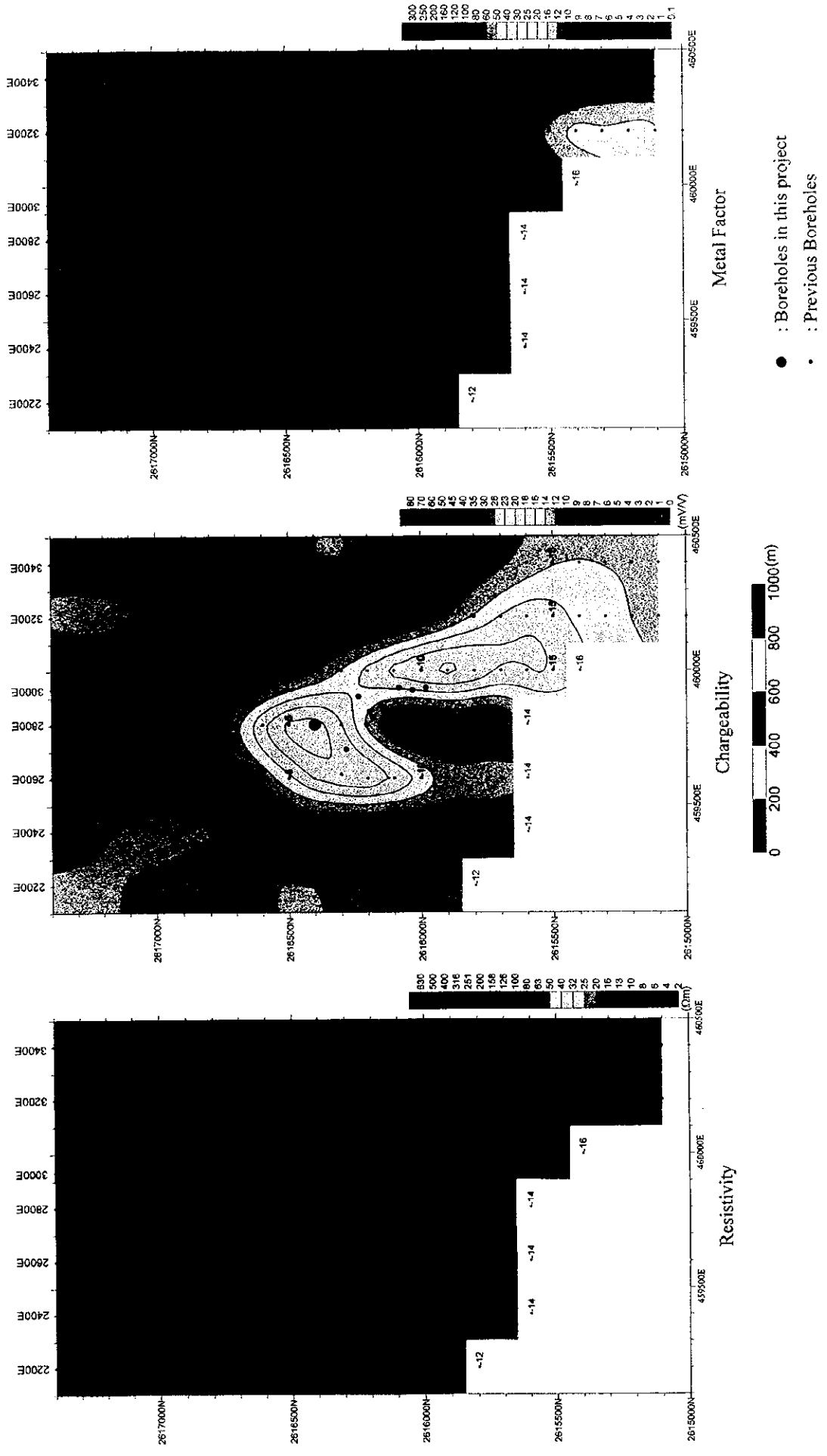


Fig. II -5-23(4) 2D analysis plane maps in Tawi Rakah area at 250m depth

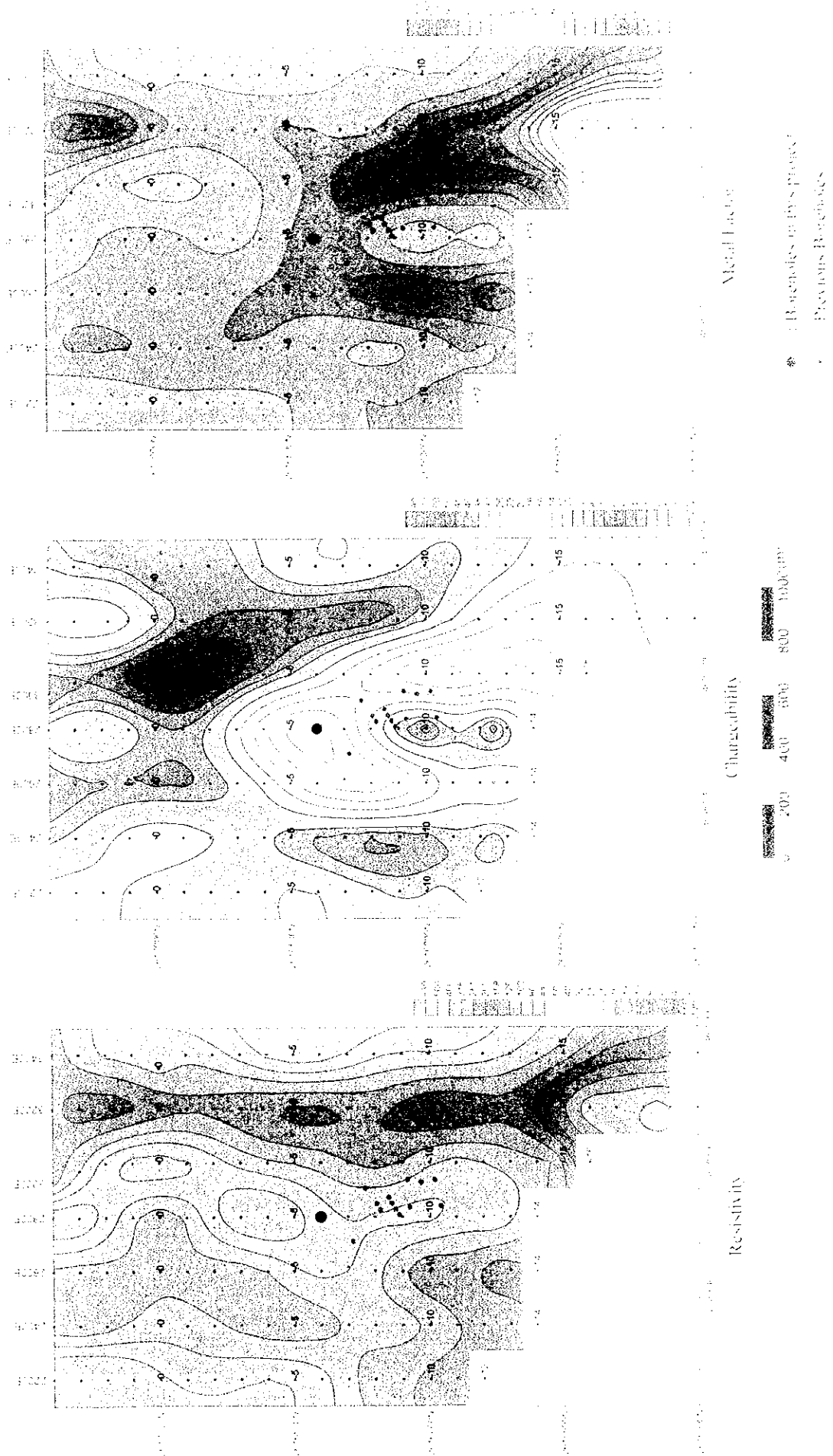


Fig. II-8-23(4) 2D analysis plane maps in Lawi Rakah area at 250m depth

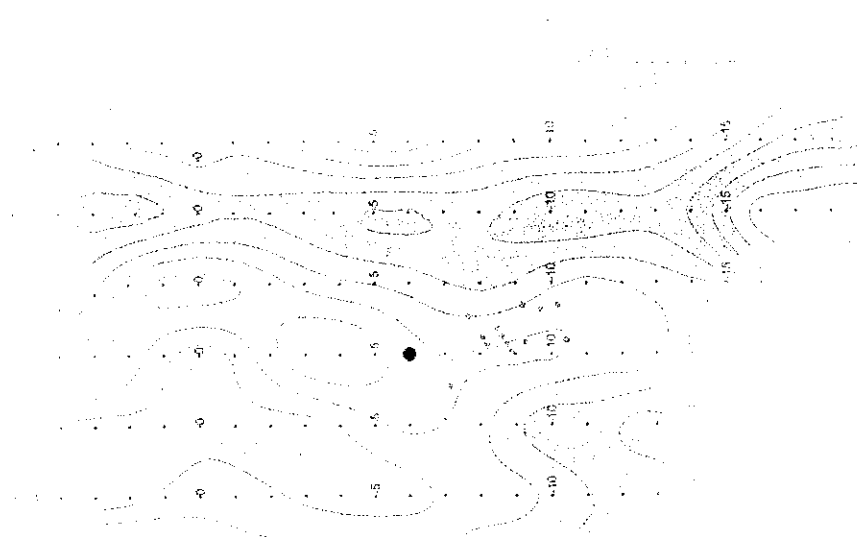
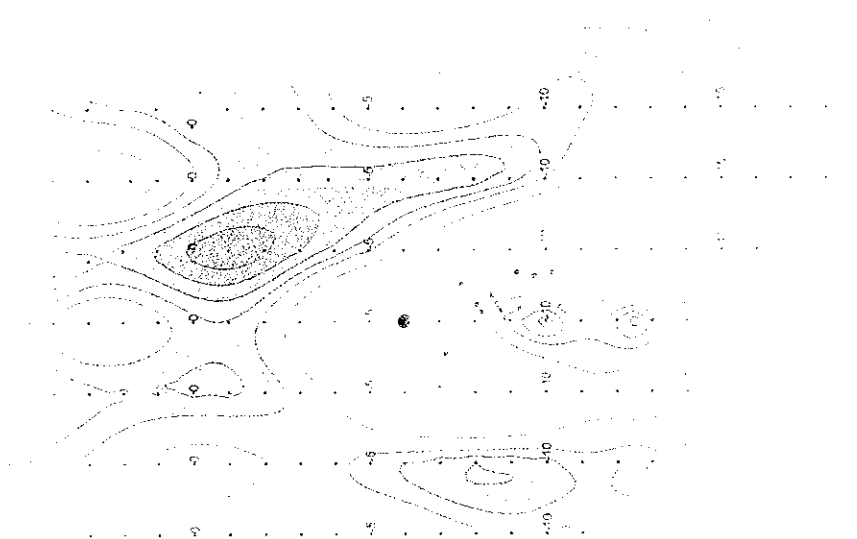
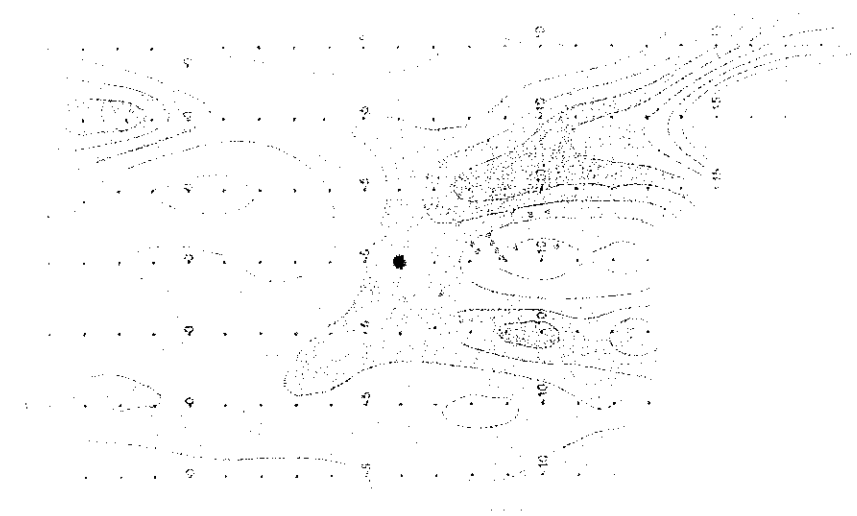
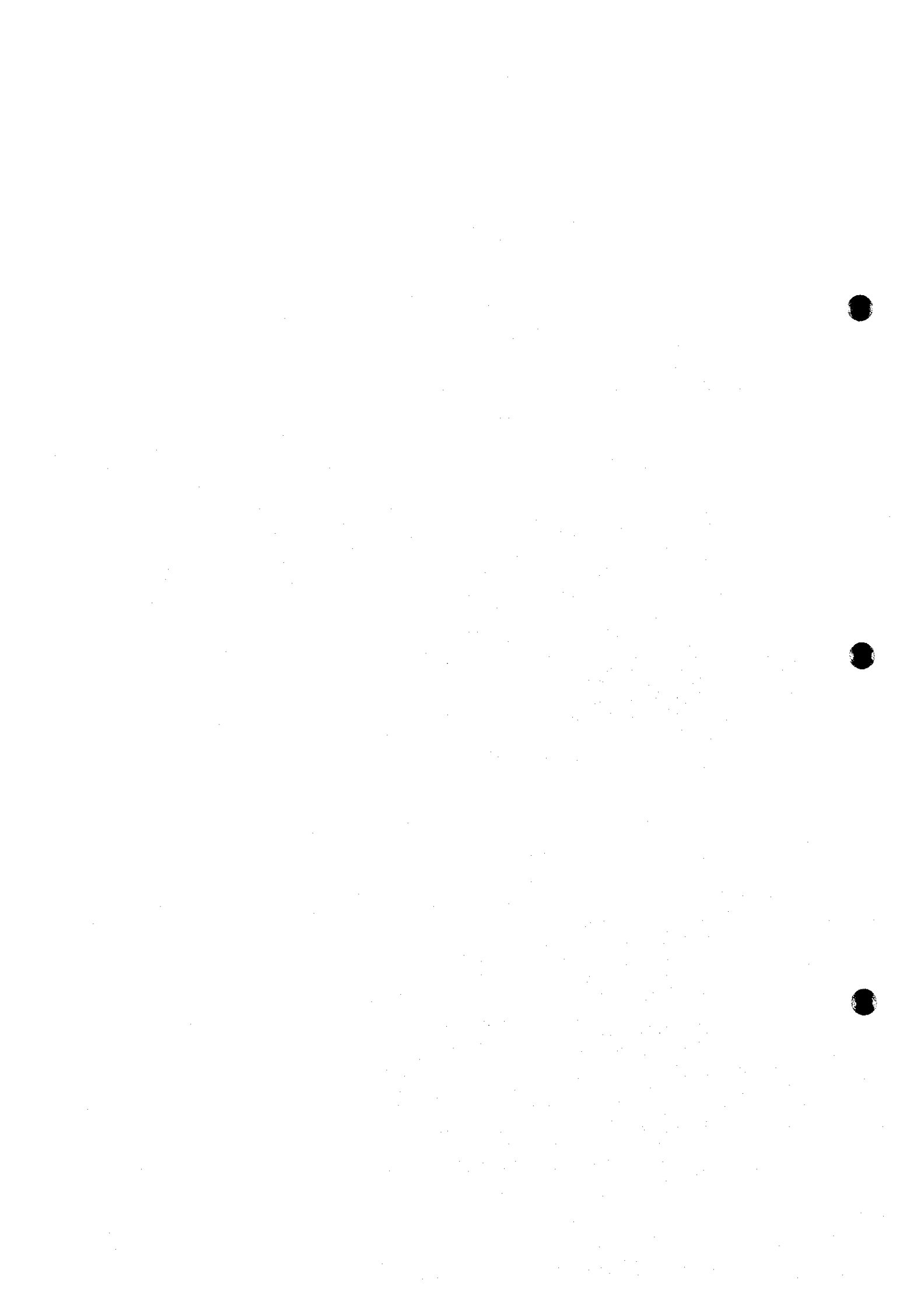


