

Fig. II-2-10 IP plane map of n=3 in Ghuzayn area(East)

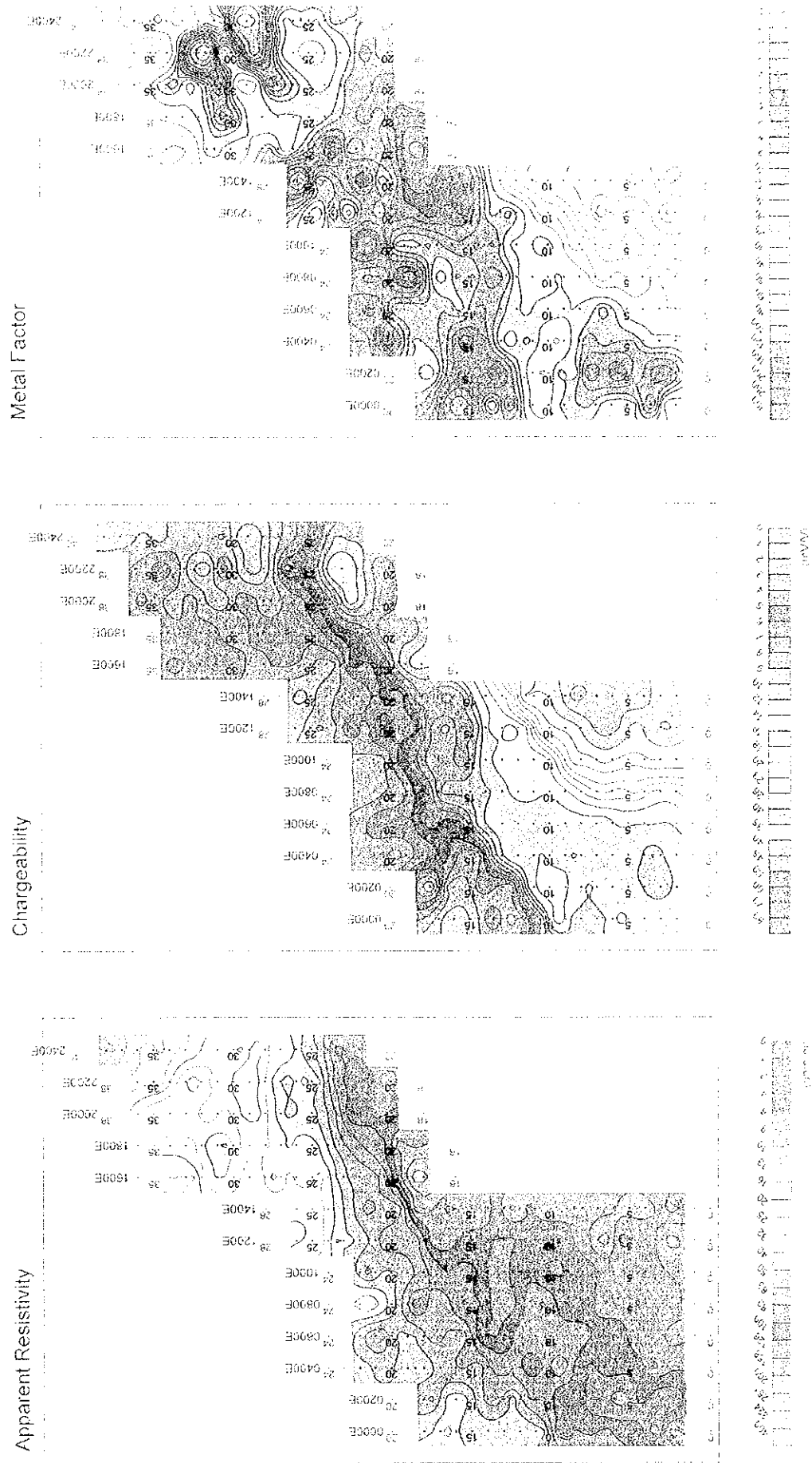


Fig. D-2-10 IP plane map of n=3 in Ghuzayn area(East)

Figure 10

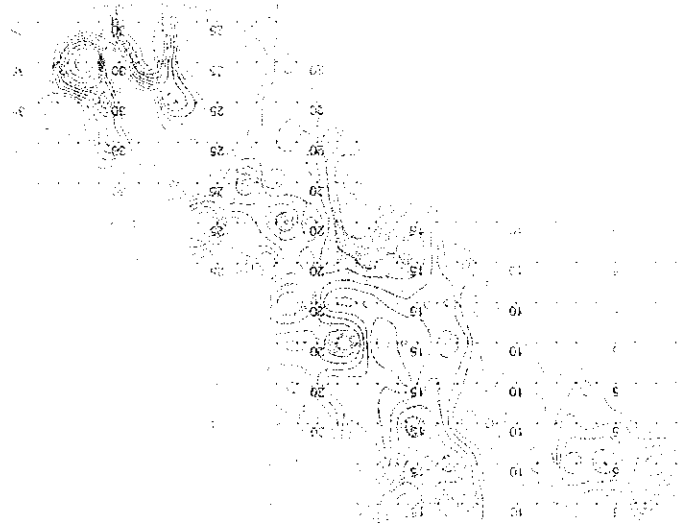


Figure 11

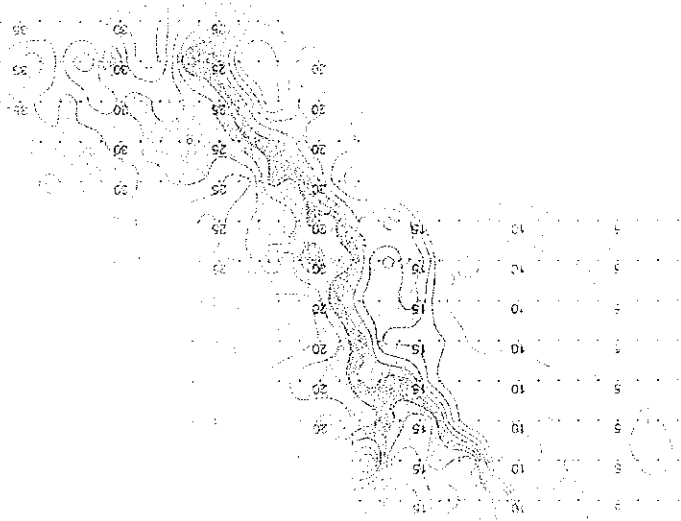
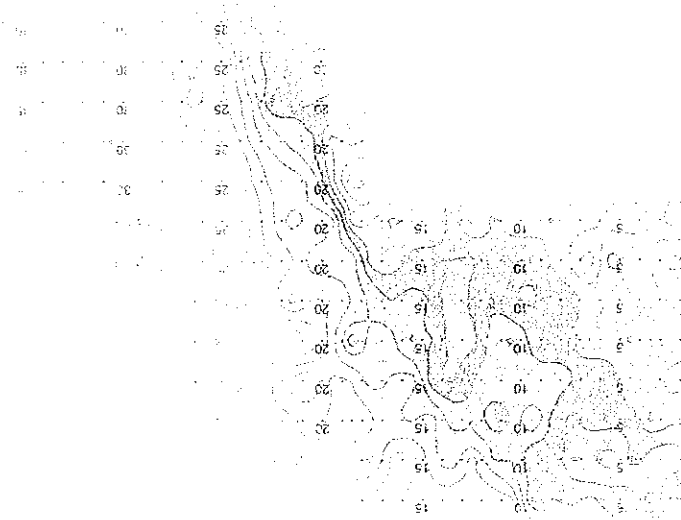
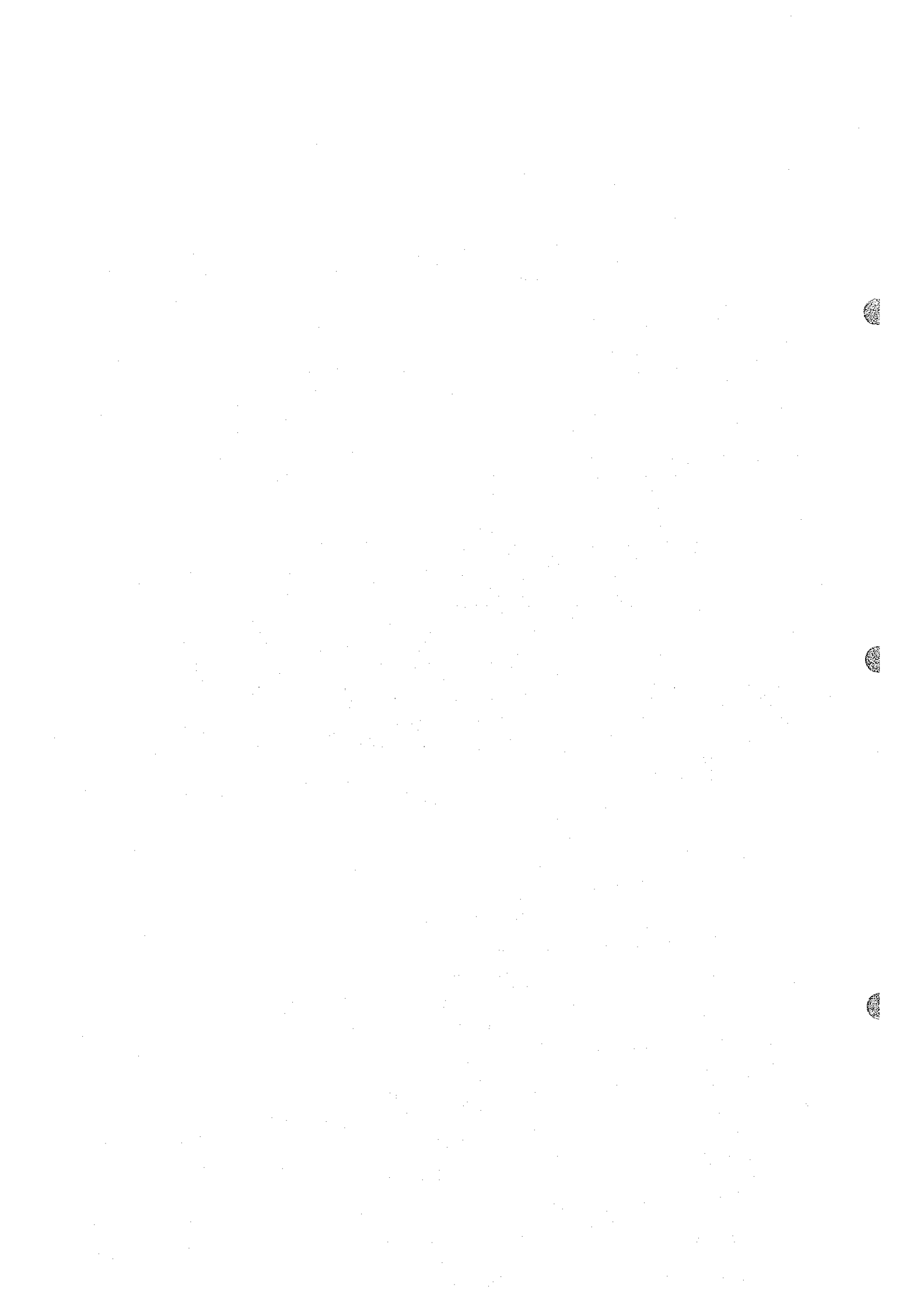


Figure 12





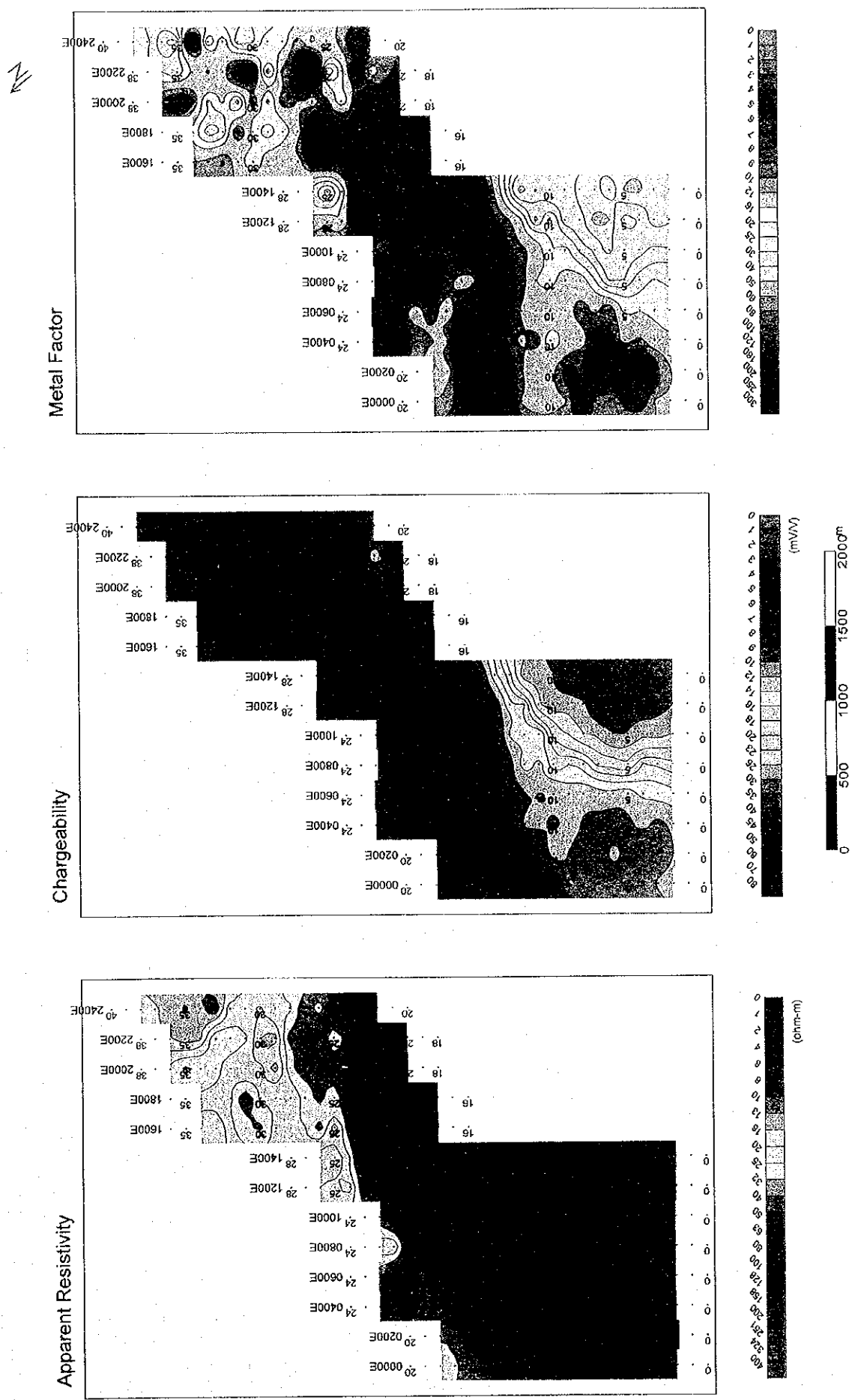


Fig. II -2-11 IP plane map of n=4 in Ghuzayn area(East)

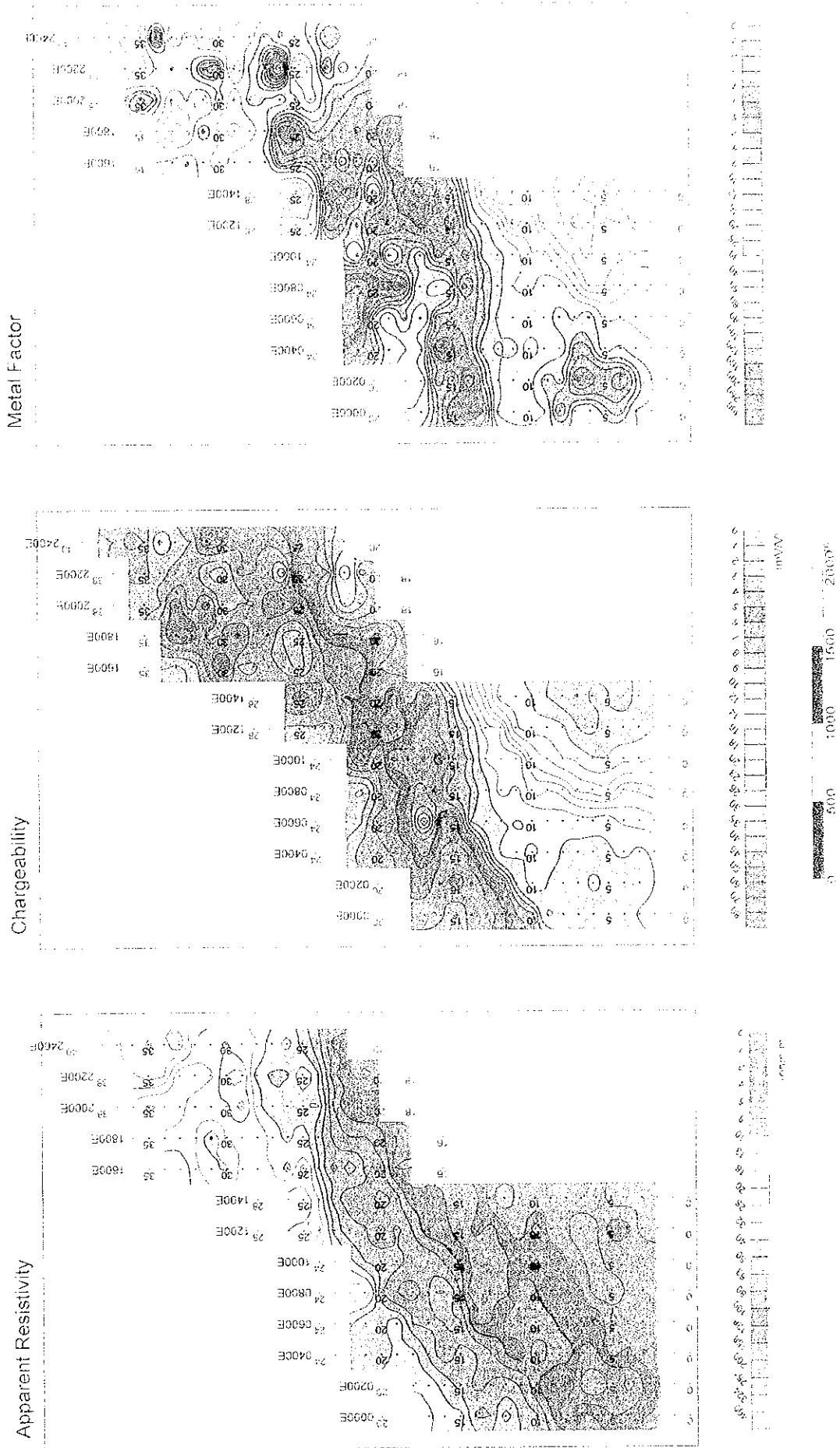


Fig. II -2-11 IP plane map of n-4 in Giluzayn area (East)

Figure 10

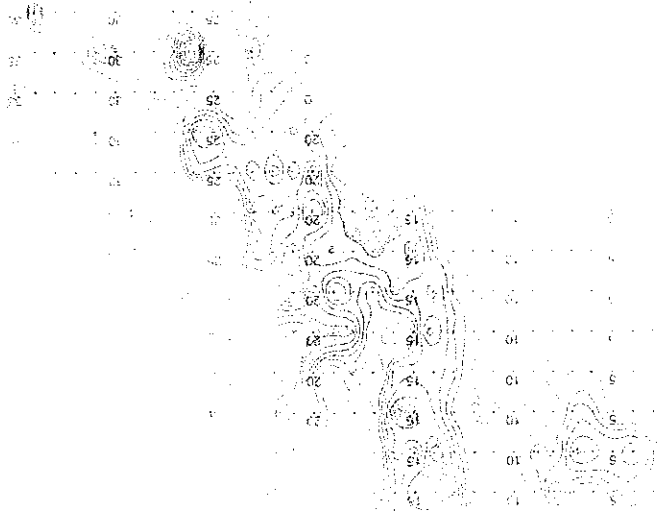


Figure 11

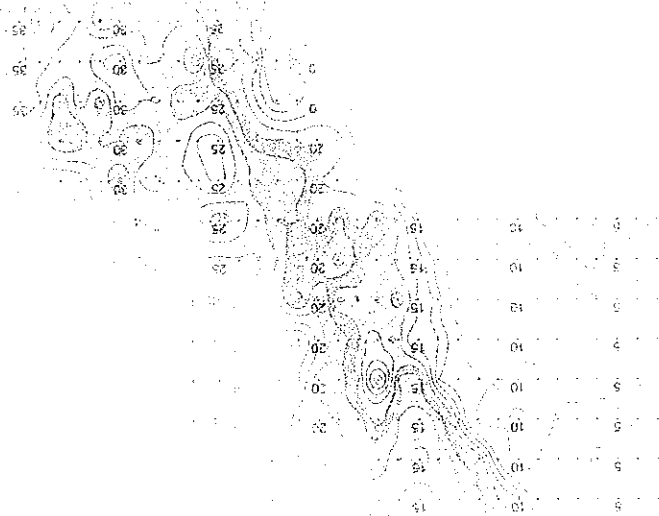
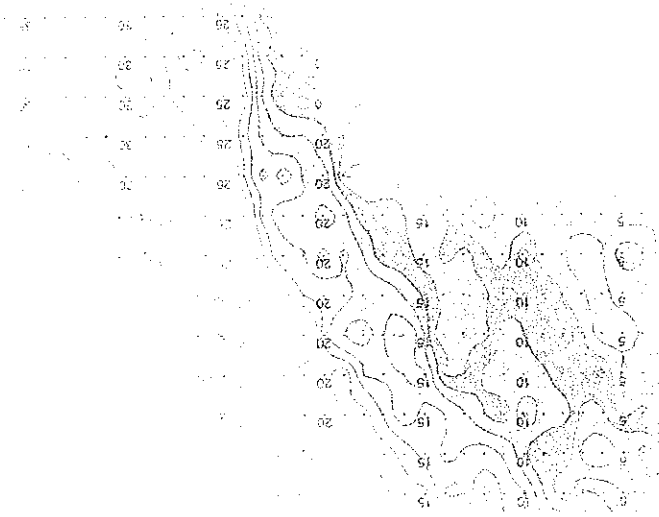


