

Appendix 8: Results of statistic analysis of soil assay, Basic Statistic, Correlation matrix, EDA Analysis (Histogram, EDA and cumulative frequency of each element of soil samples), Dendrogram, Factor Loading

Statistics of soil geochemical data

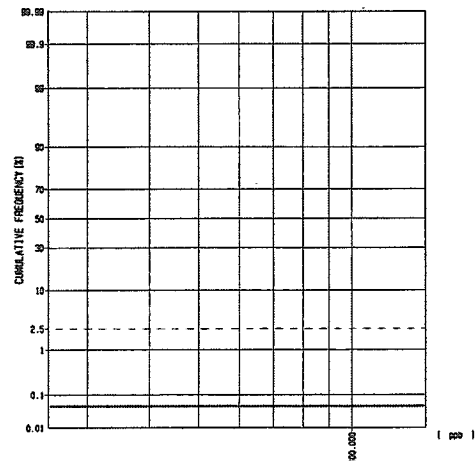
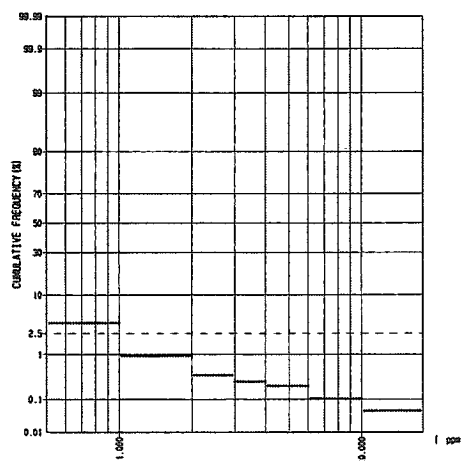
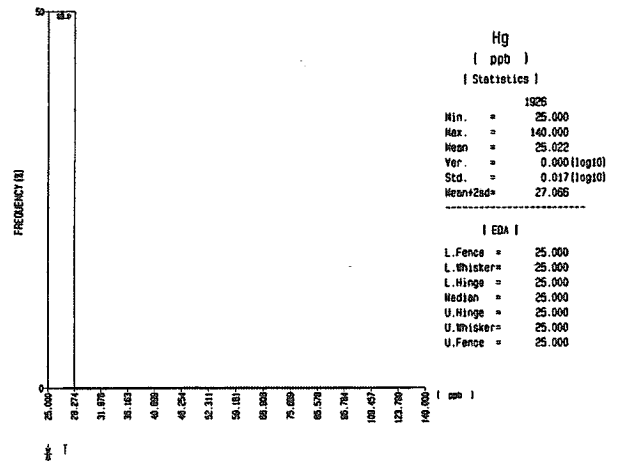
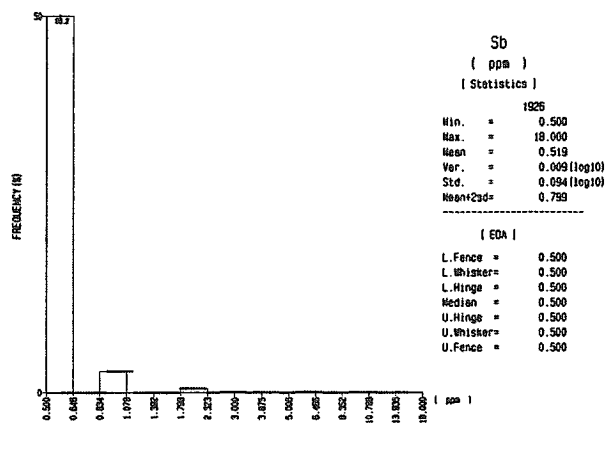
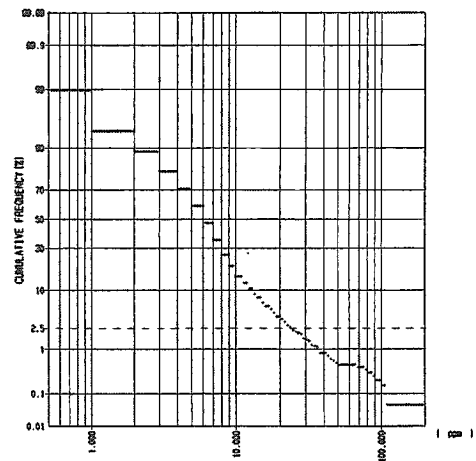
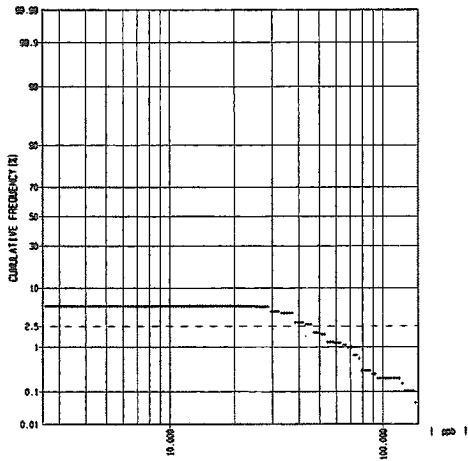
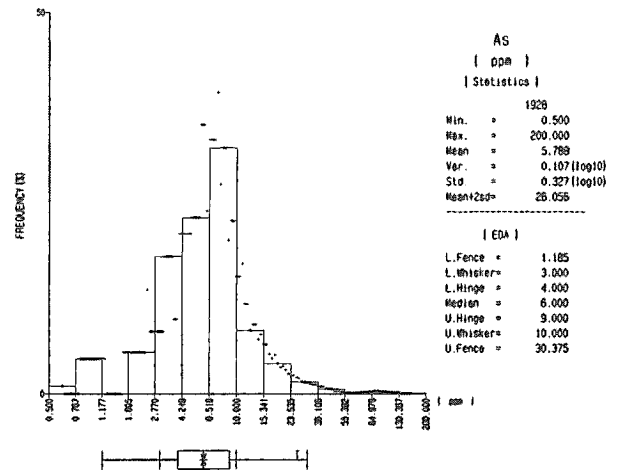
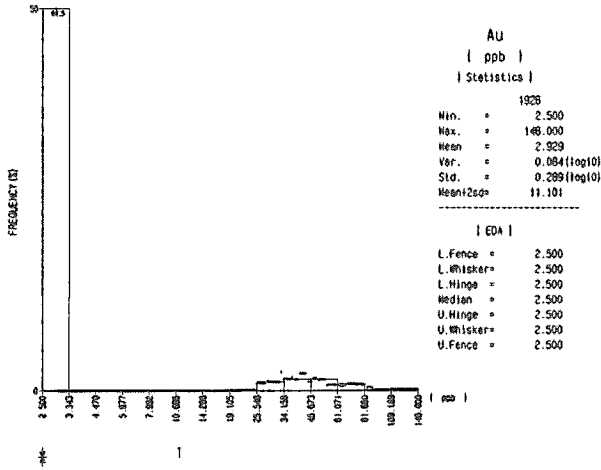
Elements	Mean	Var.	S.D.	Min	Max	Mean+2SD	D.L.	B.D.L.(%)
Au (ppb)	2.9	0.084*	0.289*	2.5	146.0	11.1	5	94.5
As (ppm)	5.8	0.107*	0.327*	0.5	200.0	26.1	1	1.0
Sb (ppm)	0.5	0.009*	0.094*	0.5	18.0	0.8	1	96.2
Hg (ppb)	25.0	0.000*	0.017*	25.0	140.0	27.1	50	99.9
Ga (ppm)	20.2	0.006*	0.075*	9.0	47.0	28.5	5.0	0.0
S (ppm)	211.4	0.023*	0.153*	57.0	877.0	427.1	50	0.0
U (ppm)	0.5	0.000*	0.000*	0.5	0.5	0.5	1.0	100.0
Ag (ppm)	0.50	0.000*	0.008*	0.50	1.10	0.52	1.0	99.9
Al (%)	2.07	0.005*	0.070*	0.90	3.20	2.85	0.10	0.0
B (ppm)	5.6	0.016*	0.128*	5.0	20.0	10.1	10	86.9
Ba (ppm)	143.9	0.022*	0.150*	35.0	670.0	286.4	1	0.0
Be (ppm)	0.50	0.001*	0.033*	0.50	1.30	0.59	1.0	99.0
Bi (ppm)	5.0	0.000*	0.000*	5.0	5.0	5.0	10	100.0
Ca (%)	0.348	0.041*	0.203*	0.020	3.860	0.885	0.01	0.0
Cd (ppm)	0.50	0.000*	0.000*	0.50	0.50	0.50	1.0	100.0
Co (ppm)	9.40	0.021*	0.146*	1.50	48.00	18.42	3.0	0.3
Cr (ppm)	28.45	0.128*	0.358*	1.90	1129.00	148.26	1	0.0
Cu (ppm)	20.48	0.017*	0.130*	5.10	85.00	37.30	1	0.0
Fe (%)	1.735	0.014*	0.120*	0.460	4.200	3.013	0.01	0.0
K (%)	0.171	0.033*	0.182*	0.020	1.500	0.394	0.01	0.0
La (ppm)	21.5	0.010*	0.102*	5.0	65.0	34.3	10	0.6
Li (ppm)	10.06	0.026*	0.162*	2.80	44.00	21.20	1	0.0
Mg (%)	0.270	0.034*	0.186*	0.050	2.600	0.635	0.01	0.0
Mn (%)	0.060	0.034*	0.184*	0.005	0.360	0.141	0.01	0.3
Mo (ppm)	0.73	0.070*	0.265*	0.50	7.00	2.46	1.0	70.5
Na (%)	0.014	0.144*	0.380*	0.005	0.570	0.081	0.01	28.6
Ni (ppm)	11.37	0.063*	0.252*	1.60	703.00	36.21	3.0	0.0
P (%)	0.016	0.055*	0.235*	0.005	0.150	0.048	0.01	7.1
Pb (ppm)	19.83	0.012*	0.111*	7.20	40.00	33.05	0	0.0
Sc (ppm)	1.06	0.188*	0.433*	0.50	11.00	7.80	1.0	61.3
Sn (ppm)	5.0	0.000*	0.000*	5.0	5.0	5.0	10	100.0
Sr (ppm)	36.57	0.034*	0.183*	7.10	262.00	85.03	0	0.0
Tl (ppm)	0.50	0.000*	0.000*	0.50	0.50	0.50	1	100.0
Ti (%)	0.030	0.083*	0.289*	0.005	0.280	0.113	0.01	3.6
V (ppm)	43.7	0.016*	0.128*	10.0	223.0	78.6	10	0.0
W (ppm)	5.0	0.000*	0.007*	5.0	10.0	5.2	10	99.9
Y (ppm)	14.17	0.013*	0.114*	2.60	58.00	23.98	0.1	0.0
Zn (ppm)	35.5	0.019*	0.138*	12.0	426.0	67.2	1	0.0
Zr (ppm)	6.02	0.060*	0.245*	1.00	22.00	18.65	3	0.4

Results of the EDA analysis of soil geochemical data

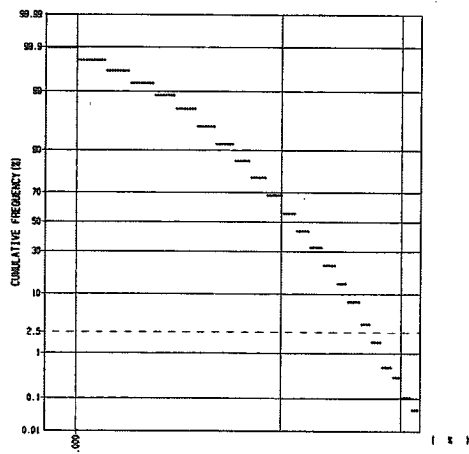
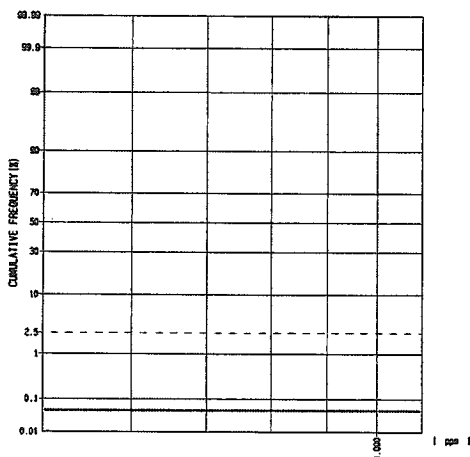
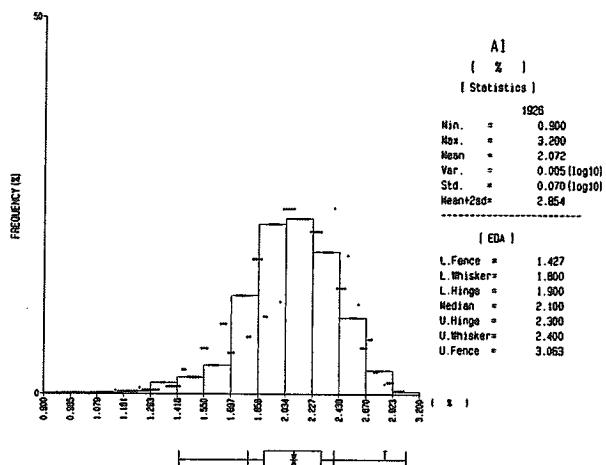
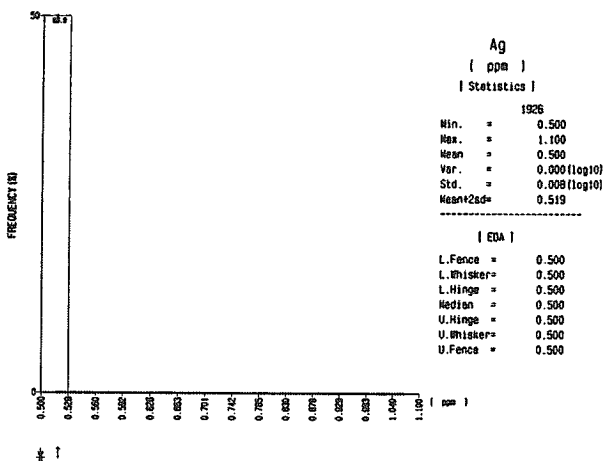
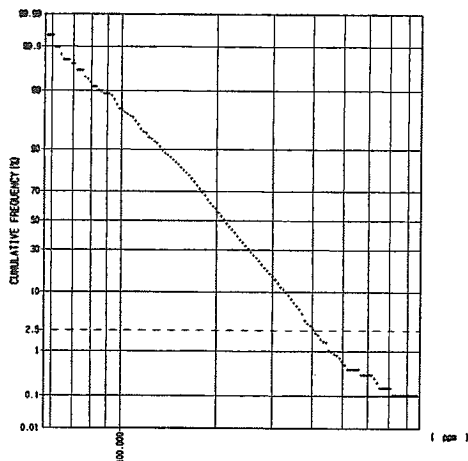
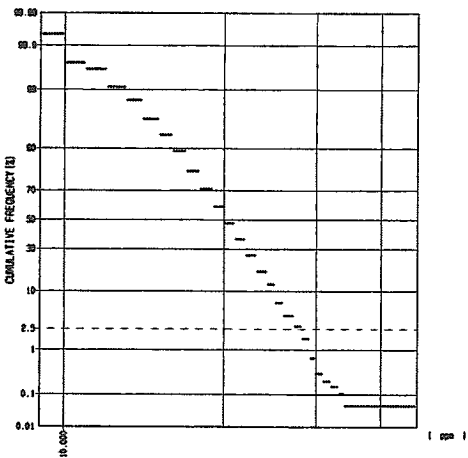
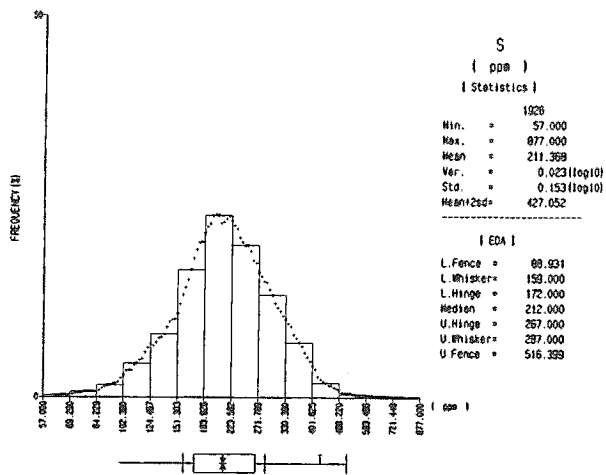
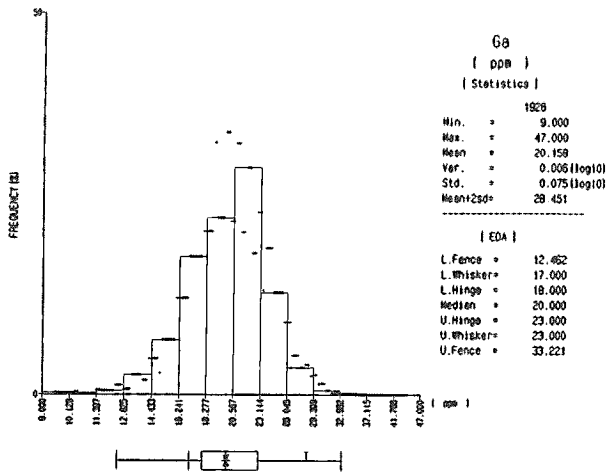
Elements	L.Fence	L.Wisker	L.Hinge	Median	U.Hinge	U.Wisker	U.Fence
Au (ppb)	2.5	2.5	2.5	2.5	2.5	2.5	2.5
As (ppm)	1.2	3.0	4.0	6.0	9.0	10.0	30.4
Sb (ppm)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Hg (ppb)	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Ga (ppm)	12.5	17.0	18.0	20.0	23.0	23.0	33.2
S (ppm)	88.9	159.0	172.0	212.0	267.0	287.0	516.4
U (ppm)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ag (ppm)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Al (%)	1.43	1.80	1.90	2.10	2.30	2.40	3.06
B (ppm)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Ba (ppm)	61.0	108.0	116.0	145.0	178.0	191.0	338.3
Be (ppm)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Bi (ppm)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Ca (%)	0.125	0.240	0.270	0.360	0.450	0.490	0.968
Cd (ppm)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Co (ppm)	4.81	7.50	7.90	9.40	11.00	12.00	18.07
Cr (ppm)	3.18	14.00	16.00	24.00	47.00	58.00	236.63
Cu (ppm)	10.14	16.00	17.00	20.00	24.00	26.00	40.26
Fe (%)	0.906	1.400	1.500	1.700	2.100	2.200	3.479
K (%)	0.059	0.120	0.130	0.170	0.220	0.240	0.484
La (ppm)	13.4	18.0	19.0	22.0	24.0	25.0	34.1
Li (ppm)	3.63	7.30	7.80	10.00	13.00	14.00	27.97
Mg (%)	0.098	0.190	0.210	0.270	0.350	0.380	0.753
Mn (%)	0.030	0.050	0.050	0.060	0.070	0.080	0.116
Mo (ppm)	0.13	0.50	0.50	0.50	1.20	1.50	4.46
Na (%)	0.000	0.005	0.005	0.010	0.030	0.030	0.441
Ni (ppm)	3.68	7.50	8.20	10.00	14.00	16.00	31.23
P (%)	0.004	0.010	0.010	0.020	0.020	0.020	0.057
Pb (ppm)	10.14	16.00	17.00	20.00	24.00	25.00	40.26
Sc (ppm)	0.04	0.50	0.50	0.50	2.90	3.60	40.51
Sn (ppm)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Sr (ppm)	12.10	25.00	28.00	38.00	49.00	53.00	113.44
Tl (ppm)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Ti (%)	0.007	0.020	0.020	0.030	0.040	0.050	0.113
V (ppm)	23.6	35.0	37.0	43.0	50.0	53.0	78.5
W (ppm)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Y (ppm)	9.52	12.00	13.00	14.00	16.00	17.00	21.85
Zn (ppm)	16.1	27.0	29.0	36.0	43.0	46.0	77.6
Zr (ppm)	1.18	3.60	4.10	6.20	9.40	10.00	32.63