Figure 1

Figure 2

Figure 3

Figure 1, 2, and 3 show the results of the optimization process for the function $f(x, y) = 100 - (x-1)^2 - (y-1)^2$. The contours represent the level sets of the function, and the black dot indicates the location of the maximum value at $(1, 1)$.



の字型に広がったものであると考えられる。

5-5-4 ハイル・アス・サフィール地区

ハイル・アス・サフィール地区のTDIP 平面図を Fig. II-5-24 に、2次元解析断面図及び平面図をそれぞれ Fig. II-5-25, 26 に示す。

この地区では、アル・アシュガル、ハイル・アス・サフィール、ビシャーラ、アル・ジャディードの4つの鉱体が既に確認されている。

アル・アシュガル、アル・ジャディード鉱体が位置する箇所では $N=1$ で低比抵抗・高分極率を示しており、塊状硫化物鉱床を反映した異常と考えられる。アル・ジャディード鉱体では南方へ低比抵抗が連続するよう見えるが、これは鉱体の低比抵抗と南側の堆積岩による低比抵抗が重なって現れているためである。メタルファクター異常は鉱体の位置とよく一致している。アル・アシュガル、アル・ジャディードともに $N=2$ 以深では異常が消滅するので、深部への鉱体の連続性は期待できない。

ビシャーラ鉱体では $N=1, 2$ で低比抵抗・高分極率を示している。低比抵抗が南方へ延びているよう見えるが、これはアル・ジャディード鉱体の場合と同様に南側に広く分布する堆積岩による低比抵抗の影響である。ストックワーク鉱を主体とするハイル・アス・サフィール鉱体では顕著な低比抵抗は認められない。 $N=3, 4$ ではビシャーラ鉱体とハイル・アス・サフィール鉱体の間の測線 3600W, 測点 1500N を中心にして高分極率異常が認められる。この箇所では比抵抗も低くなっているので塊状硫化物鉱床の可能性も考えられるが、ビシャーラ鉱体とハイル・アス・サフィール鉱体及び南側の堆積岩による低比抵抗が近接していることから、お互いの影響が重なり合って異常パターンが出現した可能性もある。

既知の鉱体以外の IP 異常は、ハイル・アス・サフィール鉱体の北側の測線 3600W の測点 1900N 付近及び測点 2200N 付近に認められる。

2次元解析の結果によると、アル・アシュガル、アル・ジャディード鉱体では測定データと同様に浅部でのみ高メタルファクターを示しており、深部への連続性は認められない。ビシャーラ鉱体では比抵抗は $N=1, 2$ で低い値を示し、分極率は $N=1\sim 4$ で高い値を示している。ストックワーク鉱を主体とするハイル・アス・サフィール鉱体では比抵抗は全体的に高い値を示す。測線 3600W, 測点 1700N 付近の浅部で低比抵抗を示しているが、ここでは過去に実施されたボーリング調査で塊状硫化物鉱が確認されている。分極率は全体的に高い値を示すが、深部になるにつれて値は小さくなっている。比抵抗、分極率ともにビシャーラ鉱体からハイル・アス・サフィール鉱体に連続するようなパターンが特に浅部において見られるが、これは鉱体の深度が浅いことや鉱体同士が近接しているため、測線間隔 200m, 測点間隔 100m では測定密度が粗く、2次元解析の分解能が制限されているためと考えられる。既知の鉱体以外では、3600W, 2400N 付近の浅部の高分極率異常、3600W, 2000N 付近を中心として浅部から深部にかけて広がる高分極率異常、ハイル・アス・サフィール鉱体の南側、3400W, 1500N 付近の深部に分布する高分極率異常が認められる。



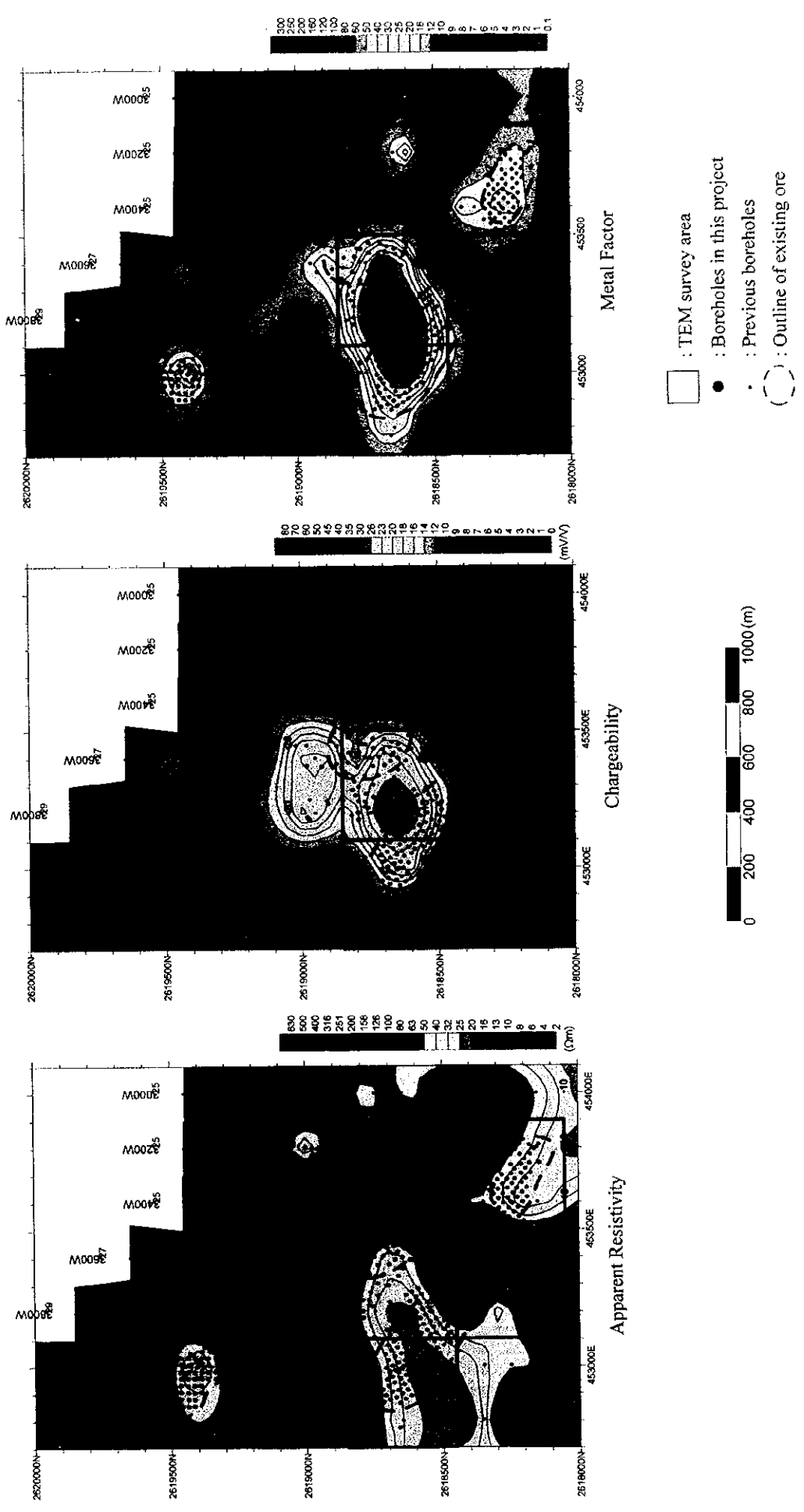


Fig. II -5-24(1) TDIP plane maps in Hayl as Safil area for N=1

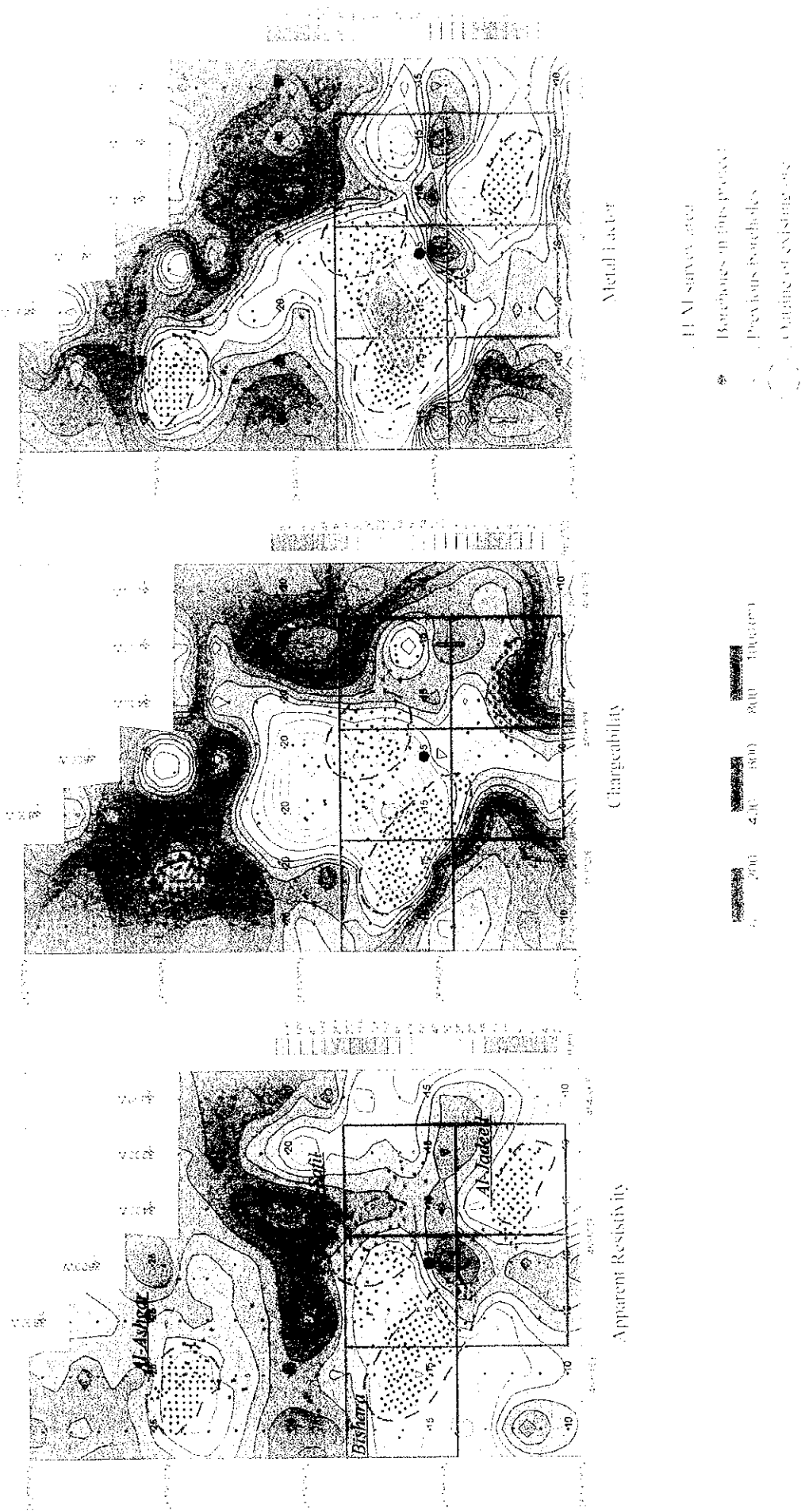
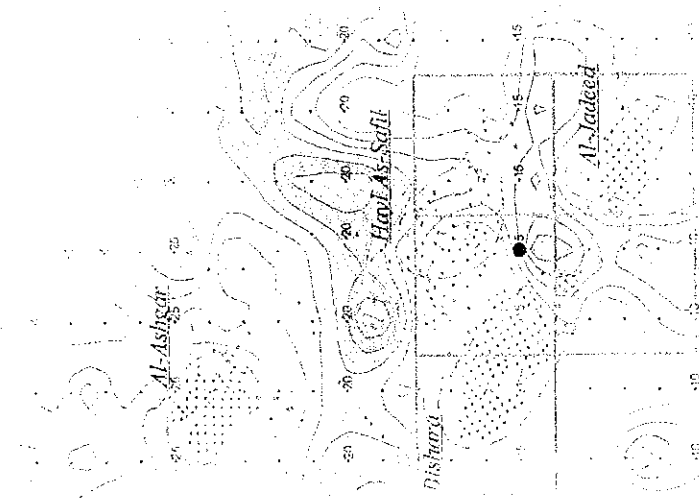
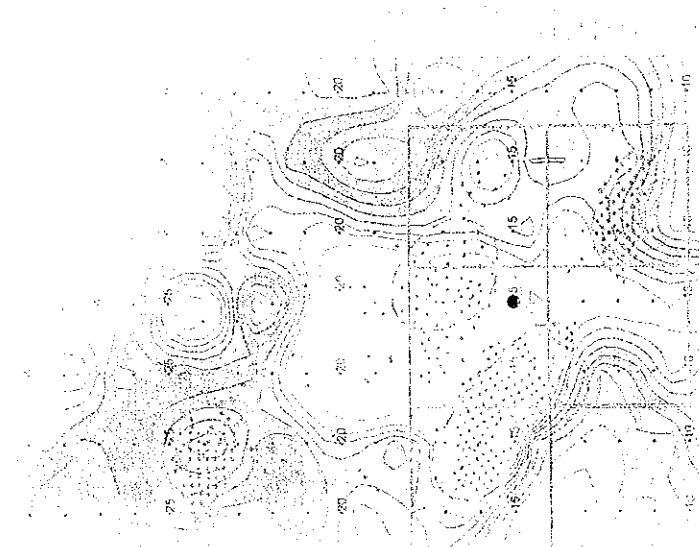
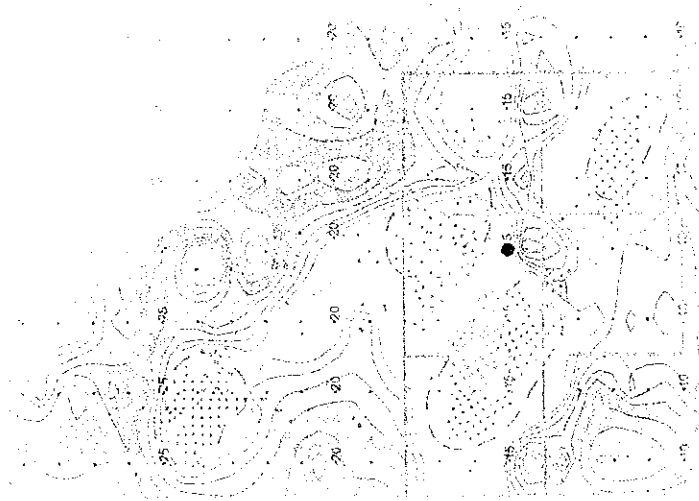