Figure 12







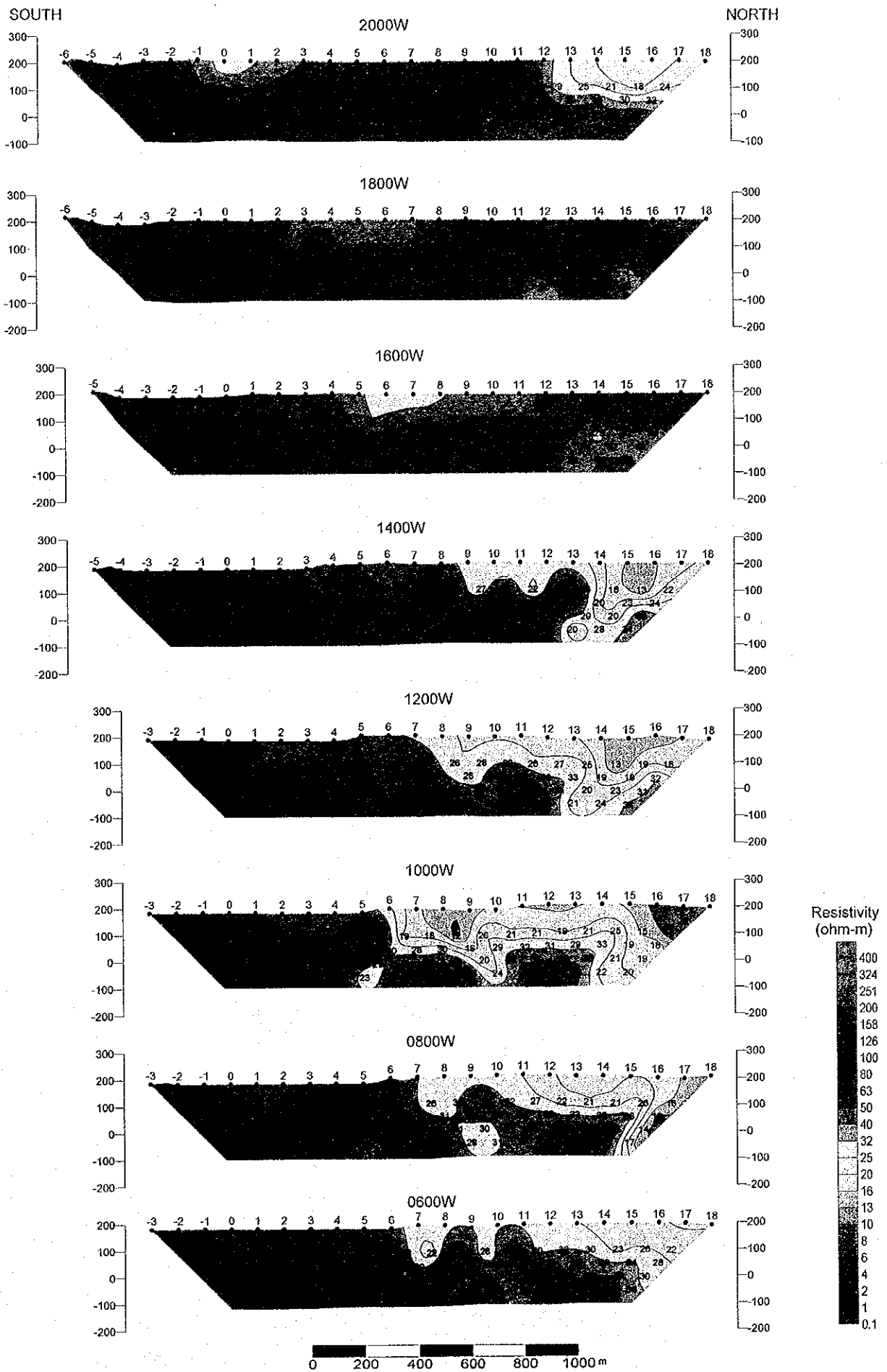


Fig. II-2-12 Apparent resistivity pseudo-sections in Ghuzayn area(West)

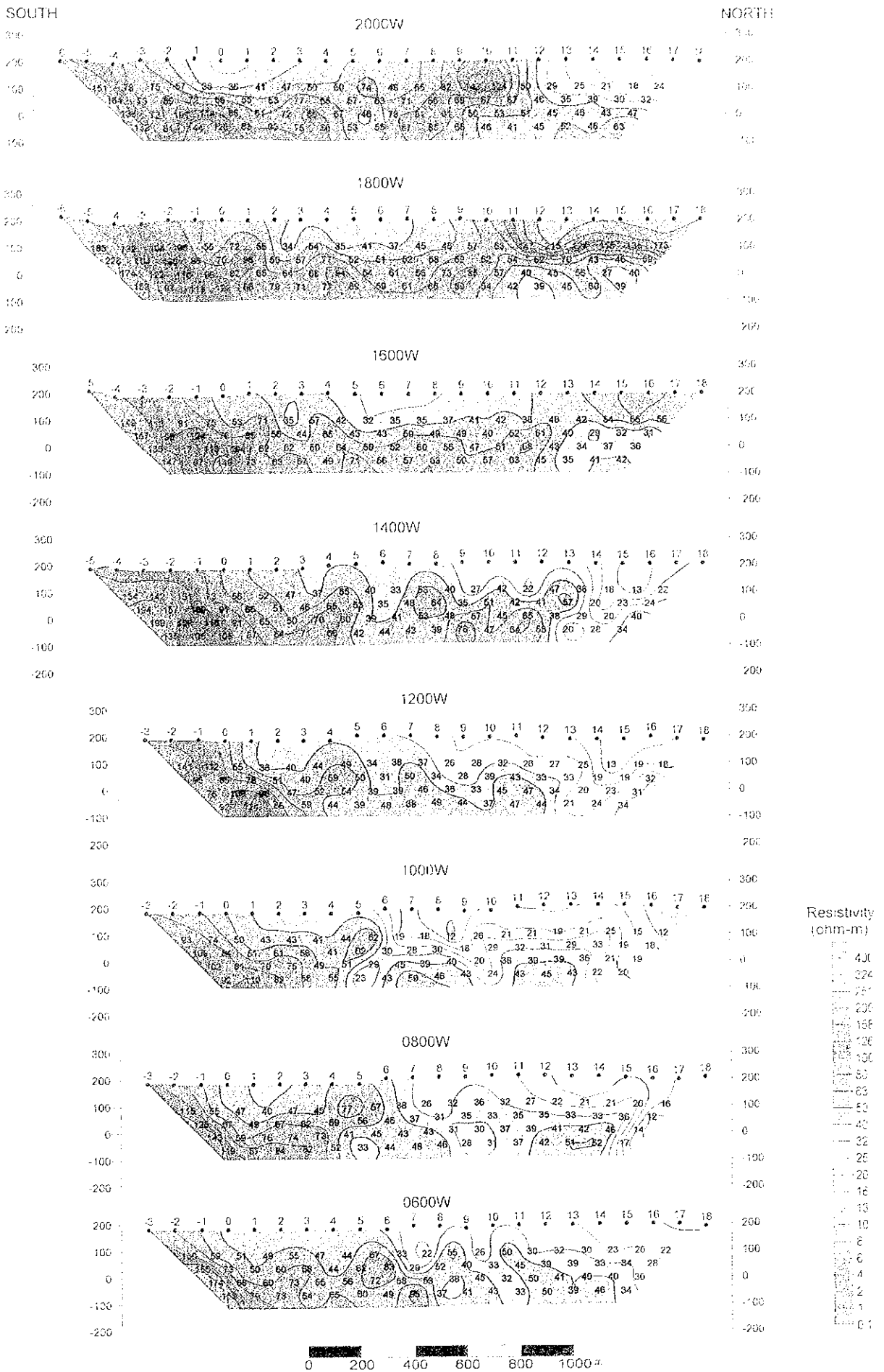


Fig II-2-12 Apparent resistivity pseudo-sections in Ghuzayn area(West)

121 76 75 57 36 36 41 47 50 50 74 46 68 82 43 124 50 21 01  
 122 73 85 72 65 28 53 77 65 57 65 71 68 60 67 67 48 56 39 31  
 123 75 100 115 66 61 72 59 61 46 78 61 61 60 65 51 45 46 43 47  
 133 61 74 125 82 60 75 55 55 55 67 63 65 46 41 40 50 46 61

132 102 88 68 55 72 58 34 44 35 41 37 45 45 57 63 147 215 322 175 134  
 125 104 150 85 70 96 60 57 77 52 51 52 65 68 62 64 62 70 43 46 30  
 134 122 110 66 92 65 64 62 54 54 61 55 71 54 51 40 45 56 37 40  
 153 61 41 122 55 75 71 77 89 59 61 66 59 36 42 39 45 60 39

147 118 61 74 59 71 85 67 42 36 35 35 37 41 42 38 40 42 54 68 58  
 137 59 124 76 85 56 44 65 43 43 50 46 49 40 42 61 40 79 32 30  
 133 137 118 114 69 62 60 64 50 52 60 50 47 61 68 43 34 37 36  
 47 57 147 70 60 67 49 71 56 57 63 59 67 63 65 35 41 42

154 136 181 72 56 52 47 37 55 40 33 53 40 27 42 31 47 36 31 13 11  
 184 157 106 61 65 51 46 65 53 35 48 64 35 61 42 41 57 36 71 14  
 199 136 115 61 65 50 70 80 39 41 53 48 57 45 65 36 26 31 45  
 155 108 105 67 64 71 66 22 44 43 39 75 47 64 65 31 11 34

147 112 55 35 40 44 49 34 35 37 26 26 32 26 27 21 19 14 11  
 96 80 75 51 40 59 50 31 50 34 26 39 43 38 32 50 76 11  
 26 105 88 47 52 54 39 39 46 35 33 46 47 34 71 31 31  
 57 24 55 59 44 38 46 38 49 44 37 47 46 17 14 36

98 74 50 43 48 41 46 62 74 31 12 24 21 21 18 17 21 21 21  
 109 84 61 61 88 41 60 37 25 39 16 21 20 31 29 21 21 21  
 403 65 70 70 48 51 26 48 30 40 11 36 36 35 55 21 21  
 62 115 85 55 91 25 43 56 46 42 28 43 46 43 31

116 55 47 40 47 45 77 57 38 71 32 36 31 37 27 21 21 21 9  
 126 61 49 67 62 59 55 46 37 31 25 33 35 36 33 32 21 17  
 43 55 76 74 73 41 45 43 42 37 30 37 39 41 42 46 14  
 119 87 84 60 27 33 44 48 46 28 31 27 42 51 12 17

154 58 51 48 56 47 44 67 35 37 55 26 50 31 32 31 25 25 21  
 136 73 50 60 68 44 62 83 29 52 40 33 45 39 39 30 34 17  
 176 69 60 73 56 66 72 66 63 38 45 32 50 41 49 46 11  
 161 78 73 54 65 60 49 55 37 41 40 25 50 36 48 34

\*\*\*\*\*  
 \*\*\*\*\*  
 \*\*\*\*\*



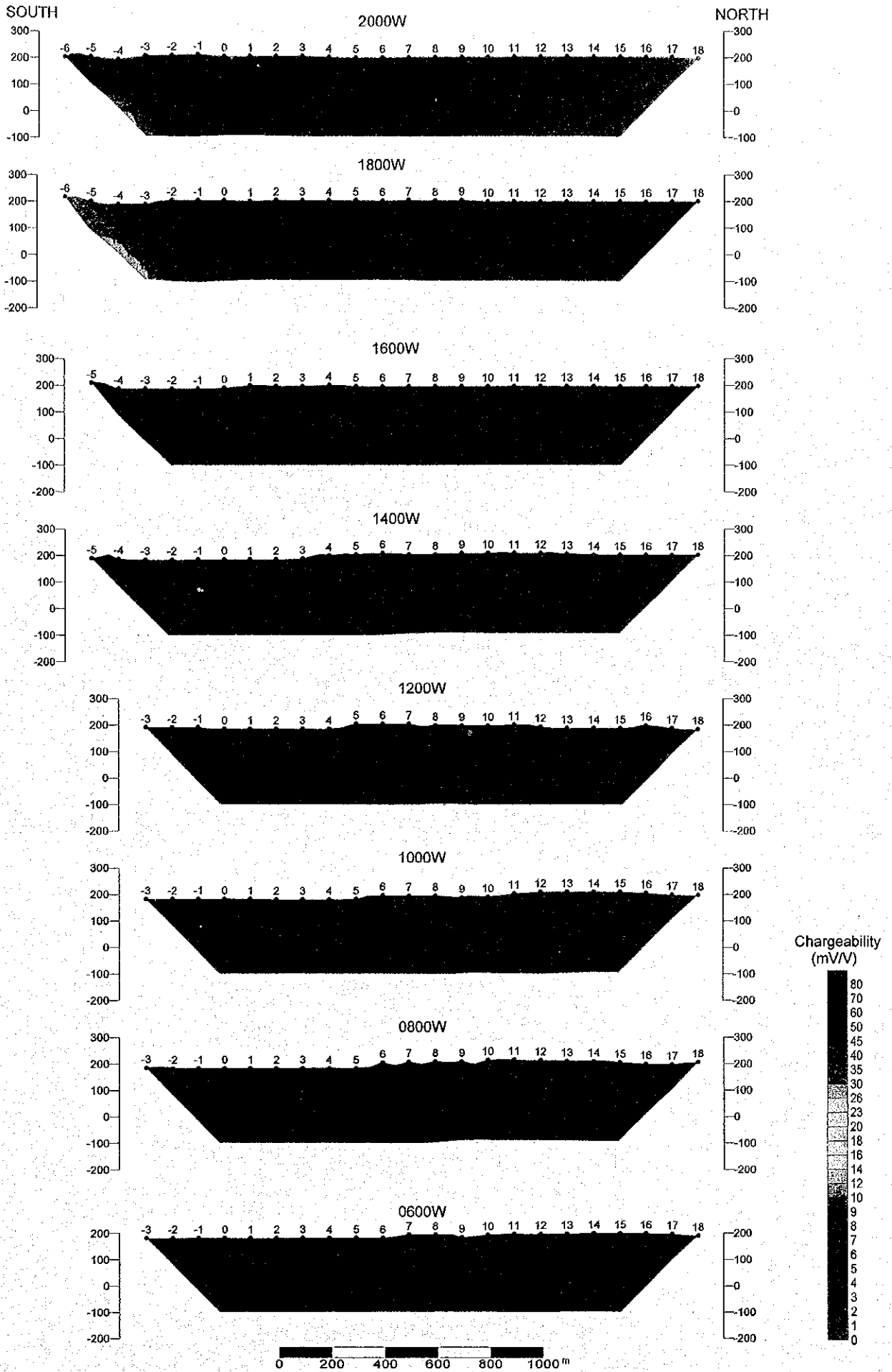


Fig. II-2-13 Chargeability pseudo-sections in Ghuzayn area(West)

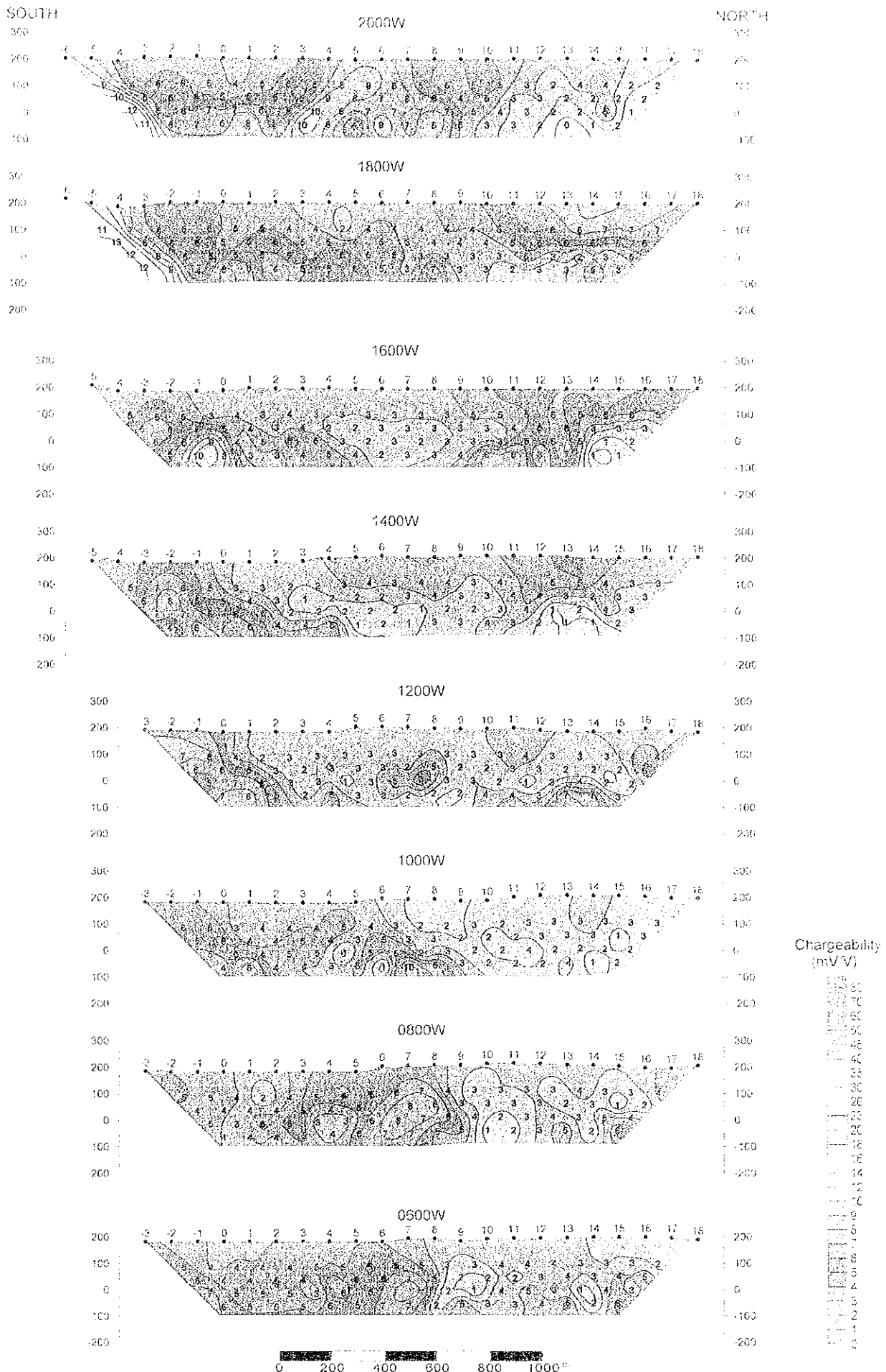


Fig. II-2-13 Chargeability pseudo-sections in Ghuzayn area(West)

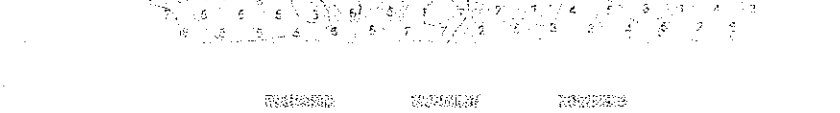
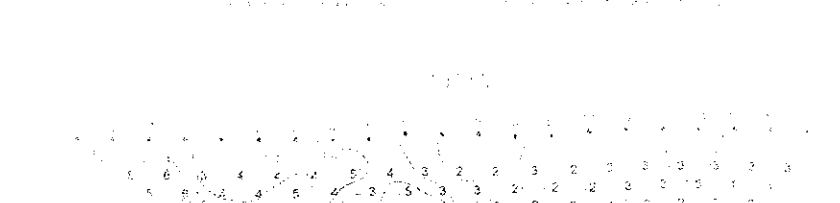
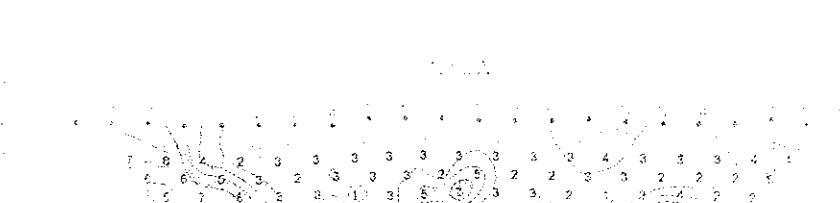
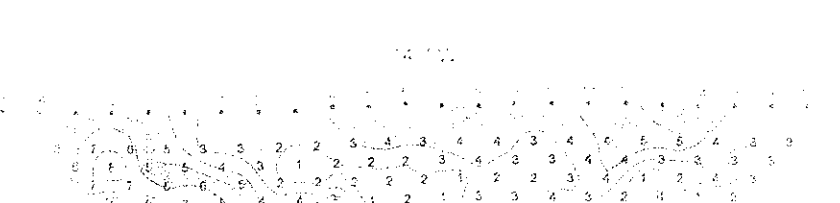
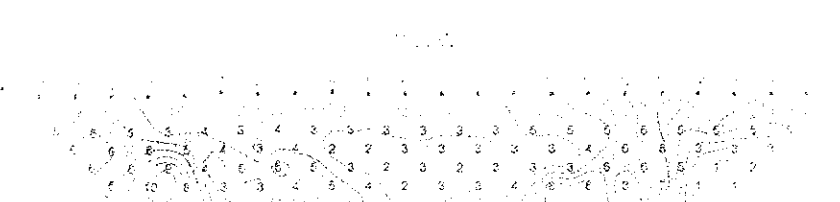
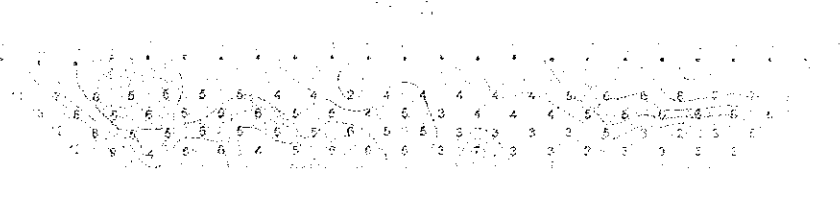
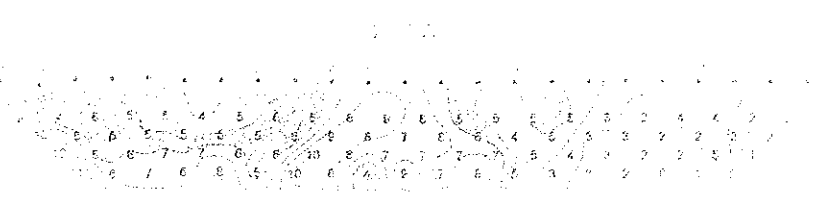


Figure 1: Contour plots of the function  $f(x,y)$  at sections  $t=0, 1, 2, 3, 4, 5, 6, 7, 8, 9$ .