Results of factor analysis of soil geochemical data

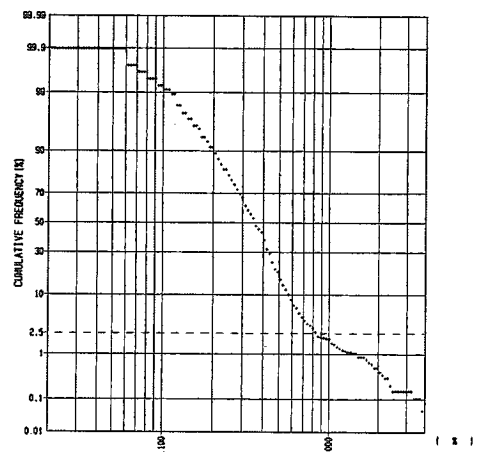
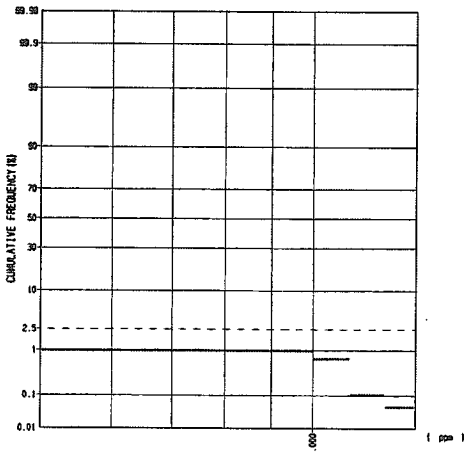
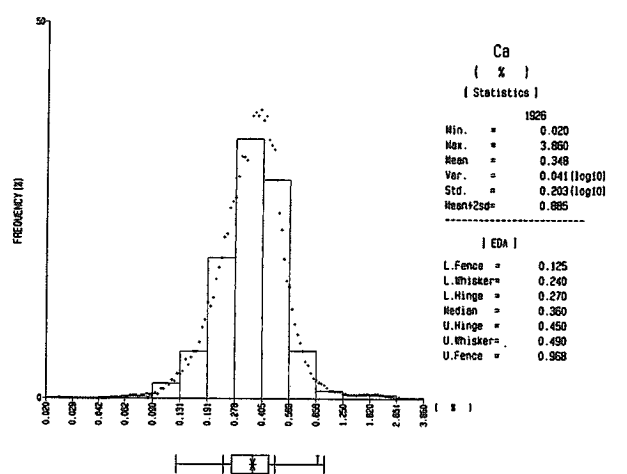
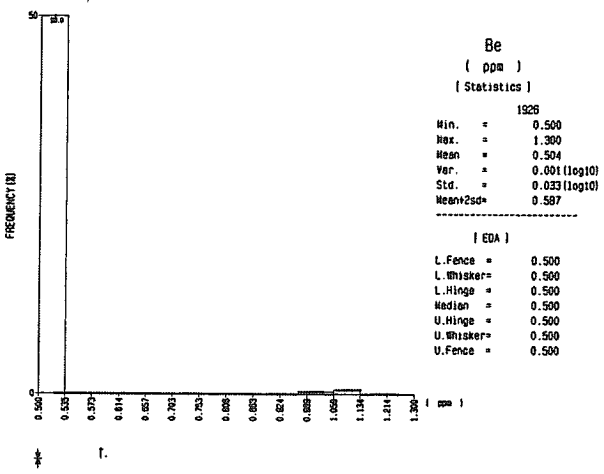
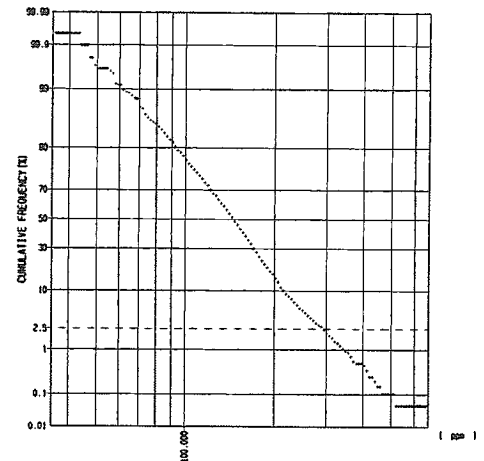
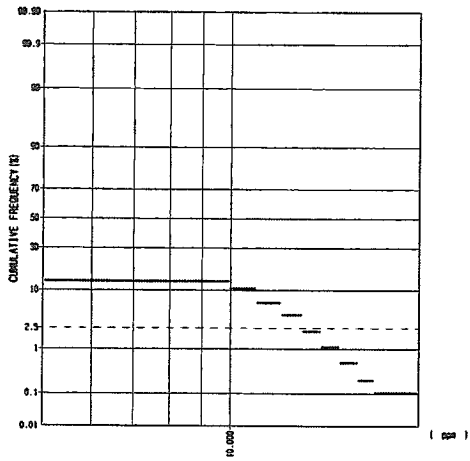
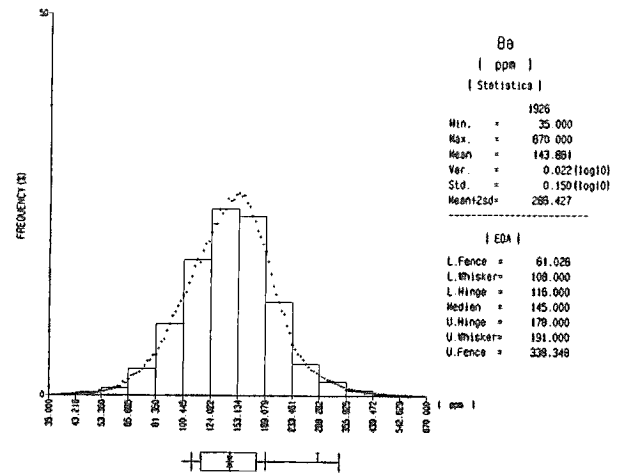
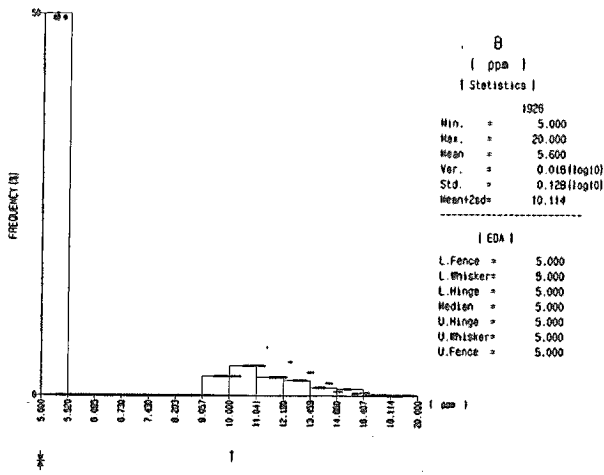
	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7	Community
Au	-0.031	-0.006	-0.089	-0.018	0.042	0.078	-0.006	0.017
As	-0.327	-0.065	-0.330	-0.063	-0.121	-0.036	-0.047	0.242
Ga	-0.073	-0.680	-0.110	-0.125	0.009	-0.014	-0.054	0.498
S	-0.095	-0.140	-0.749	0.076	-0.088	0.043	-0.043	0.608
Al	-0.243	-0.782	-0.054	-0.134	0.202	0.168	0.115	0.774
Ba	-0.189	0.032	-0.182	-0.593	0.150	0.331	0.004	0.553
Ca	-0.117	-0.173	0.001	-0.340	-0.134	0.722	0.029	0.699
Co	-0.775	-0.106	-0.037	-0.030	-0.003	0.119	0.272	0.703
Cr	-0.555	0.066	-0.003	0.227	0.228	-0.038	0.457	0.626
Cu	-0.754	-0.311	-0.103	-0.250	0.084	0.110	0.160	0.784
Fe	-0.718	-0.494	-0.121	-0.098	0.272	-0.110	0.162	0.896
K	-0.033	-0.498	-0.121	-0.131	0.531	0.143	0.154	0.607
La	0.061	-0.278	0.051	-0.714	0.084	0.355	0.046	0.728
Li	-0.239	-0.753	-0.010	-0.008	0.343	0.264	-0.058	0.815
Mg	-0.601	-0.394	-0.093	0.014	0.206	0.454	-0.111	0.786
Mn	-0.337	0.105	0.059	-0.049	-0.006	0.197	0.660	0.606
Mo	-0.031	-0.141	-0.009	-0.070	0.039	-0.062	0.374	0.171
Na	0.048	-0.271	0.581	0.034	0.026	0.348	0.172	0.566
Ni	-0.815	-0.012	-0.148	0.125	0.136	0.077	0.062	0.730
P	-0.130	-0.014	-0.733	-0.050	0.219	-0.079	0.172	0.641
Pb	-0.156	-0.768	0.101	-0.180	-0.060	0.214	0.207	0.749
Sc	-0.285	-0.435	0.072	-0.152	0.157	-0.044	0.025	0.326
Sr	0.124	-0.246	0.351	-0.274	-0.056	0.684	0.034	0.747
Ti	-0.304	-0.242	-0.013	-0.057	0.628	-0.194	0.058	0.590
V	-0.727	-0.380	-0.207	-0.091	0.024	-0.125	-0.021	0.741
Y	0.019	-0.340	0.065	-0.751	-0.032	0.019	0.104	0.697
Zn	-0.389	-0.436	-0.232	-0.321	0.313	0.210	0.023	0.641
Zr	-0.092	-0.588	0.415	-0.204	-0.093	0.426	0.022	0.759



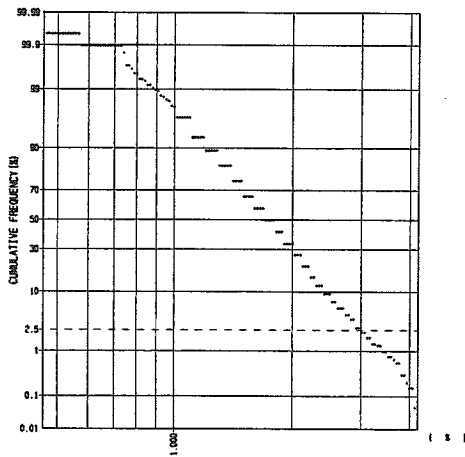
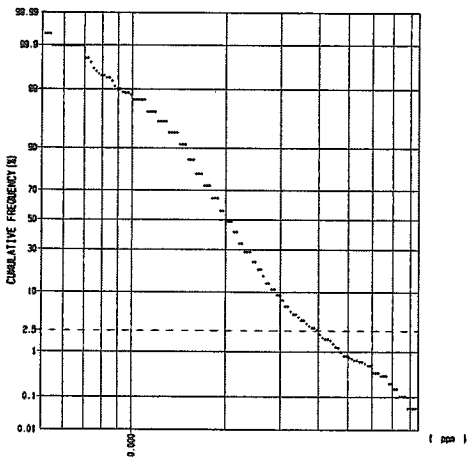
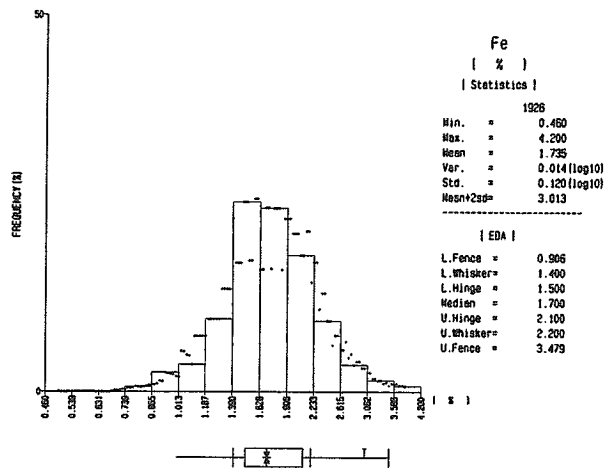
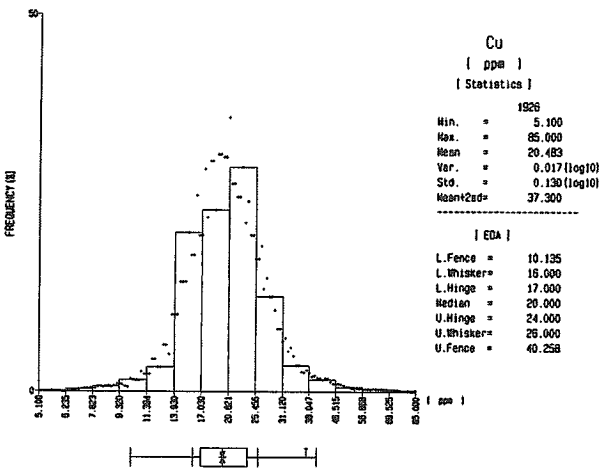
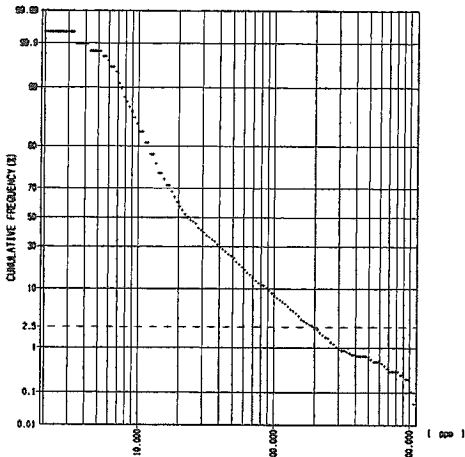
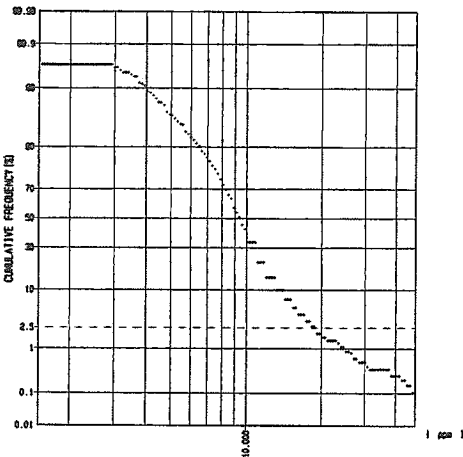
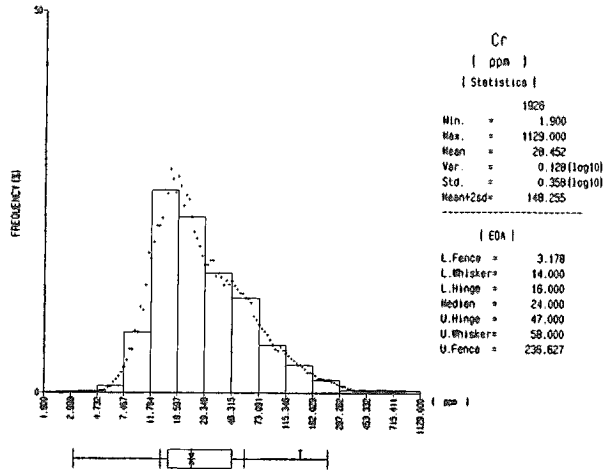
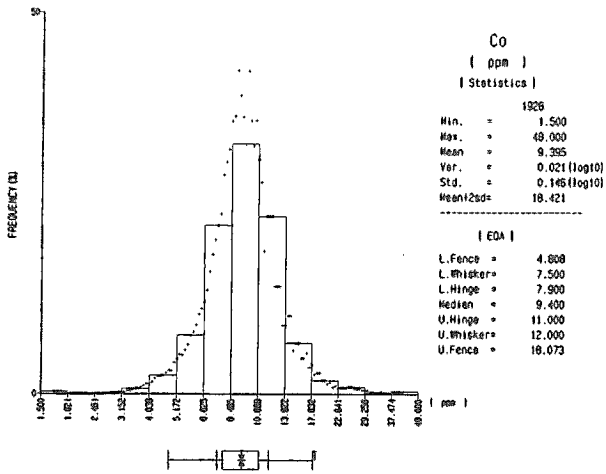
Histogram, EDA and cumulative frequency of each element of soil samples (1)



