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Cooperative Research Centre for
Landscape Environments
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Australian Government
Geoscience Australia

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REPORT
SERIES

GAWLER REGION GEOCHEMICAL SURVEY, SOUTH AUSTRALIA

VOLUME 2

Patrice de Caritat, Megan E. Lech, Amy Kernich

CRC LEME OPEN FILE REPORT 211

June 2008

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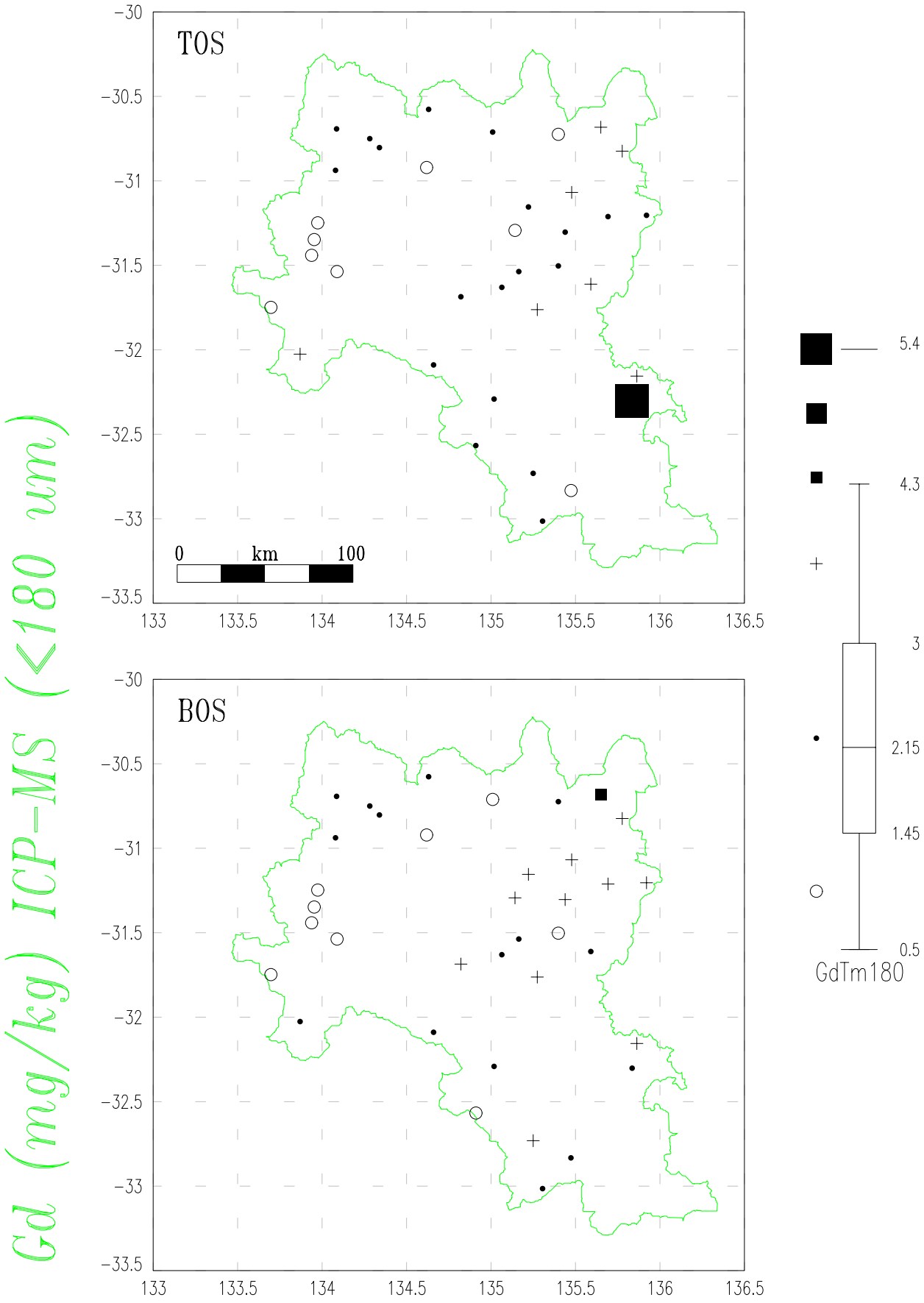
CRC LEME is an unincorporated joint venture between CSIRO-Exploration & Mining, and Land & Water, The Australian National University, Curtin University of Technology, University of Adelaide, Geoscience Australia, Primary Industries and Resources SA, NSW Department of Primary Industries and Minerals Council of Australia.