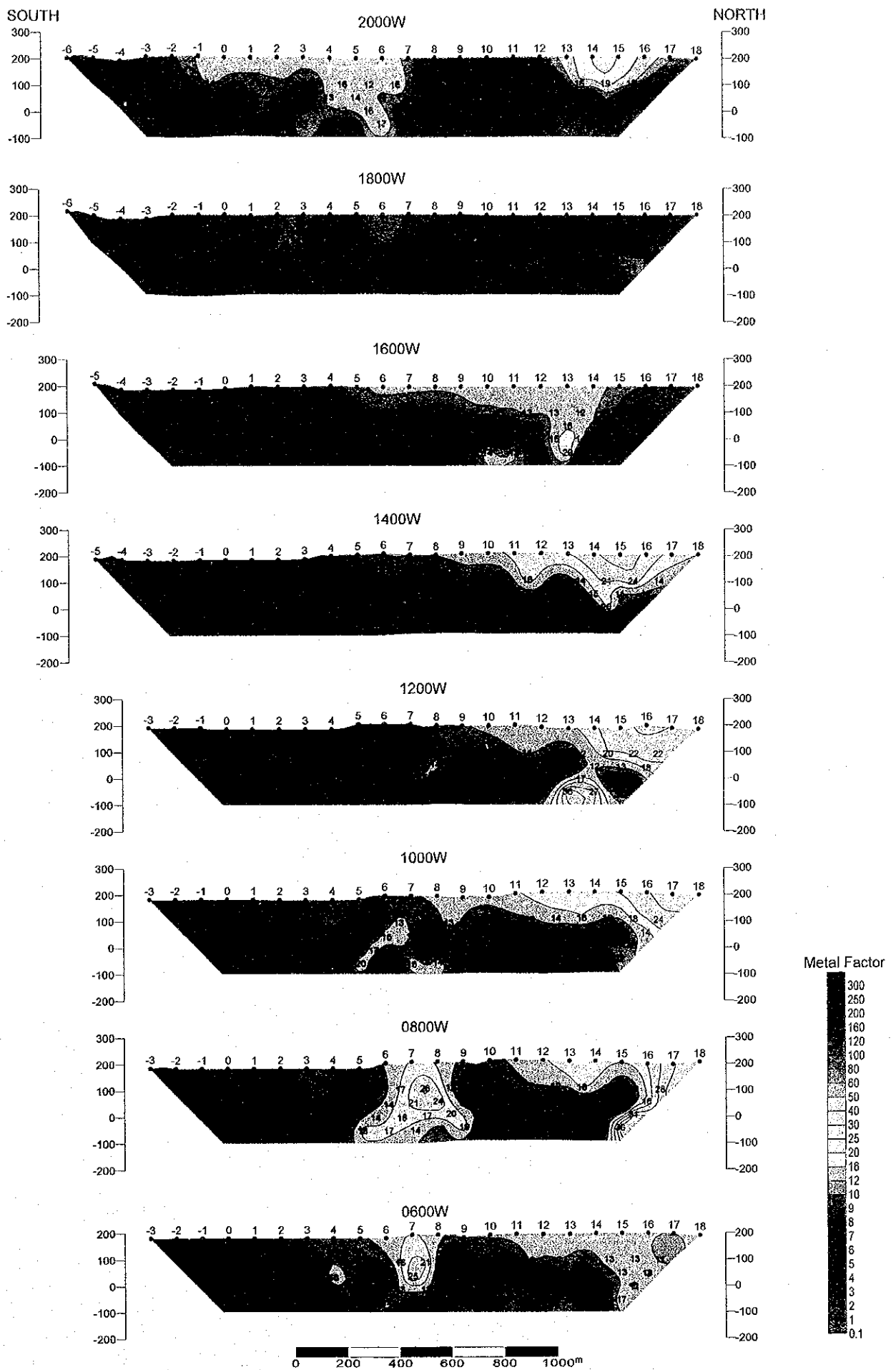


Fig. II -2-14 Metal factor pseudo-sections in Ghuzayn area(West)

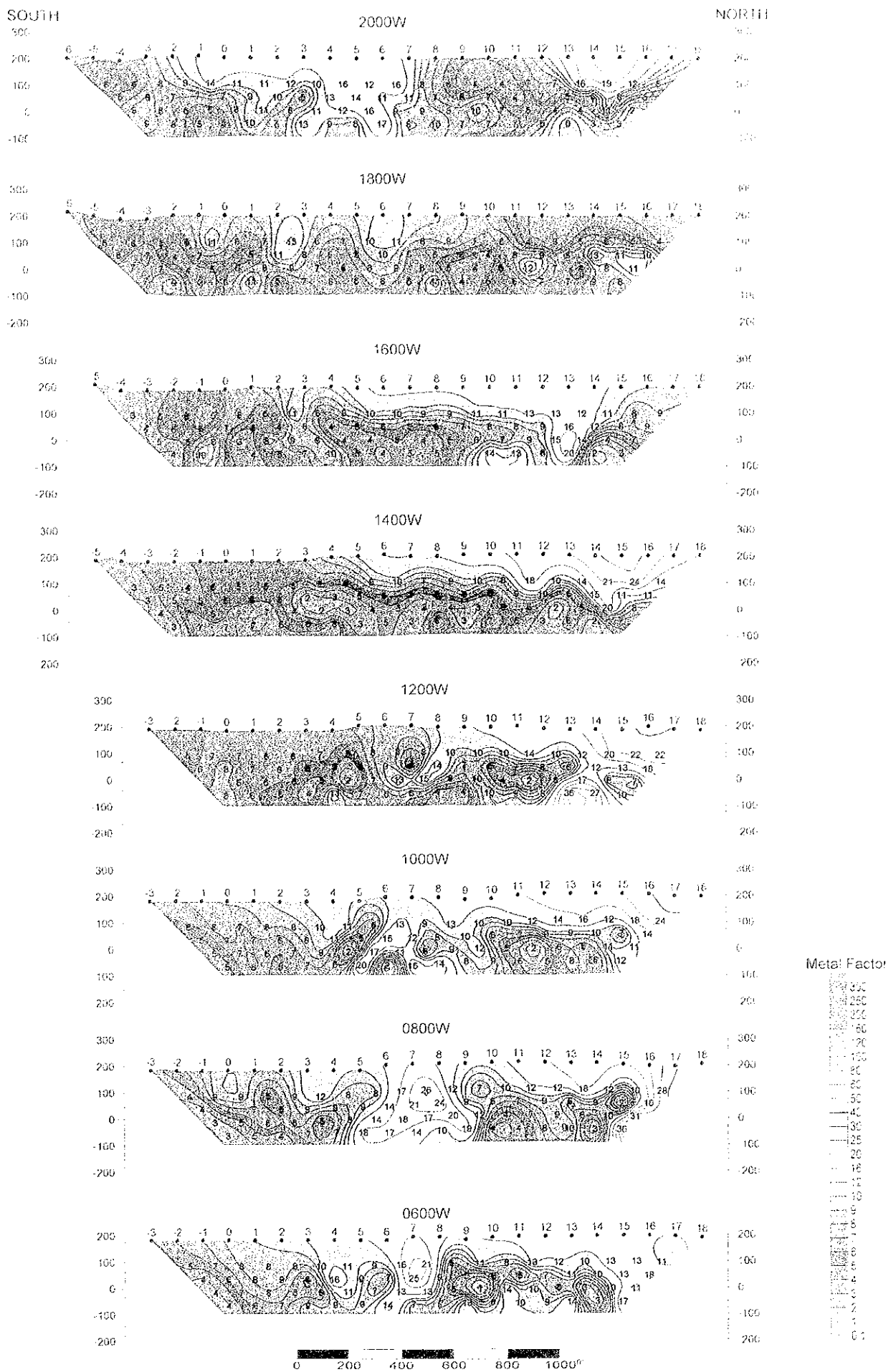
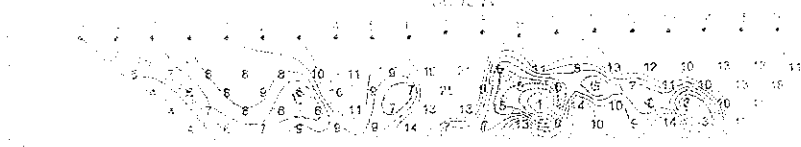
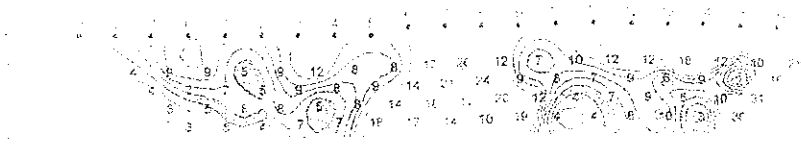
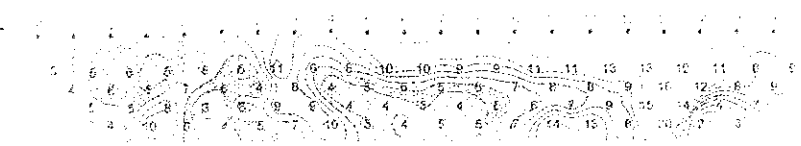
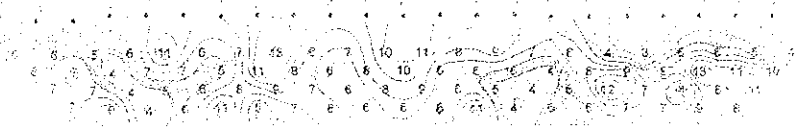
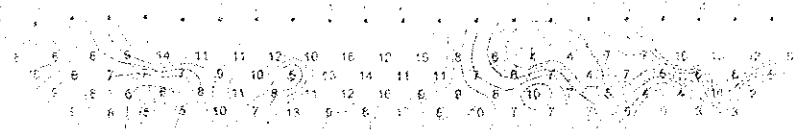
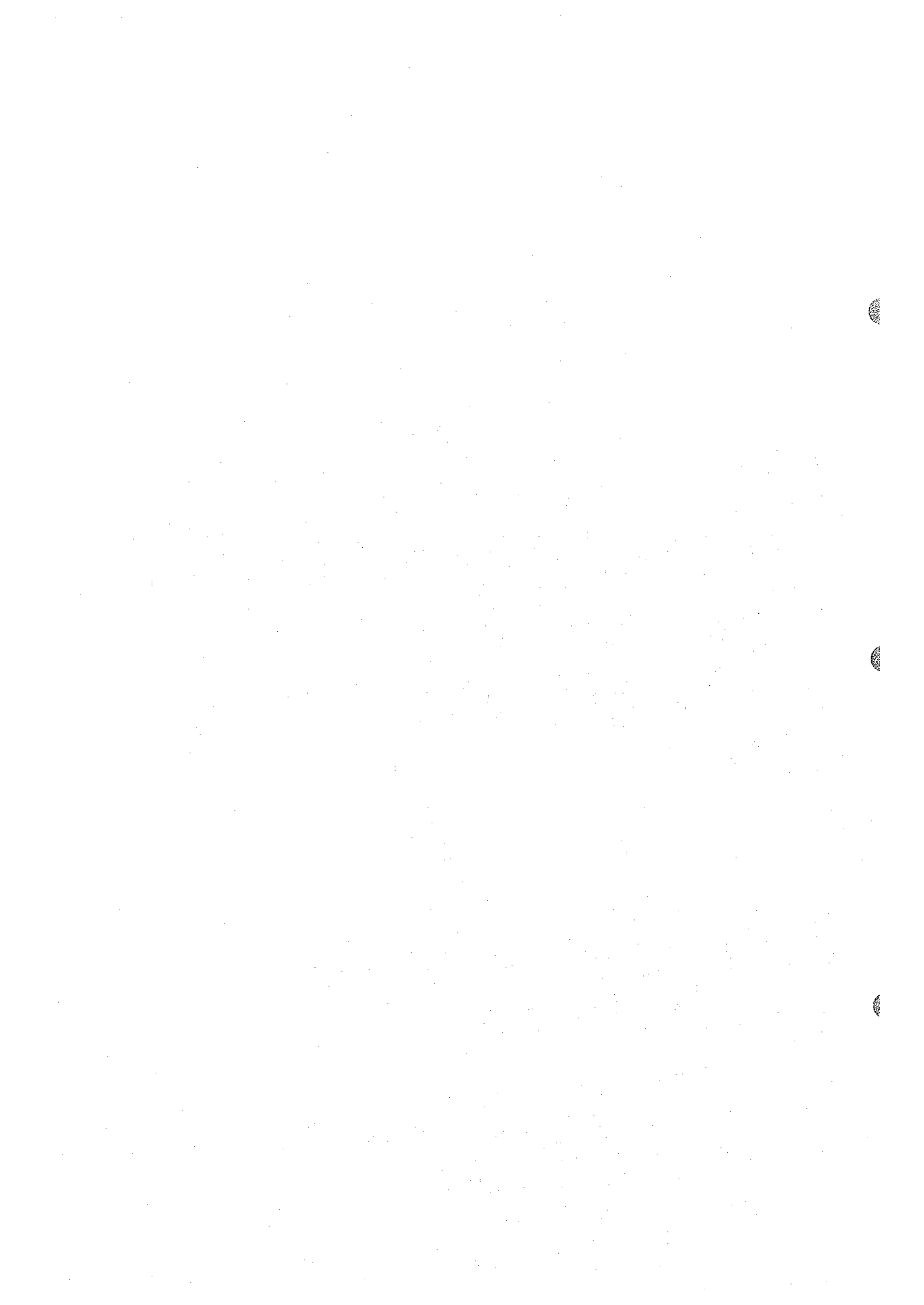


Fig. II-2-14 Metal factor pseudo-sections in Ghuzayn area (West)



SALTIMAN      WARRAJON      ZACHARUS

Fig. 11-20. Metal factor pseudosections in (G, T) space for (a) - (h).



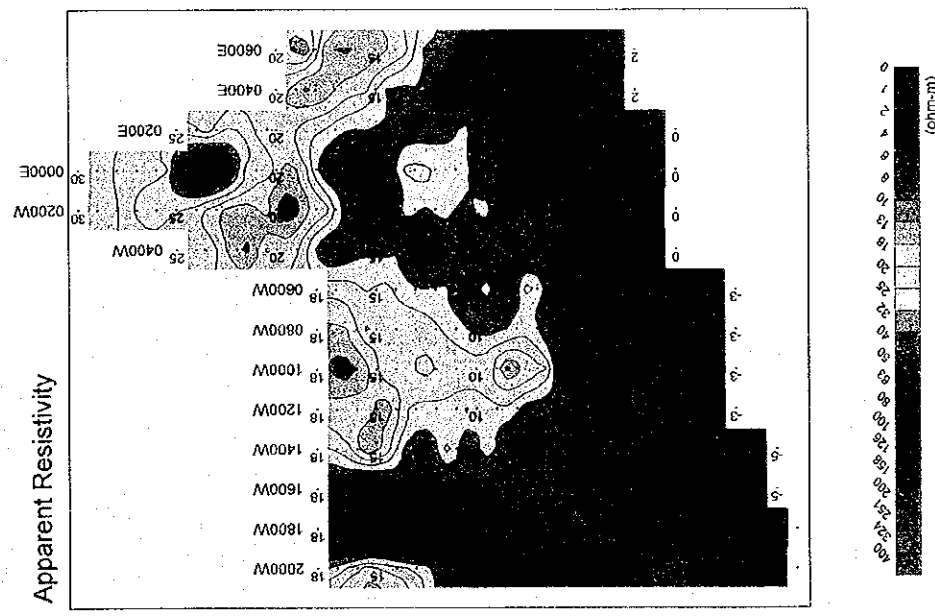
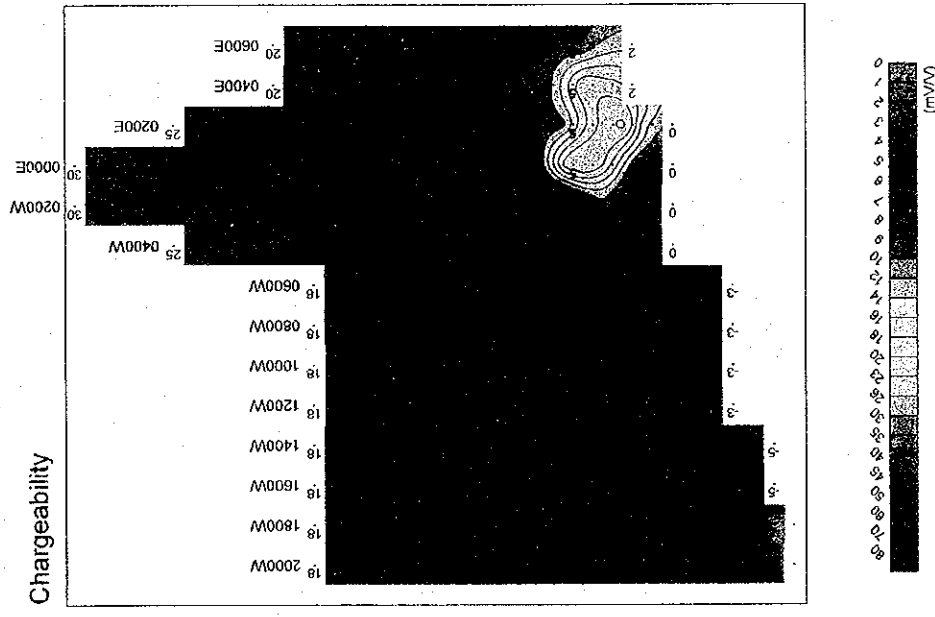
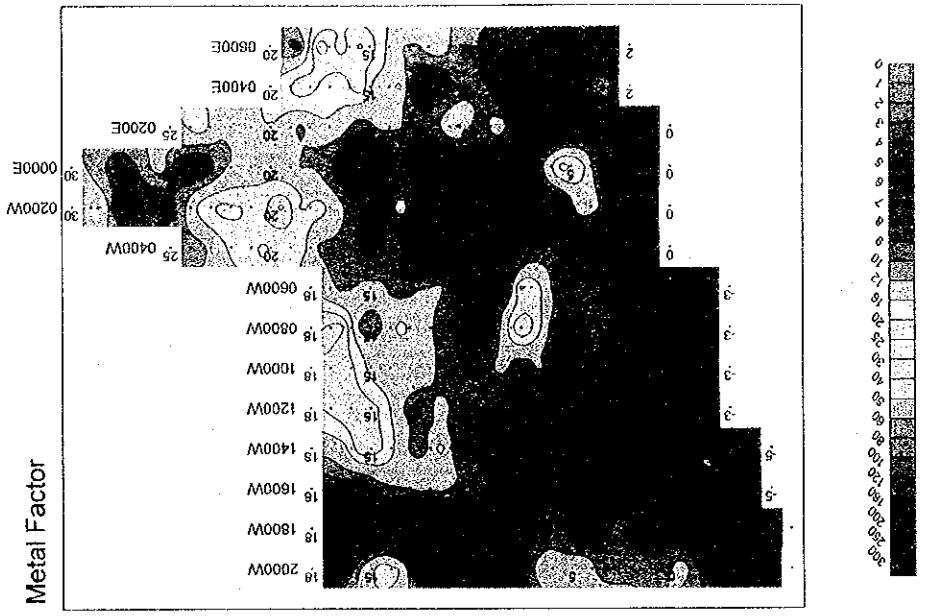
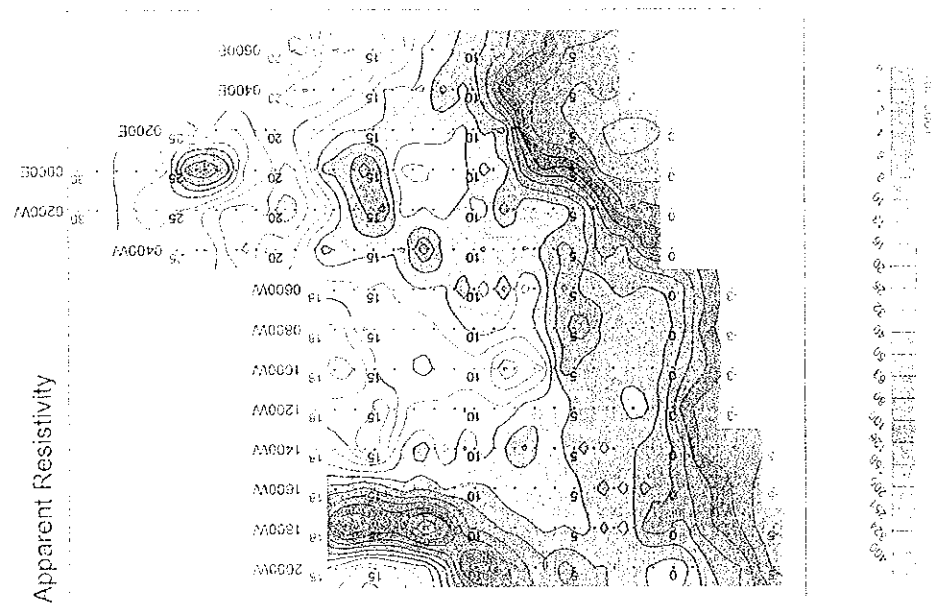
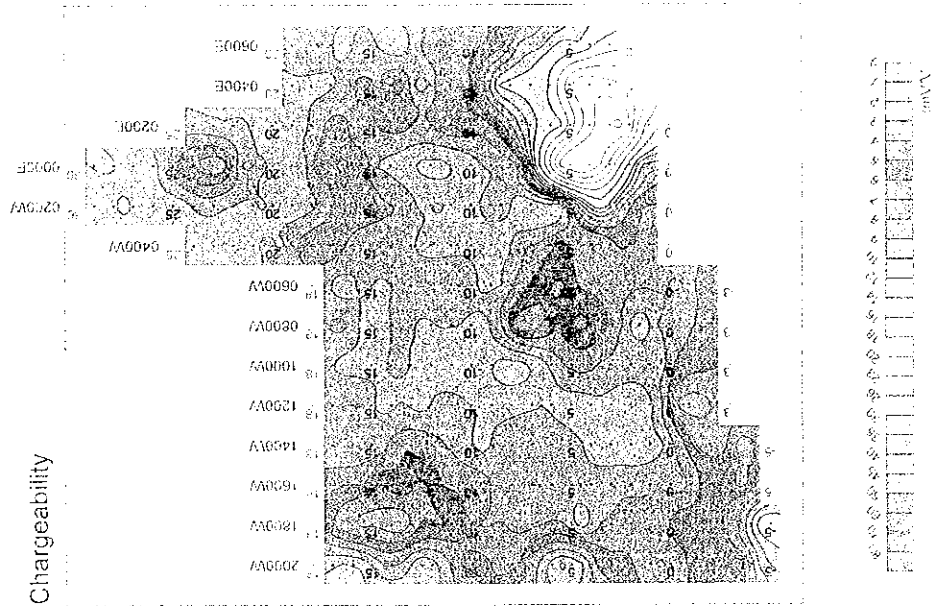
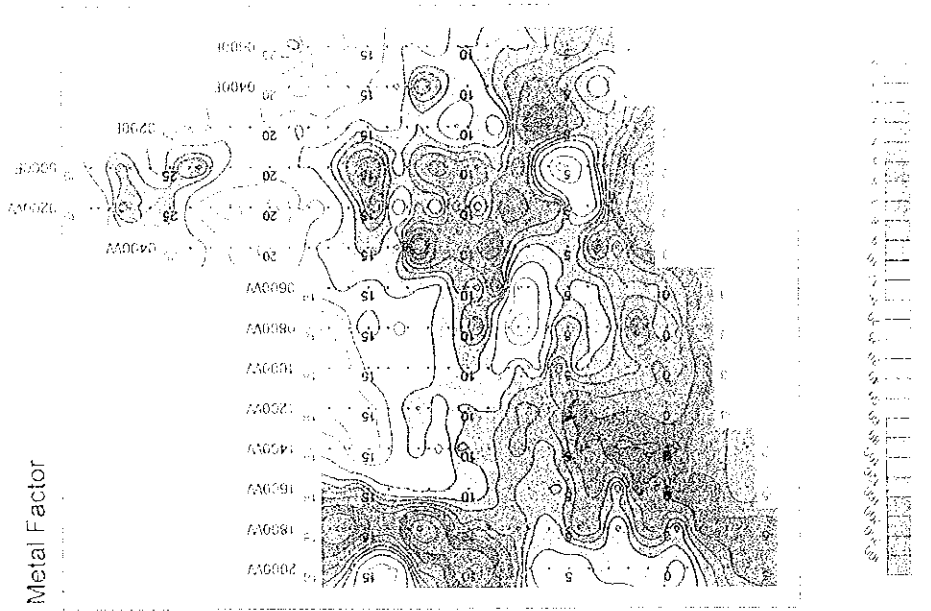