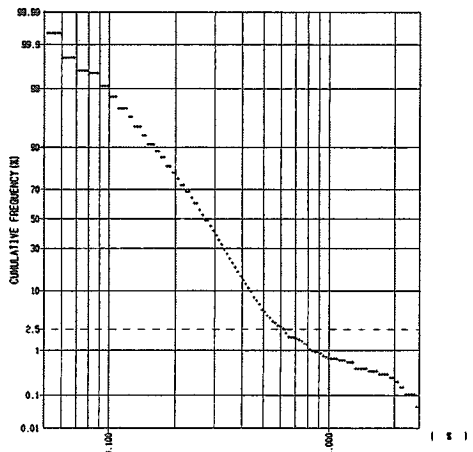
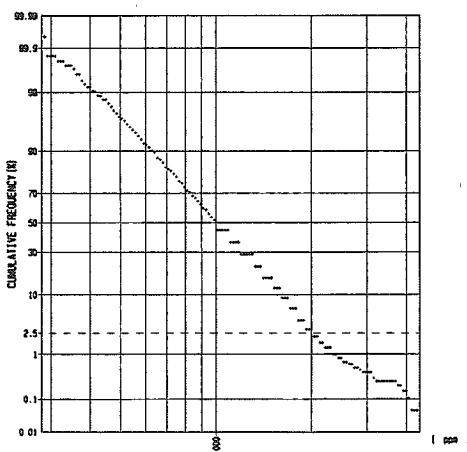
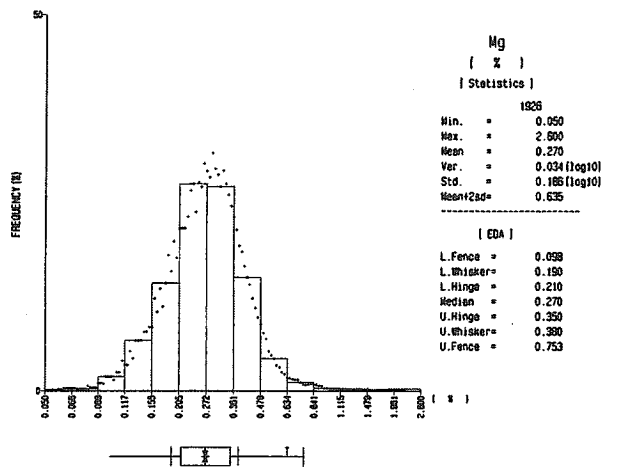
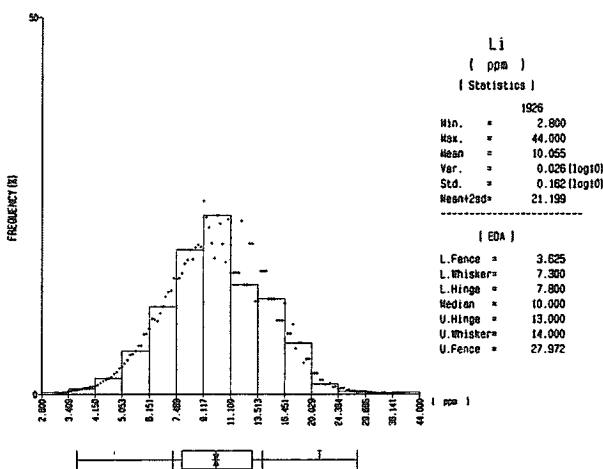
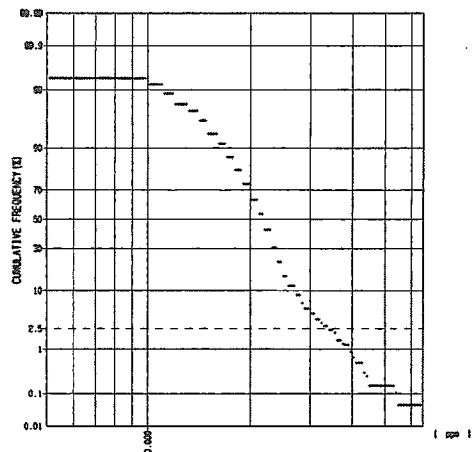
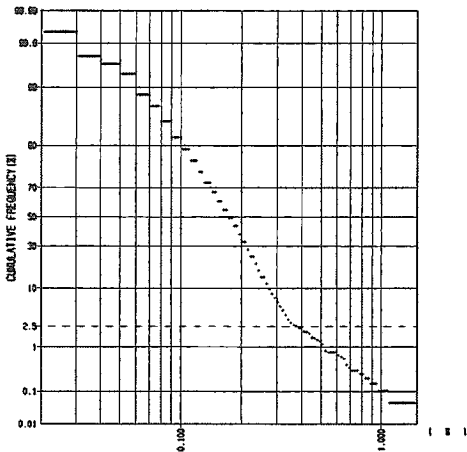
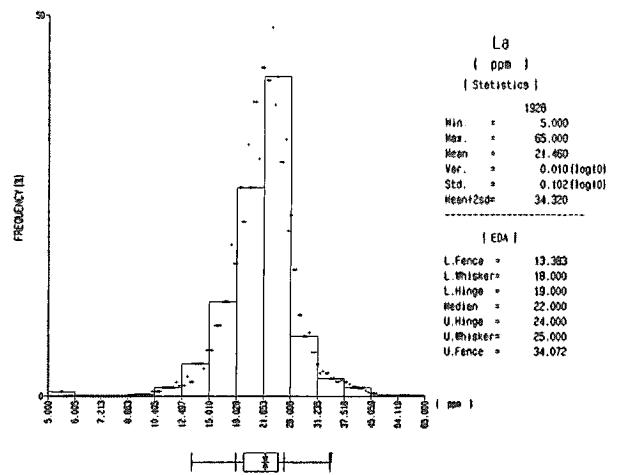
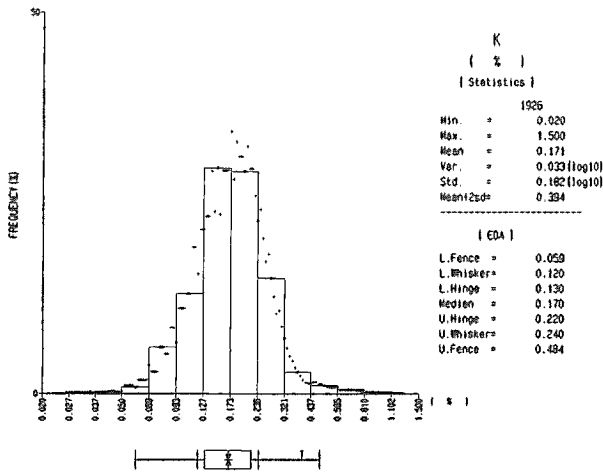
Histogram, EDA and cumulative frequency of each element of soil samples (2)



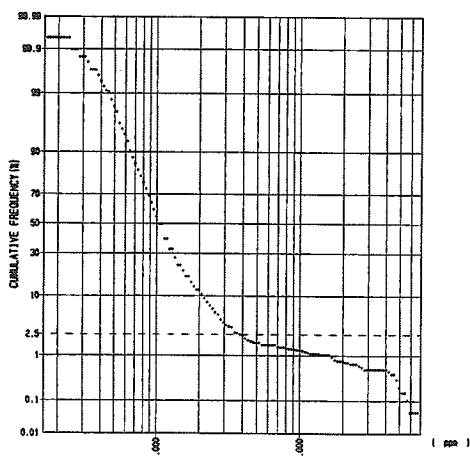
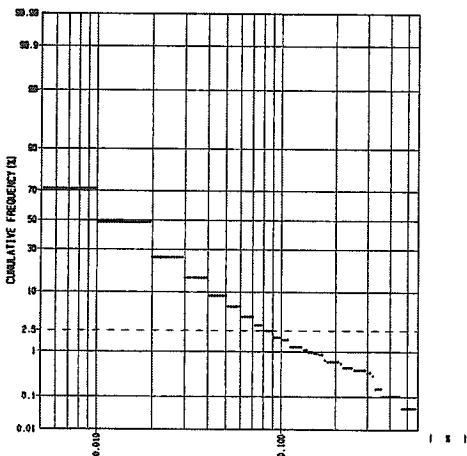
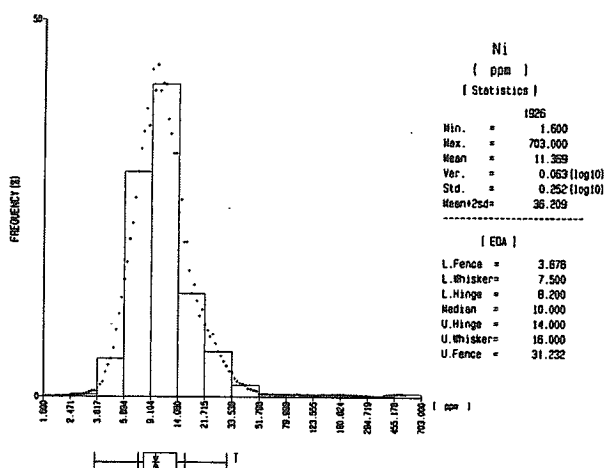
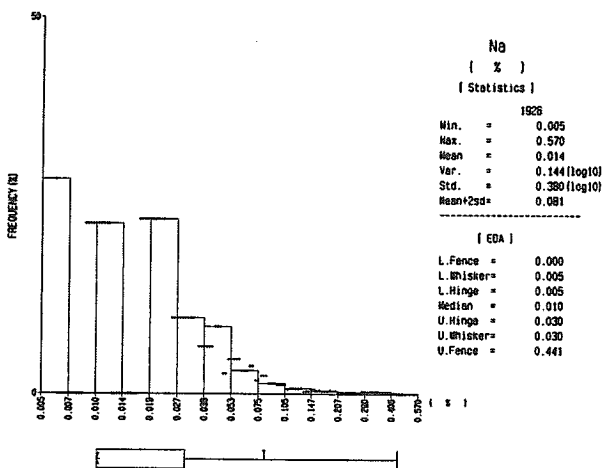
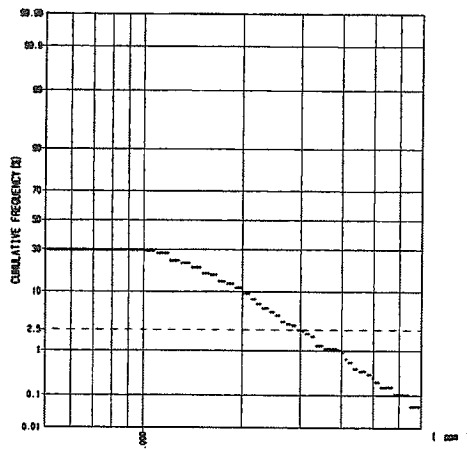
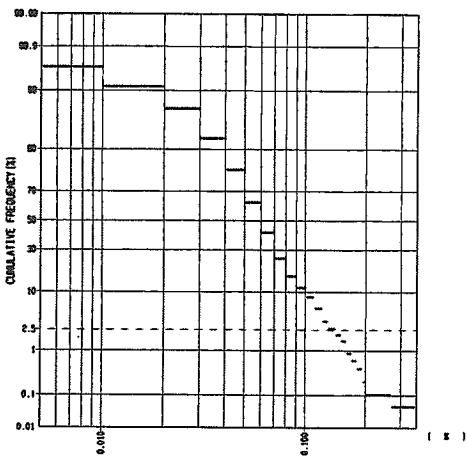
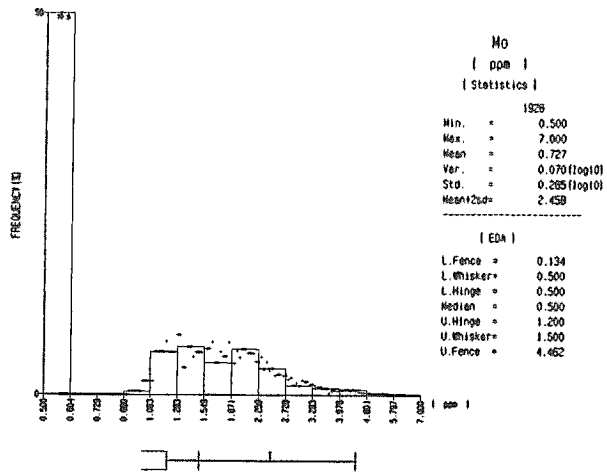
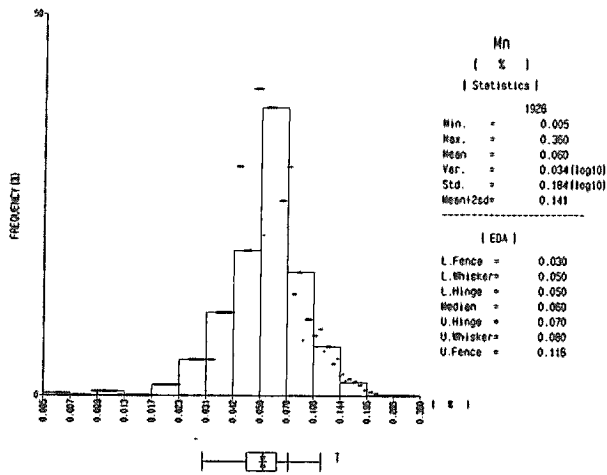
Histogram, EDA and cumulative frequency of each element of soil samples (3)