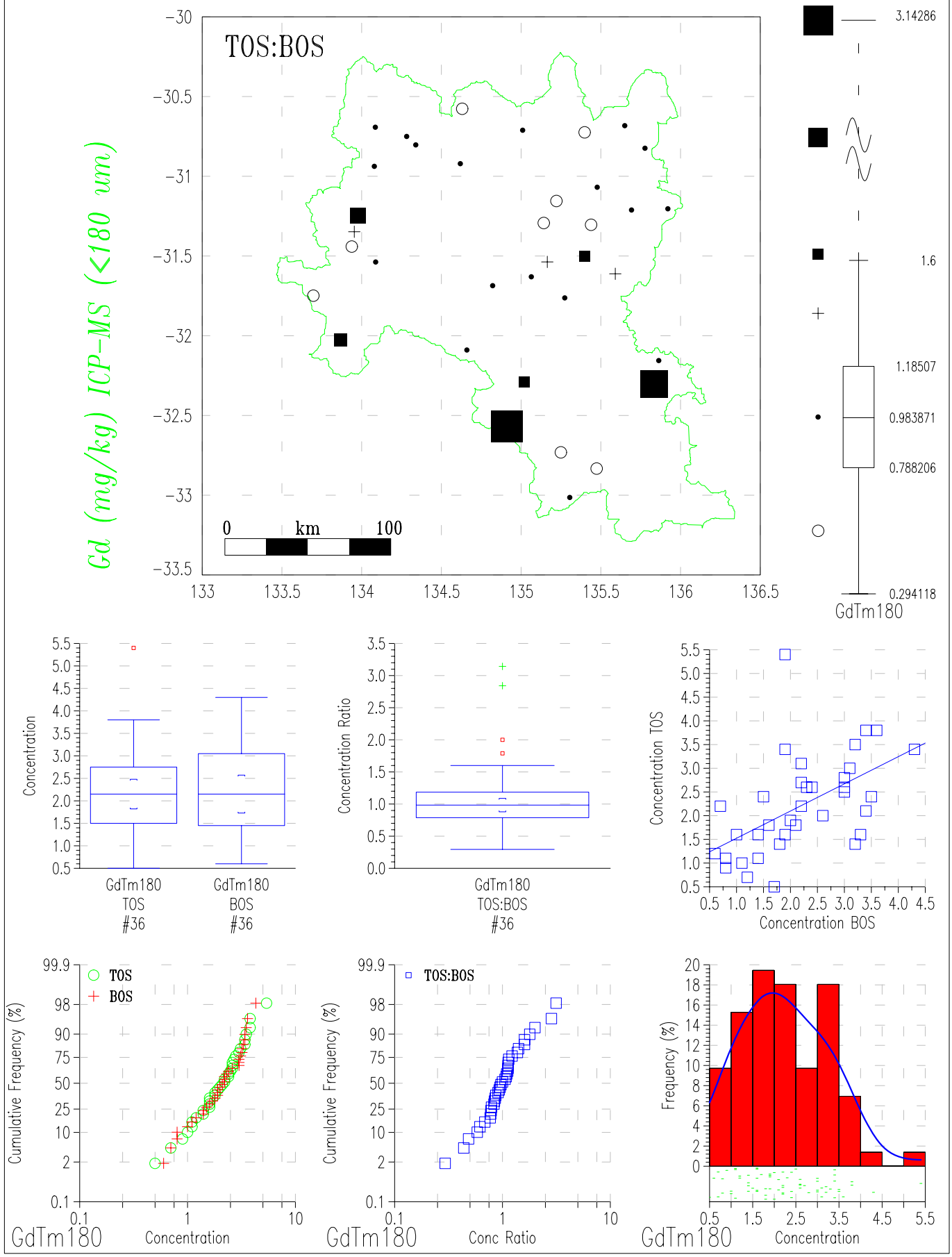
Headquarters: CRC LEME c/o CSIRO Exploration and Mining, PO Box 1130, Bentley WA 6102, Australia

GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*



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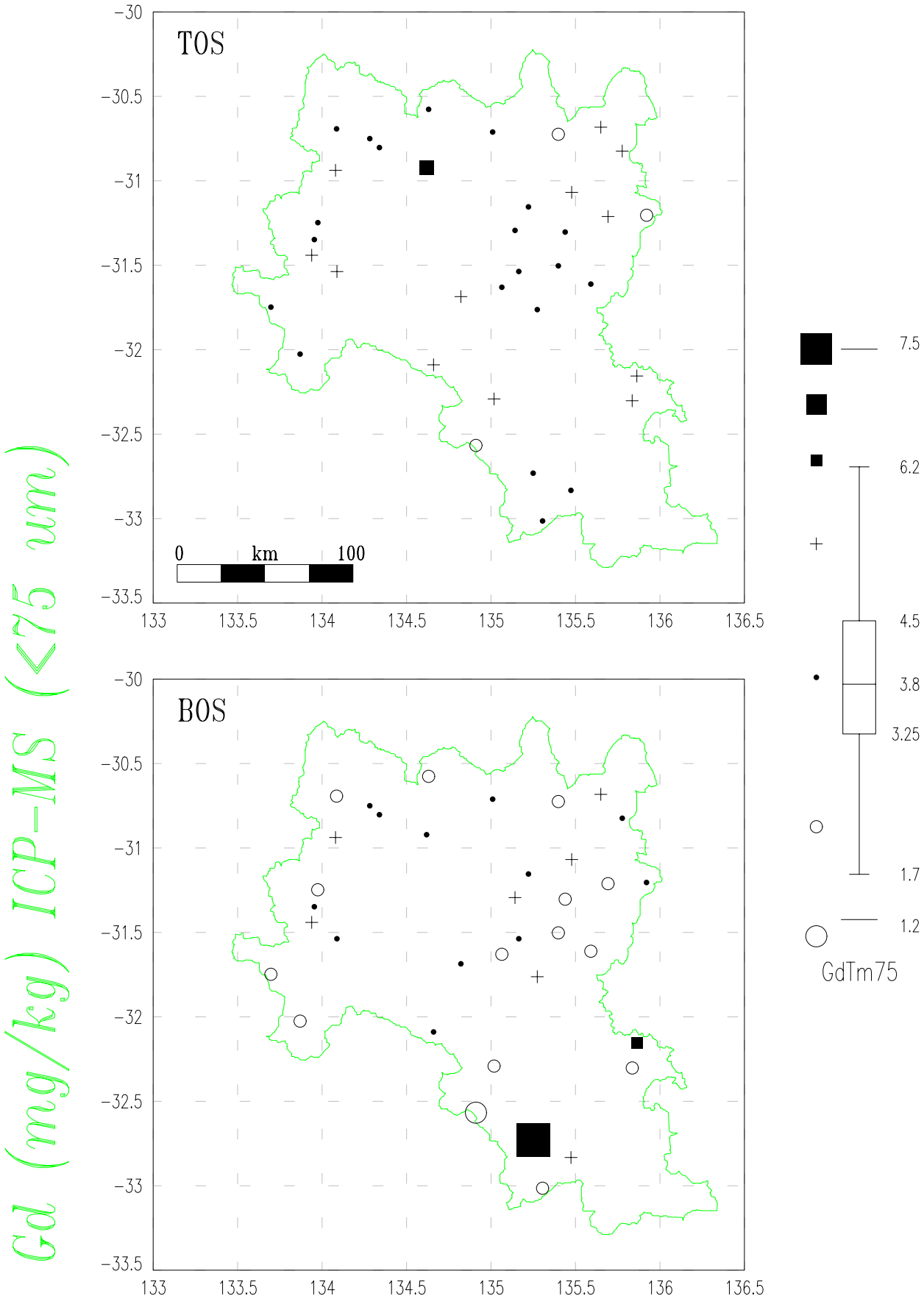