Fig. II -2-15 IP plane map of n=1 in Ghuzayn area(West)



0 500 1000 1500 2000

Fig. II 2-15 IP plane map of  $\rho_{\text{I}}$  in Ghuzayn area (West)

Figure 10: [Illegible text]

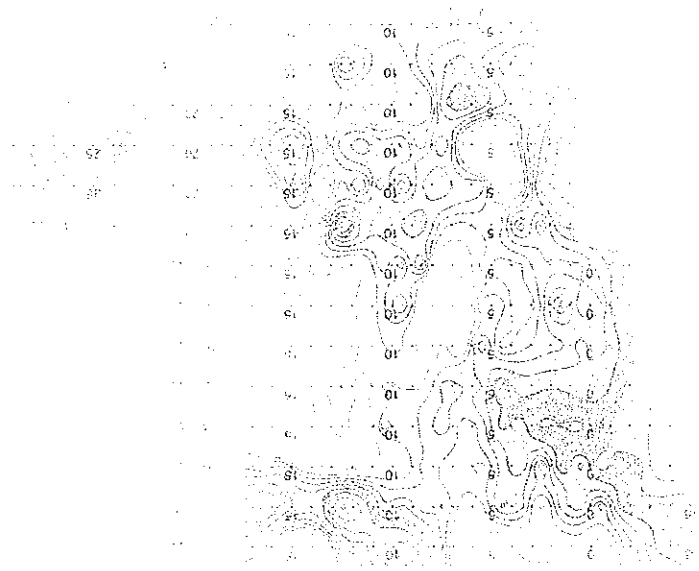


Figure 11: [Illegible text]

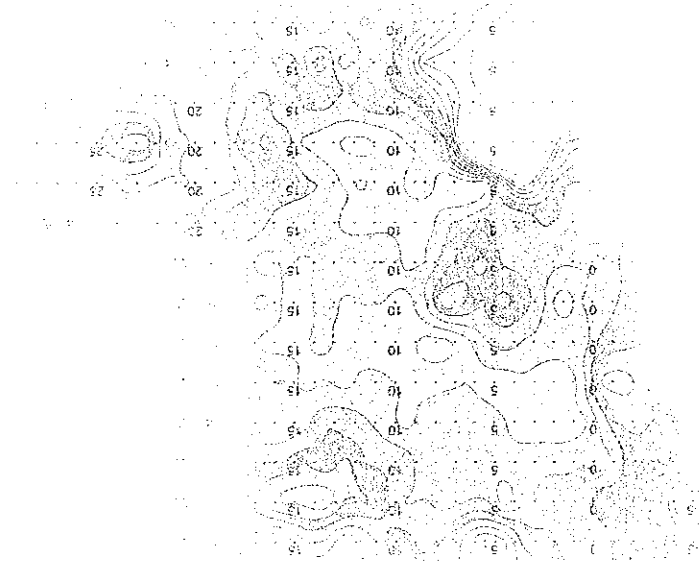
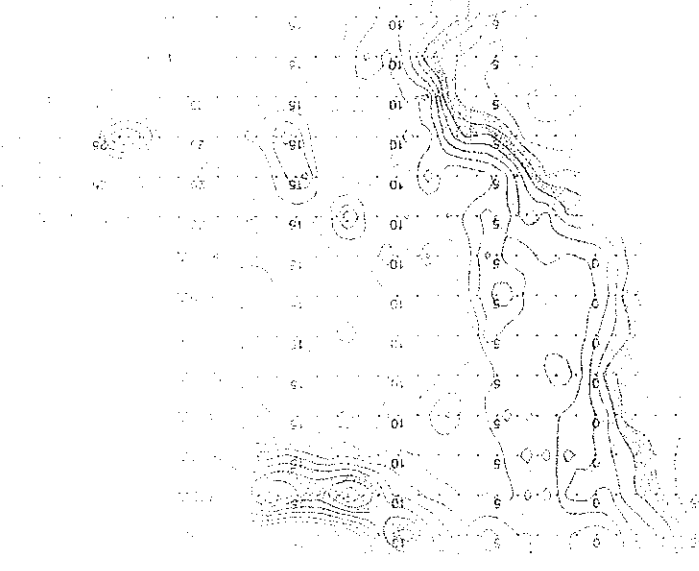
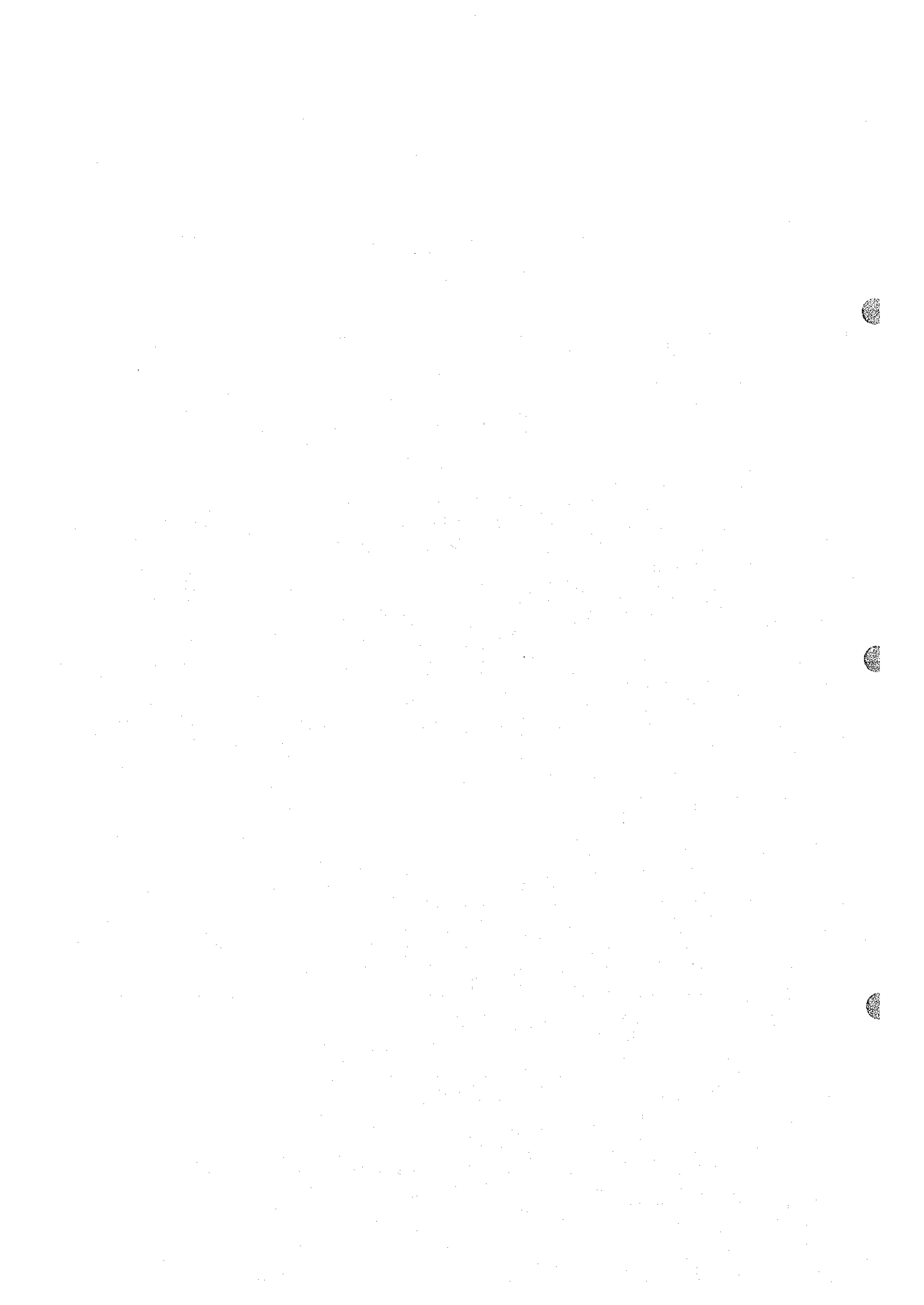


Figure 12: [Illegible text]







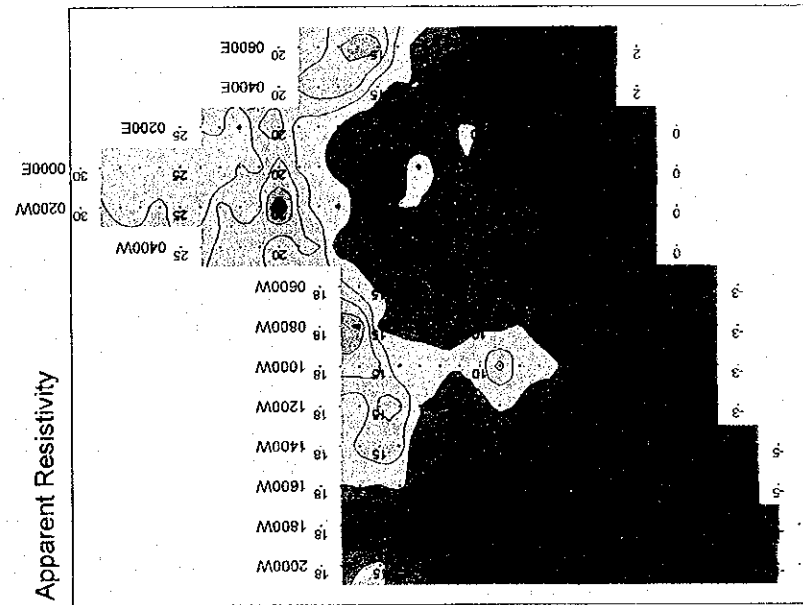
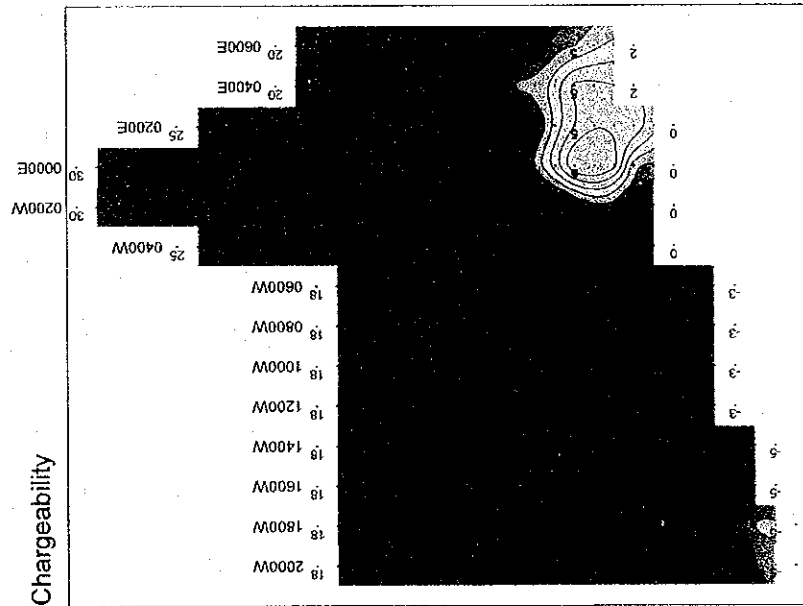
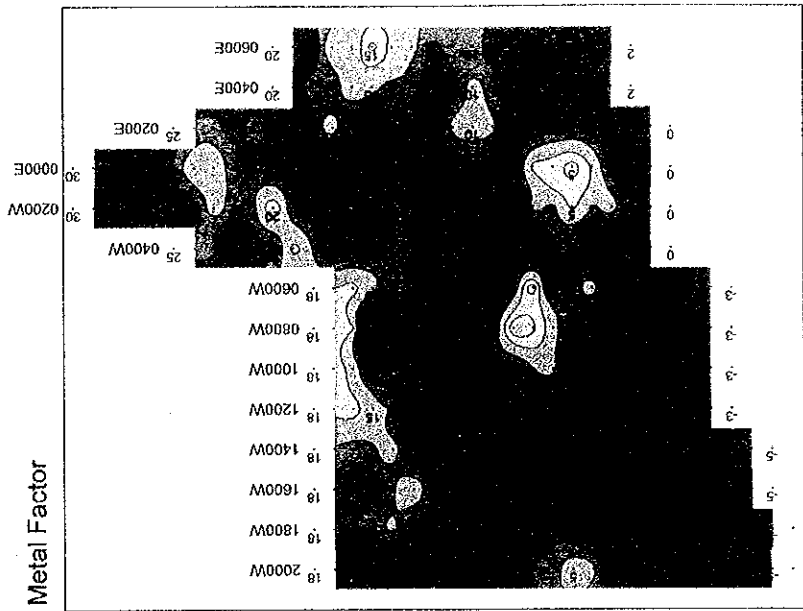


Fig. II -2-16 IP plane map of  $n=2$  in Ghuzayn area(West)

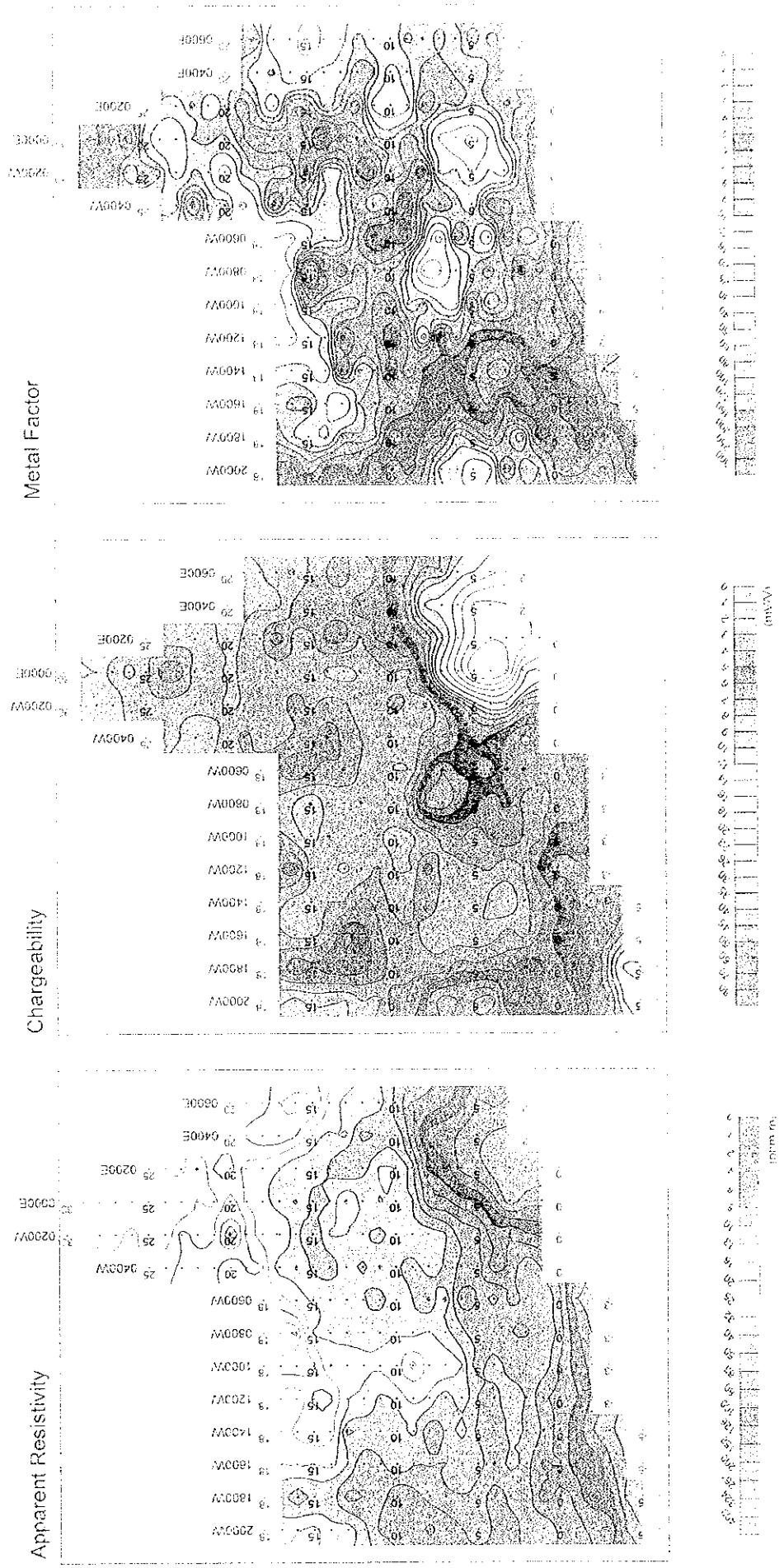
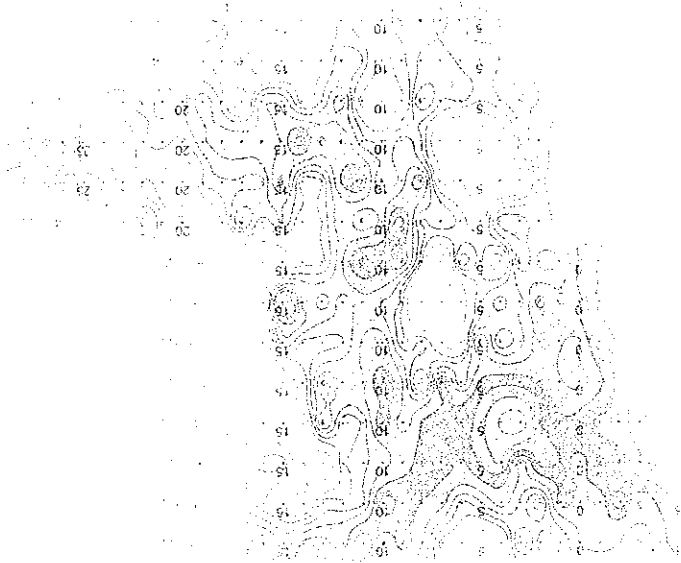
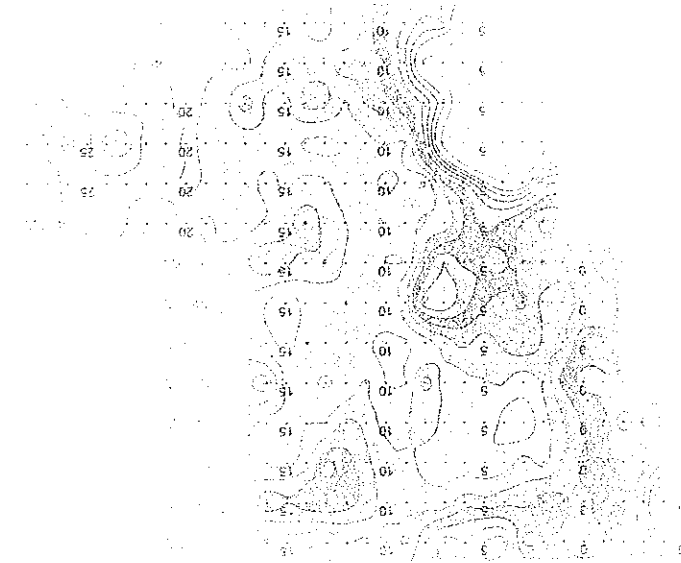


Fig. II 2-16 IP plane map of n=2 in Ghuzayn area (West)