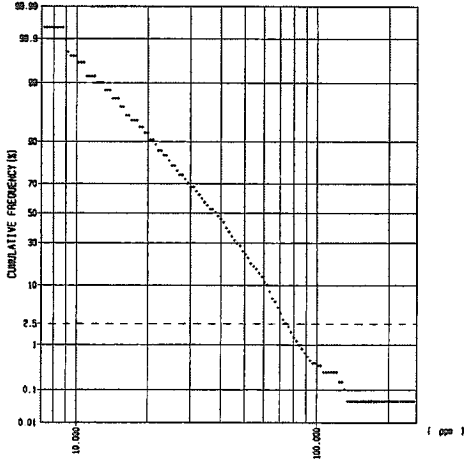
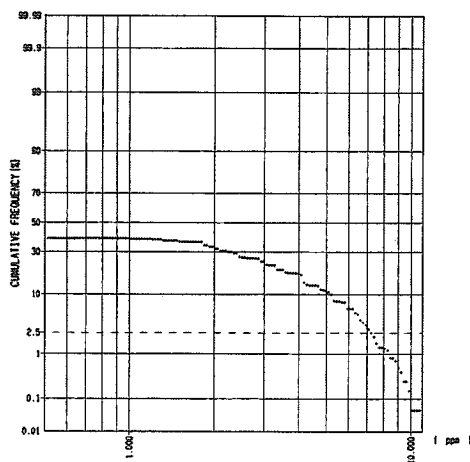
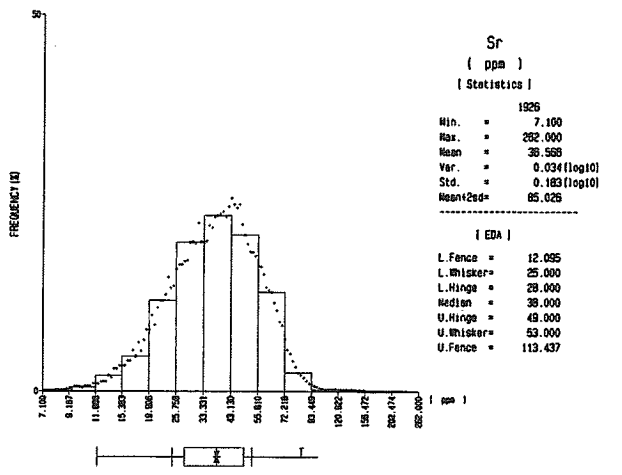
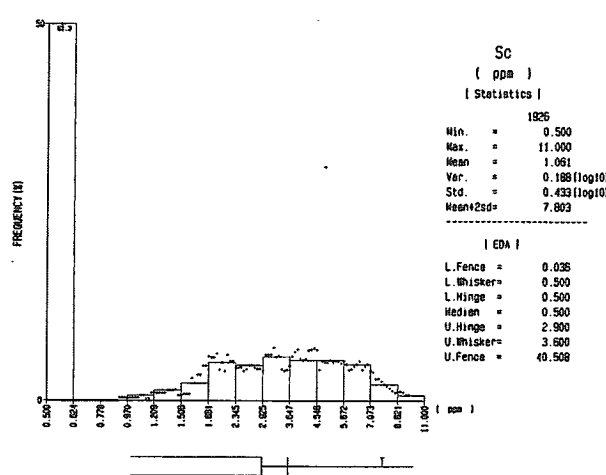
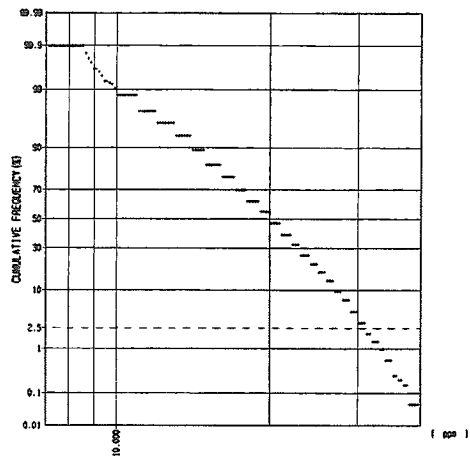
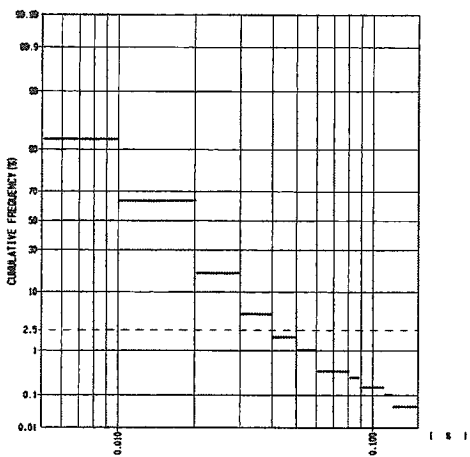
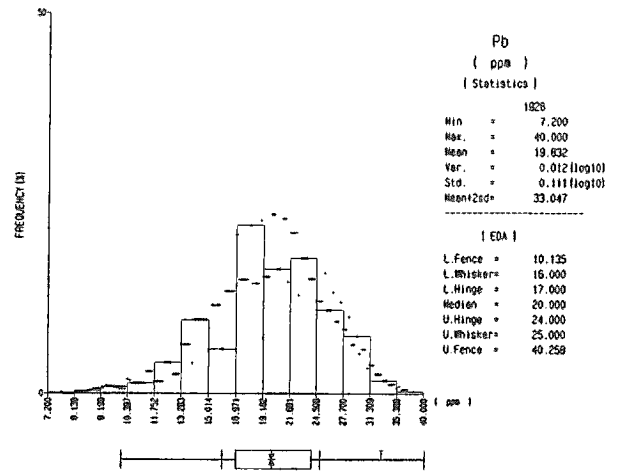
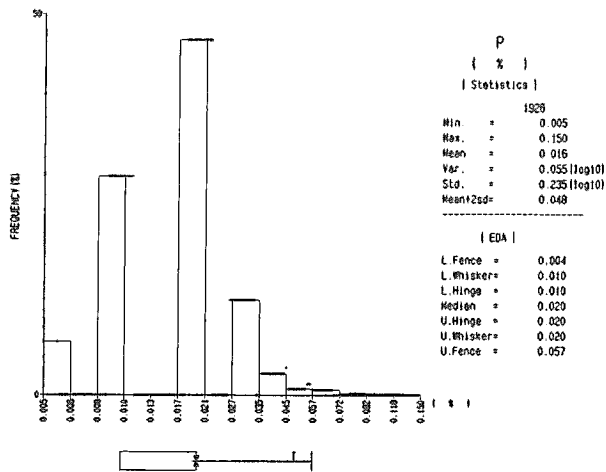
Histogram, EDA and cumulative frequency of each element of soil samples (4)



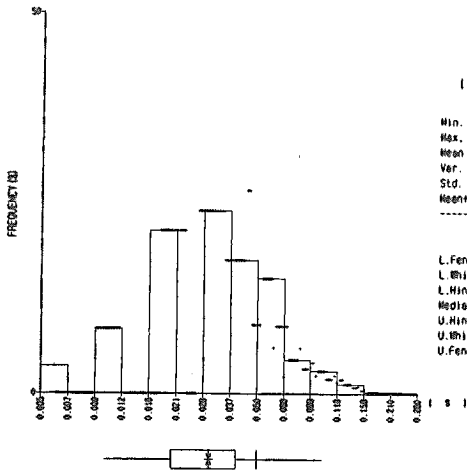
Histogram, EDA and cumulative frequency of each element of soil samples (5)
A-177



Histogram, EDA and cumulative frequency of each element of soil samples (6)

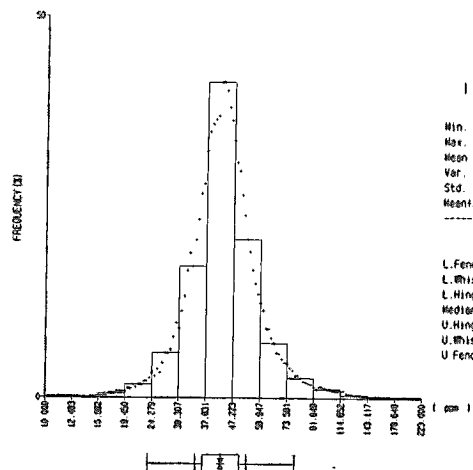


Histogram, EDA and cumulative frequency of each element of soil samples (7)



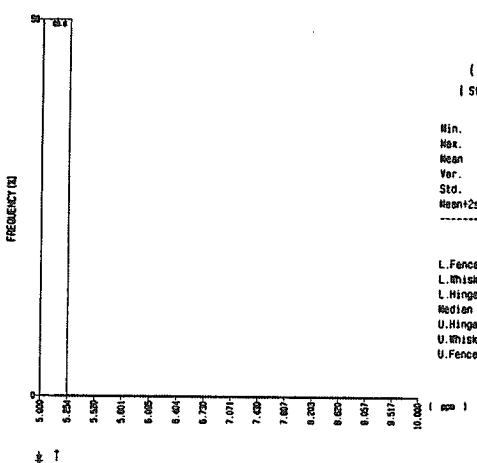
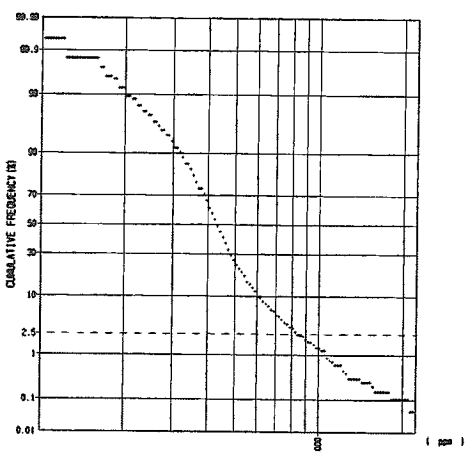
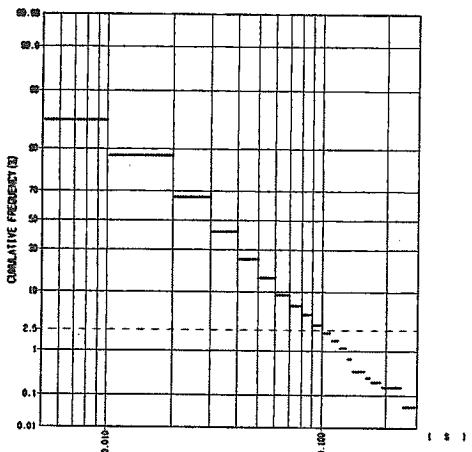
T1
(%)
[Statistics]
1926
Min. = 0.005
Max. = 0.280
Mean = 0.030
Var. = 0.083 (log10)
Std. = 0.289 (log10)
Mean±2sd = 0.113

[EDA]
L.Fence = 0.007
L.Whisker = 0.020
L.Hinge = 0.020
Median = 0.030
U.Hinge = 0.040
U.Whisker = 0.050
U.Fence = 0.113



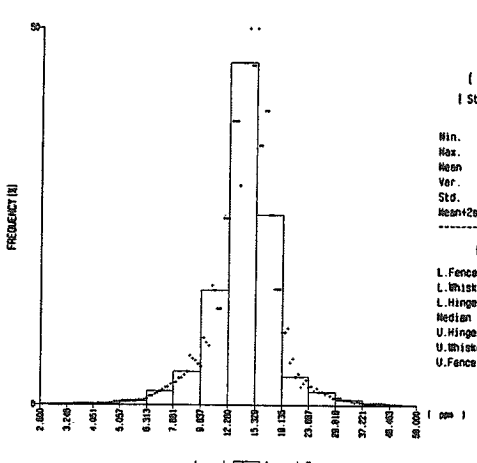
V
(ppm)
[Statistics]
1926
Min. = 10,000
Max. = 223,000
Mean = 43,688
Var. = 0.019 (log10)
Std. = 0.129 (log10)
Mean±2sd = 78,561

[EDA]
L.Fence = 23,553
L.Whisker = 35,000
L.Hinge = 37,000
Median = 43,000
U.Hinge = 50,000
U.Whisker = 53,000
U.Fence = 78,546



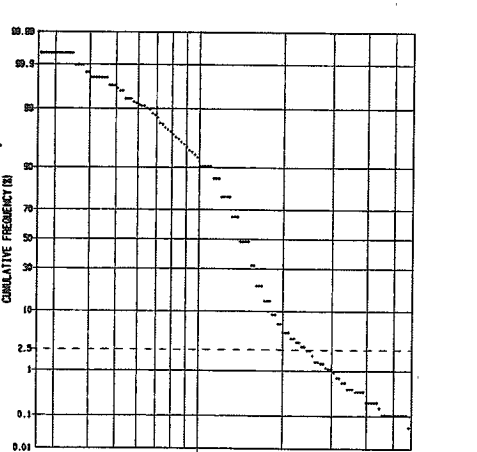
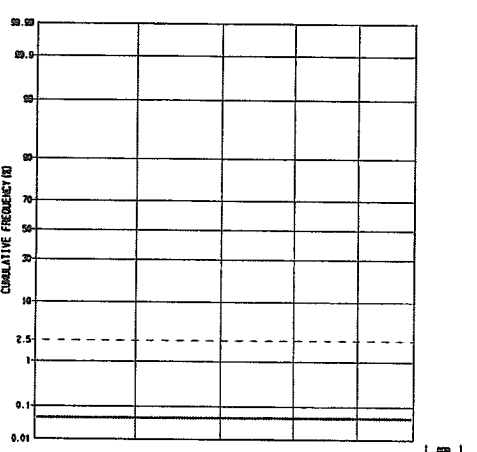
W
(ppm)
[Statistics]
1926
Min. = 5,000
Max. = 10,000
Mean = 5,002
Var. = 0.000 (log10)
Std. = 0.007 (log10)
Mean±2sd = 5.162

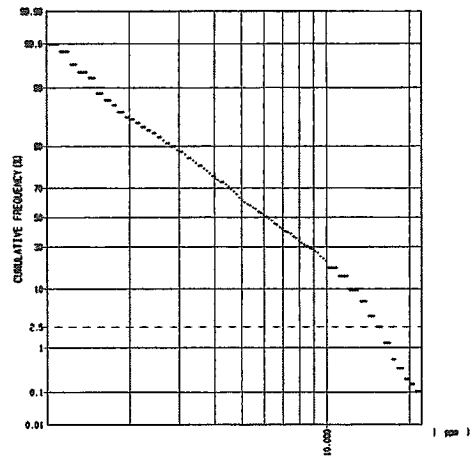
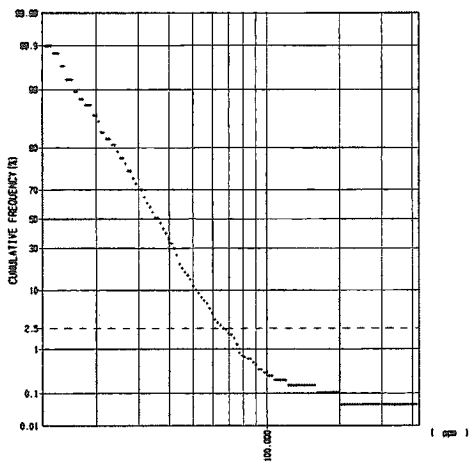
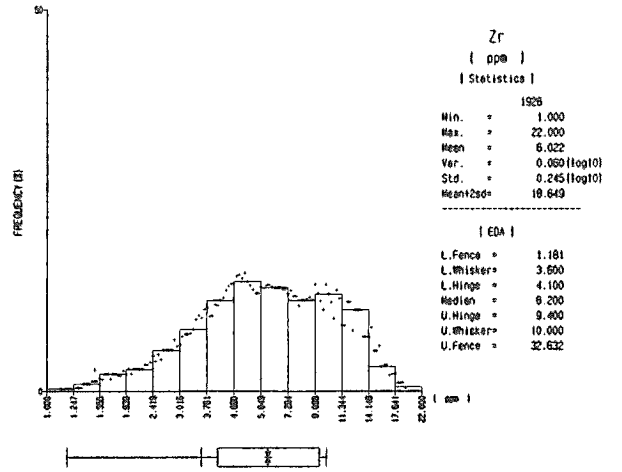
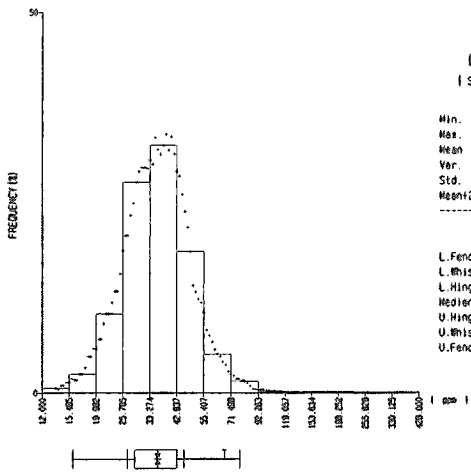
[EDA]
L.Fence = 5,000
L.Whisker = 5,000
L.Hinge = 5,000
Median = 5,000
U.Hinge = 5,000
U.Whisker = 5,000
U.Fence = 5,000