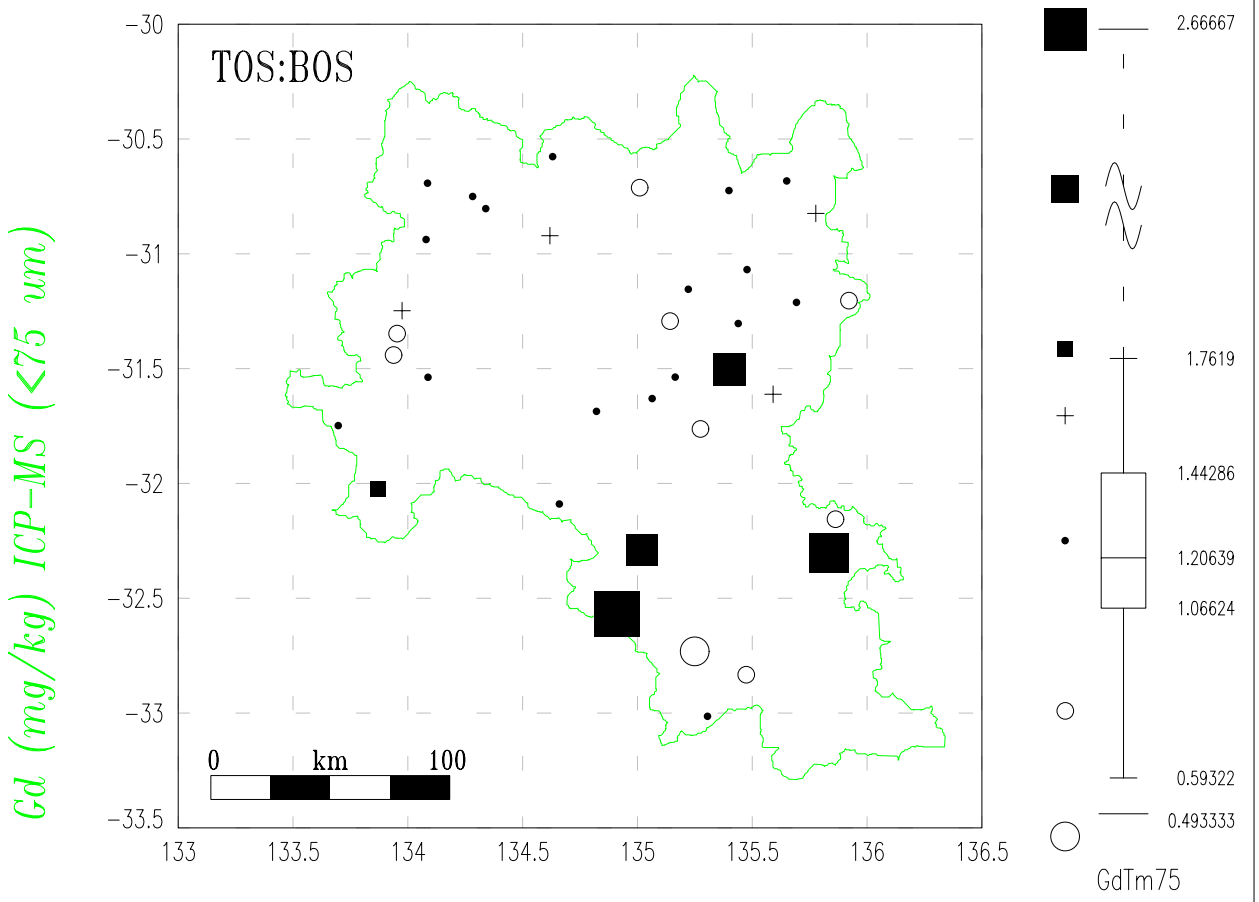
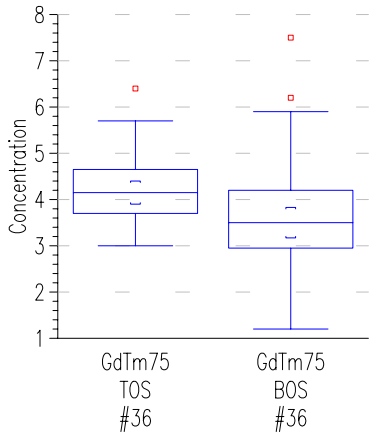
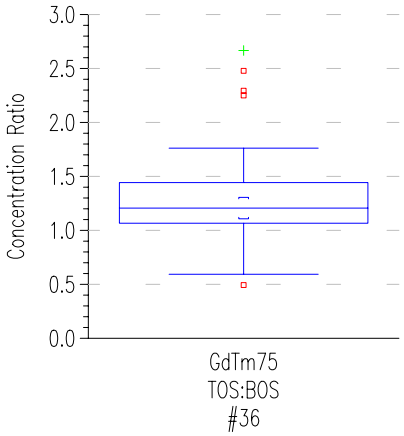
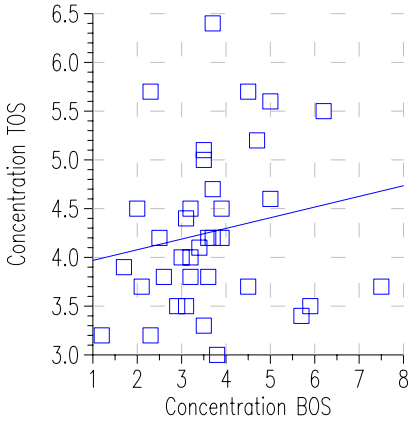