Fig. H.S.2413 - TDR plane maps in Hayas Sufil area for N.T.1



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1:50,000

Scale 1:50,000

Topographic map of the area around Hawl As-Safil, Al-Jadeed, and Al-Ashgar.



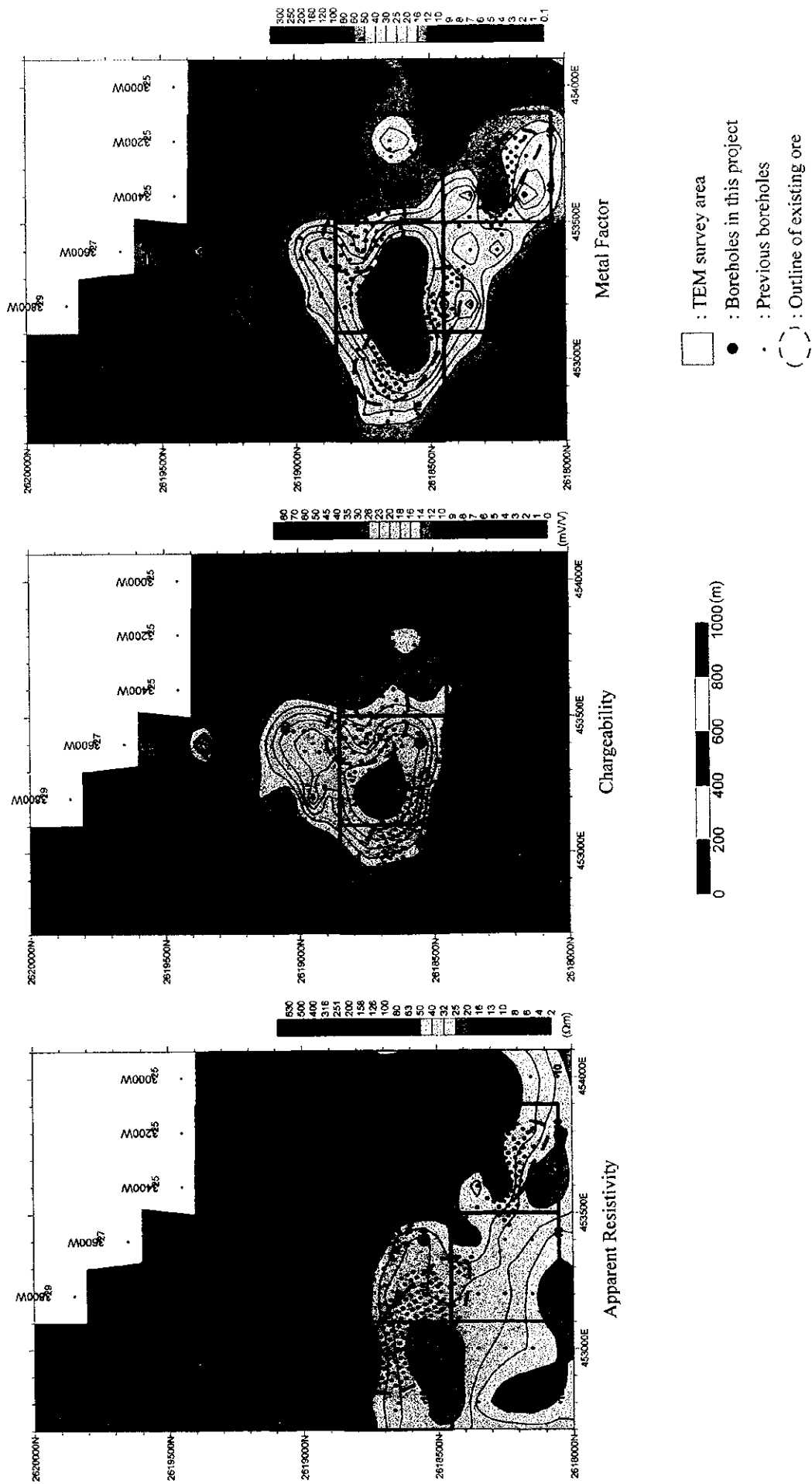


Fig. II -5-24(2) TDIP plane maps in Hayl as Safil area for N=2

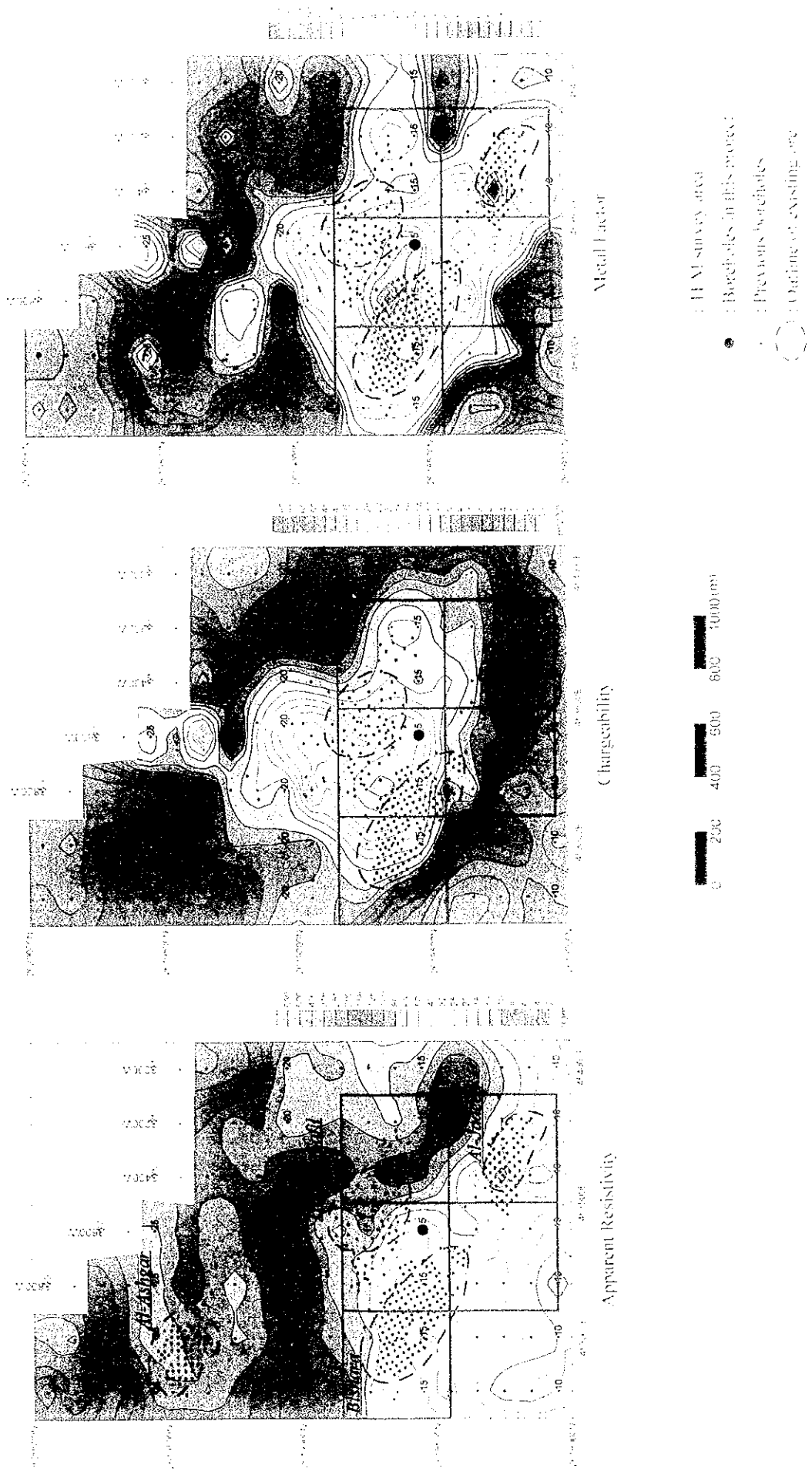


Fig. II-5-2(a) - IIP plane maps in Hayas Saffil area for N. 2



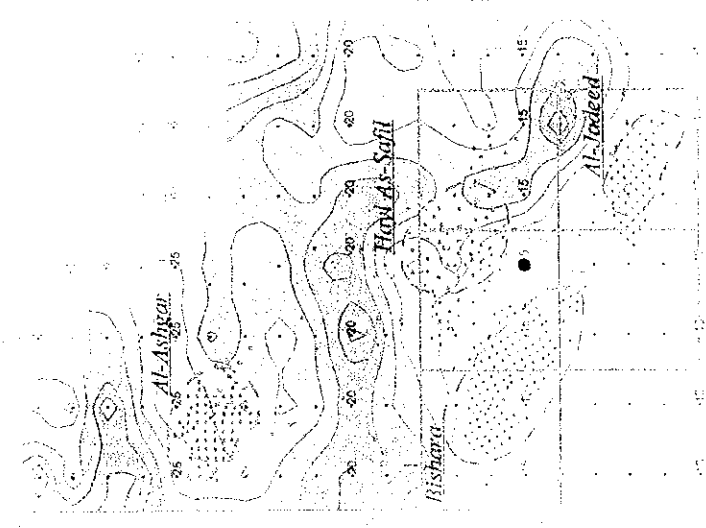
Topographic Map

Topographic map showing contour lines and a grid. The map includes a legend and a scale bar.



Topographic Map

Topographic map showing contour lines and a grid. The map includes a legend and a scale bar.



Topographic Map

Topographic map showing contour lines and a grid. The map includes a legend and a scale bar.

Topographic map showing contour lines and a grid. The map includes a legend and a scale bar.