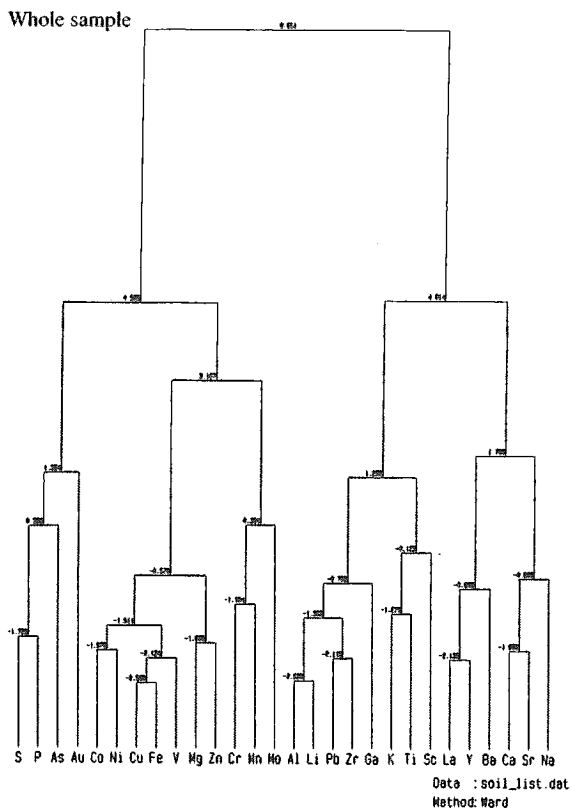
Y
(ppm)
[Statistics]
1926
Min. = 2,600
Max. = 58,000
Mean = 14,174
Var. = 0.013 (log10)
Std. = 0.114 (log10)
Mean±2sd = 23,979

[EDA]
L.Fence = 9,521
L.Whisker = 12,000
L.Hinge = 13,000
Median = 14,000
U.Hinge = 16,000
U.Whisker = 17,000
U.Fence = 21,847

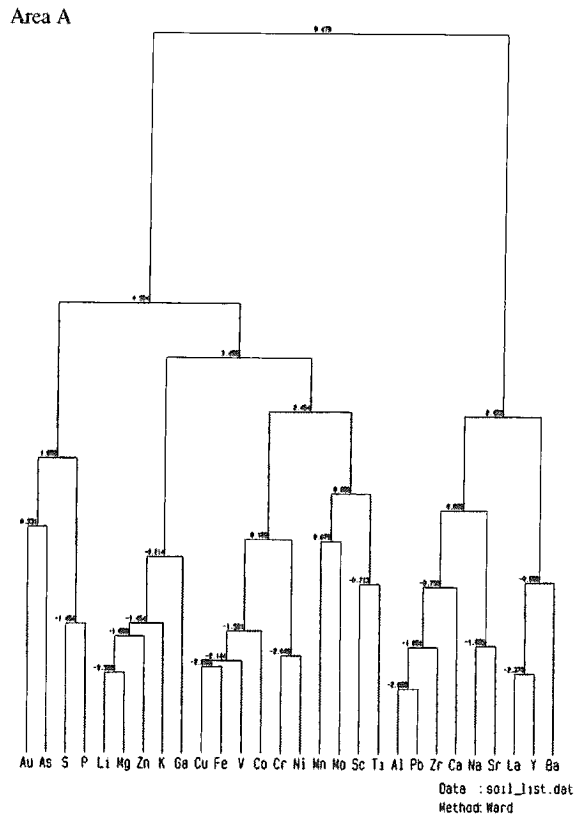




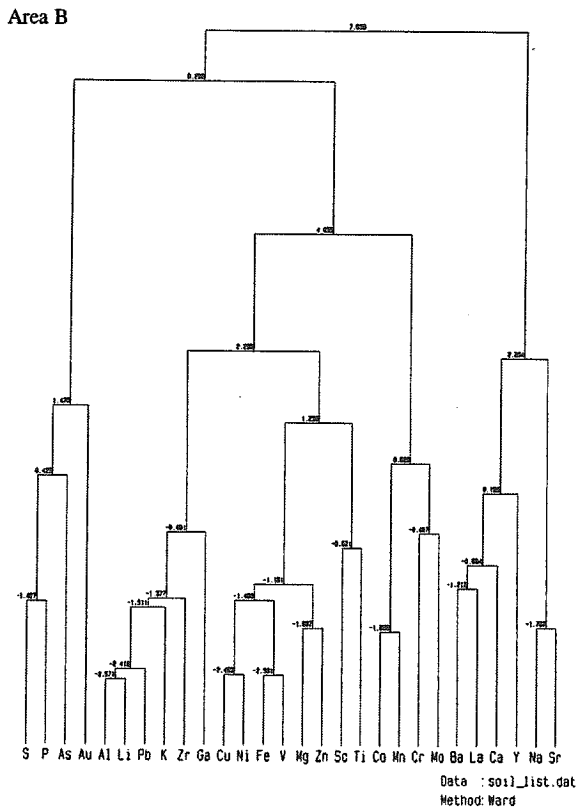
Histogram, EDA and cumulative frequency of each element of soil samples (9)



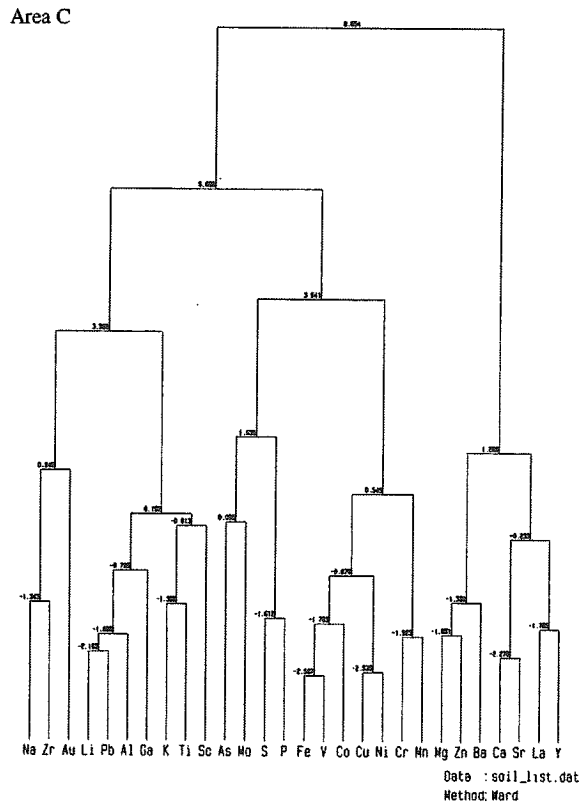
Cluster Dendrogram



Cluster Dendrogram

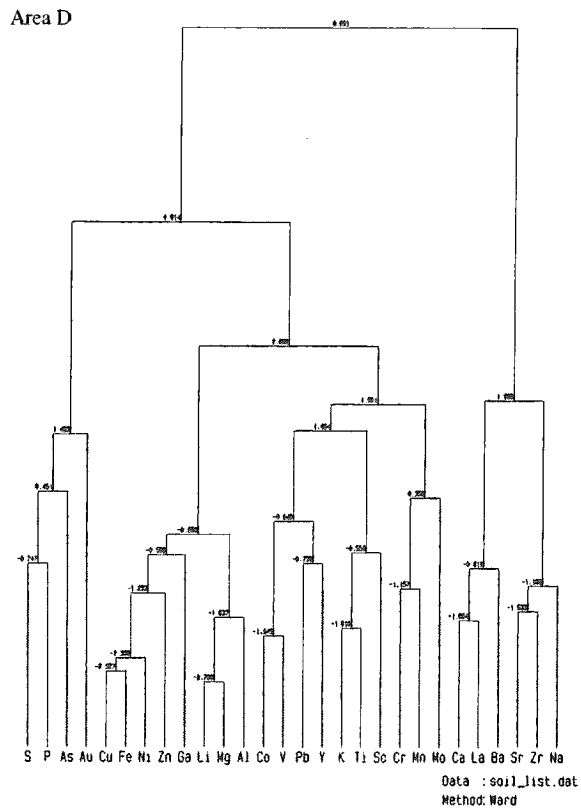


Cluster Dendrogram

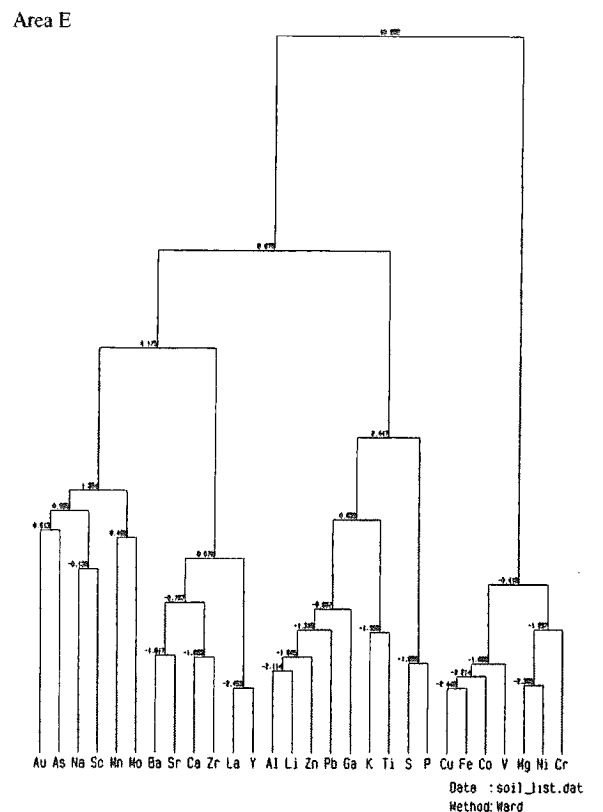


Cluster Dendrogram

Dendrogram of cluster analysis of soil samples (1)



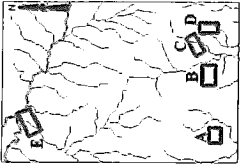
Cluster Dendrogram



Cluster Dendrogram

Dendrogram of cluster analysis of soil samples (2)

Appendix 9: Distribution maps of elements (Au, As, Co, Cr, Cu, Mo, Ni, V, Zn) in the survey zone



Index map of survey area

LEGEND

As(ppm)

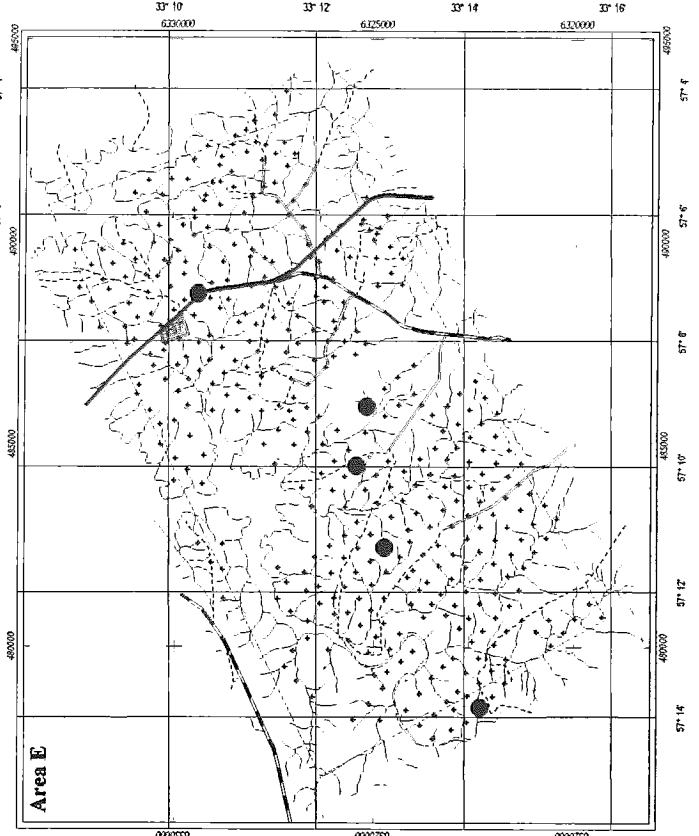
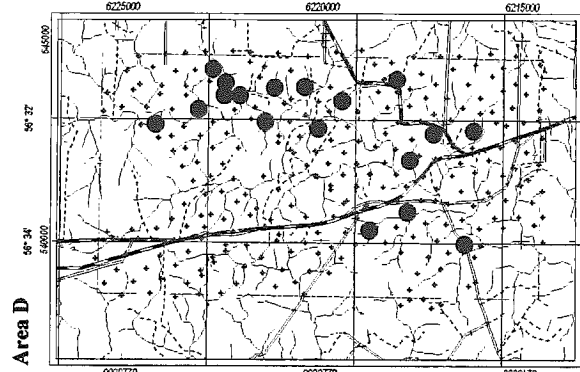
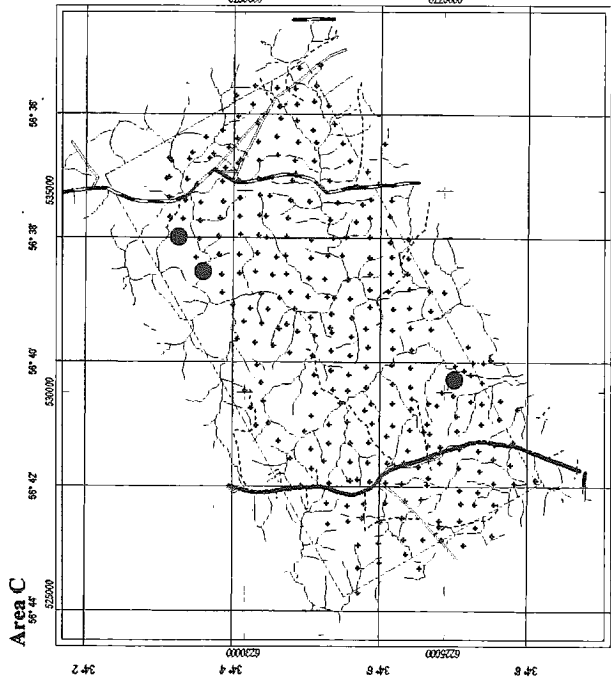
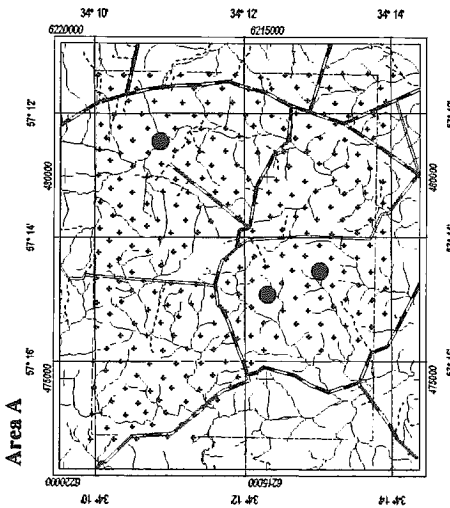
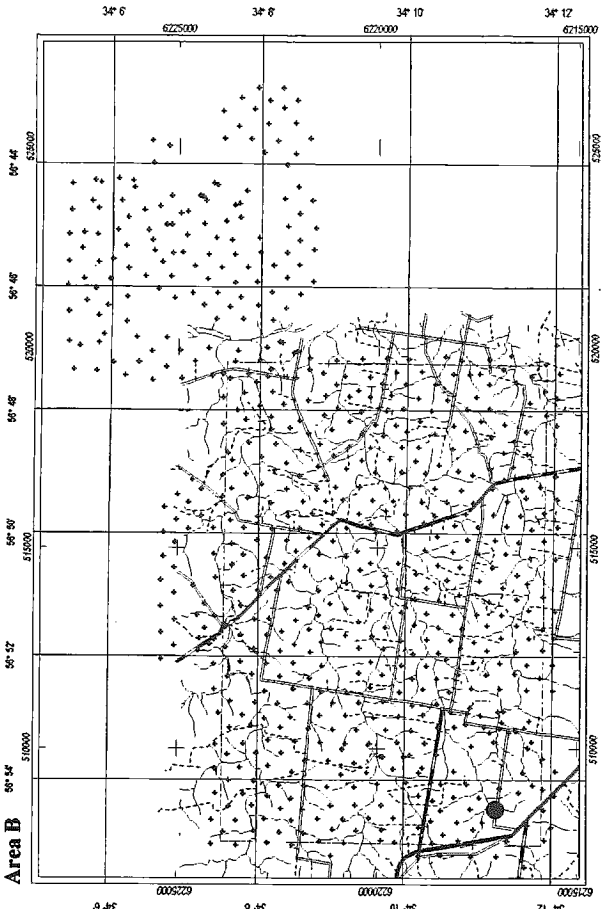
● 30. 375