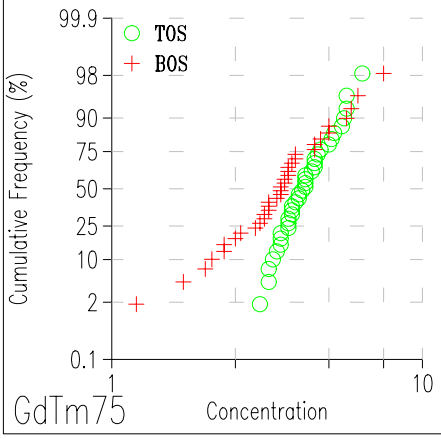
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

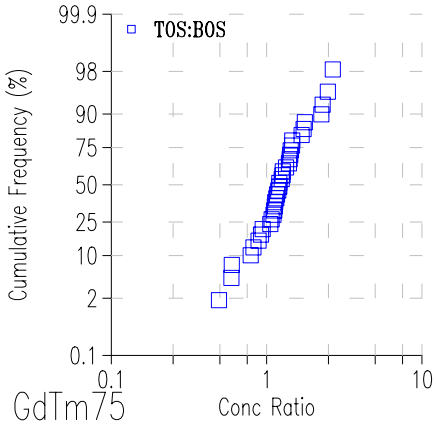