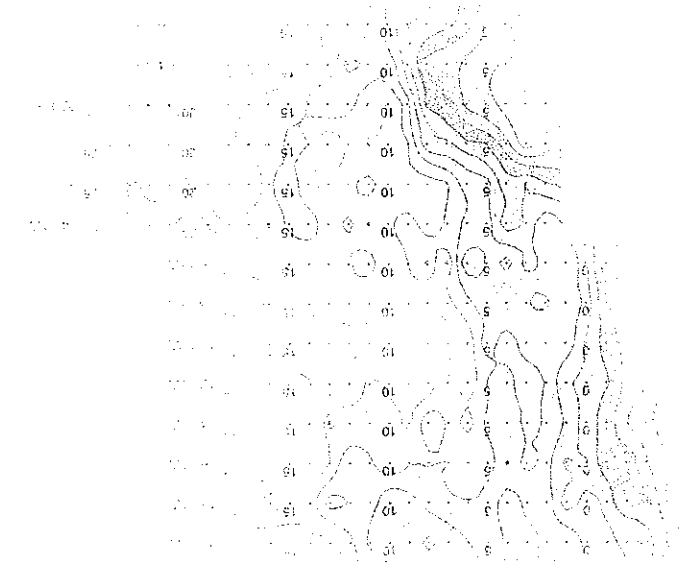
Mean Rainfall



Cloud Probability



Apparent Moisture



10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100



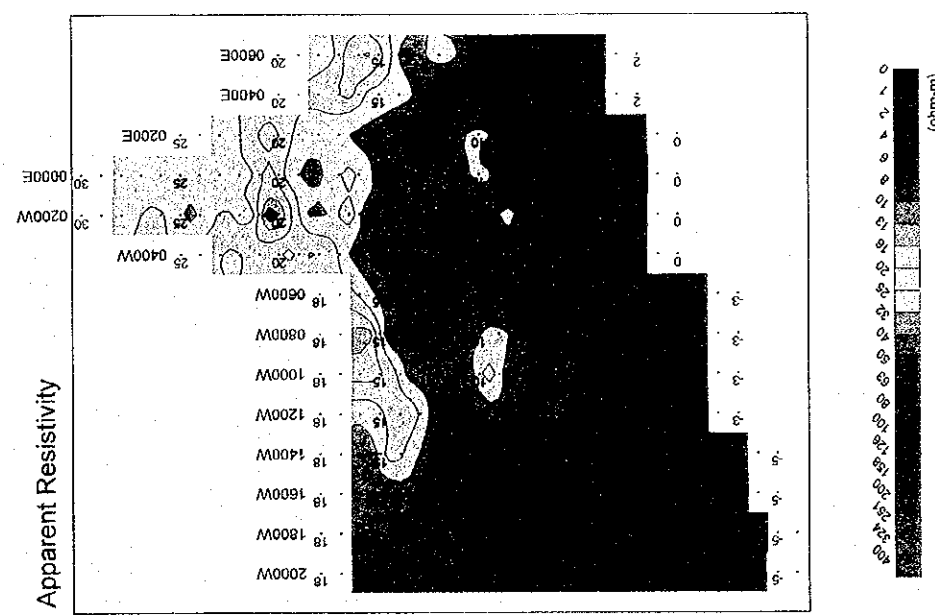
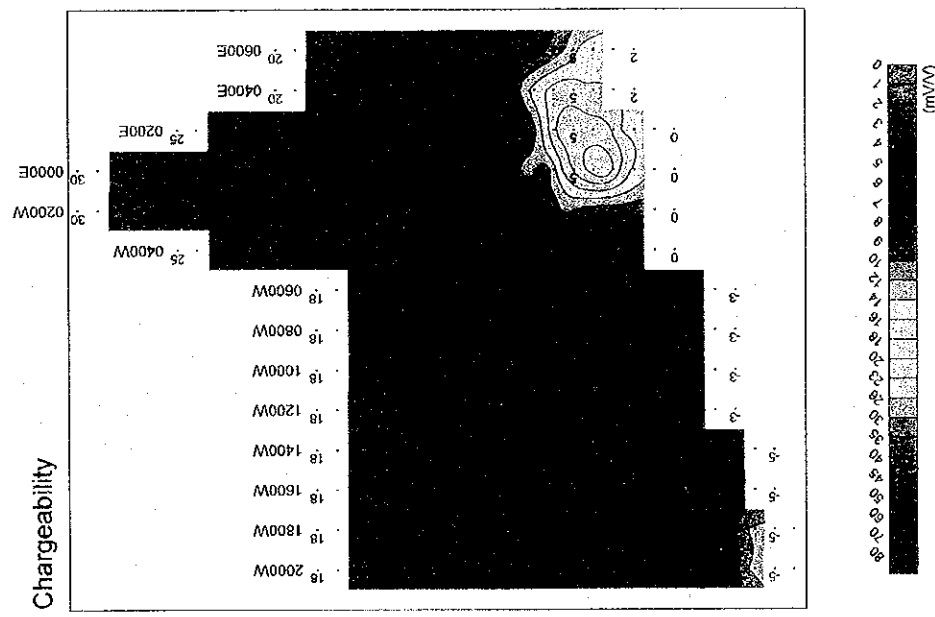
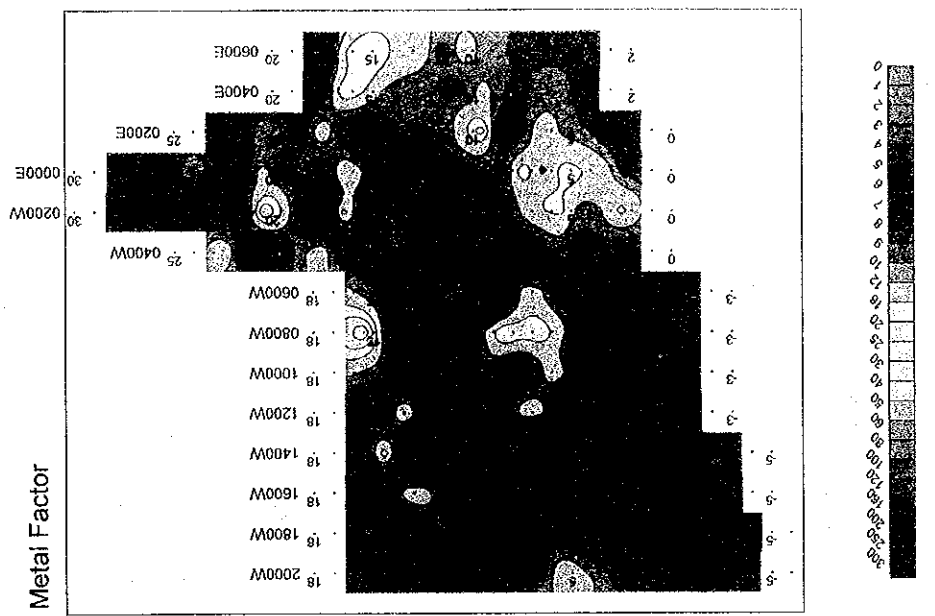


Fig. II-2-17 IP plane map of n=3 in Ghuzayn area(West)

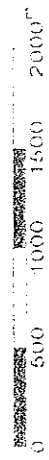
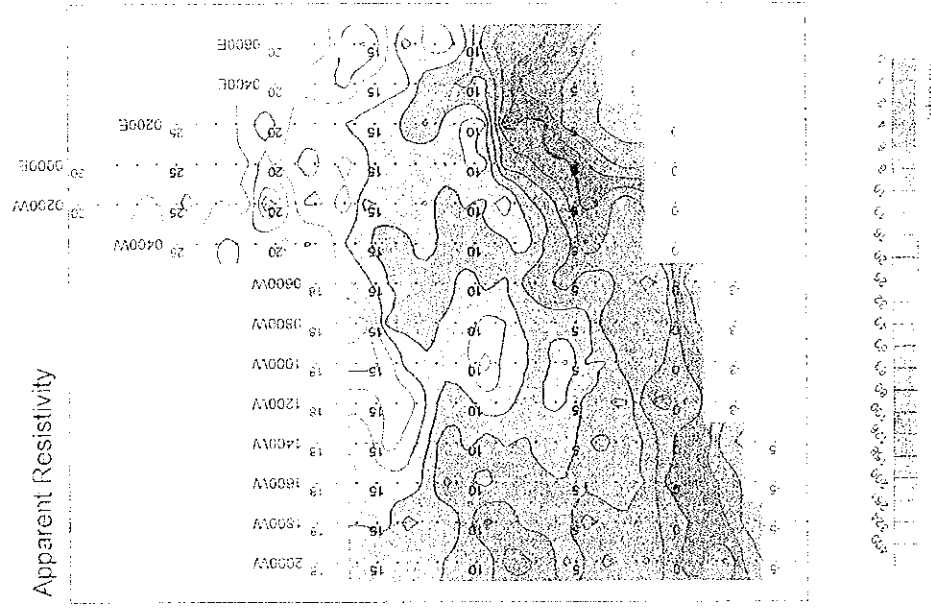
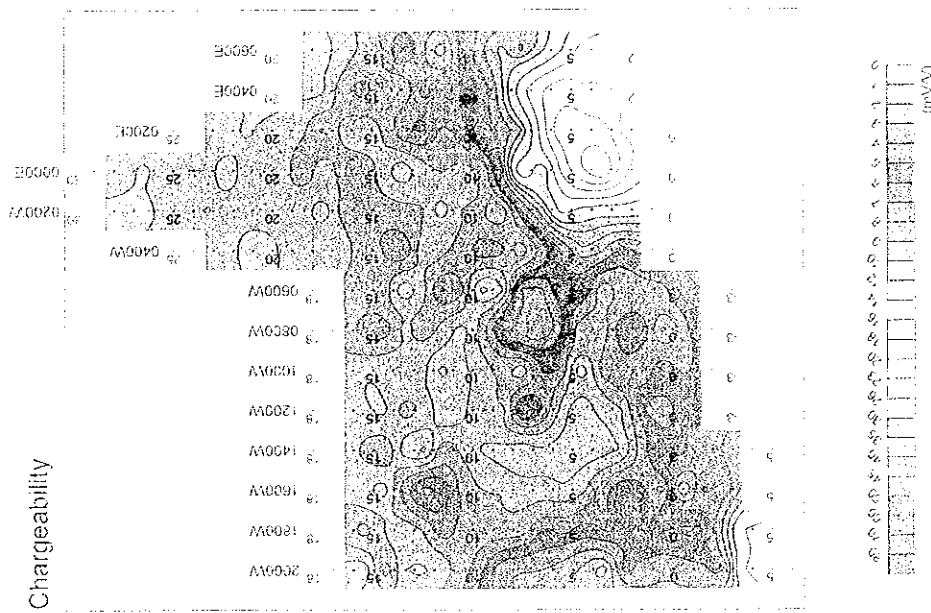
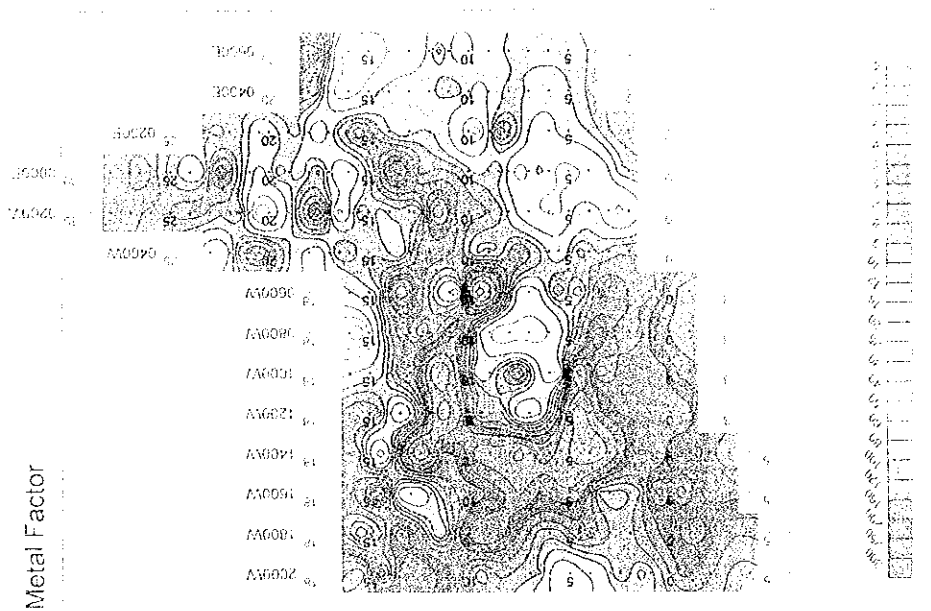


Fig. H. 2-17 IP plane map of n-3 in Gihuzayn area(West)

Figure 10

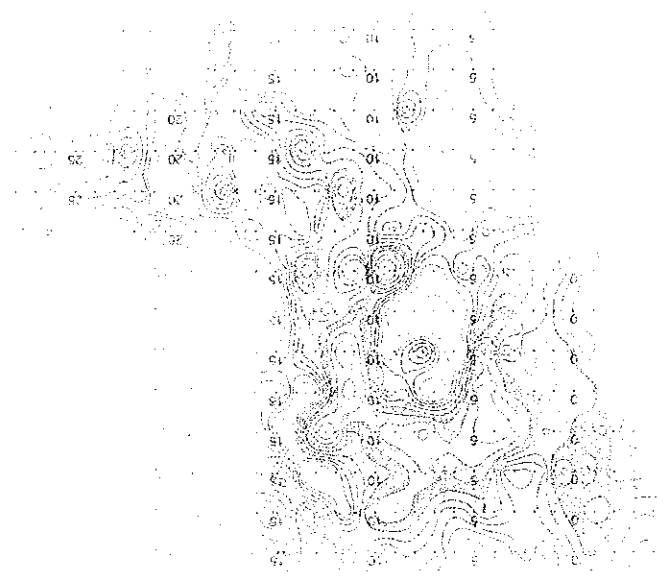


Figure 11

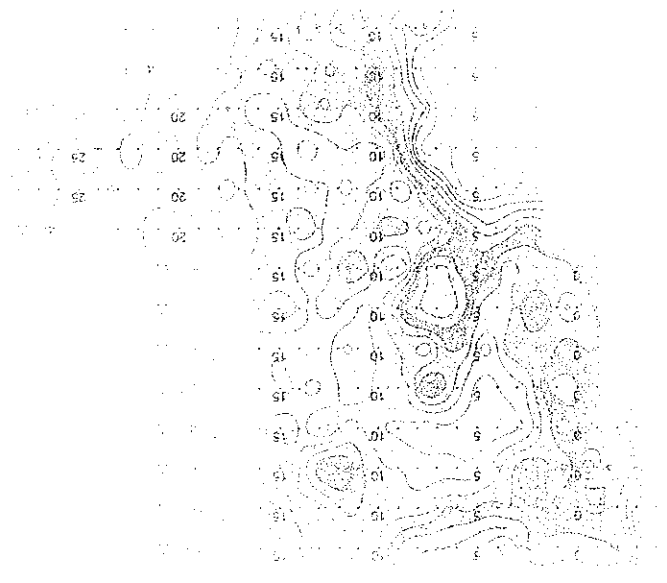


Figure 12

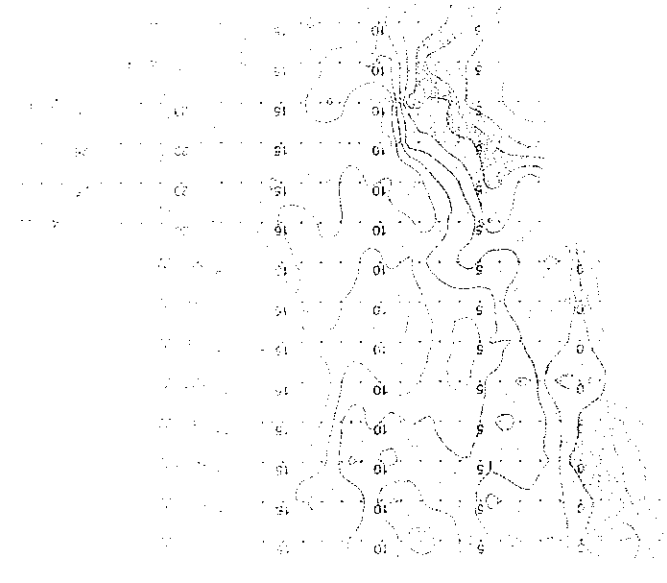
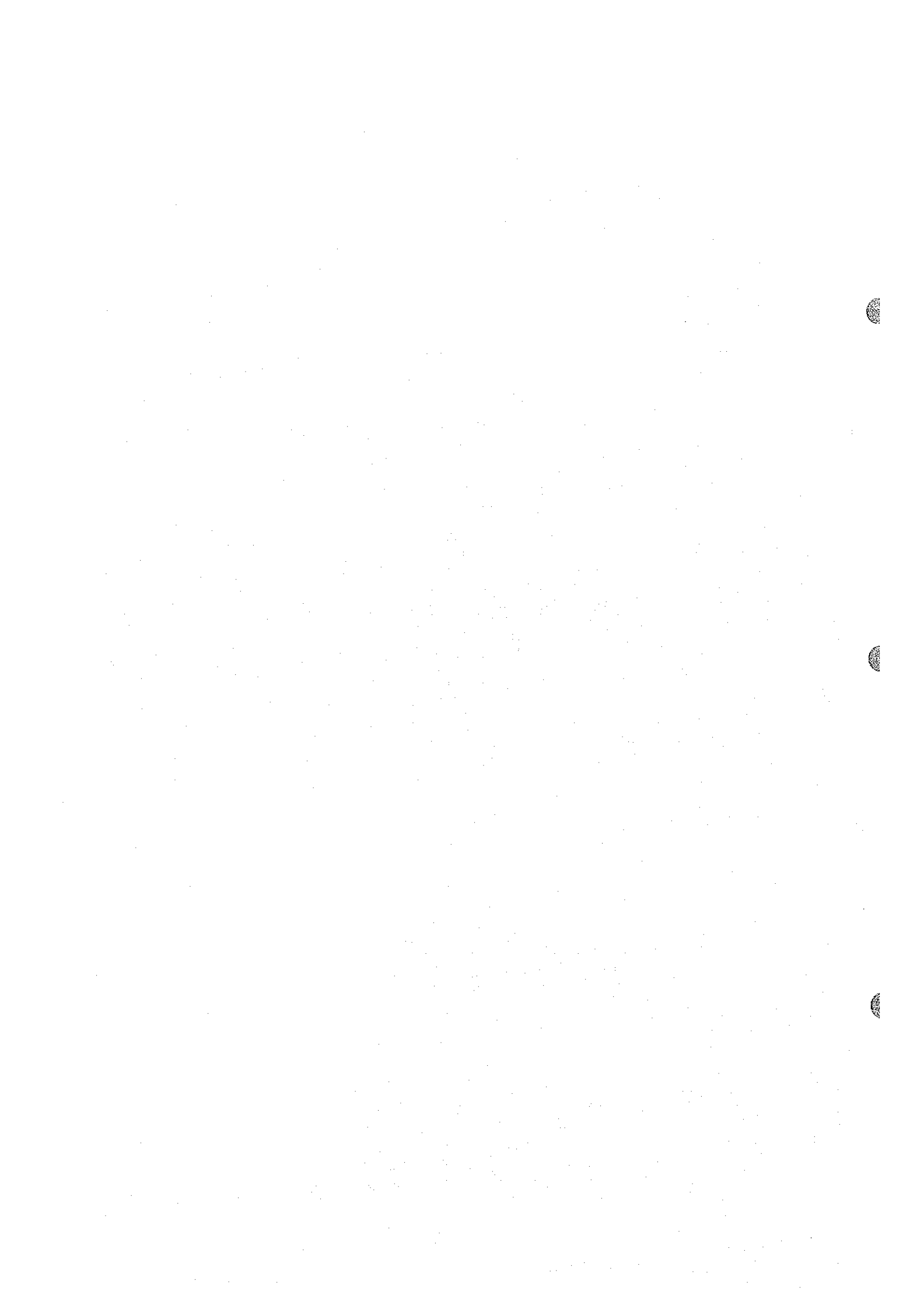


Figure 10: Contour plot of a function with a central peak and surrounding valleys. The contours are labeled with numerical values such as 5, 10, 15, 20, 25, and 30. The plot is set against a grid of points.

Figure 11: Contour plot of a function with a central peak and surrounding valleys. The contours are labeled with numerical values such as 5, 10, 15, 20, 25, and 30. The plot is set against a grid of points.

Figure 12: Contour plot of a function with a central peak and surrounding valleys. The contours are labeled with numerical values such as 5, 10, 15, 20, 25, and 30. The plot is set against a grid of points.