• <30. 375

□ Survey area

~ Stream

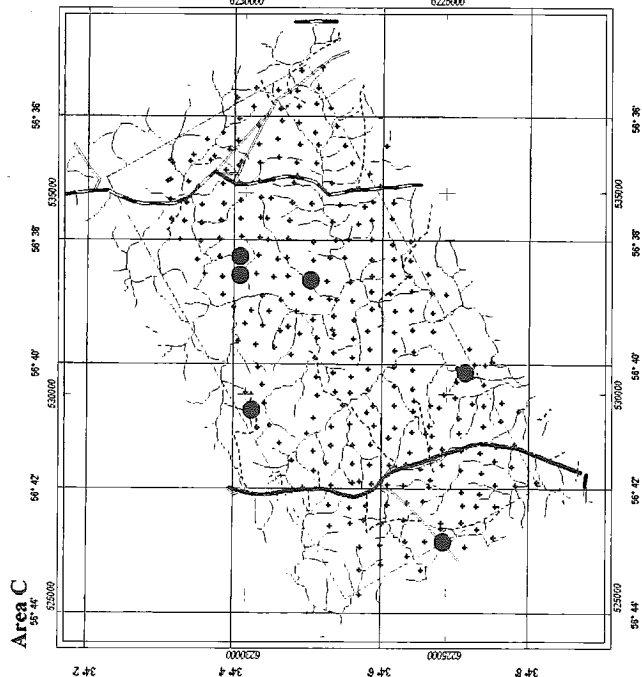
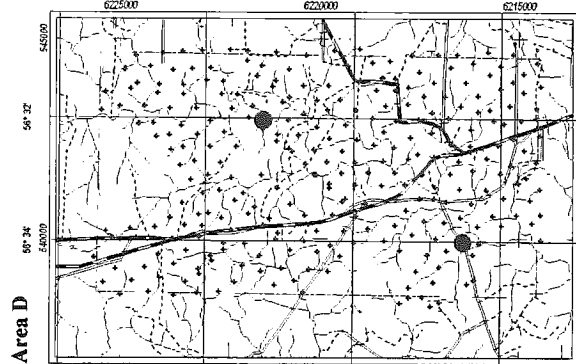
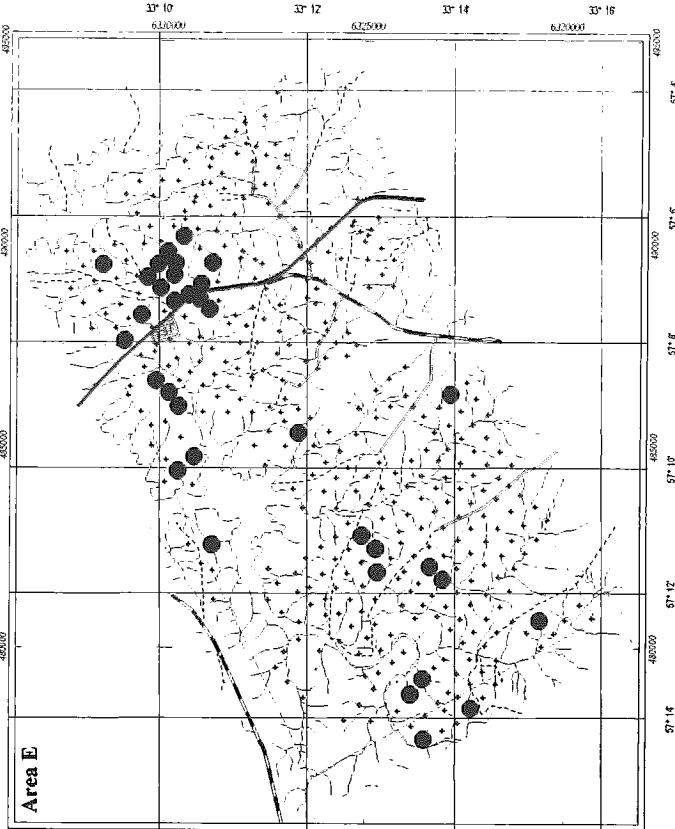
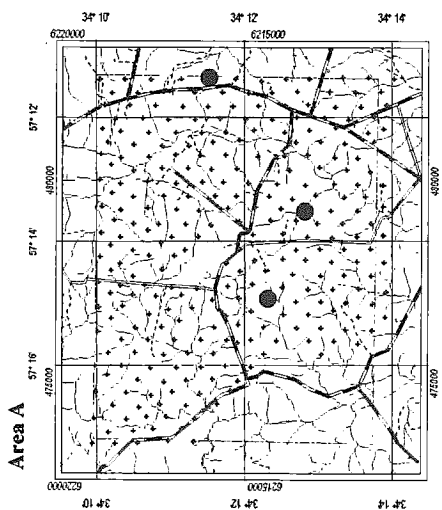
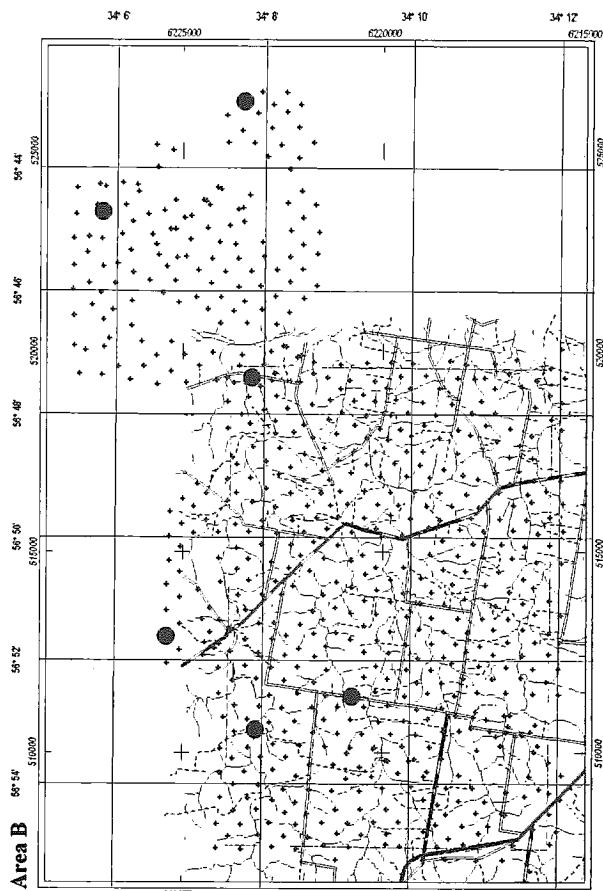
≡≡≡ Road

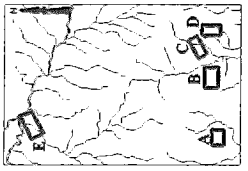




LEGEND

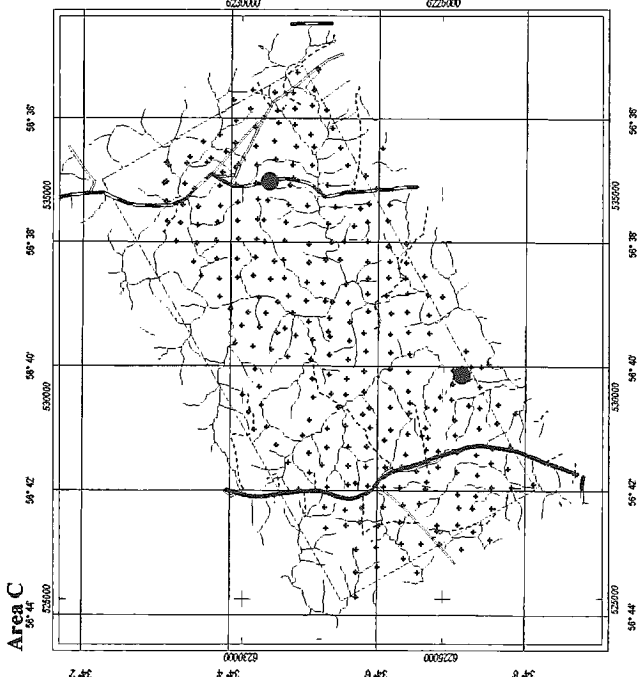
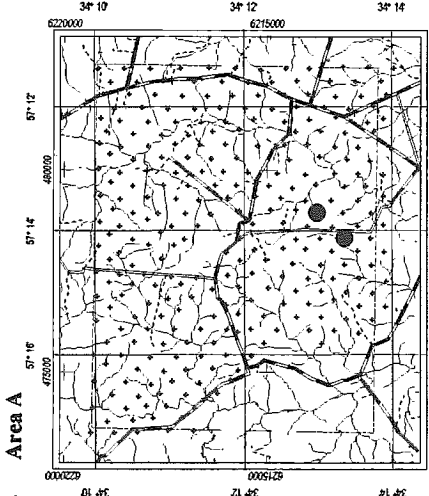
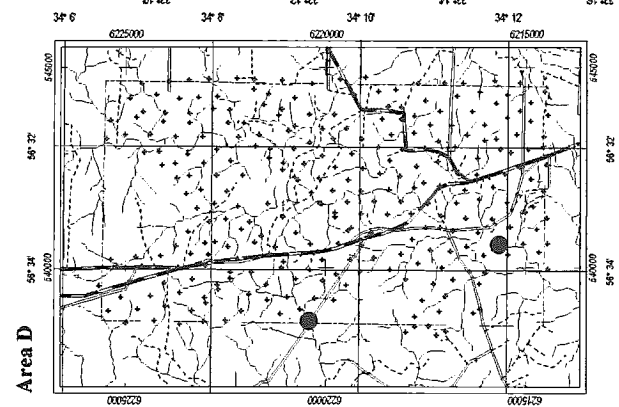
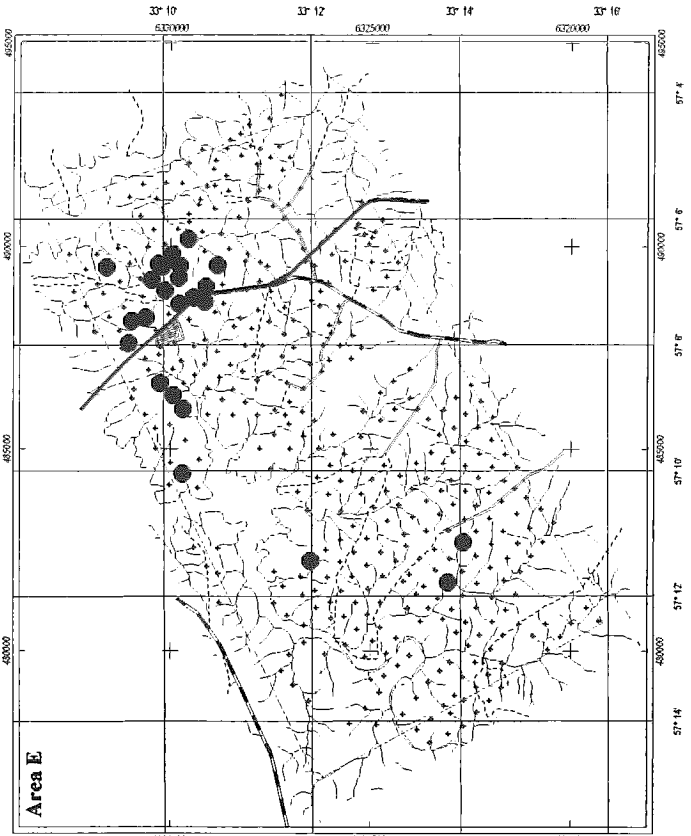
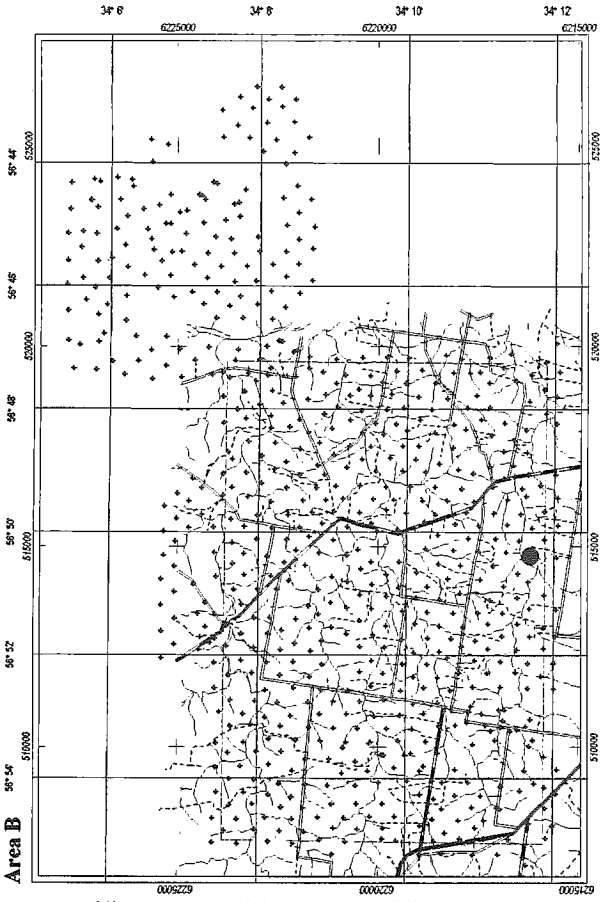
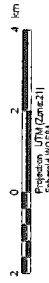
- Co(ppm)
- 18.073 ≤
- <18.073
- Survey area
- ~ Stream
- ▤ Road

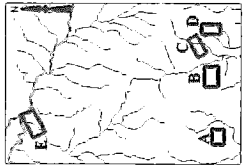




LEGEND

- Cr(ppm)
 - 236, 627
 - <236, 627
- ▭ Survey area
- ~ Stream
- ▨ Road





LEGEND

Cu(ppm)