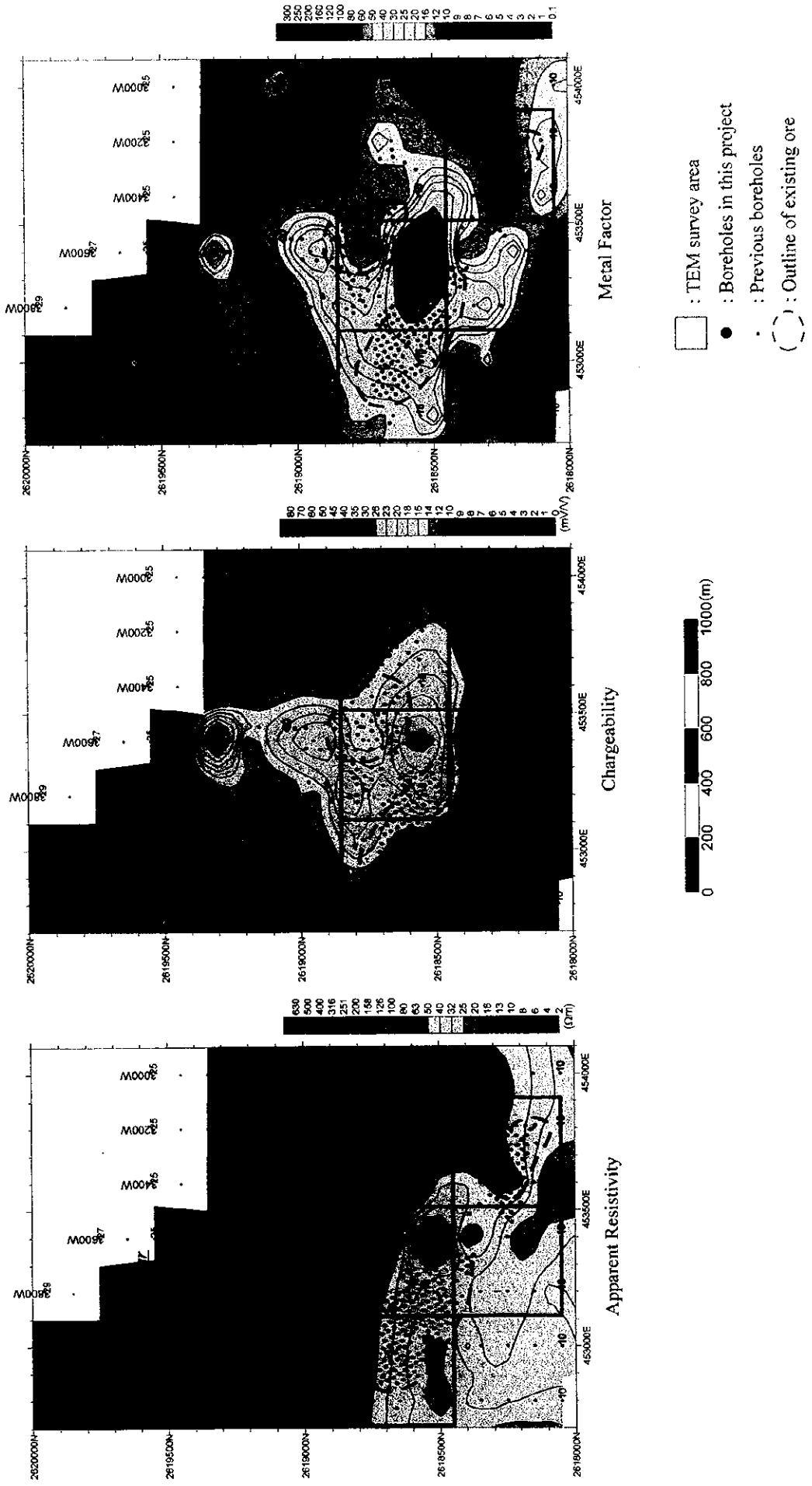


Fig. II -5-24(3) TDIP plane maps in Hayl as Safil area for N=3

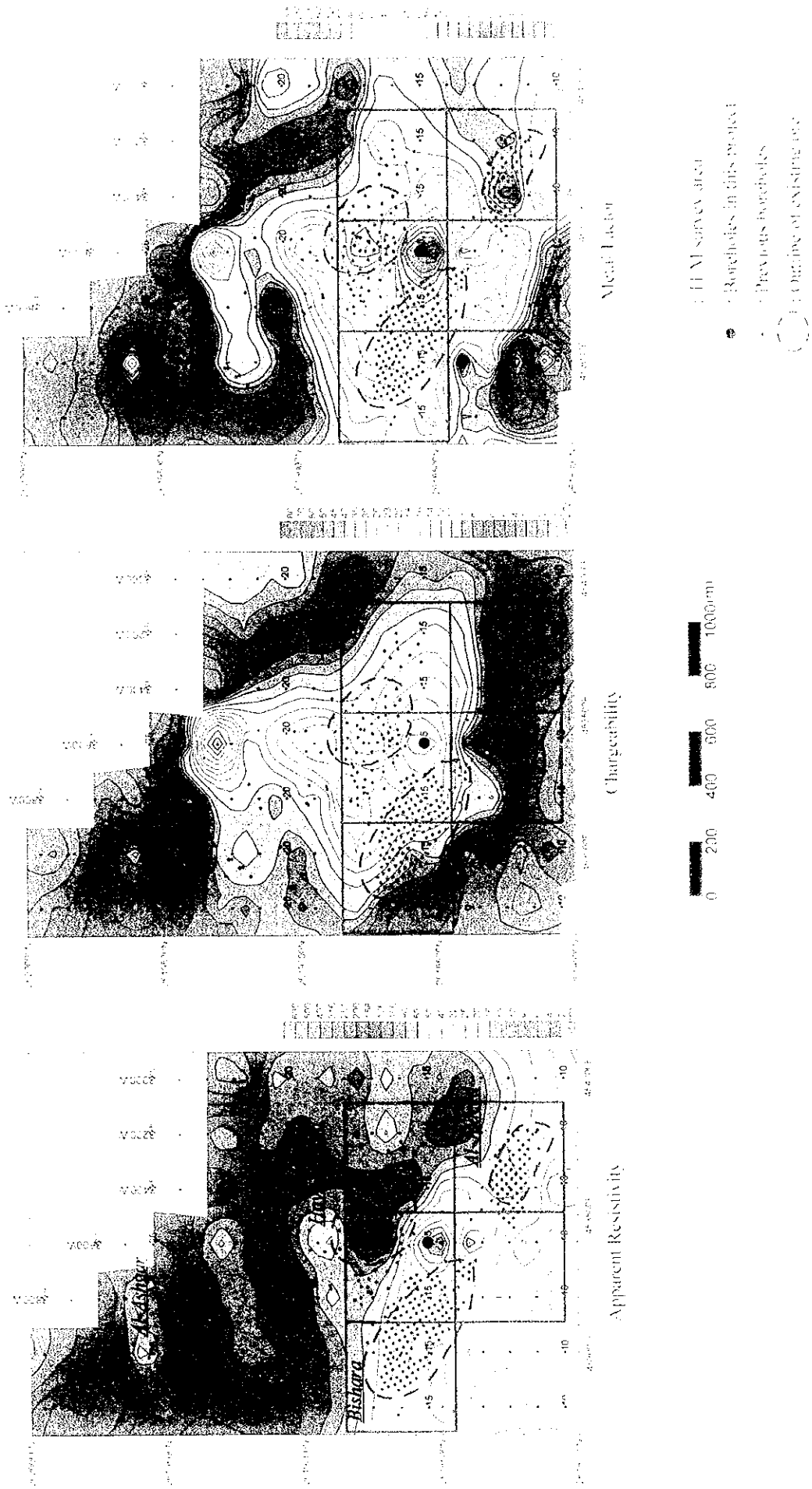
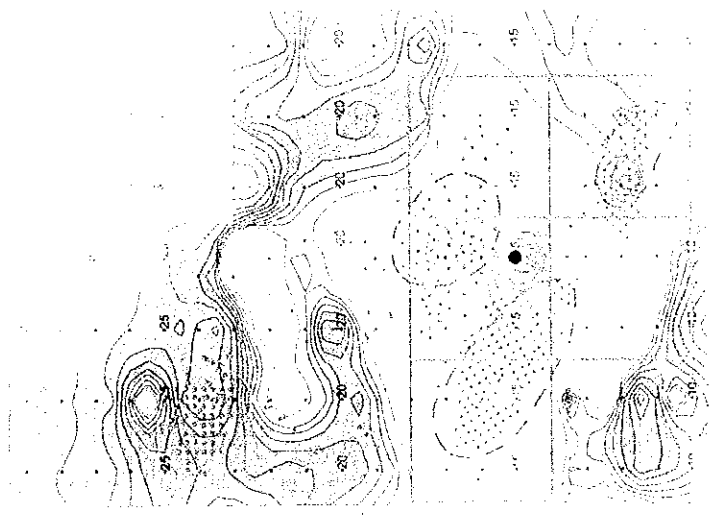
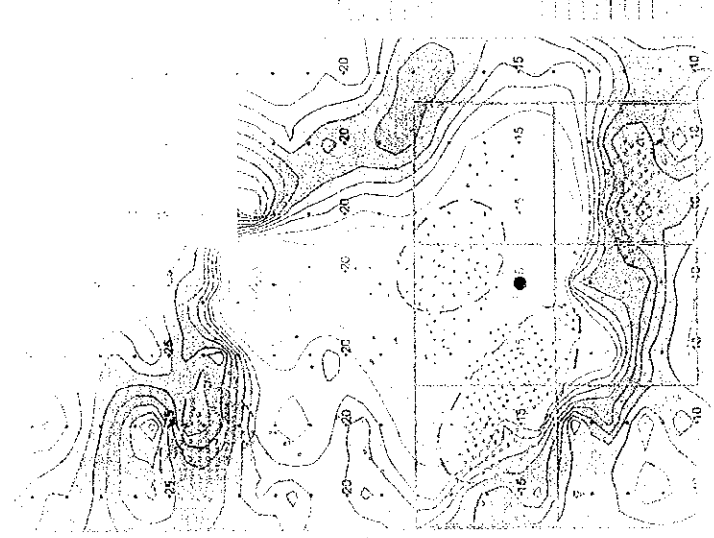


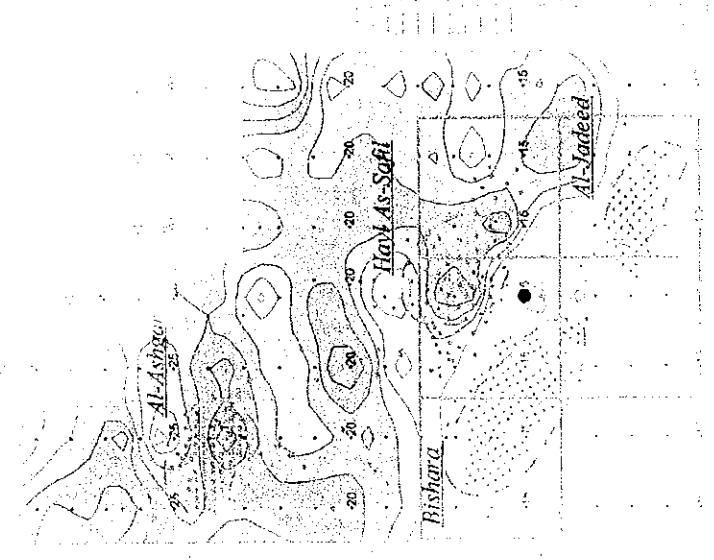
Fig. II-5-243) 1-DIP plane maps in Haylas Saffi area for N 3