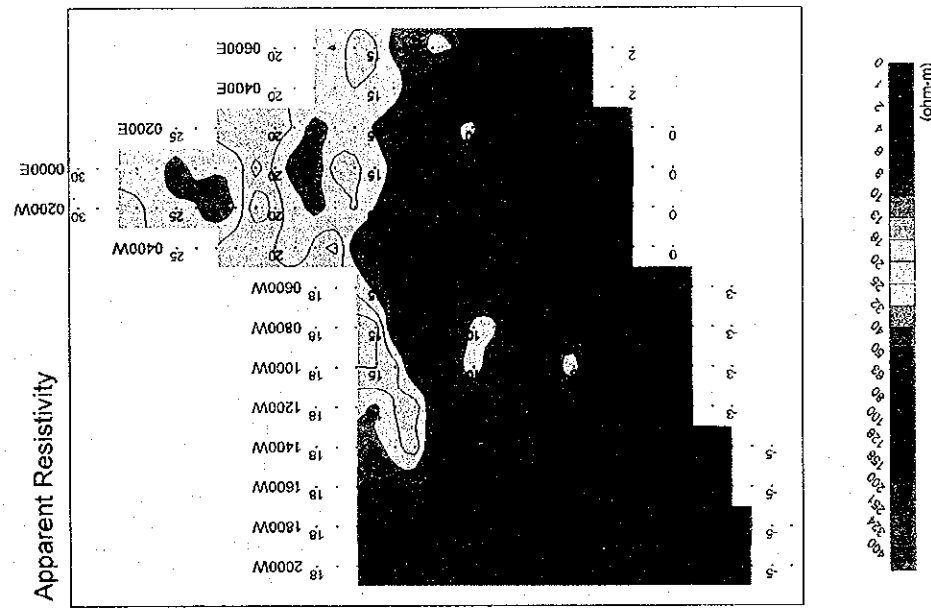
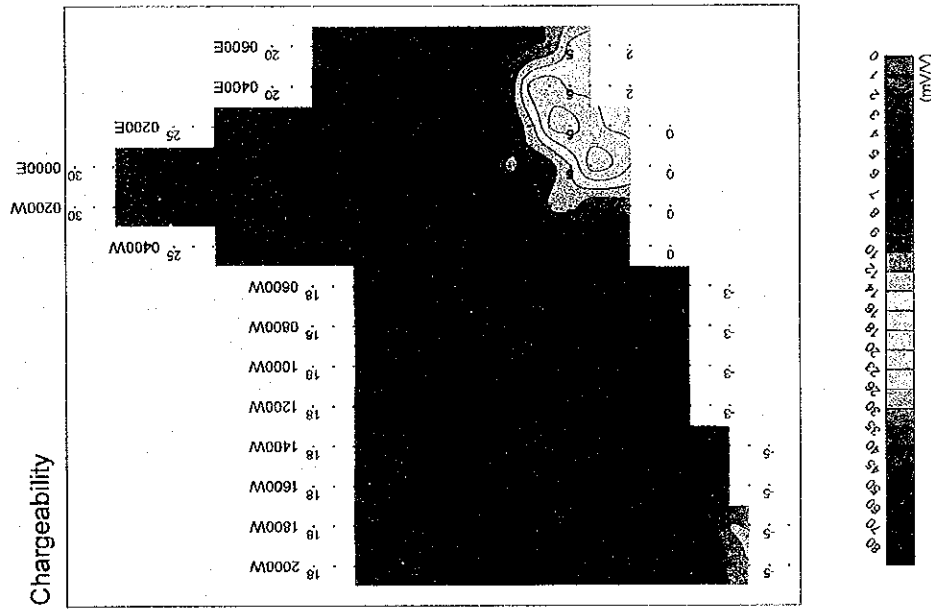
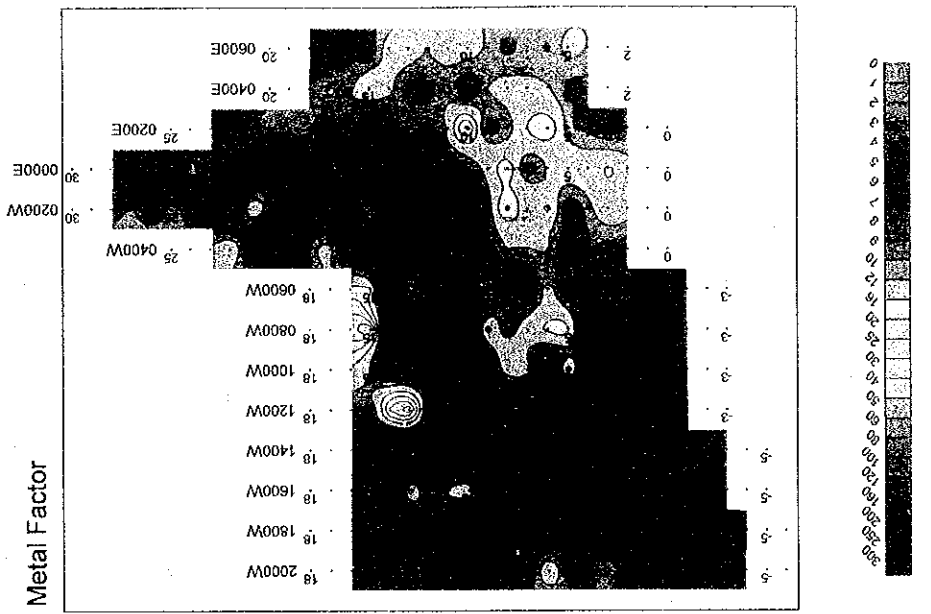
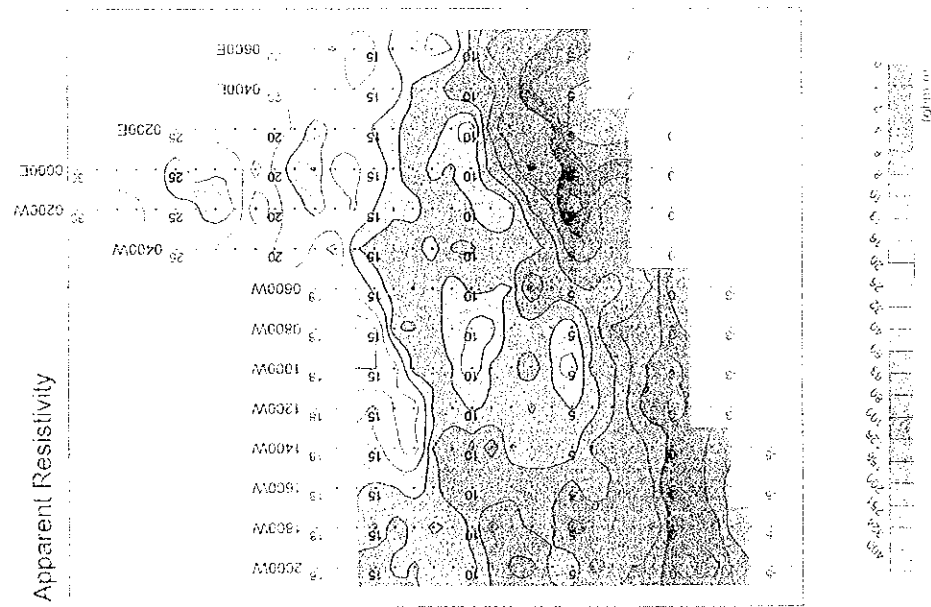
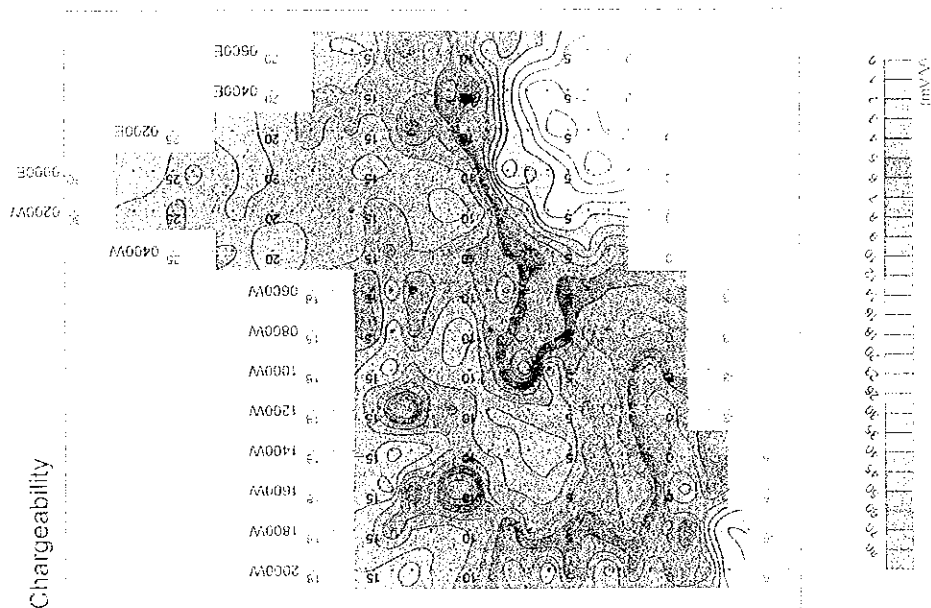
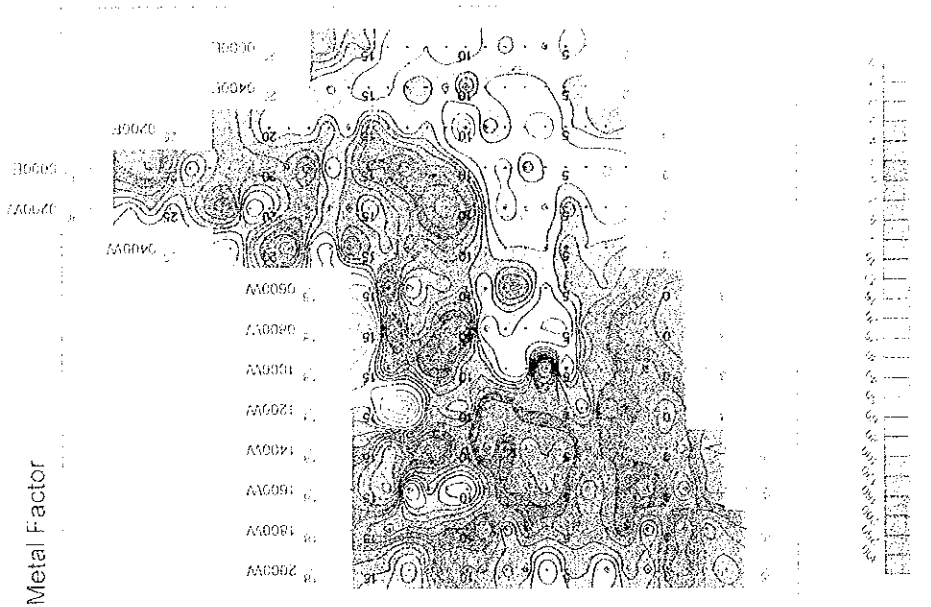


Fig. II -2-18 IP plane map of n=4 in Ghuzayn area(West)



0 500 1000 1500 2000m

Fig. II-2-18 IP plane map of n=4 in Ghuzaya area(West)

Figure 1

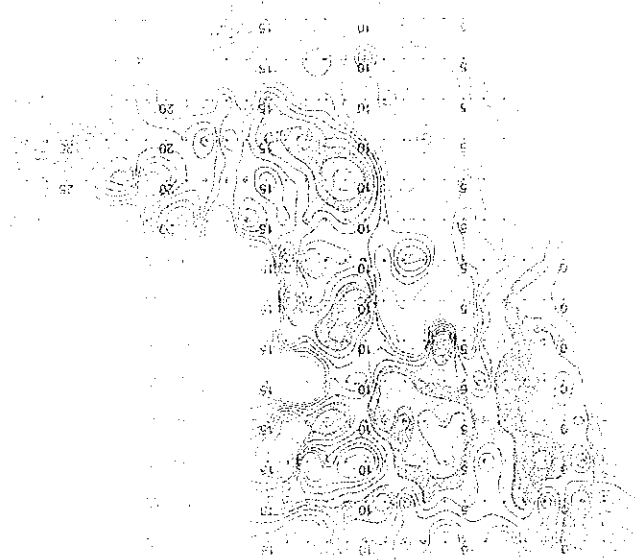


Figure 2

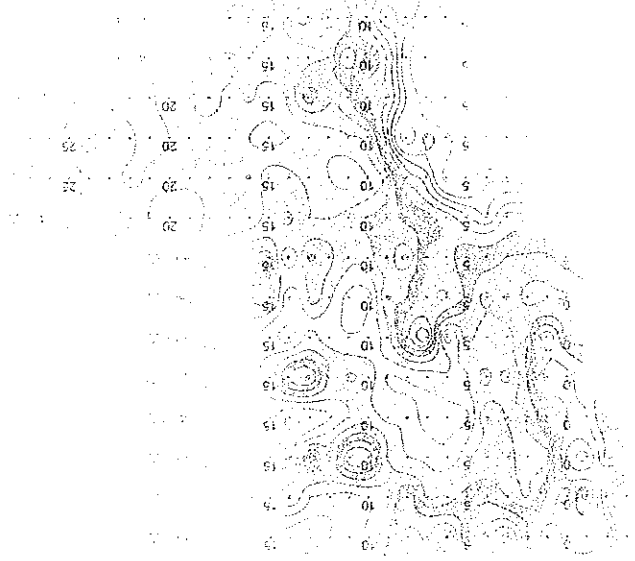
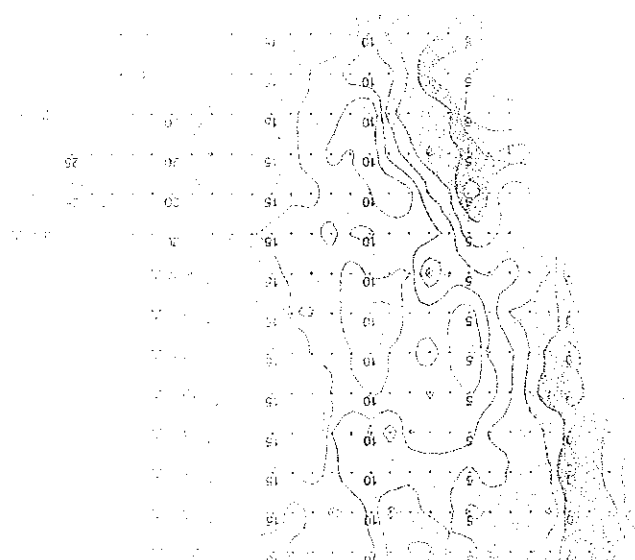


Figure 3

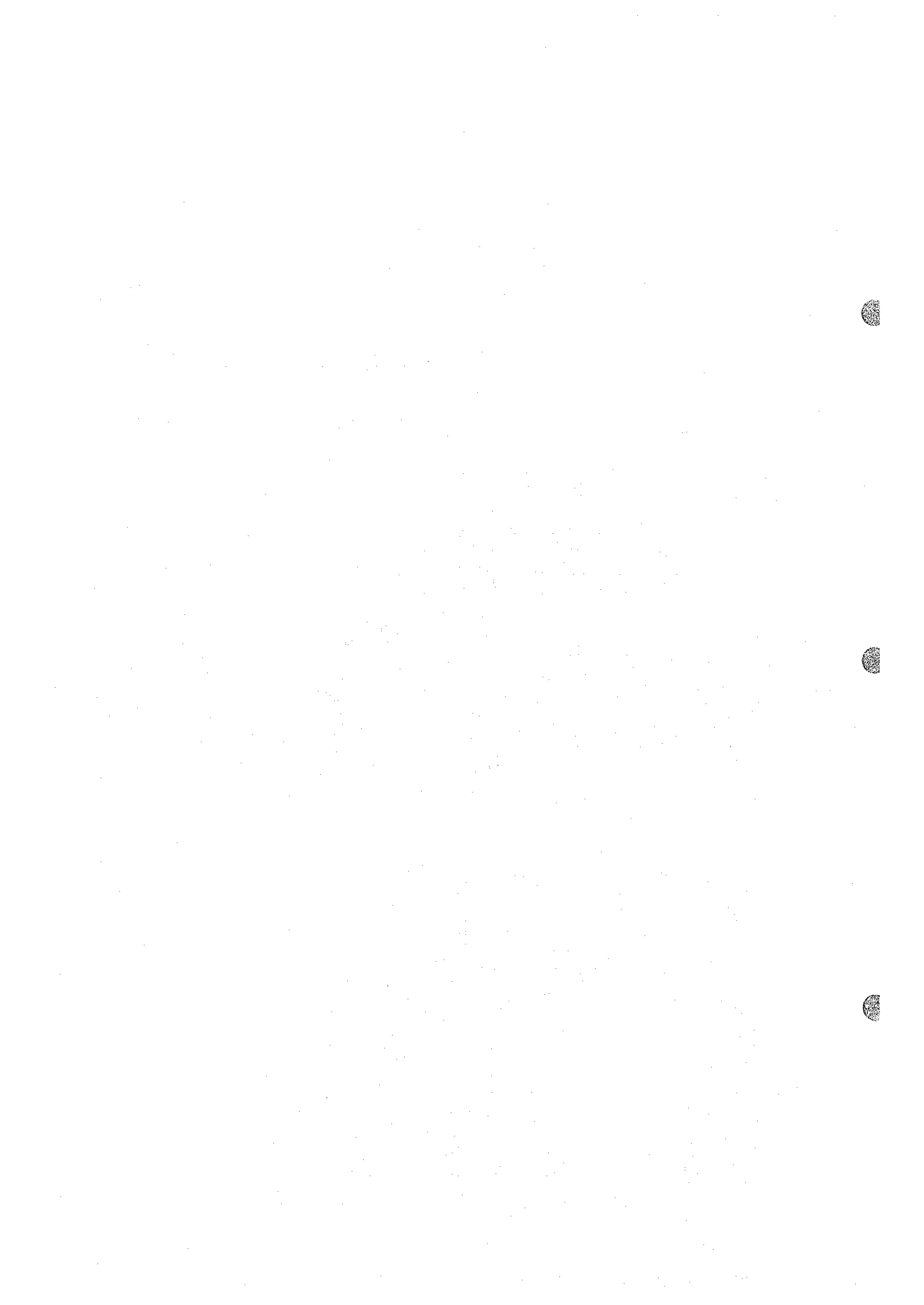


1000  
500  
0  
-500  
-1000

1000  
500  
0  
-500  
-1000

1000  
500  
0  
-500  
-1000

Figure 4: Comparison of the three functions. The functions are: (a) Figure 1, (b) Figure 2, and (c) Figure 3.



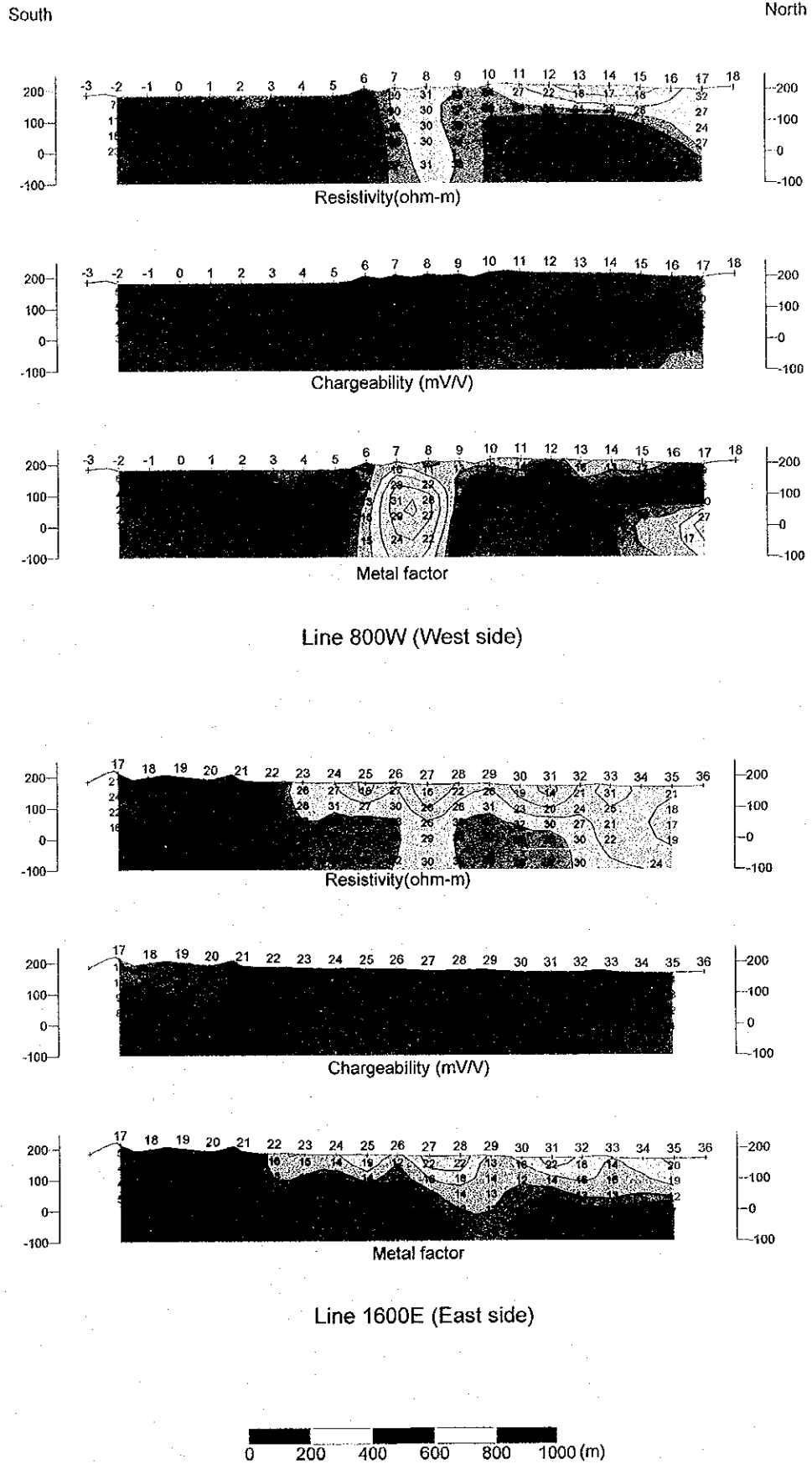


Fig. II -2-19 IP 2D model simulation on lines 800W and 1600E in Ghuzayn area

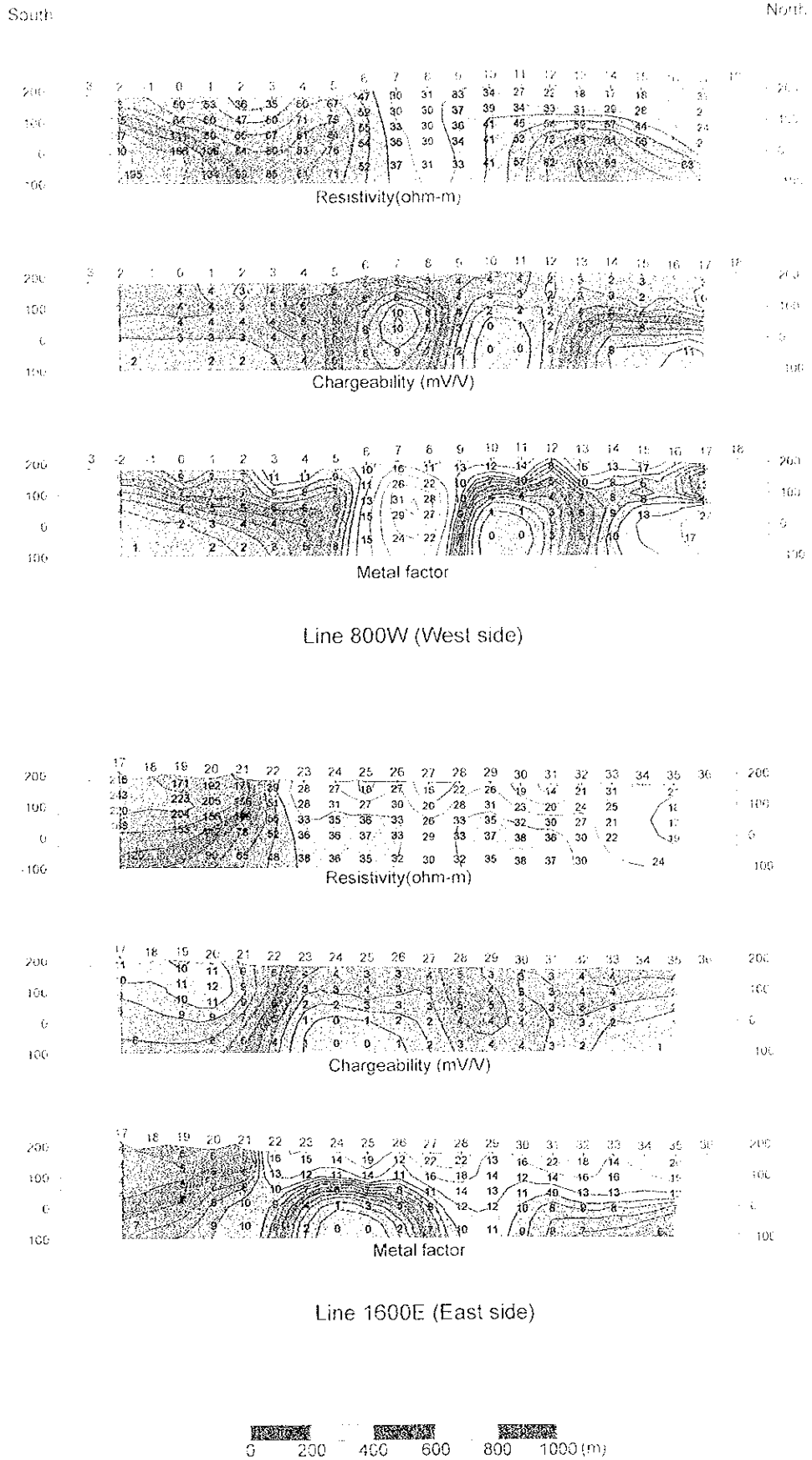
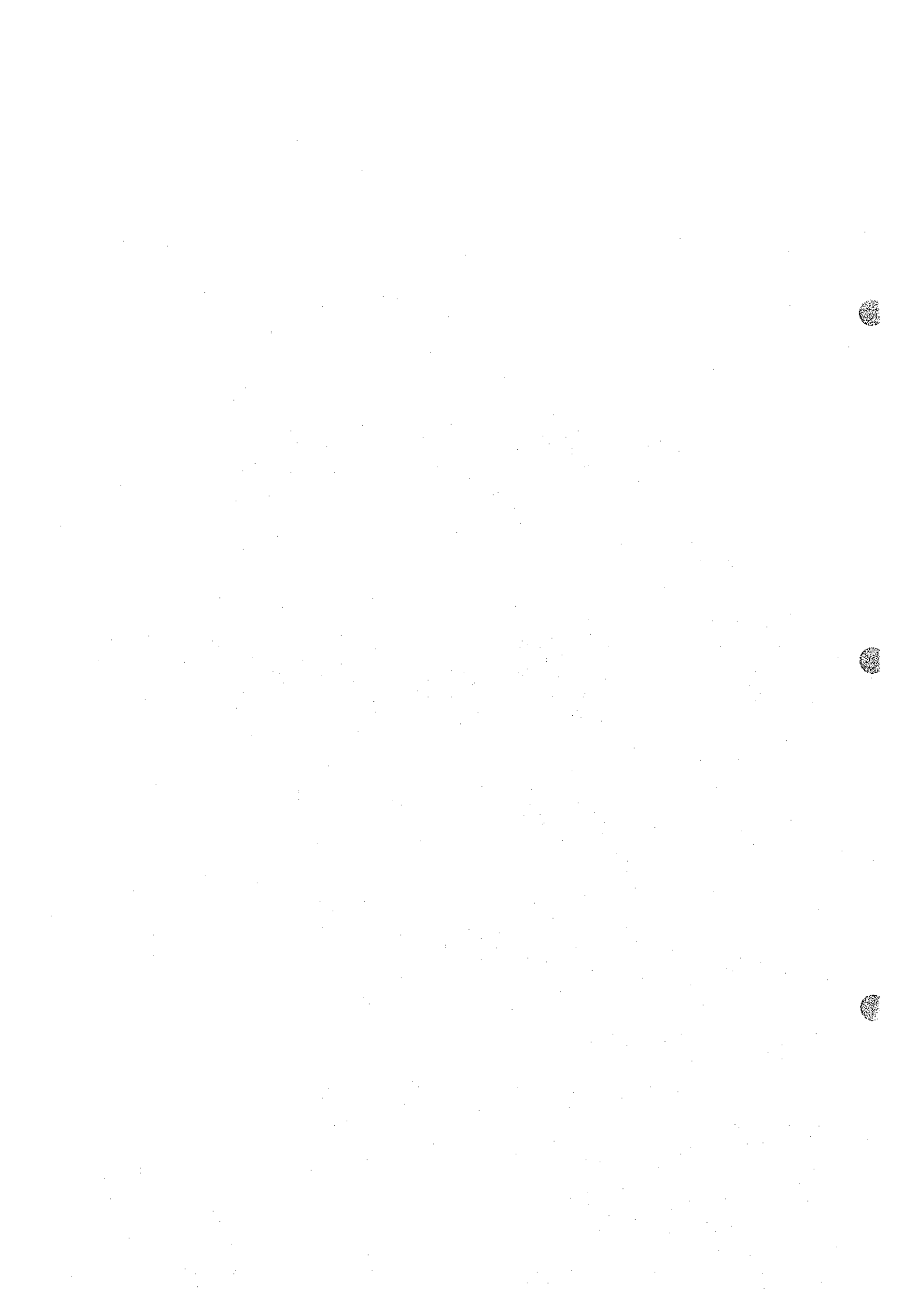