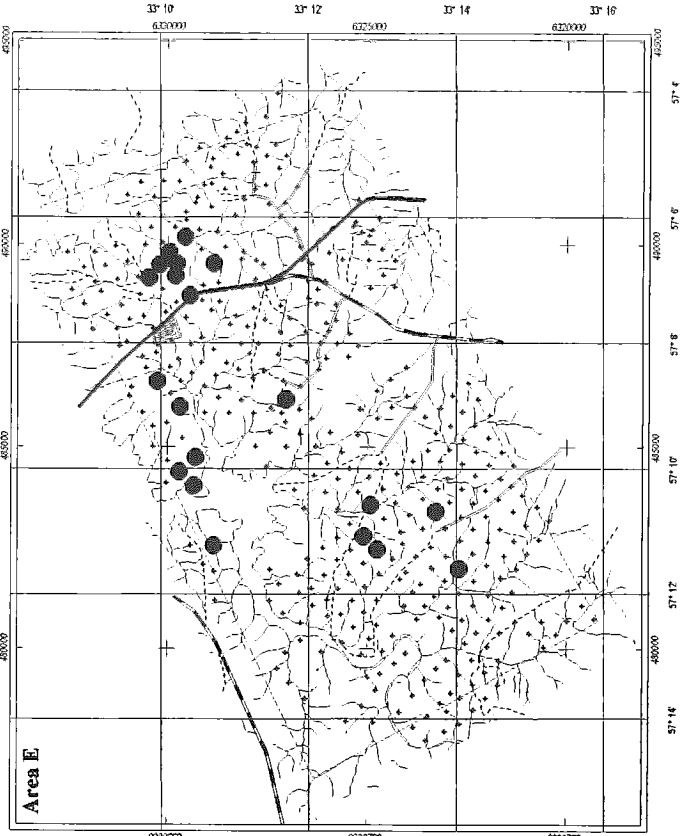
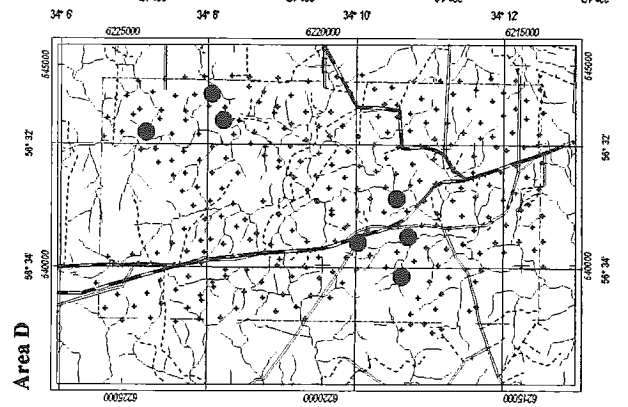
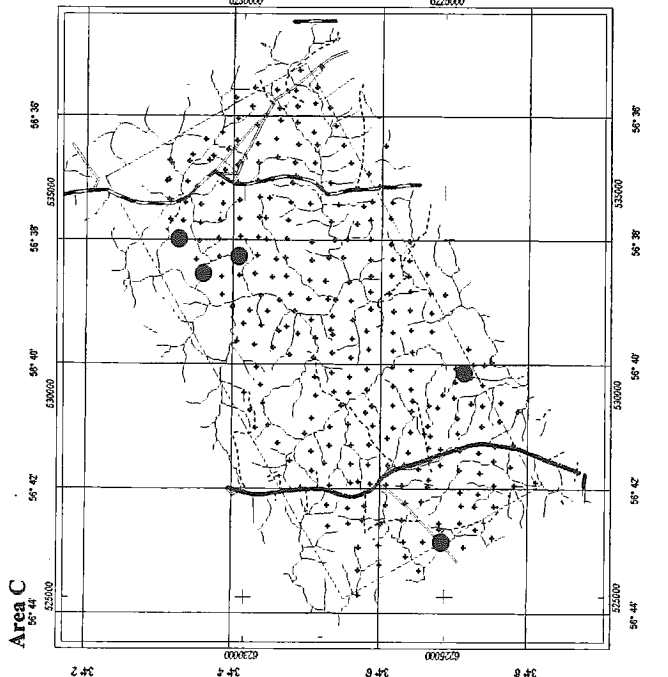
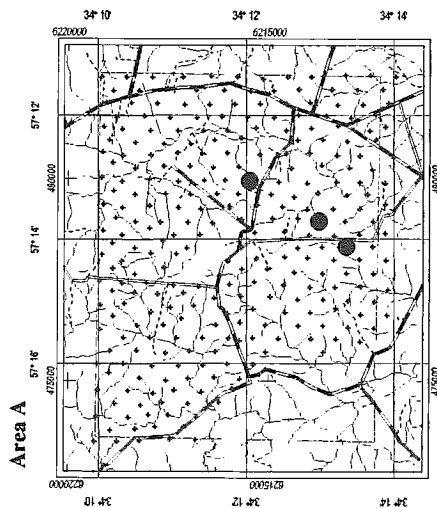
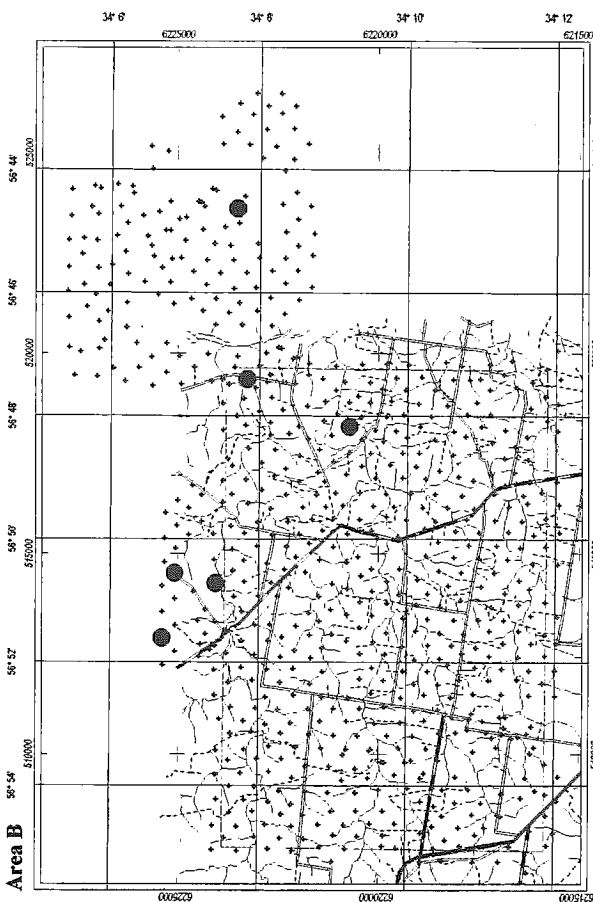
● 40.258 ≤

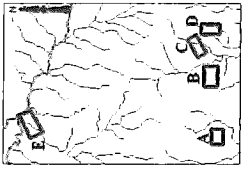
* <40.258

— Survey area

— Stream

— Road





Index map of survey area

LEGEND

Mo(ppm)

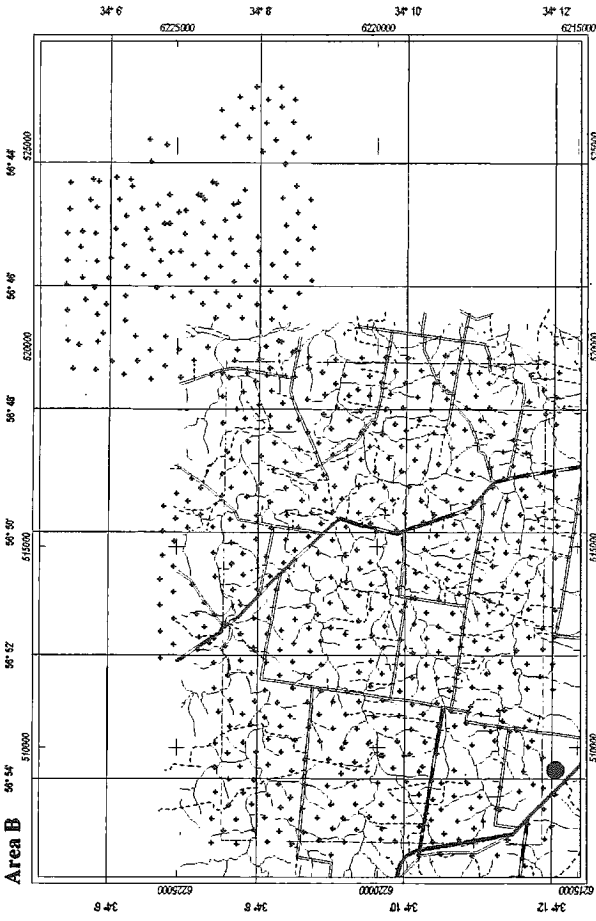
● 4.462

* < 4.462

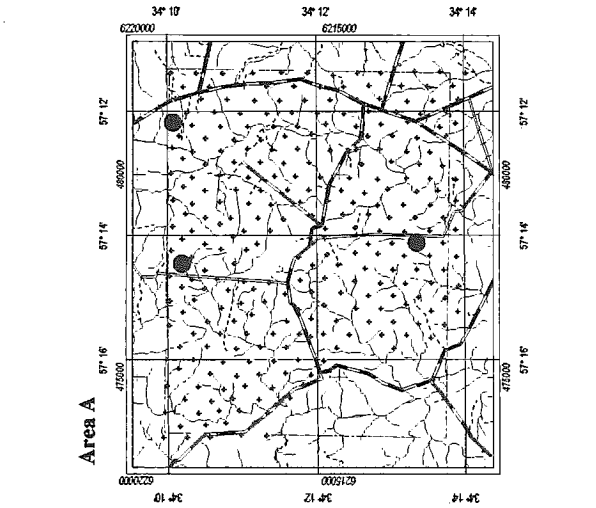
□ Survey area

~ Stream

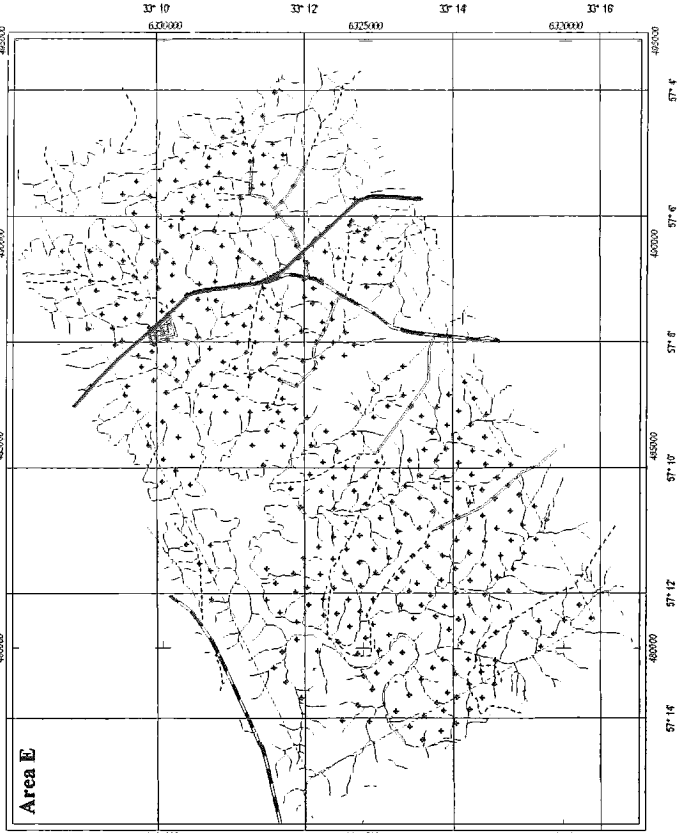
≡≡≡ Road



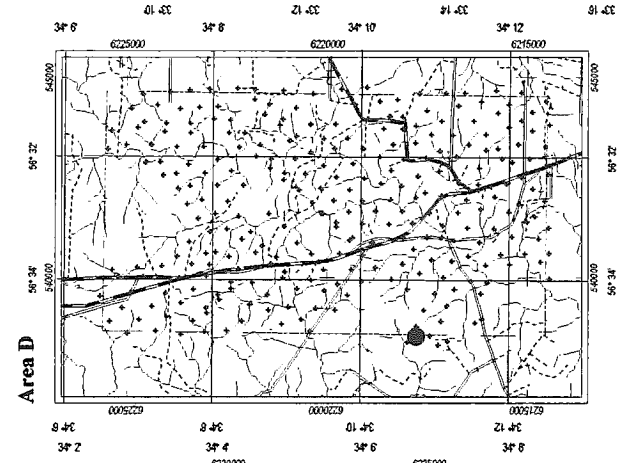
Area B



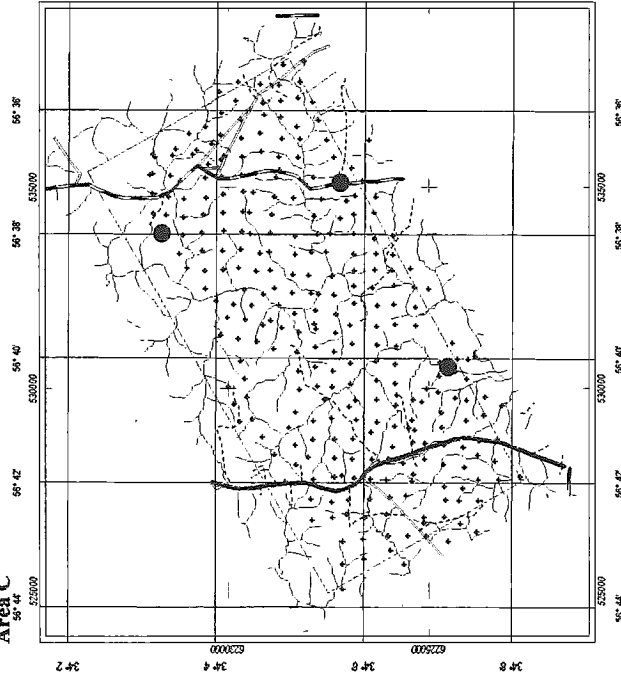
Area A



Area E



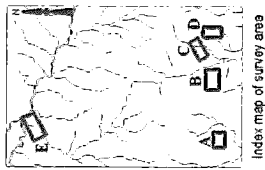
Area D



Area C



Projections: UTM (Zone 11)
Spheroid: WGS84



LEGEND

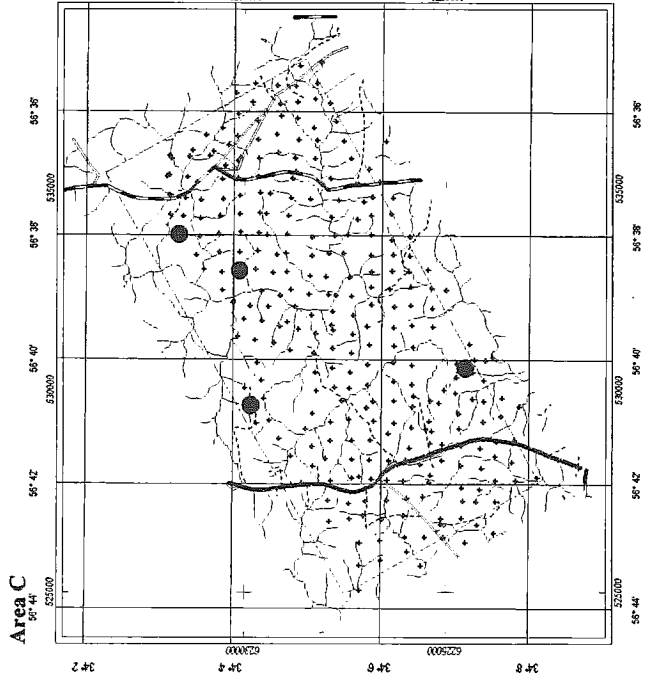
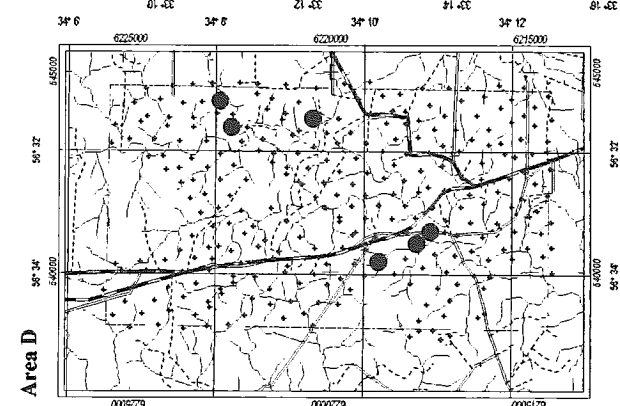
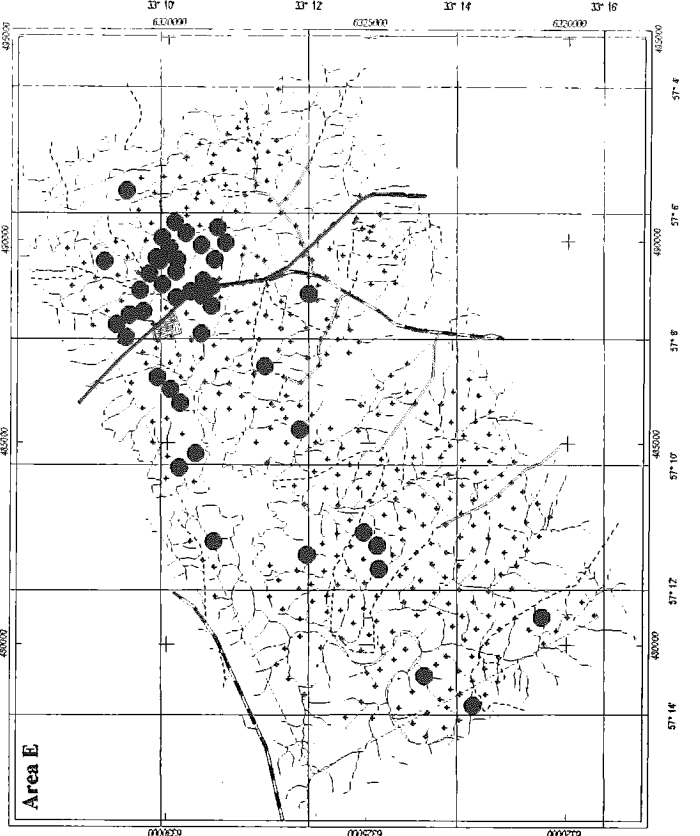
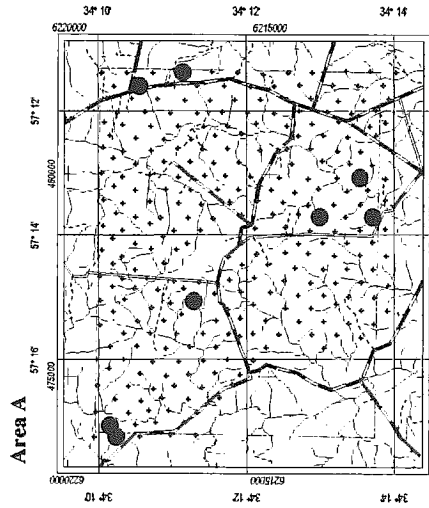
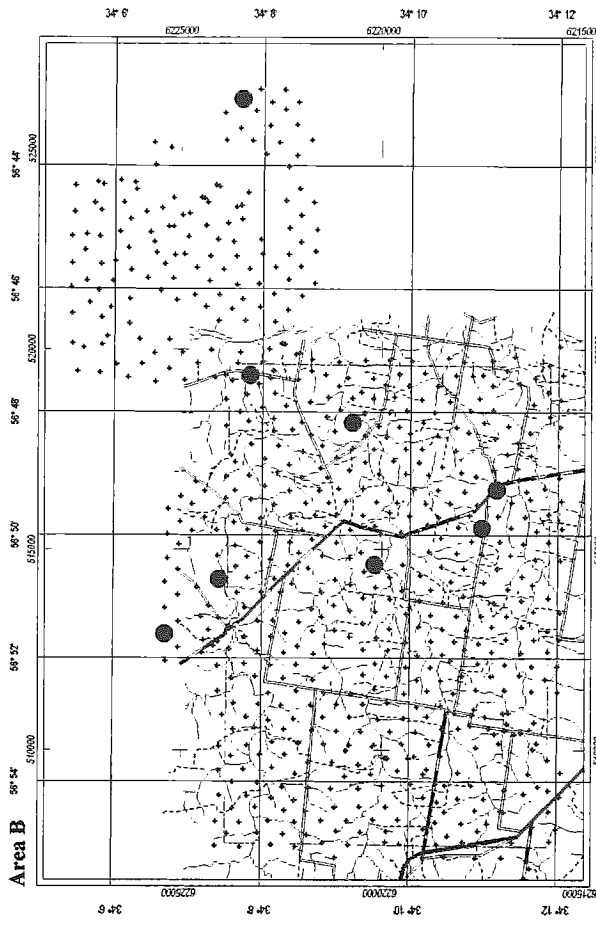
Ni(ppm)