Al-Yadeed



Al-Yadeed



Al-Yadeed

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1:50,000

1:50,000



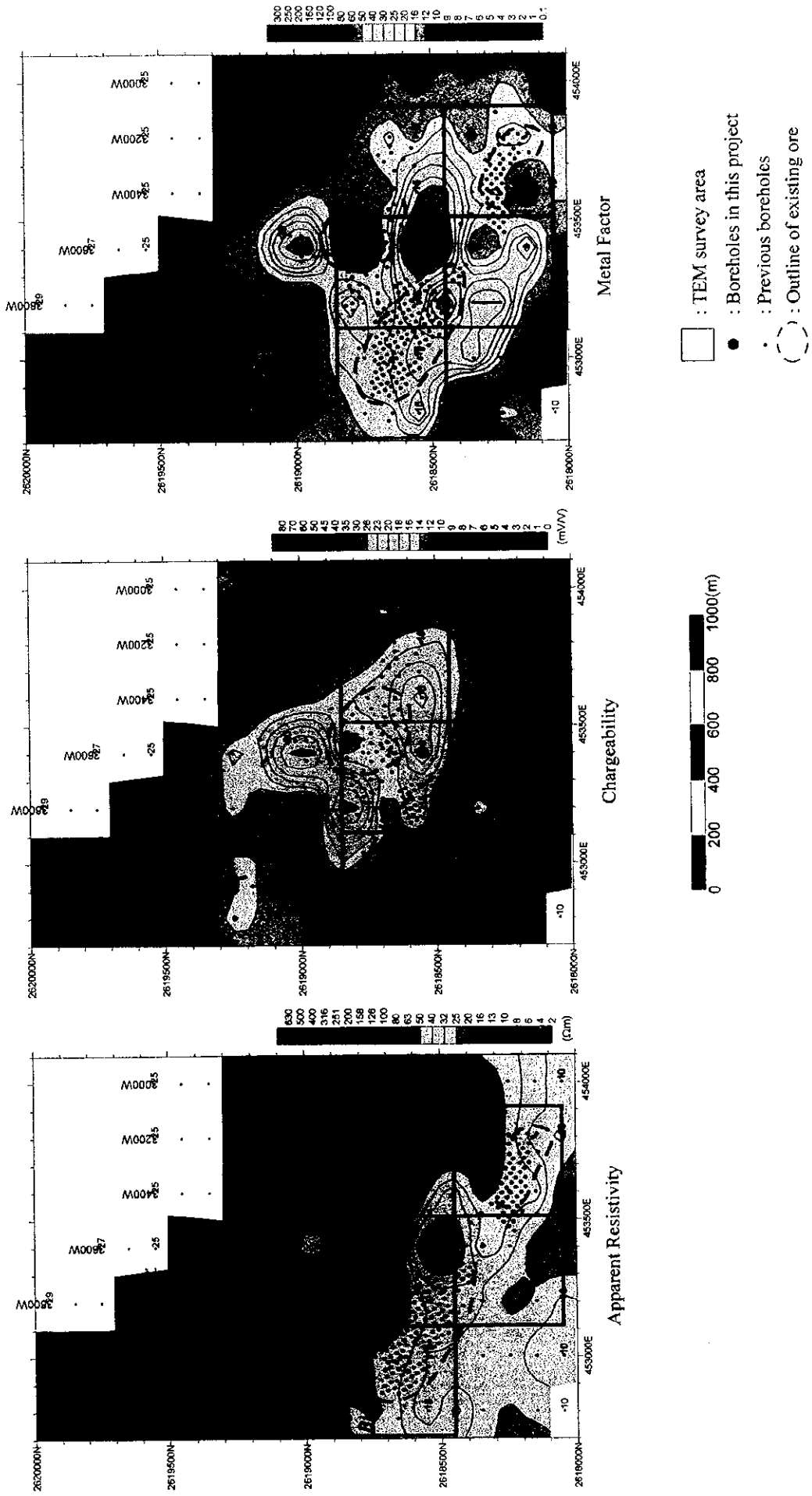


Fig. II -5-24(4) TDIP plane maps in Hayl as Safil area for N=4

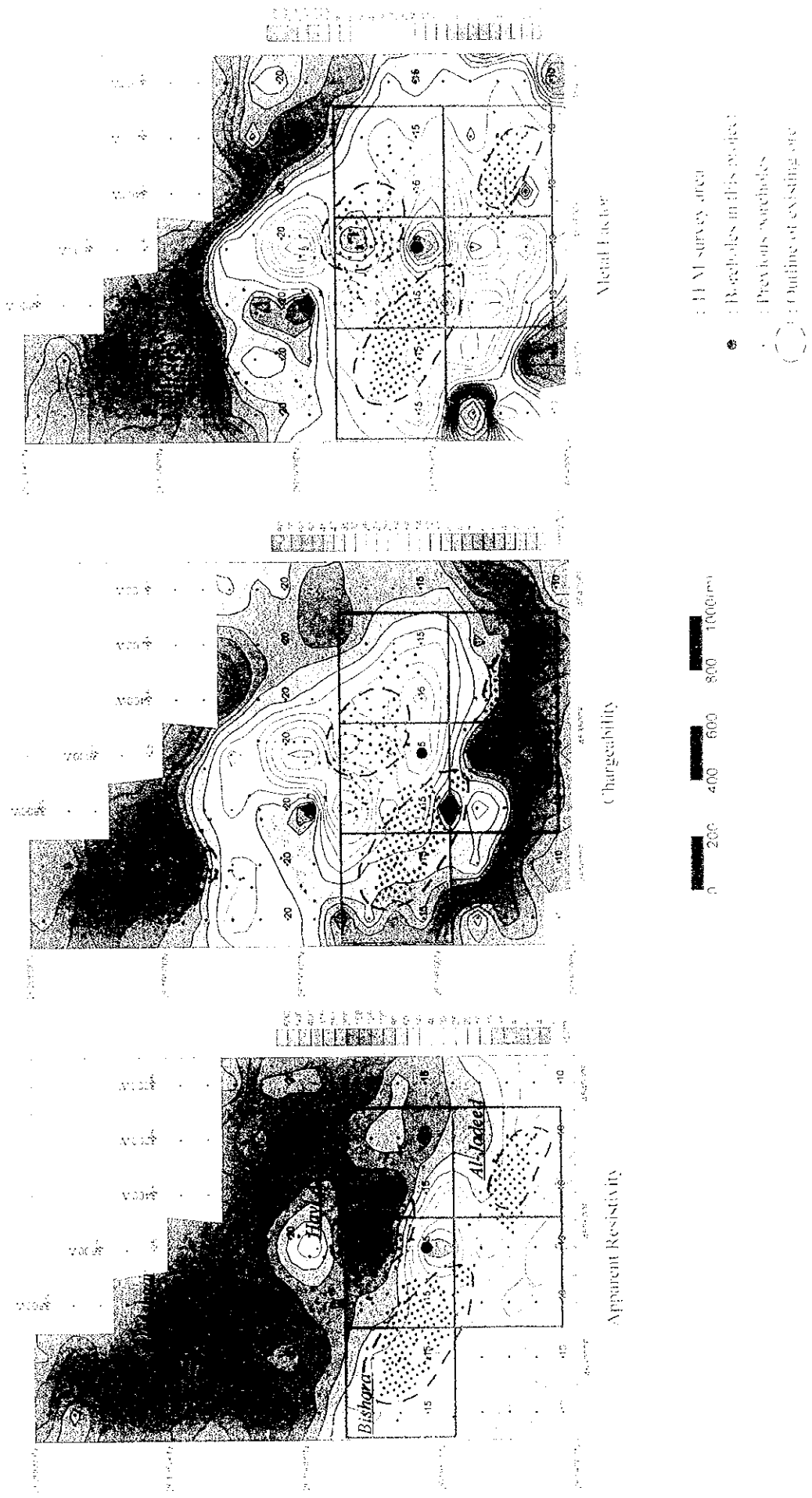
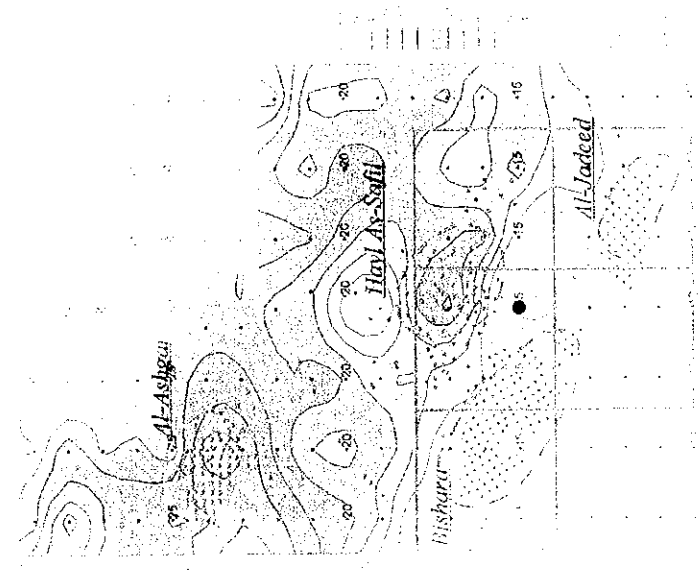
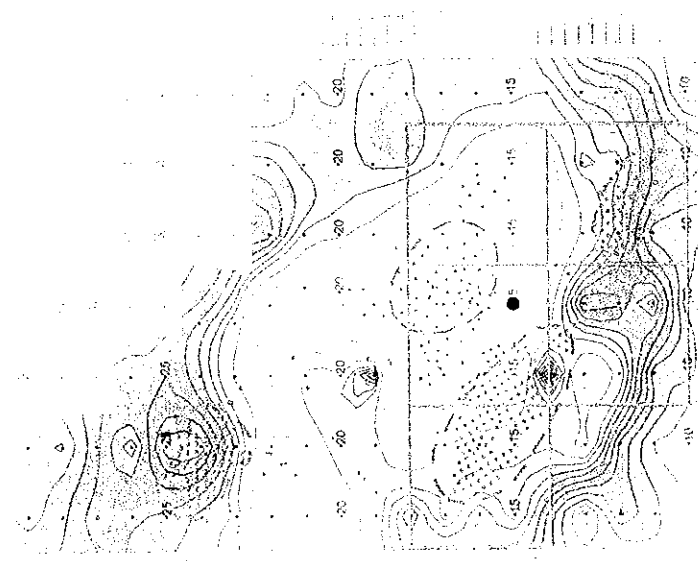