Fig. II -2-19 IP 2D model simulation on lines 800W and 1600E in Ghuzayn area



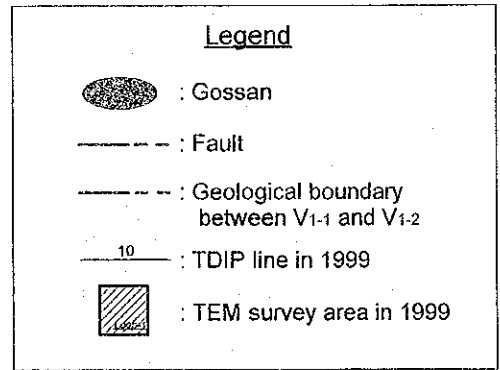
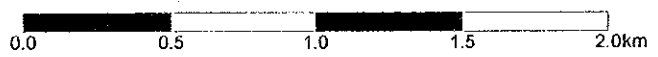
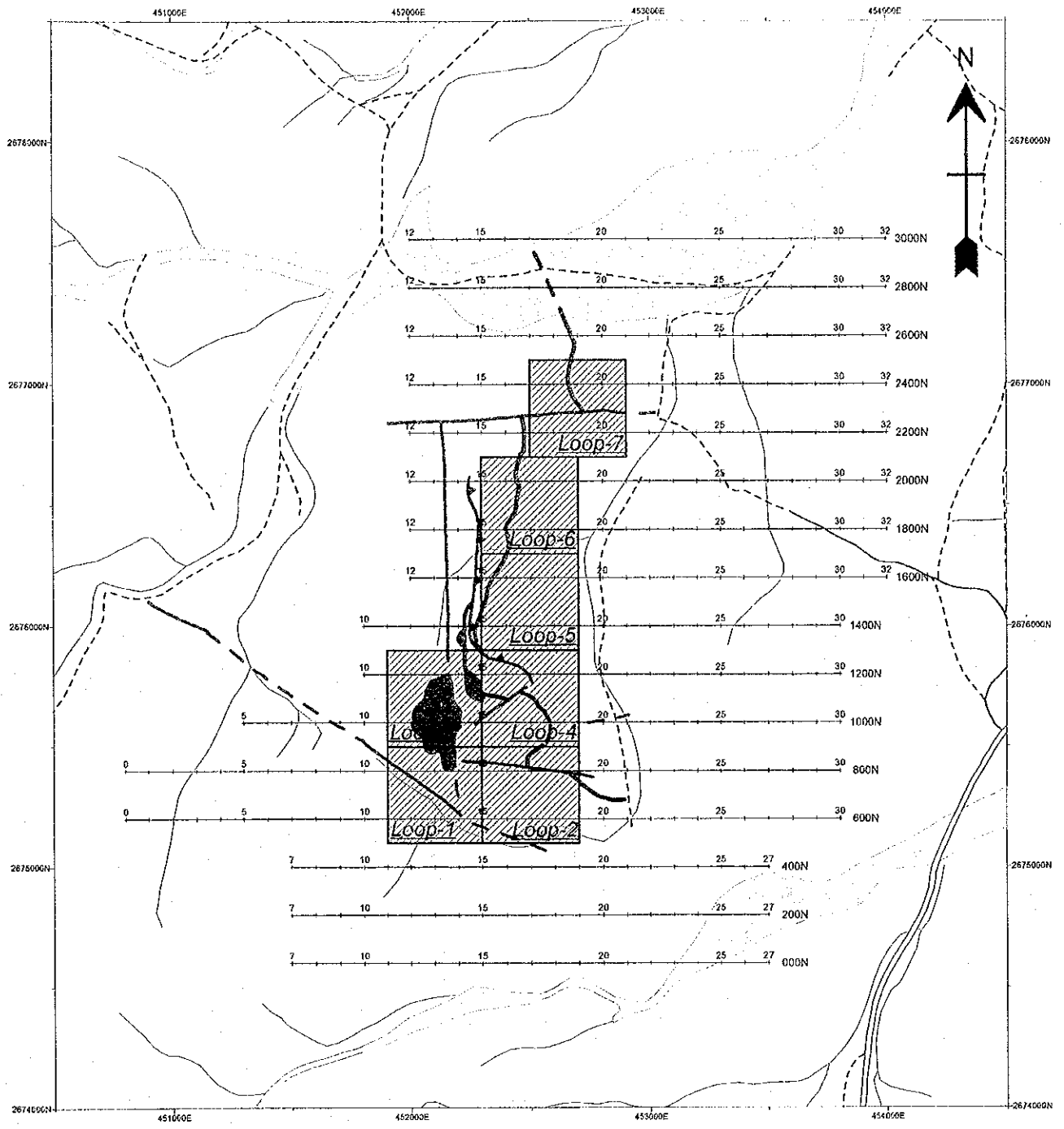
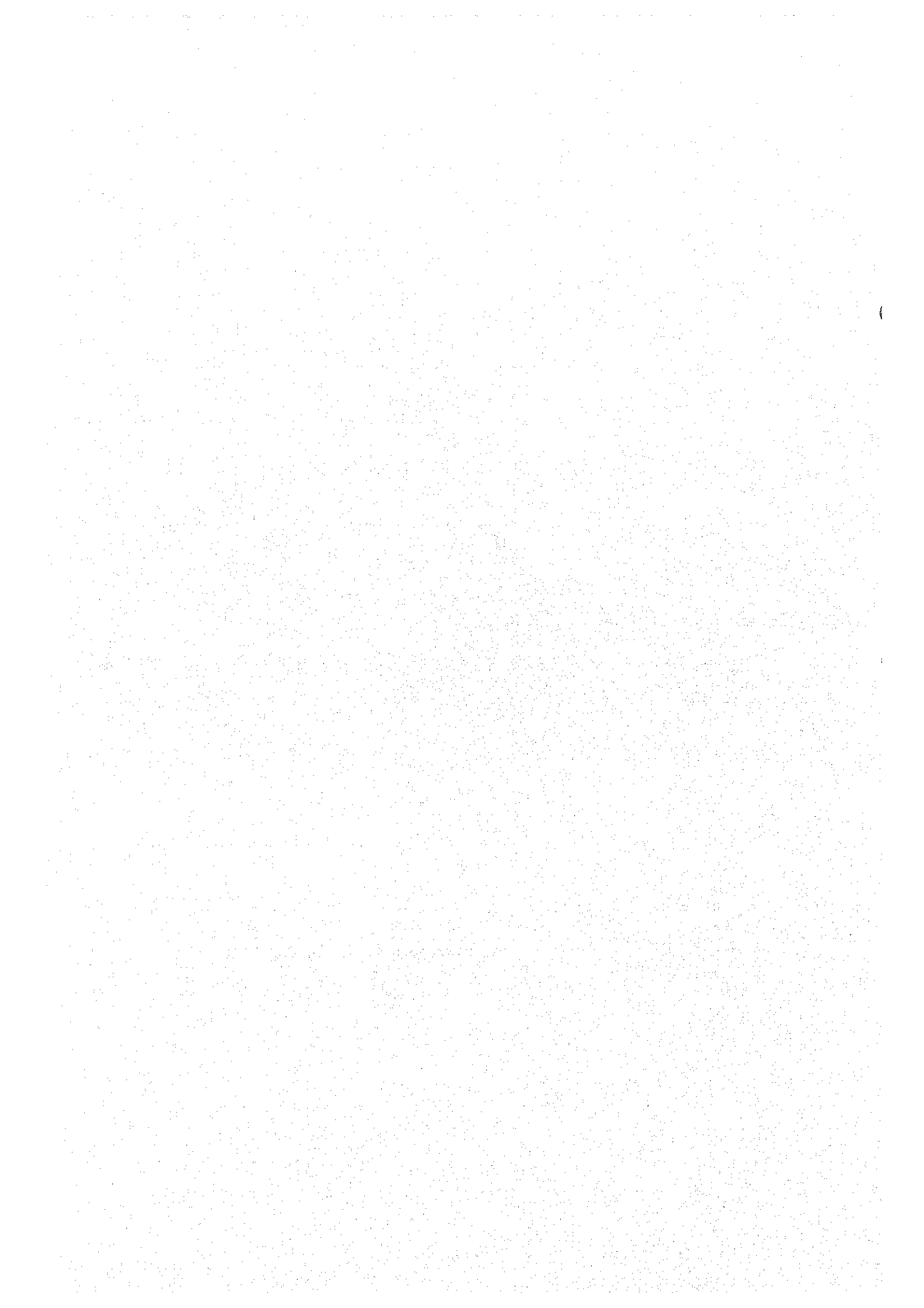


Fig. II -2-20 Geophysical survey location in Zuha area





Fig. II-2-20 Geophysical survey location in Zuba area



## **(2) Results**

Pseudo sections of apparent resistivity, chargeability and metal factor values are presented from Fig. II-2-21(1) to Fig. II-2-23(2). Compiled contour maps of apparent resistivity, chargeability and metal factor for  $n=1$  to 4 are presented from Fig. II-2-24 to Fig. II-2-27.

Around the station No.13 of line 1000N and to the west side of the gossan, a high resistivity distribution is seen with values above  $250 \Omega\text{-m}$ . This distribution is seen extended towards the north side. As shown in the Figs. II-2-24 to II-2-27, this high resistivity distribution seems to be surrounded by rather low resistivity distribution.

In relation to the chargeability distribution, it shows almost same distribution pattern as the resistivity, for instance, in the gossan and its surroundings where chargeabilities higher than  $10\text{mV/V}$  were detected, the resistivity showed also high values and in other places where low resistivities were found the chargeability were also low.

As far as the metal factor is concerned, the high values detected correspond to high chargeability, but in these places they are accompanied also by high resistivity values. As seen in the Fig. II-2-24, there is seen a remarkable anomaly at shallow levels around the station No.13 between the lines 800N and 1000N in agreement with comparatively low resistivity values. No mineralization related to the existence of massive sulphide is expected in this zone because this anomaly is probably located within V1-1 formation.

## **(3) 2D analysis**

2D analysis was performed for all the lines, but here for matter of convenience, only the sections containing representative anomalies will be described. On these regards, only the 2D results of lines 1000N and 1200N will be briefly described (Fig. II-2-28).

In relation to the line 1000N, at the shallow part of the station No.8 and No.13 the apparent resistivity shows low values of less than  $30 \Omega\text{-m}$ . And at depths of more than 100m between the stations No.12 and No.13 the chargeability shows more than  $15\text{mV/V}$ , however, at this depth middle resistivity value about  $60 \Omega\text{-m}$  are detected.

In relation to the line 1200N, in the west side from station No.17, the chargeability shows entirely high values. At shallow levels below the station No.13 the apparent resistivity shows comparatively middle resistivity values of less than  $50 \Omega\text{-m}$ , however, the chargeability values shows values less than  $12\text{mV/V}$ .

## **2-5-4 Maqail area**

### **(1) Lines location**

In this area, 8 lines from 000N to 1600N were surveyed last year. Based on the results of the last year, this year the survey was extended to the north of the area by setting up 6 lines as follows:

2 lines: 1800N and 2000N with a length of 2.1km each, 3 lines: 2200N, 2400N and 2600N with a length of 2.1km each and 1 more line: 2800N with a length of 1.7km. Fig. II-2-29 shows the location of the TDIP lines surveyed in the last 2 years.

### **(2) Results**



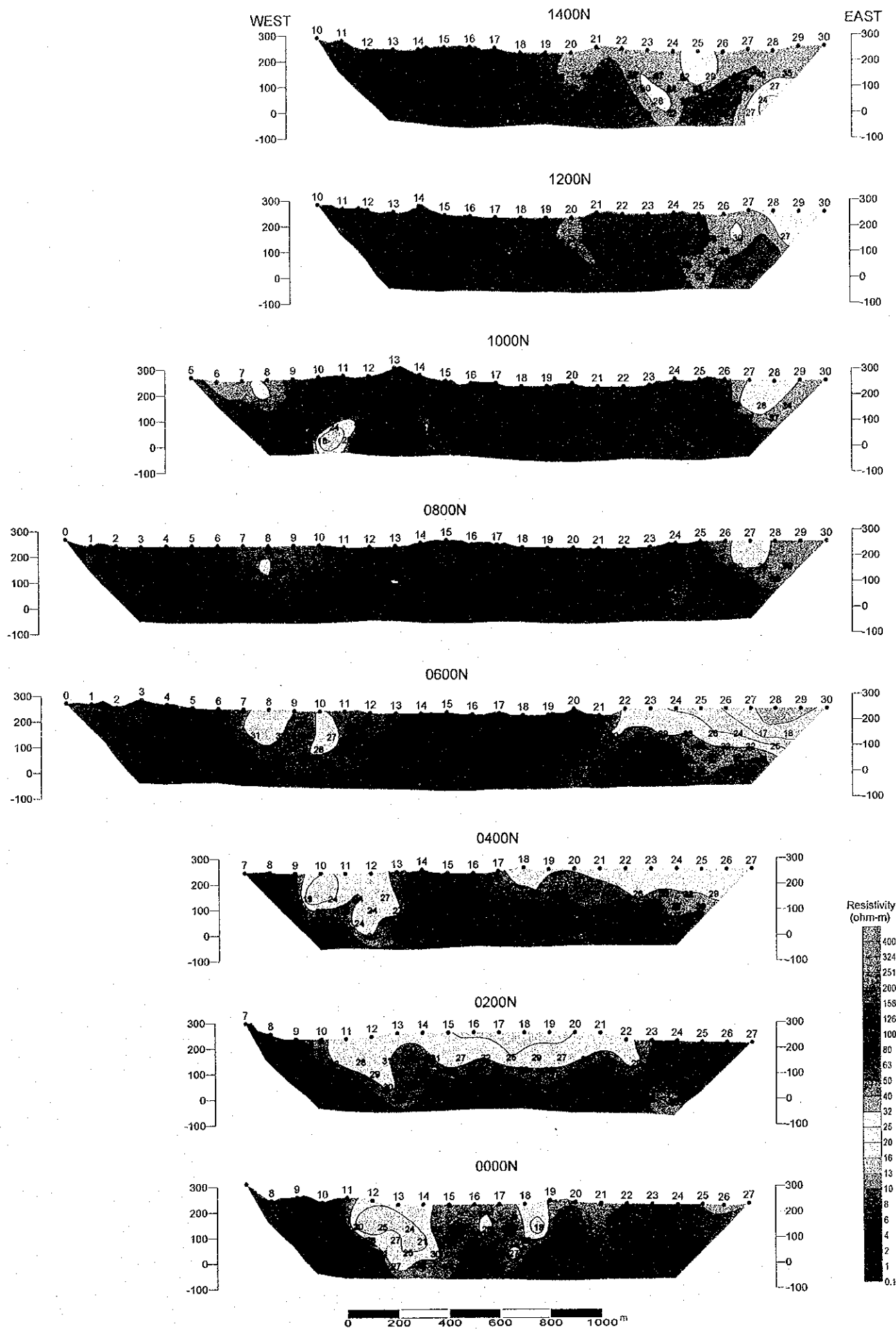


Fig. II-2-21(1) Apparent resistivity pseudo-sections in Zuha area

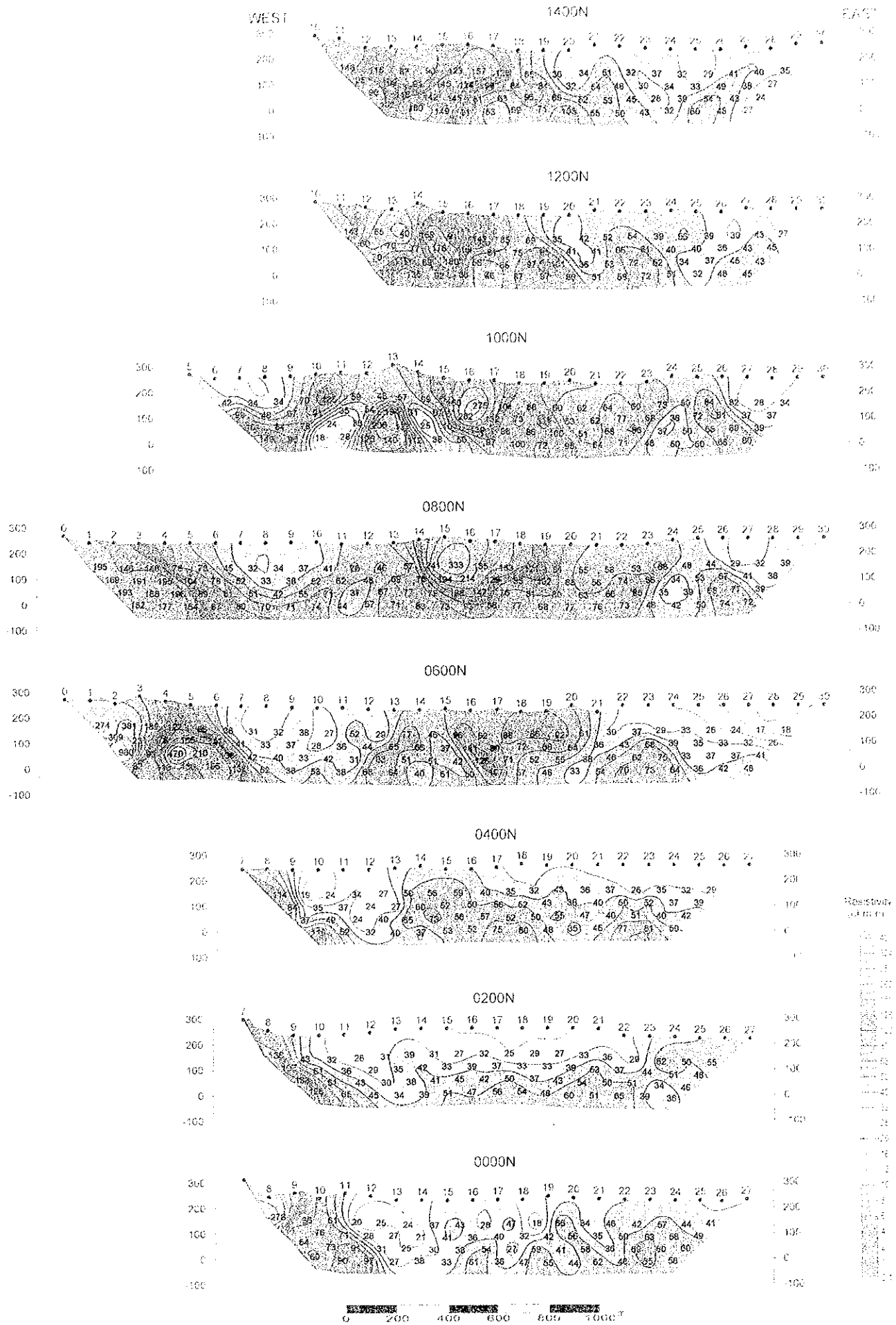


Fig. II-2-21(1) Apparent resistivity pseudo-sections in Zaha area

115 87 63 77 151 170 82 37 34 61 37 37 31 31 41 4 4  
105 93 125 125 99 64 87 37 54 46 31 34 53 49 35 1  
119 143 145 11 61 52 66 12 55 46 11 38 47 42 47  
102 150 148 11 60 108 11 31 42 55 43 31 37 46

44 40 149 91 148 85 81 35 42 52 54 38 53 65 34 45  
77 178 168 87 75 68 41 41 65 61 40 40 36 43 48  
119 89 100 56 66 57 105 35 53 72 62 34 37 45 45  
106 59 38 48 87 95 89 81 58 72 51 51 42 42

37 34 34 70 102 58 45 57 56 169 275 104 60 60 62 54 69 73 50 64 32 37 37  
24 45 67 81 55 64 180 91 61 262 132 73 115 50 62 77 58 35 72 81 37 37  
164 12 78 74 83 200 13 231 102 58 54 14 100 51 158 80 37 50 64 60 38  
146 92 76 84 185 140 110 30 104 57 100 72 65 64 71 45 50 55 83 80

155 145 148 76 73 45 32 34 37 41 70 42 57 101 333 155 183 124 81 55 56 58 56 48 44 24 42 37  
110 161 180 104 78 52 33 38 52 82 45 69 78 104 214 125 85 102 65 66 74 86 32 55 67 41 38  
158 188 156 80 51 51 42 53 71 37 67 77 38 128 147 76 81 80 62 66 85 35 38 65 77 38  
182 172 154 61 80 79 71 74 44 67 71 89 75 81 86 77 68 77 76 73 45 42 50 74 72