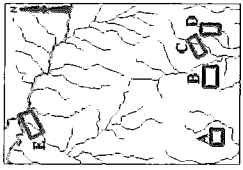
- 31.232 ≤
- <31.232

Survey area

Stream

Road





Index map of survey area

LEGEND

V(ppm)

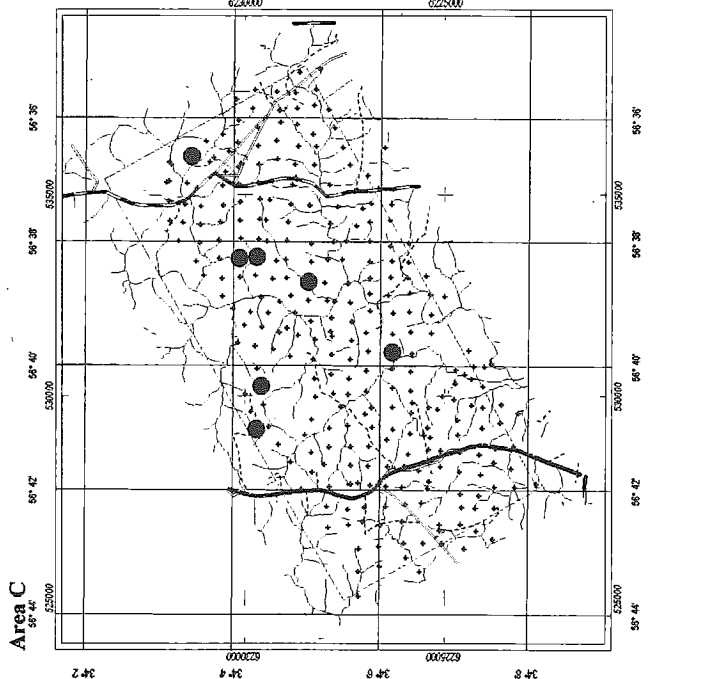
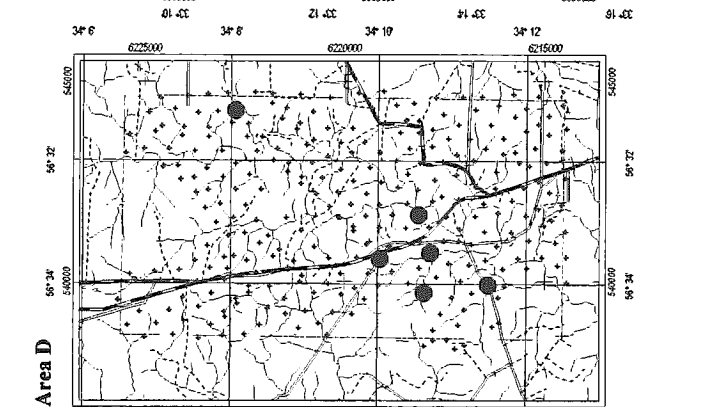
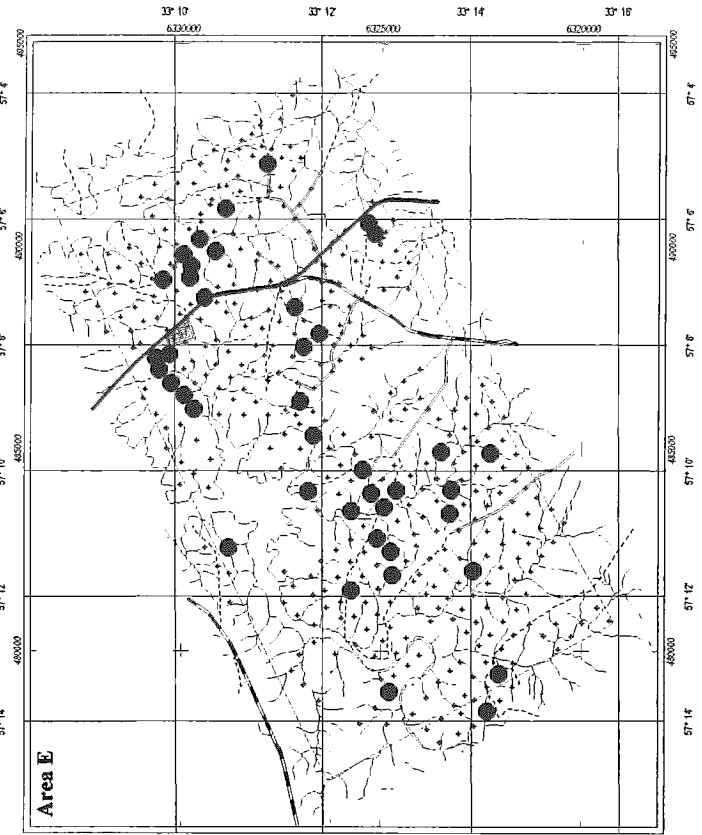
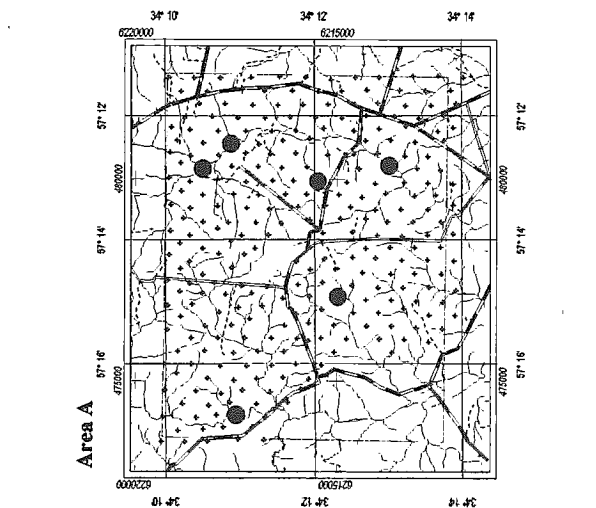
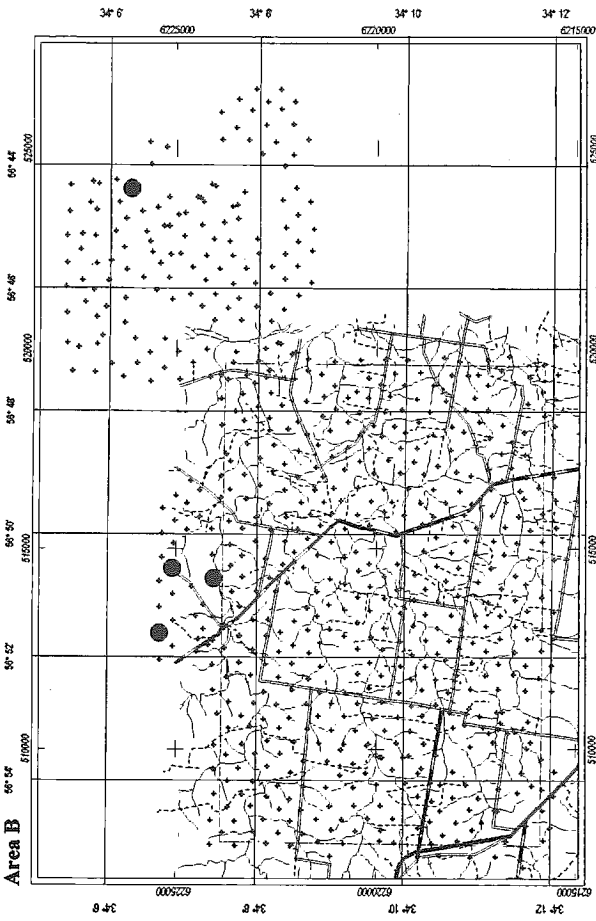
● 78.546 ≤

* < 78.546

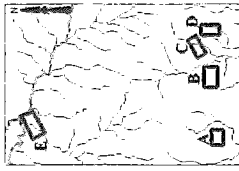
□ Survey area

~ Stream

≡≡≡ Road



Projection: UTM (Zone 11)
Spheroid: WGS84



Index map of survey area

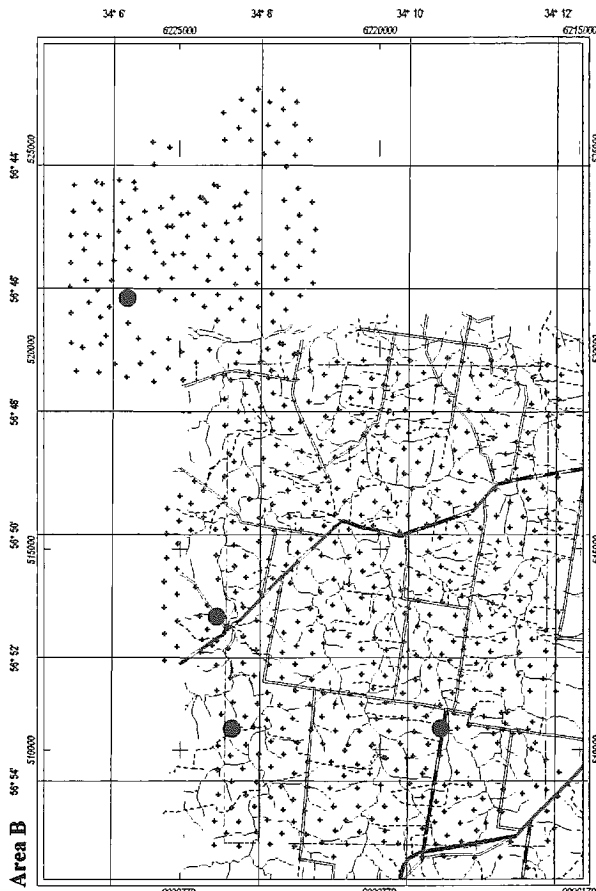
LEGEND

Zn(ppm)
 ● 77.638 ≤
 * <77.638

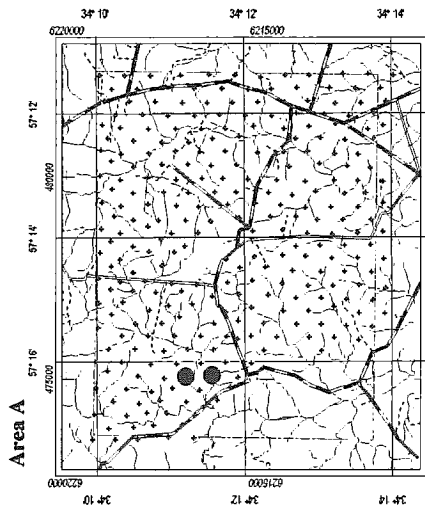
Survey area

Stream

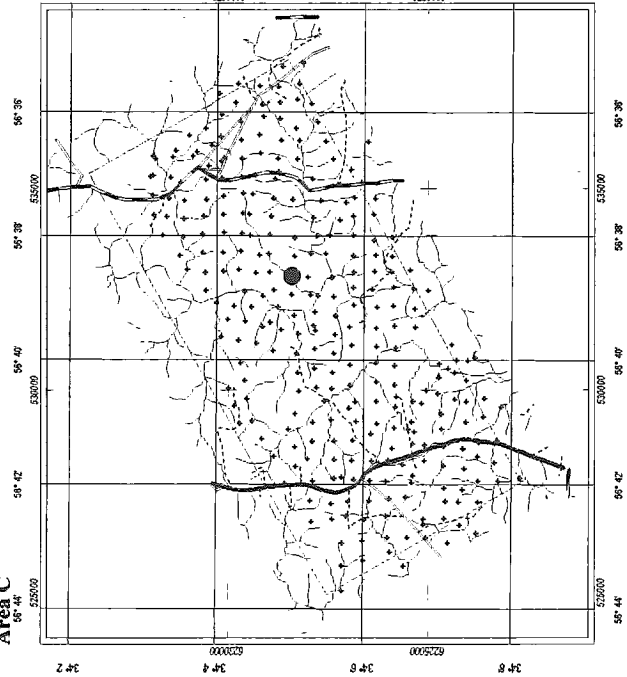
Road



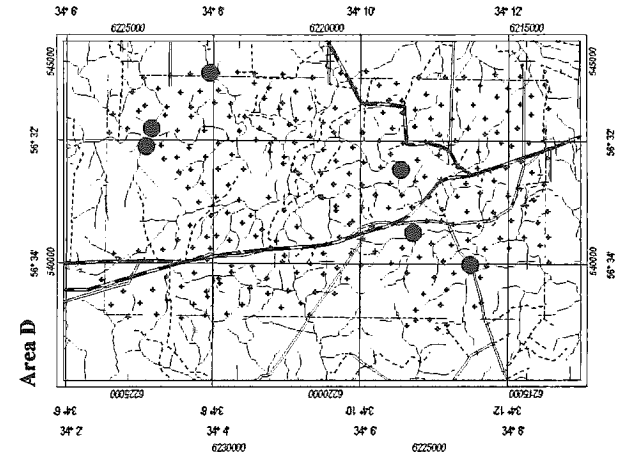
Area B



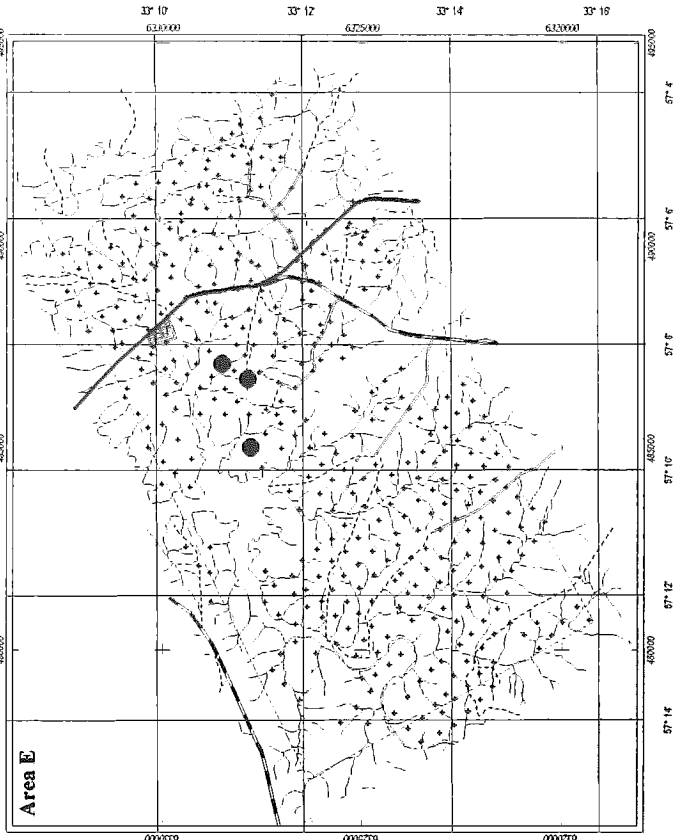
Area A



Area C



Area D



Area E