Fig. II-5-2-4(4) 1DIP plane maps in Hayf as Saif area for N 4



Topographic Map of the Upper Section

Topographic Map of the Middle Section

Topographic Map of the Lower Section



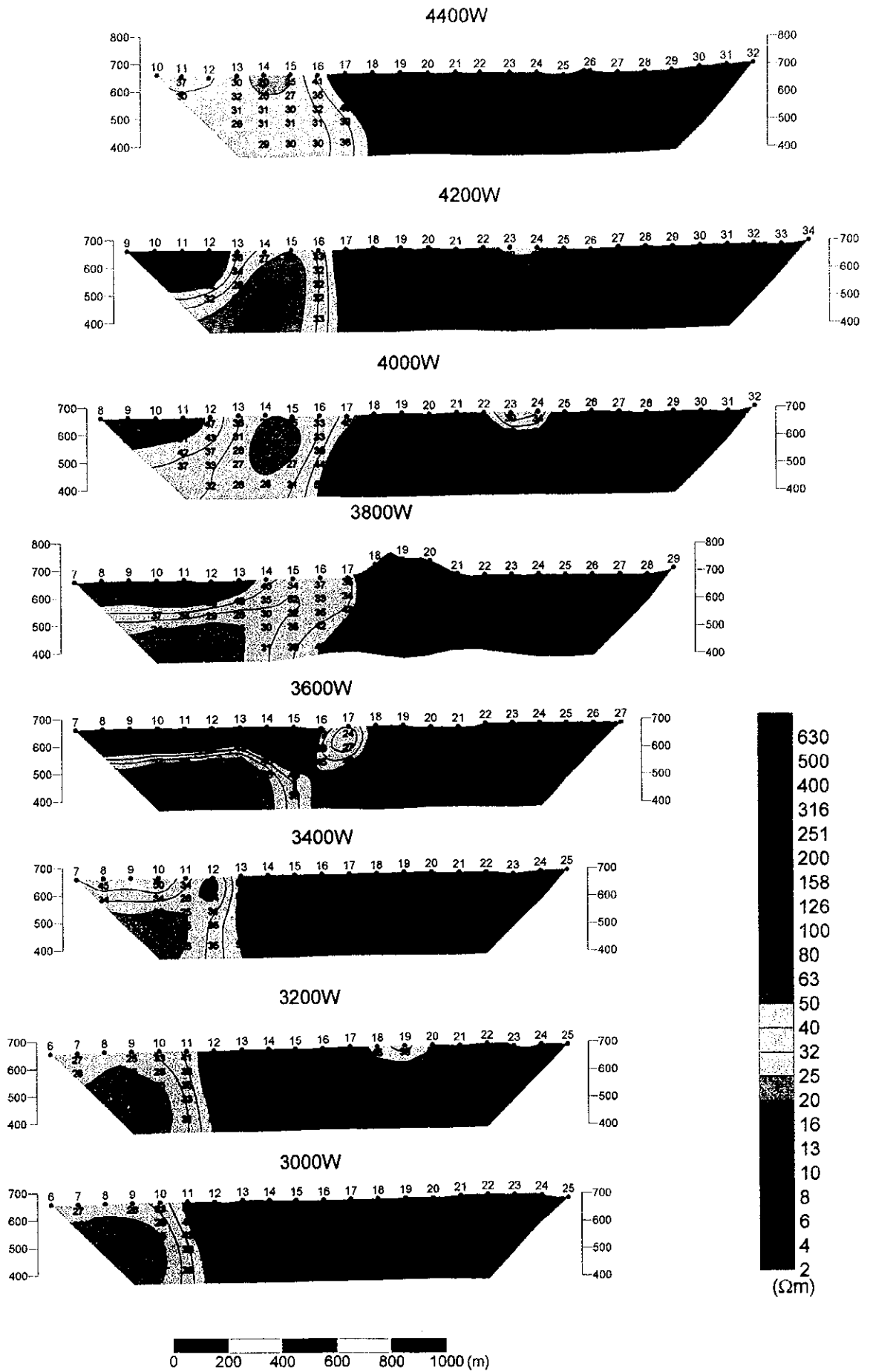


Fig. II-5-25(1) 2D analysis sections for resistivity in Hayl as Safil area

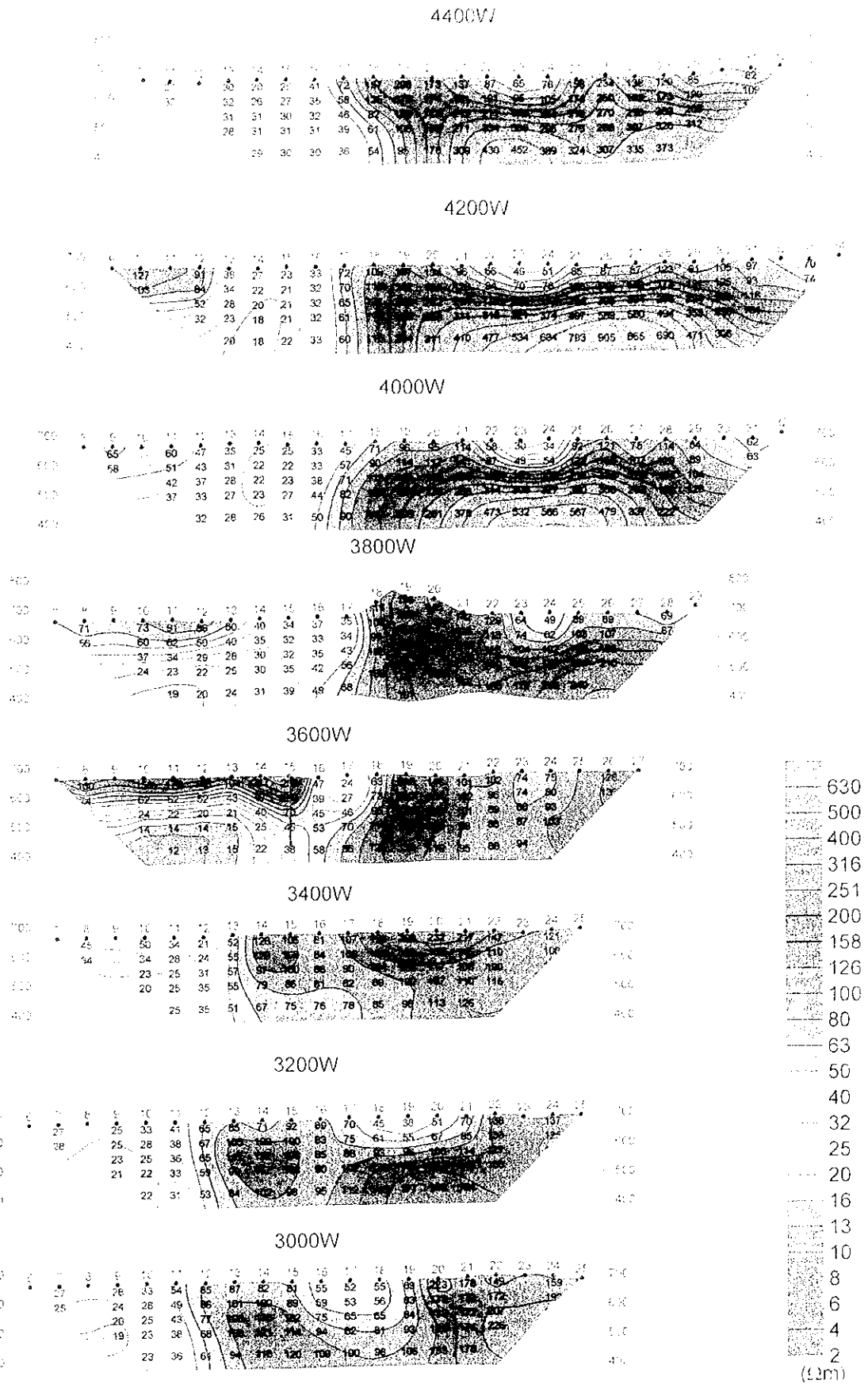


Fig. II-5-25(1) 2D analysis sections for resistivity in Haylas Saffil area



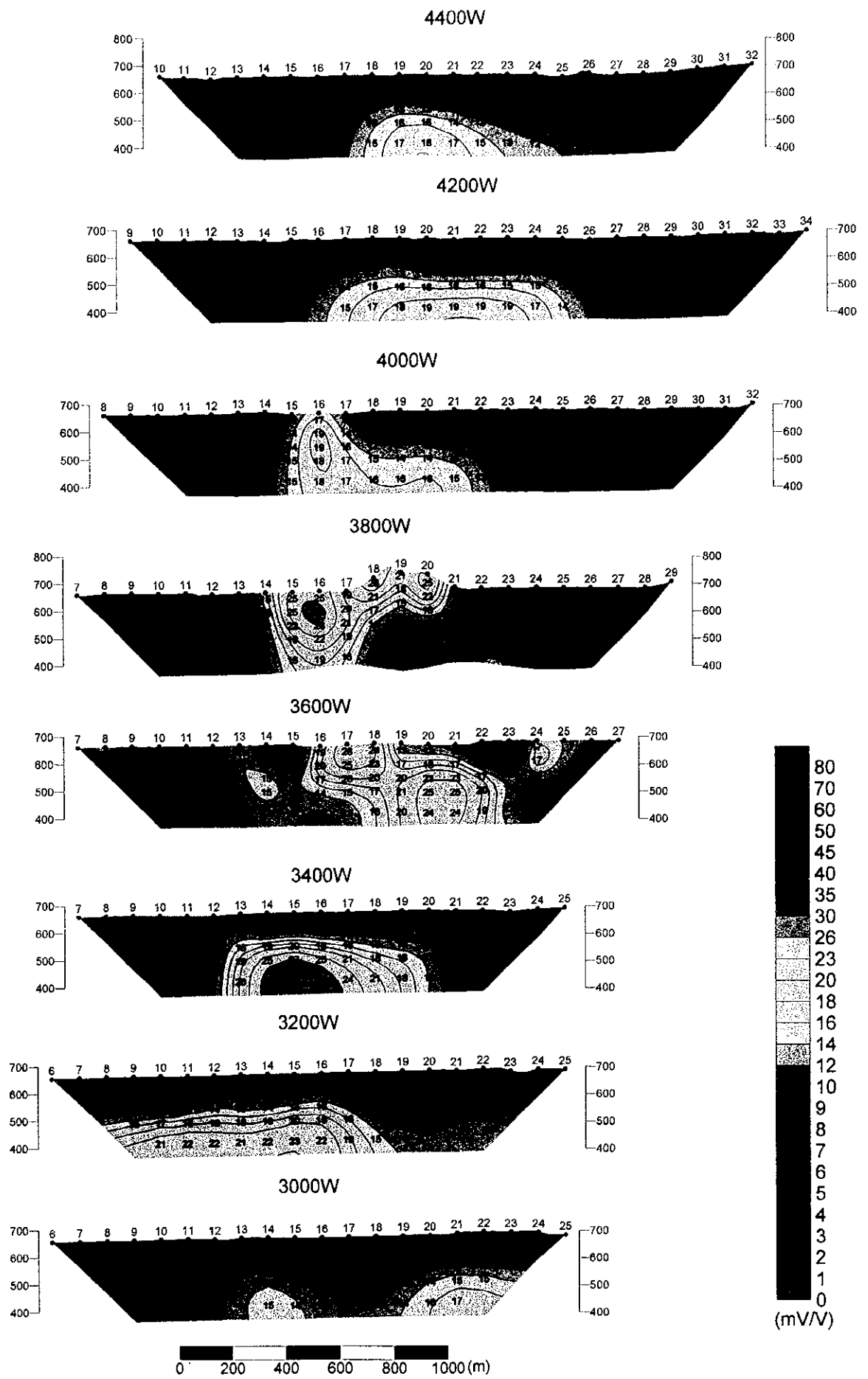


Fig. II -5-25(2) 2D analysis sections for chargeability in Hayl as Safil area

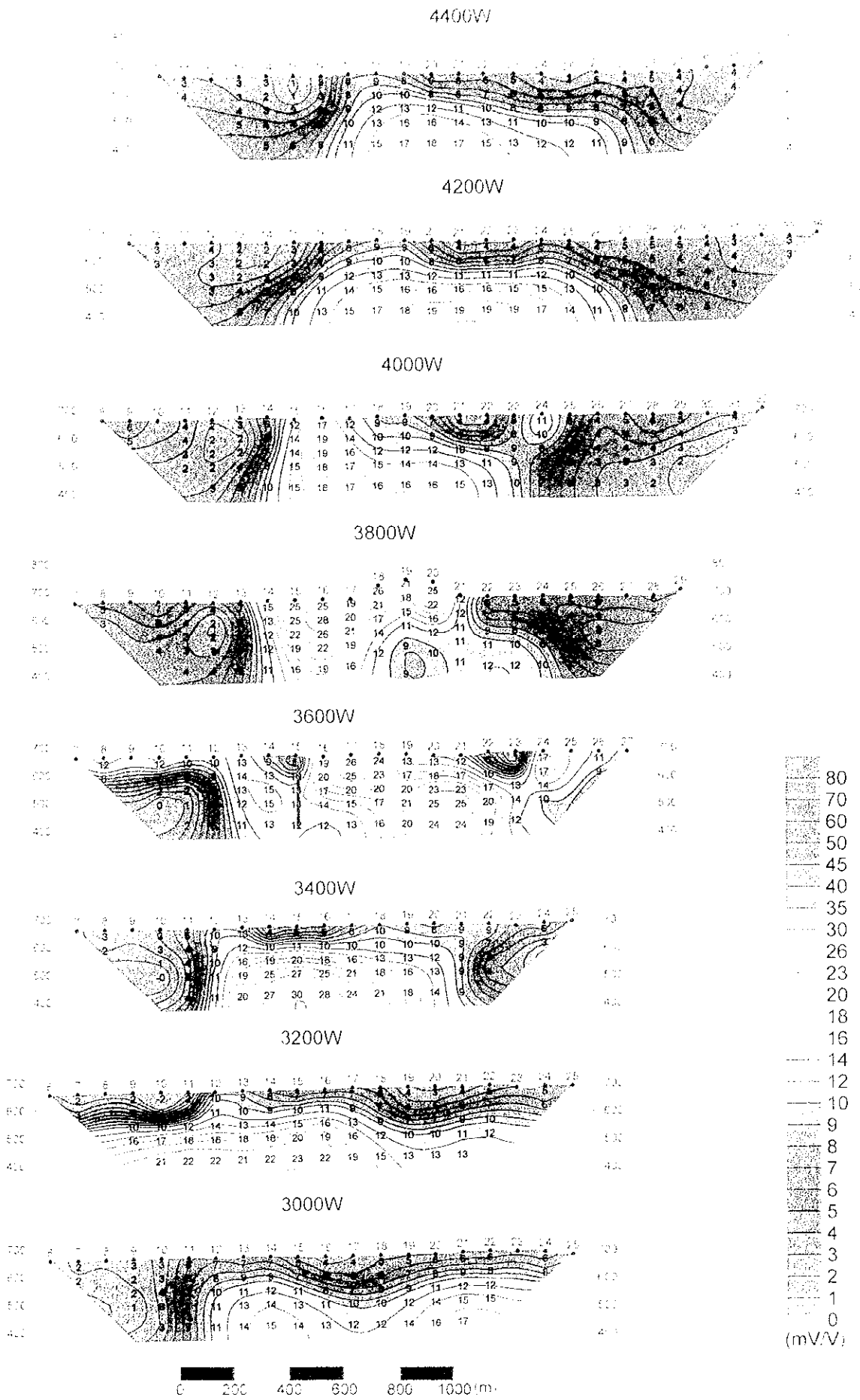
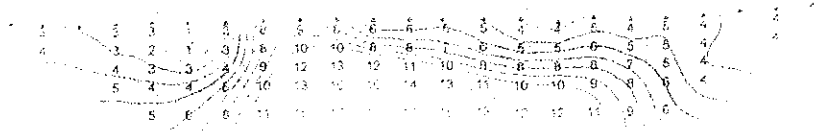


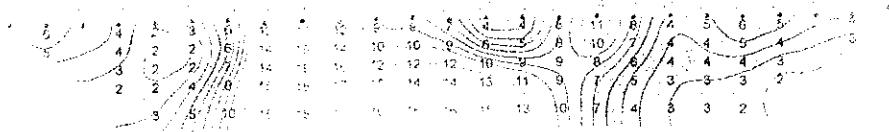
Fig. II-5-25(2) 2D analysis sections for chargeability in Haylas Saffi area