174 151 153 122 45 38 31 52 35 7 52 28 67 49 46 82 188 68 22 61 30 37 26 35 37 14 17 14  
109 231 183 183 41 41 33 87 14 36 44 65 66 37 41 85 72 62 64 35 43 68 38 35 40 34 14  
140 91 170 210 138 42 40 33 42 31 83 51 51 42 126 71 52 55 36 46 68 75 30 37 31 41  
85 145 183 160 138 51 38 53 38 68 94 45 51 50 107 57 40 33 54 78 73 64 35 42 41

64 35 37 34 77 60 52 50 34 52 43 38 40 60 52 57 35  
37 46 14 40 65 73 66 57 52 50 55 47 40 55 45 47  
119 52 52 40 27 55 52 75 80 45 55 42 55 30

108 42 32 11 38 37 47 32 25 74 27 35 35 19 55 50 71  
100 64 36 19 35 42 33 39 57 33 33 39 62 67 44 51 48  
33 81 43 33 36 41 45 42 50 37 45 54 53 61 34 41  
126 65 45 34 38 51 47 55 54 46 60 51 65 32 37

112 35 41 21 75 24 37 45 28 47 18 65 34 40 42 53 14 47  
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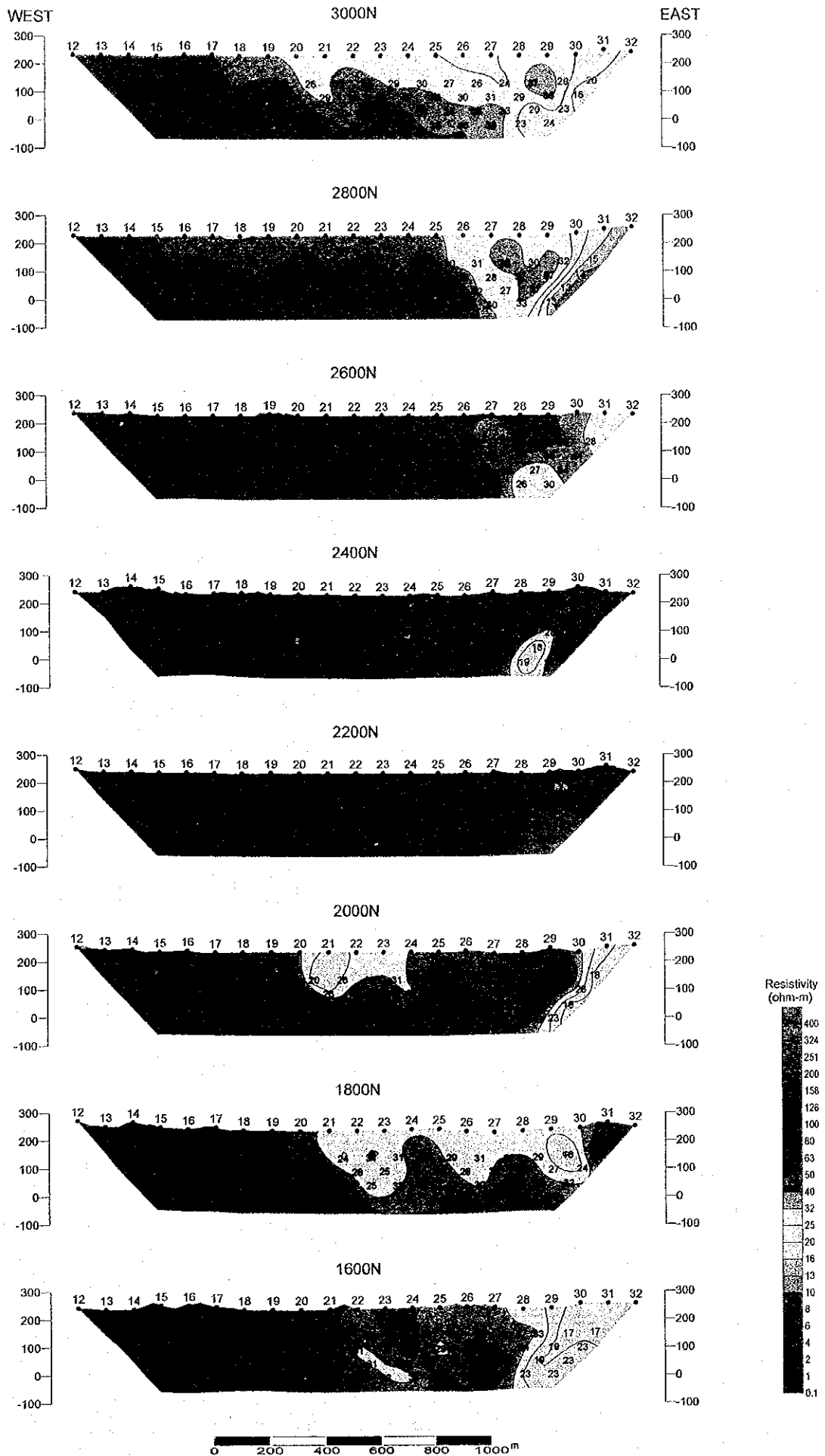


Fig. II -2-21(2) Apparent resistivity pseudo-sections in Zuha area

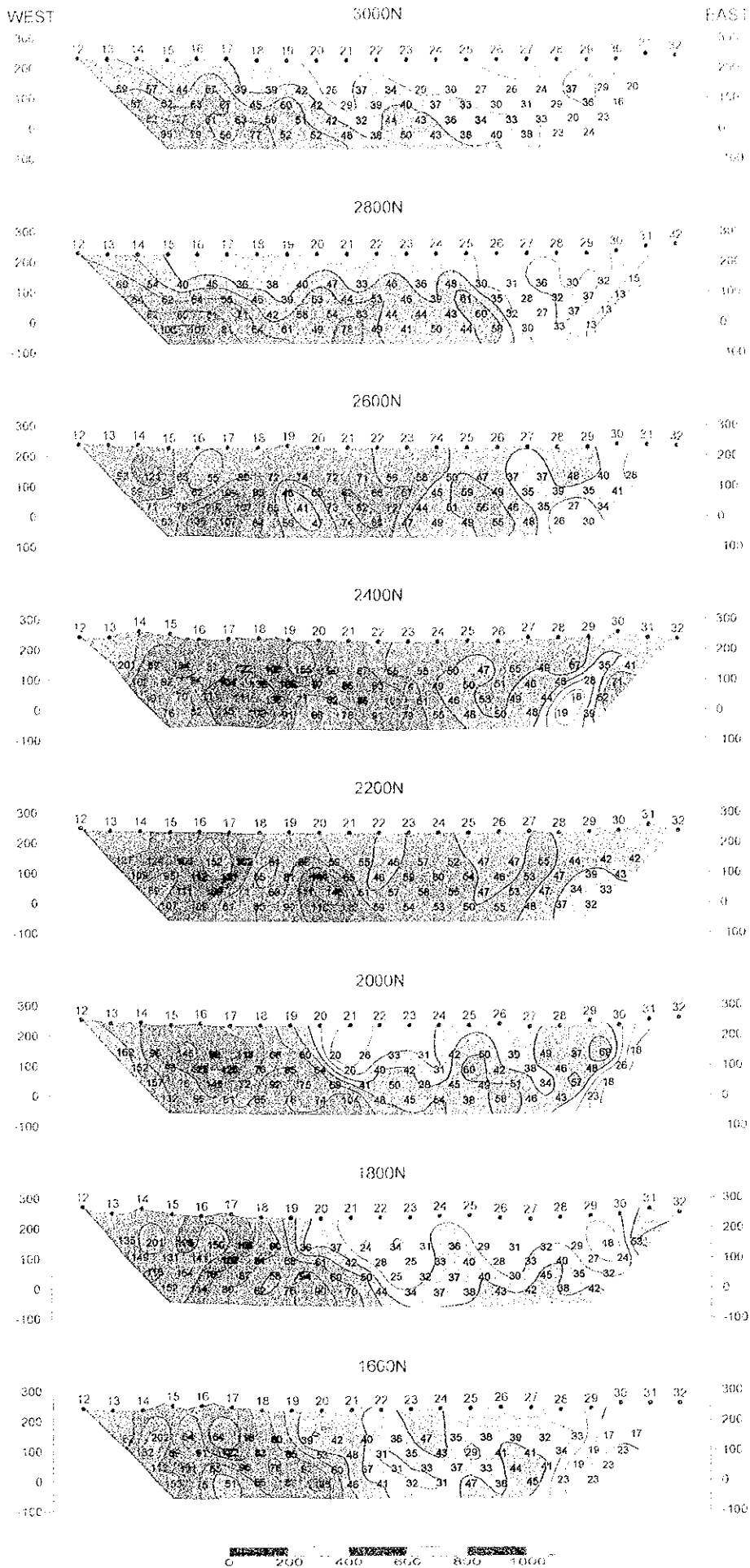


Fig. II-2-21(2) Apparent resistivity pseudo-sections in Zuha area

56 57 44 67 39 38 42 21 37 34 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

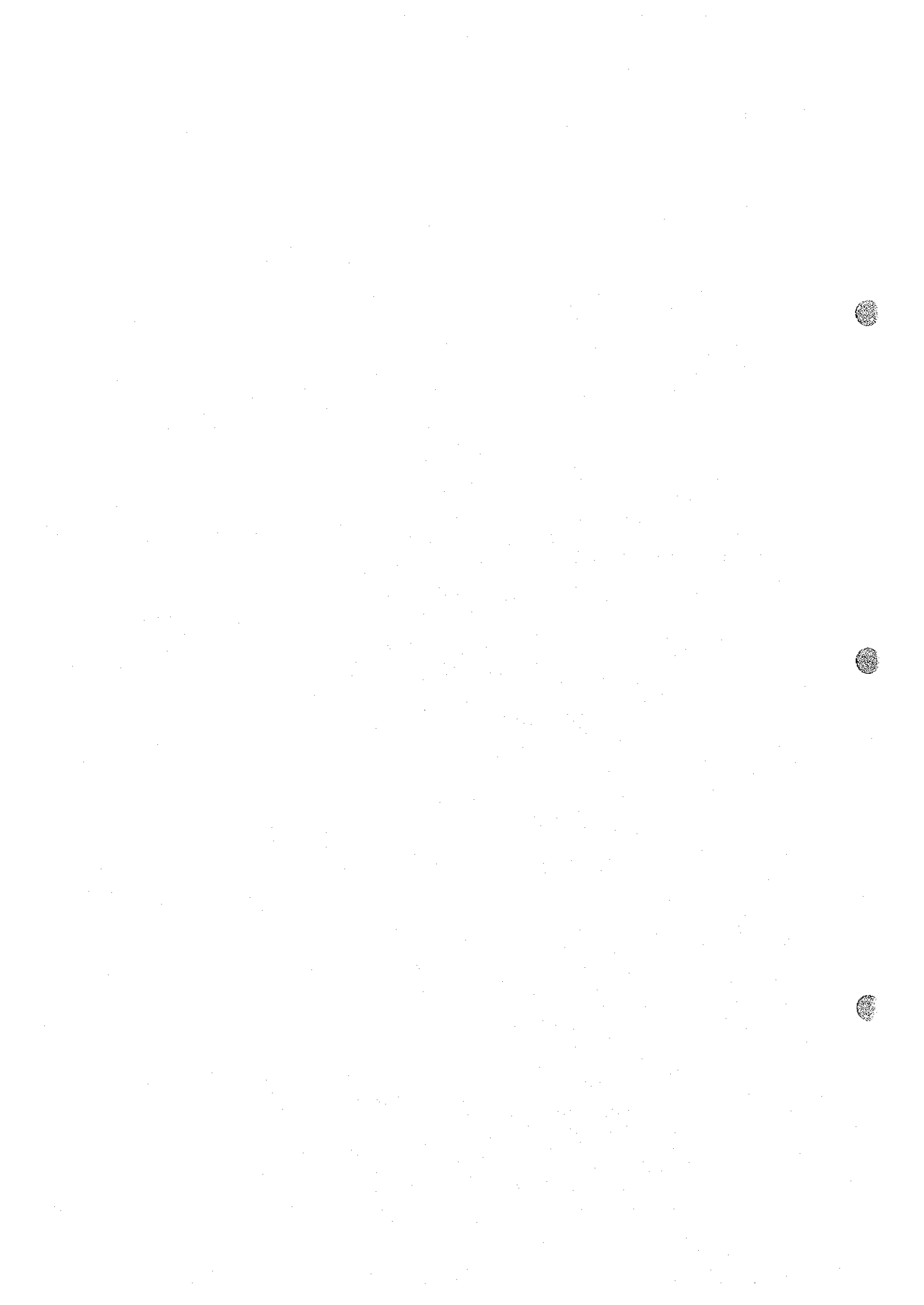
30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300

200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300



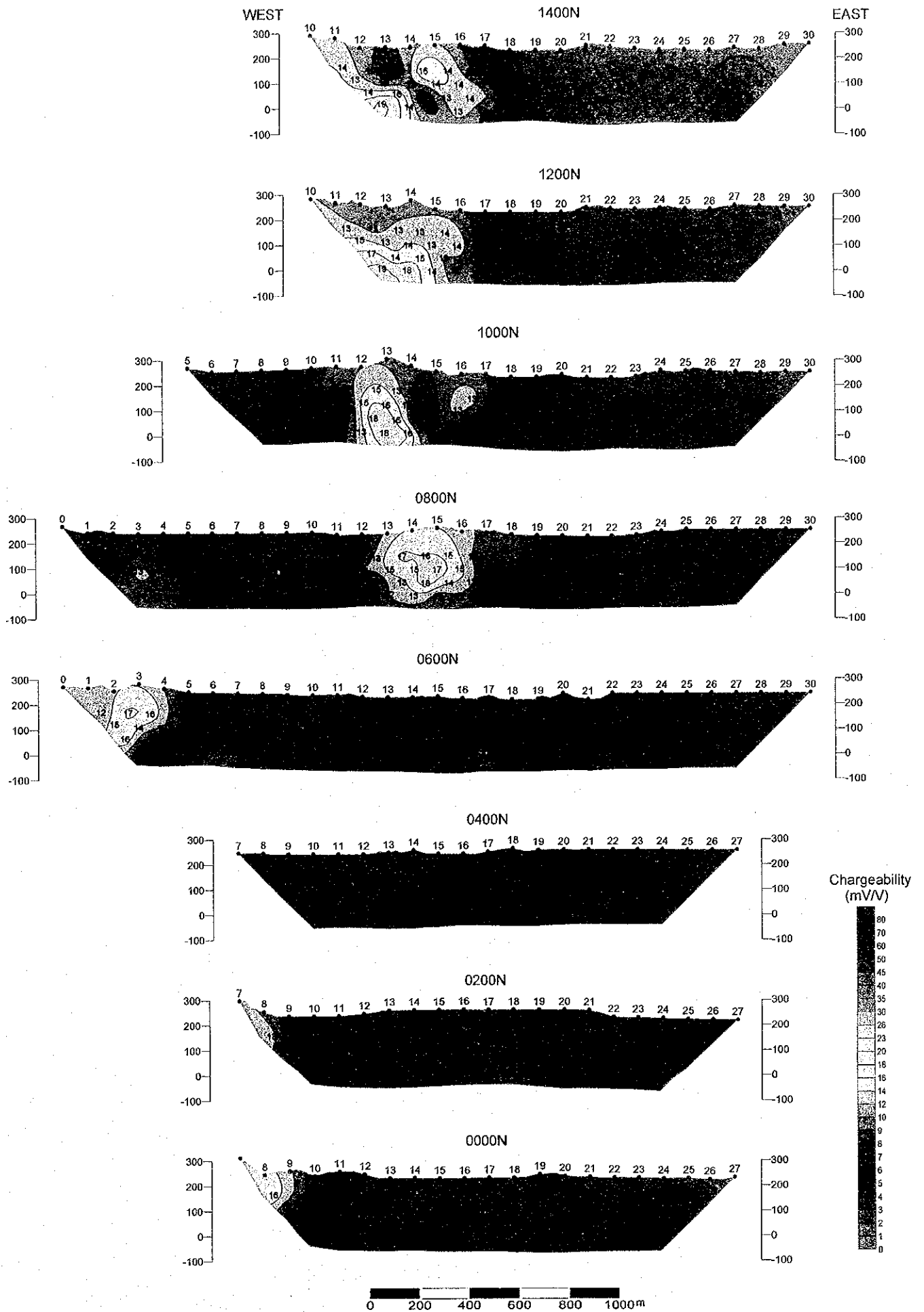


Fig. II-2-22(1) Chargeability pseudo-sections in Zuha area

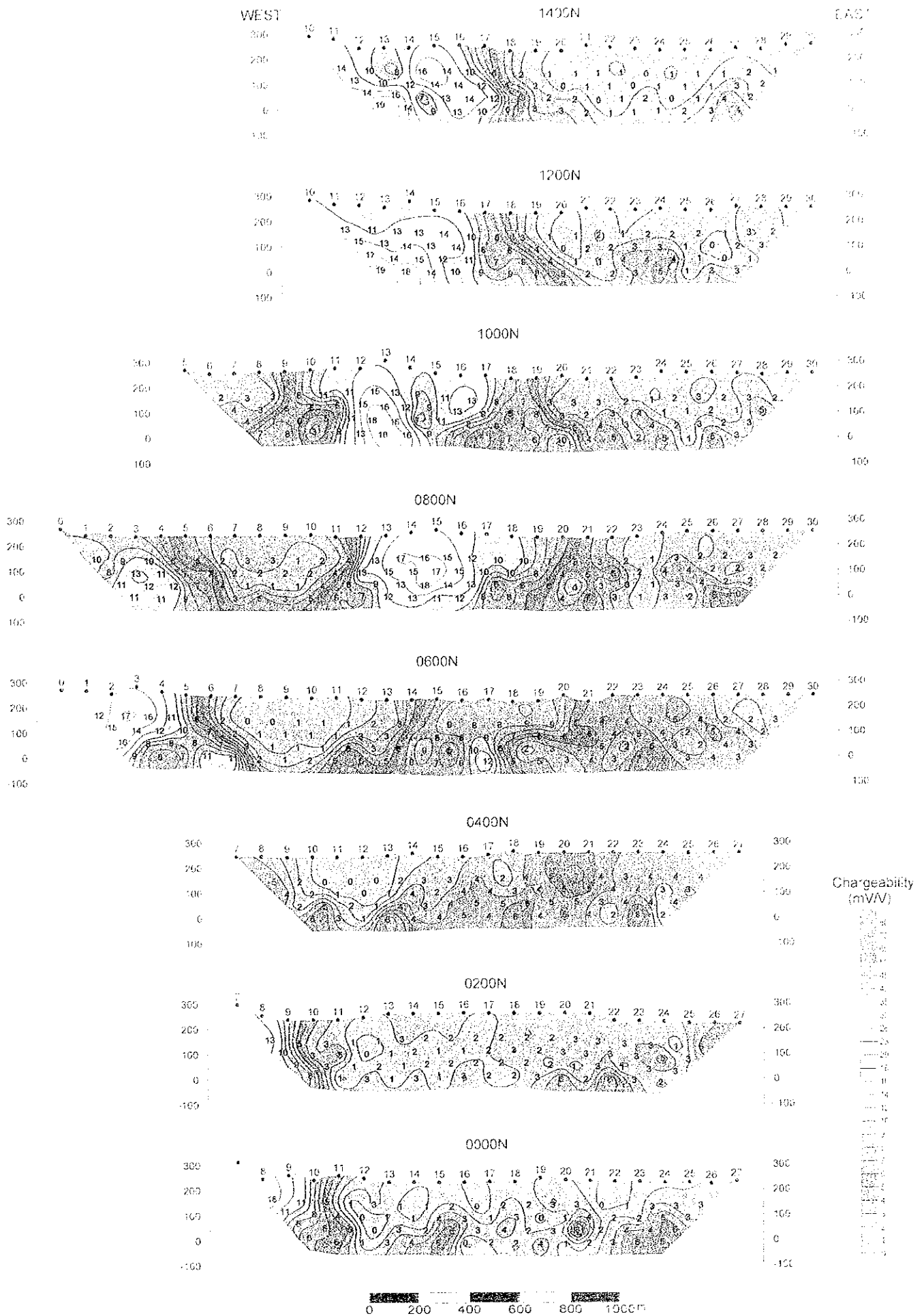
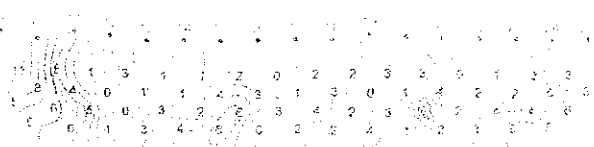
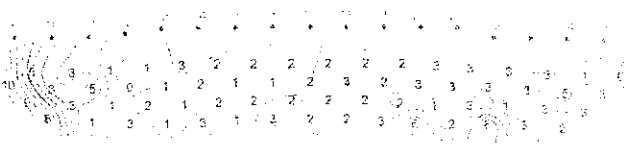
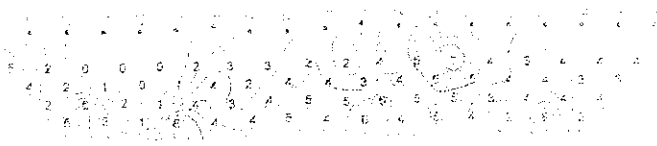
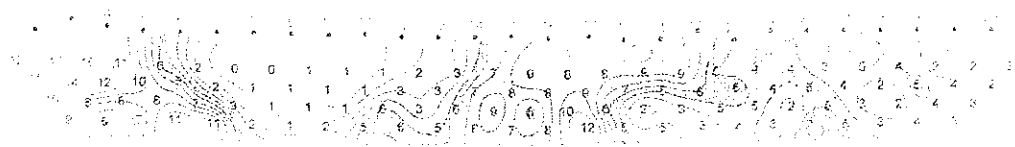
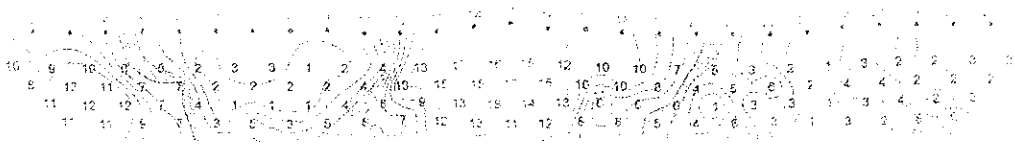
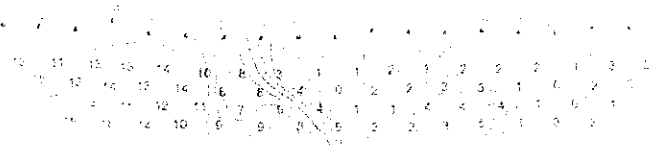


Fig. II-2-22(1) Chargeability pseudo-sections in Zuha area



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