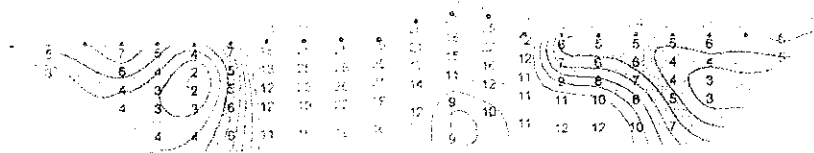
4.500V



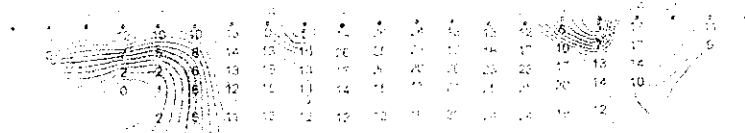
4.400V



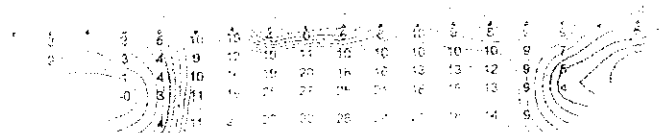
4.300V



4.200V



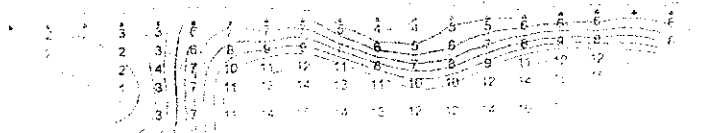
4.100V



4.000V



3.900V



Legend for contour lines: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

- 15
- 14
- 13
- 12
- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

Fig. 4.548. Contour sections of calculated magnetic field in the cross-section



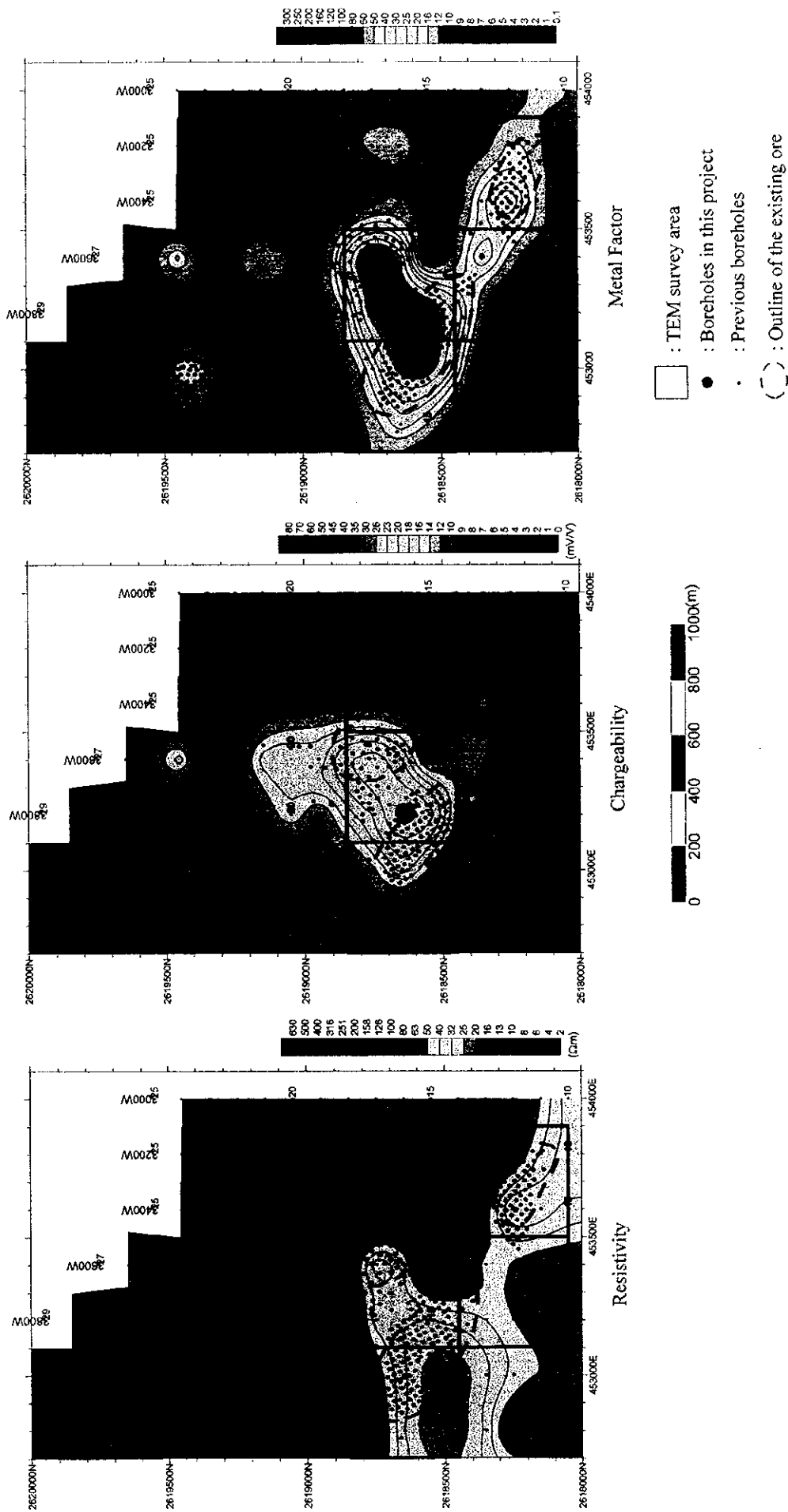


Fig. II -5-26(1) 2D analysis plane maps in Hayl as Safli area at 100m depth

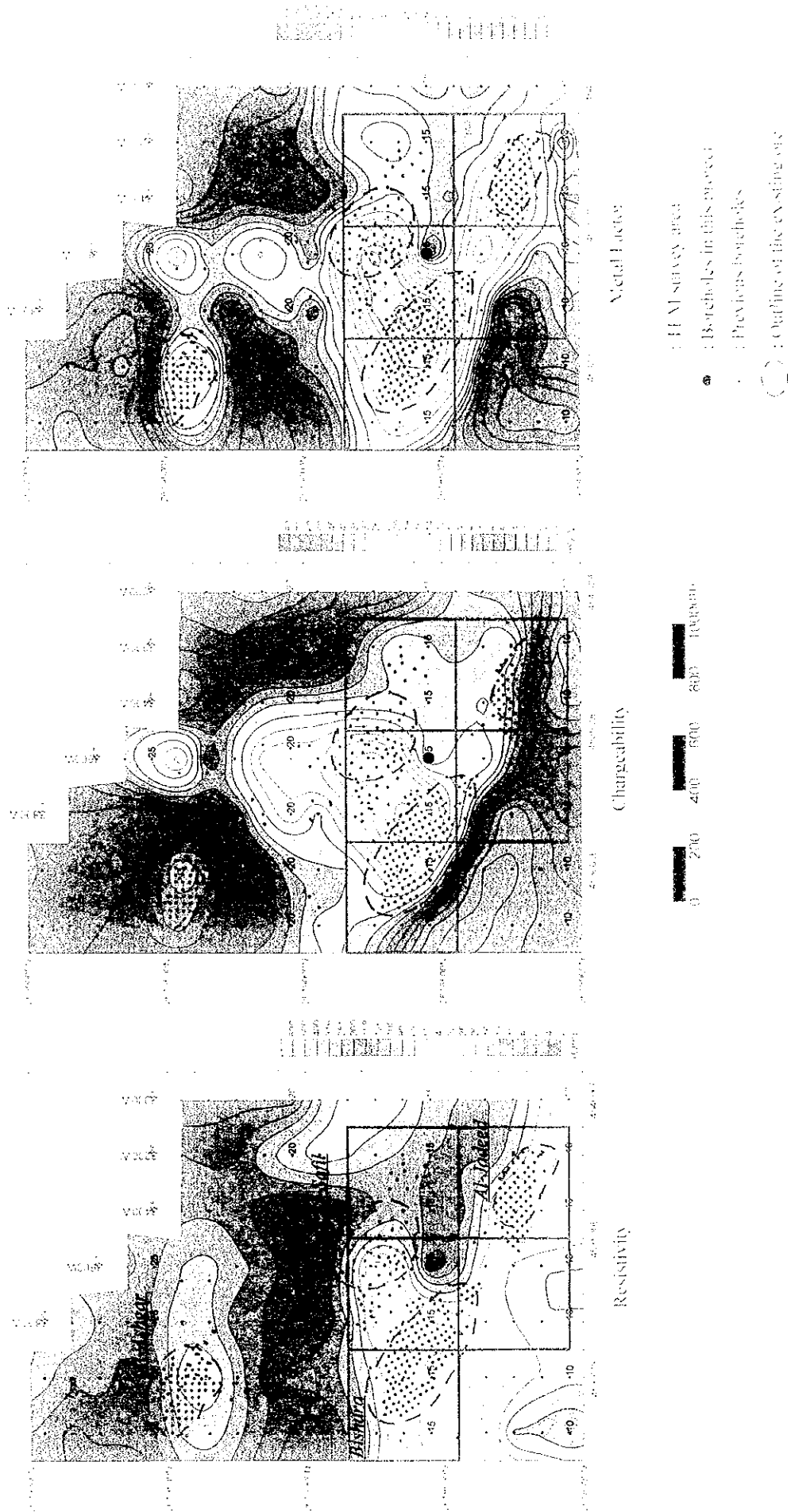


Fig. H-5-26(d) 2D analysis plane maps in Haylas Saff area at 100m depth

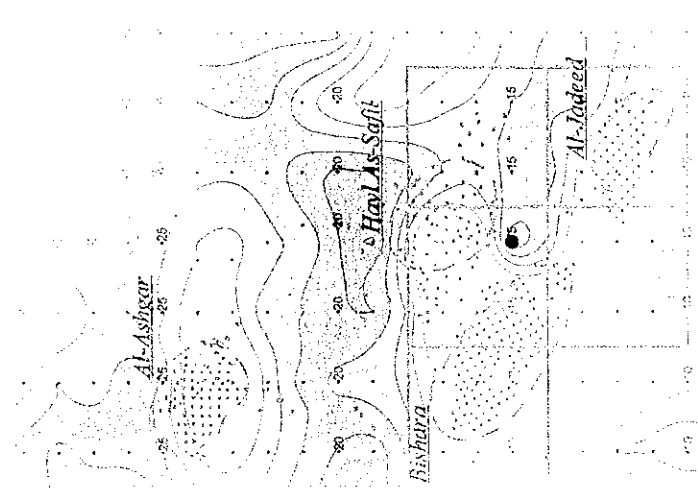
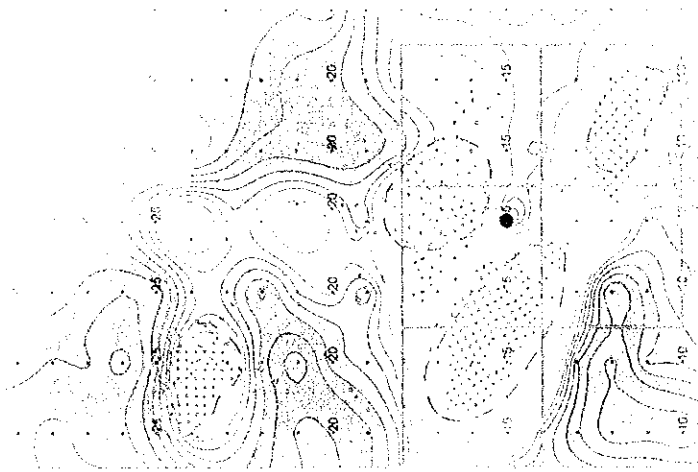


Figure 1

Figure 2

Figure 3

Figure 1 shows the topographic map of the area around the site. The map is a grid with horizontal lines labeled 10, 15, 20, 25, 30 and vertical lines labeled 10, 15, 20, 25. Contour lines are drawn at 5-foot intervals, with labels such as 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100. A prominent contour interval of 5 feet is visible. A small black dot is located at the intersection of grid lines 15 and 20.

Figure 2 shows the topographic map of the area around the site. The map is a grid with horizontal lines labeled 10, 15, 20, 25, 30 and vertical lines labeled 10, 15, 20, 25. Contour lines are drawn at 5-foot intervals, with labels such as 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100. A prominent contour interval of 5 feet is visible. A small black dot is located at the intersection of grid lines 15 and 20.

Figure 3 shows the topographic map of the area around the site. The map is a grid with horizontal lines labeled 10, 15, 20, 25, 30 and vertical lines labeled 10, 15, 20, 25. Contour lines are drawn at 5-foot intervals, with labels such as 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100. A prominent contour interval of 5 feet is visible. A small black dot is located at the intersection of grid lines 15 and 20. Labels 'Al-Ashtar', 'Hishra', 'Haw'As-Safit', and 'Al-Jadeed' are visible on the map.

Figure 1 shows the topographic map of the area around the site. The map is a grid with horizontal lines labeled 10, 15, 20, 25, 30 and vertical lines labeled 10, 15, 20, 25. Contour lines are drawn at 5-foot intervals, with labels such as 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100. A prominent contour interval of 5 feet is visible. A small black dot is located at the intersection of grid lines 15 and 20.





Fig. II-5-26(2) 2D analysis plane maps in Hayl as Safil area at 150m depth

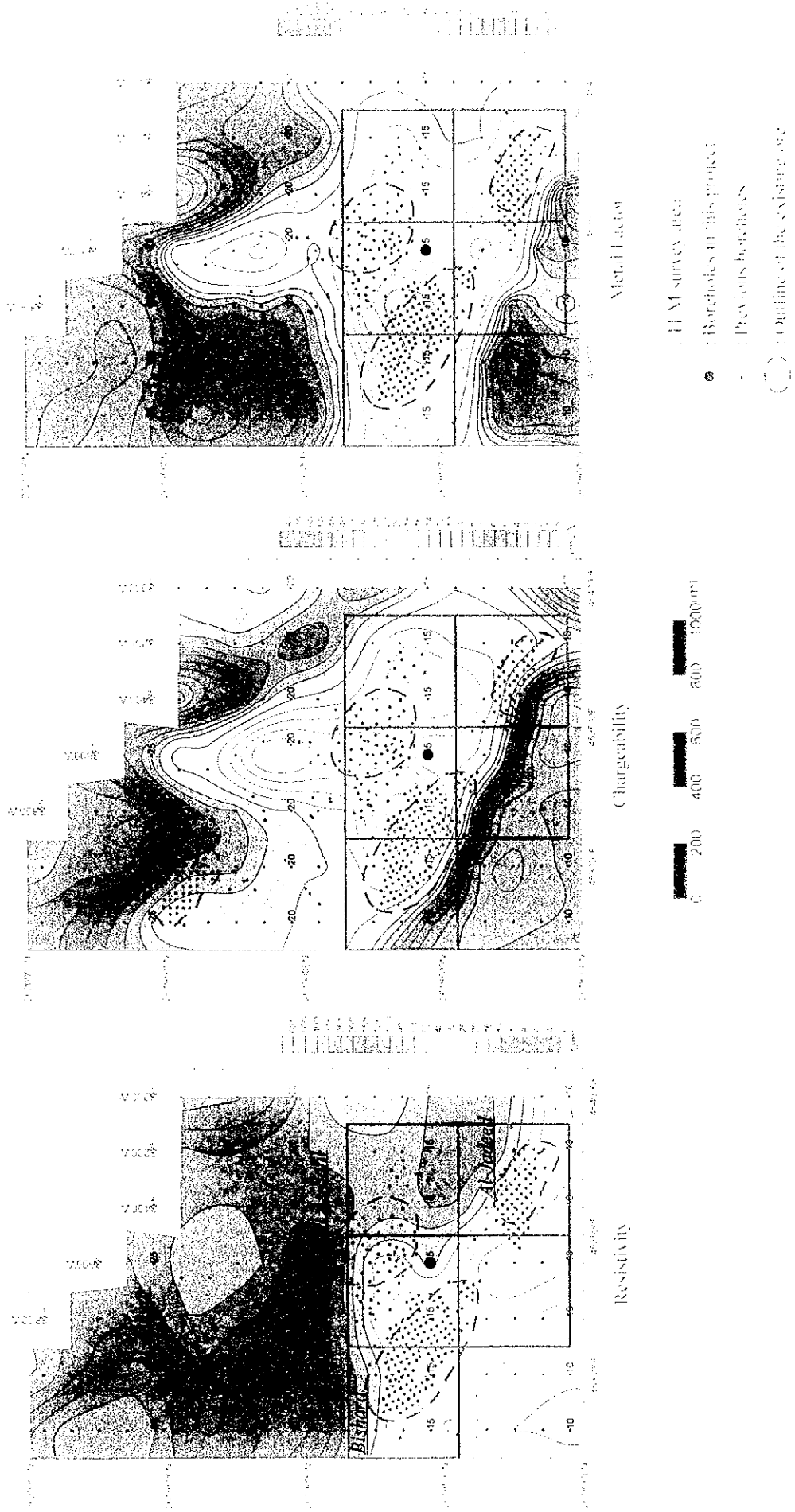
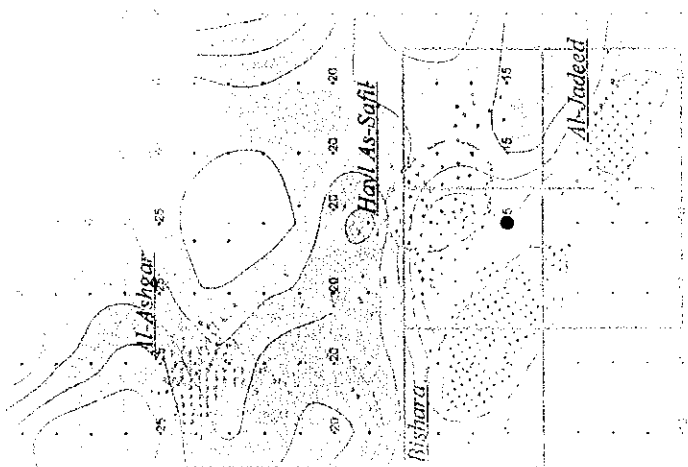
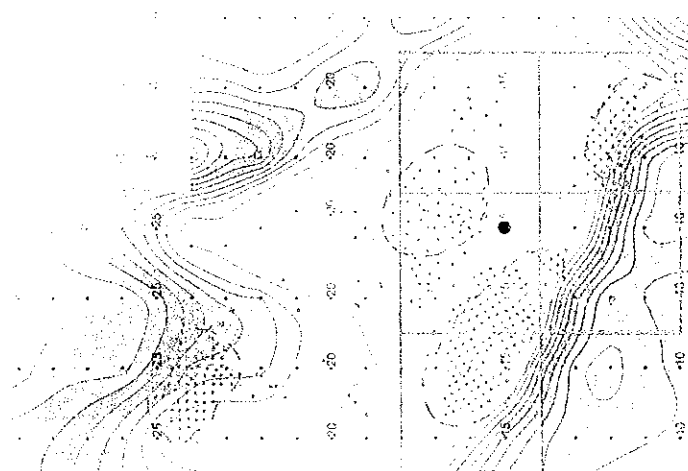


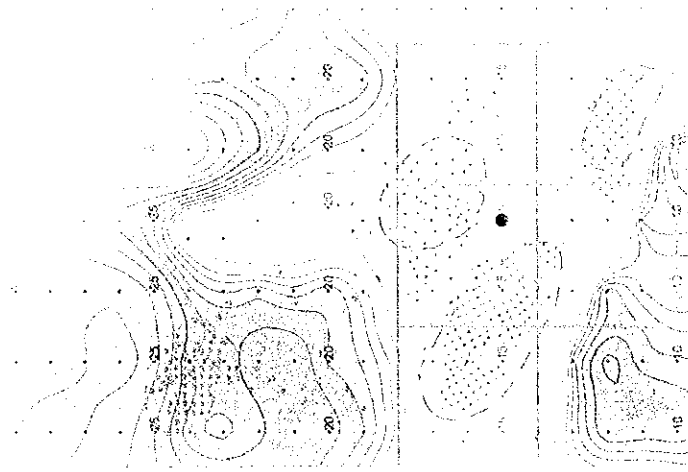
Fig. H.S. 26(2) - 2D analysis plane maps in Hay Las Saffi area at 150m depth



Map 10000



Map 10000



Map 10000

Scale 1:50,000



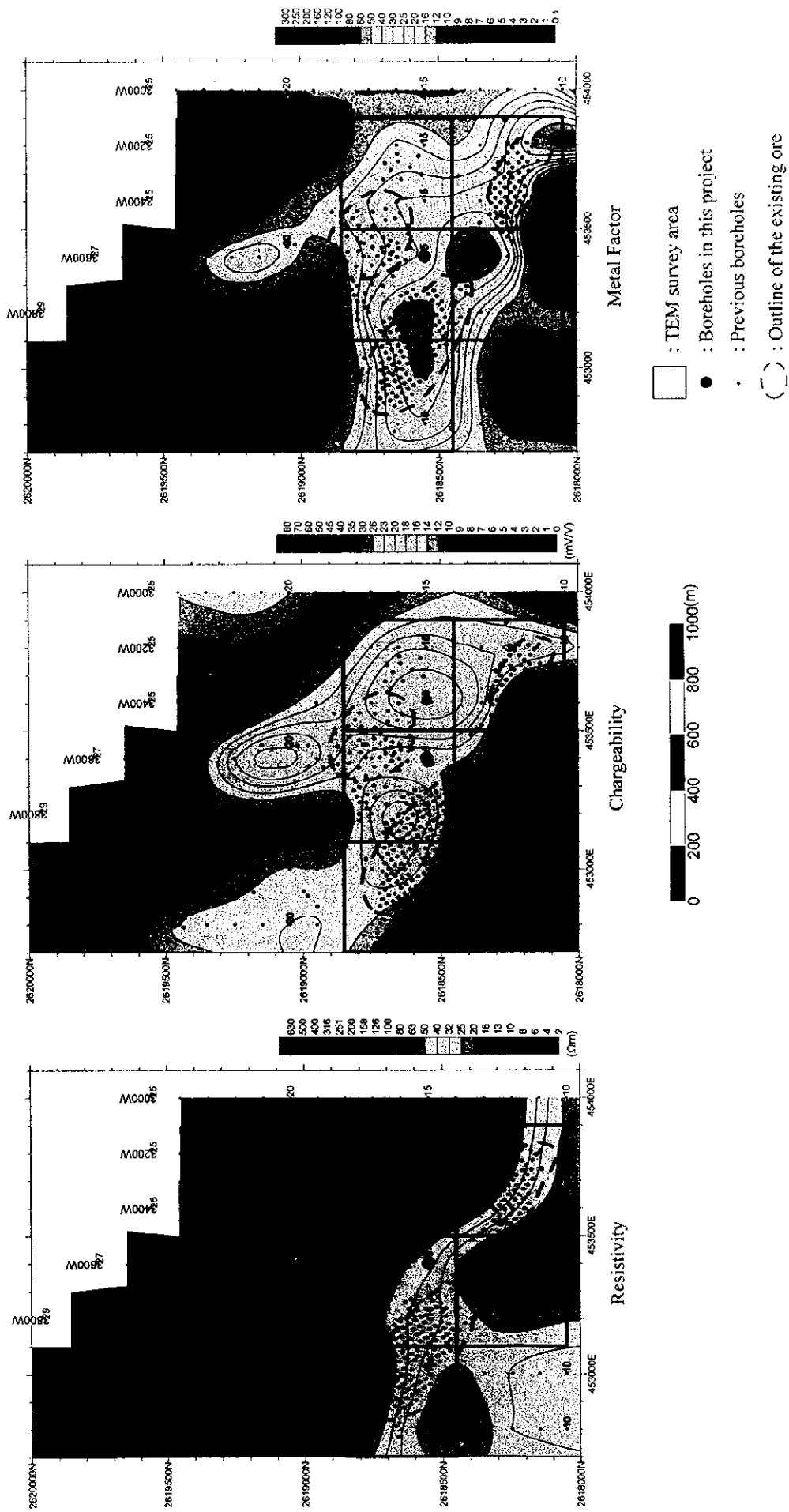


Fig. II-5-26(3) 2D analysis plane maps in Hayl as Safil area at 200m depth

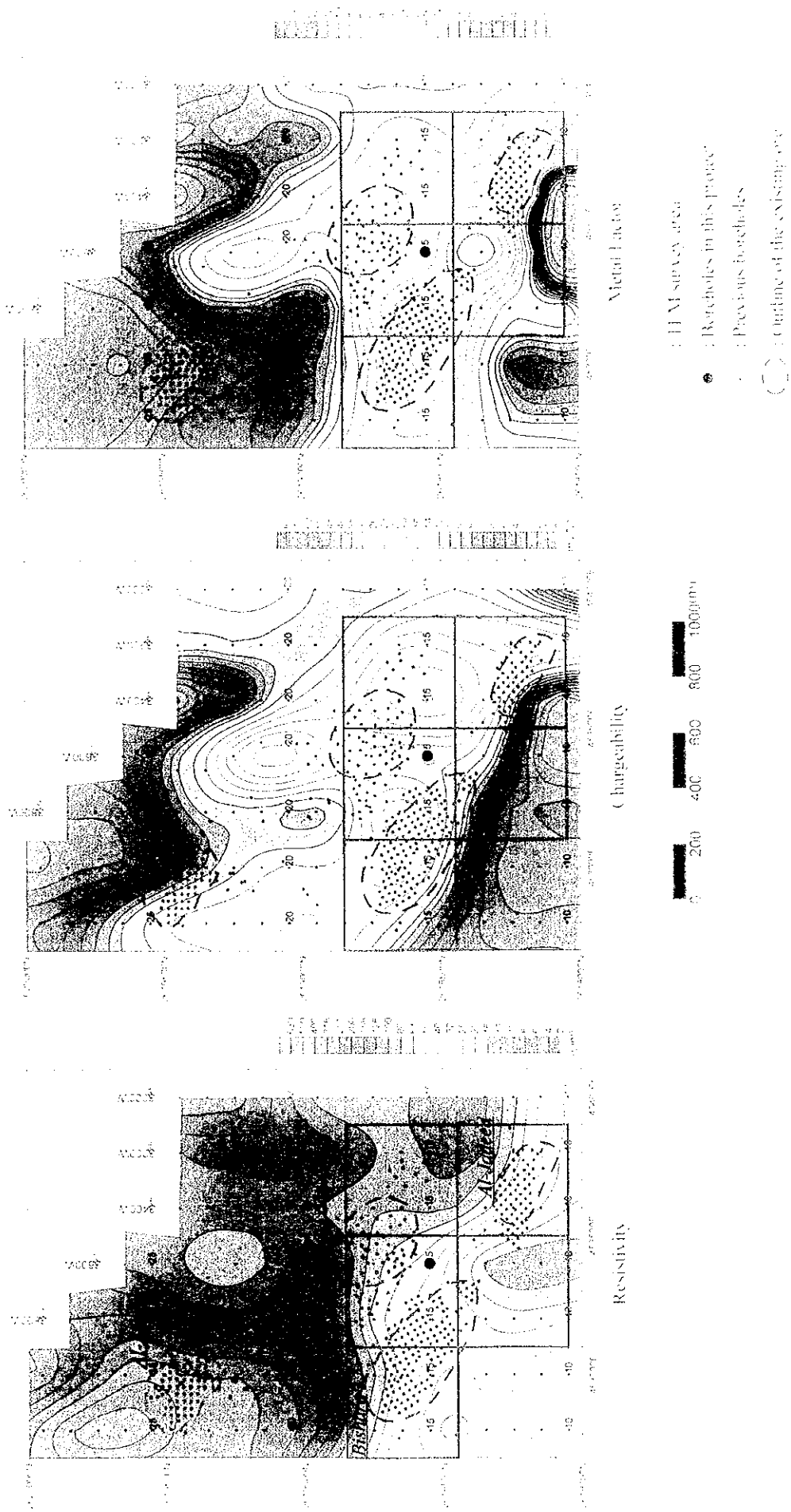
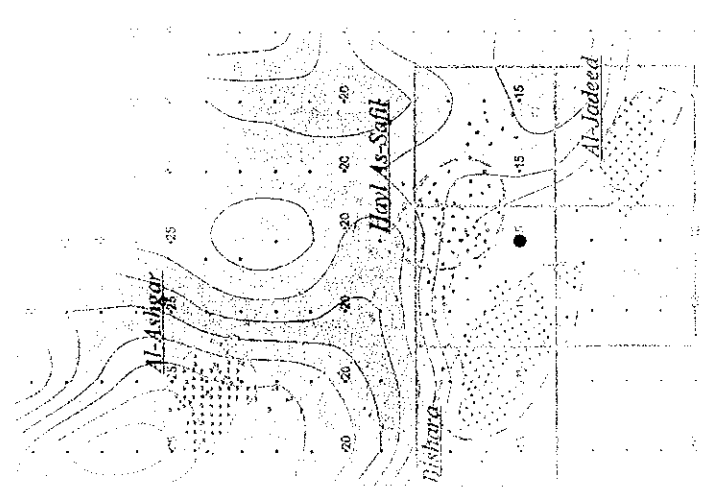
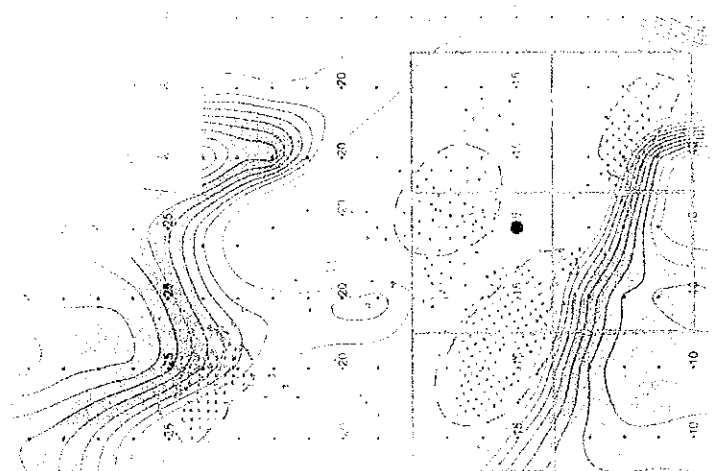
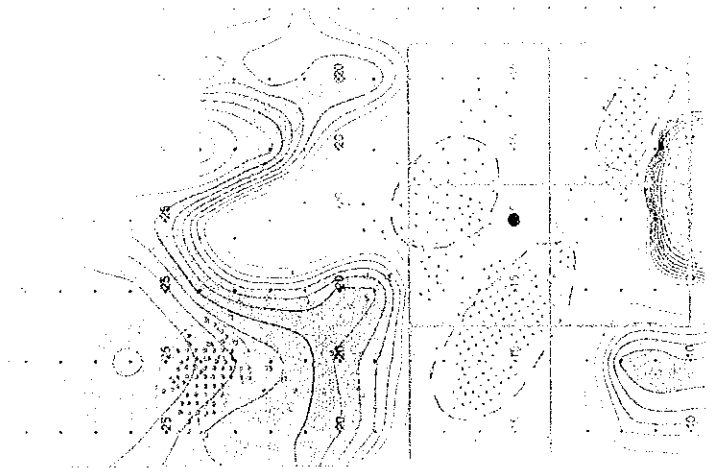


Fig. H-5-26(3) 2D analysis plane maps in Hayl as Saff area at 200m depth



1:50,000

1:50,000

1:50,000

1:50,000

1:50,000

1:50,000