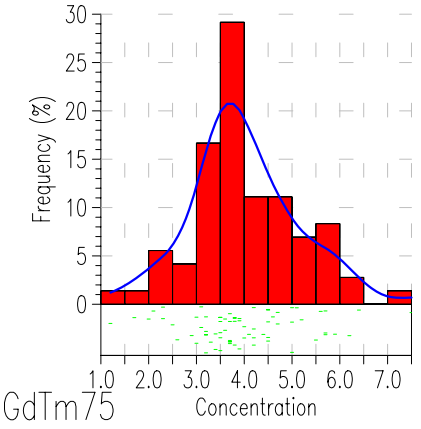






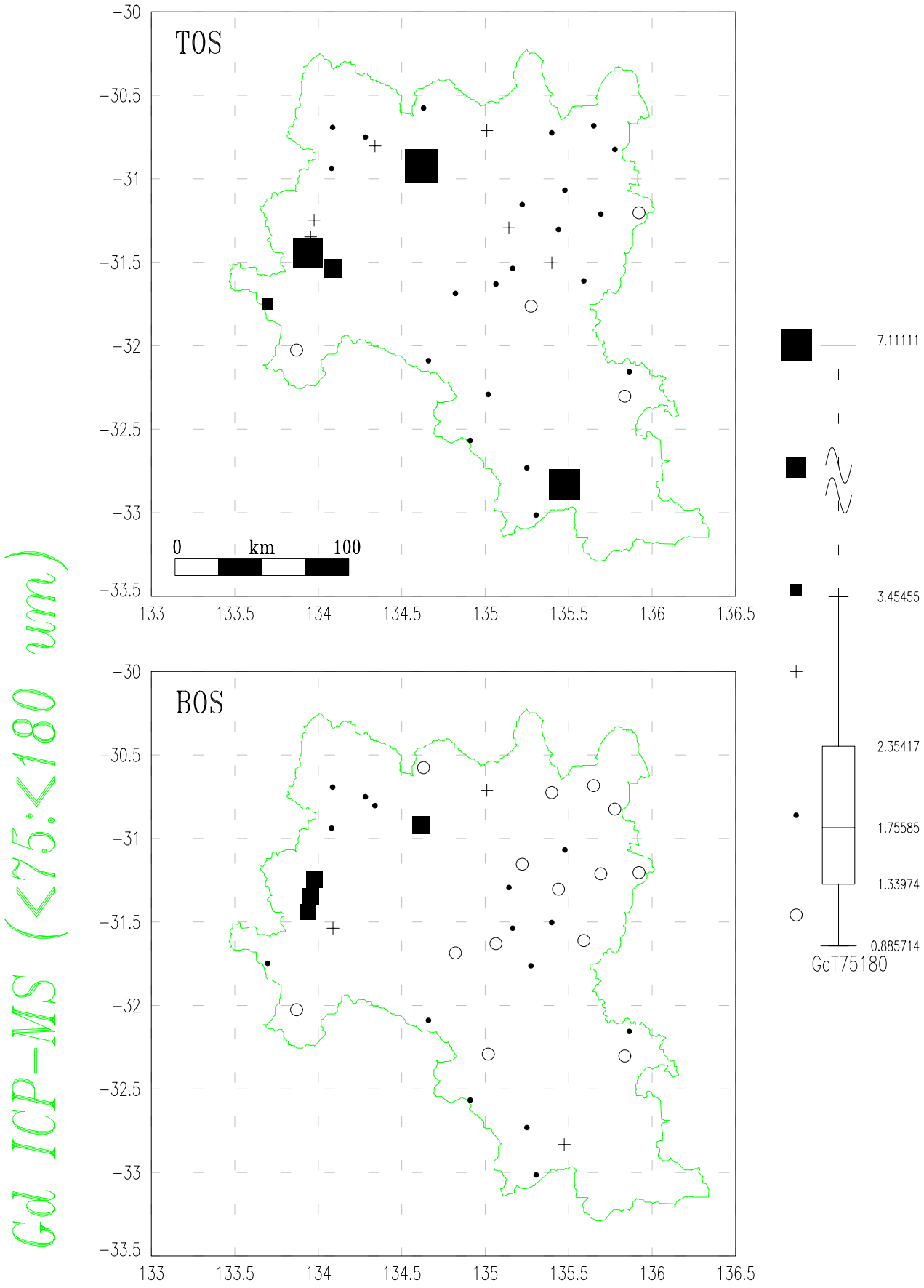






CAWLER GEOCHEMICAL SURVEY

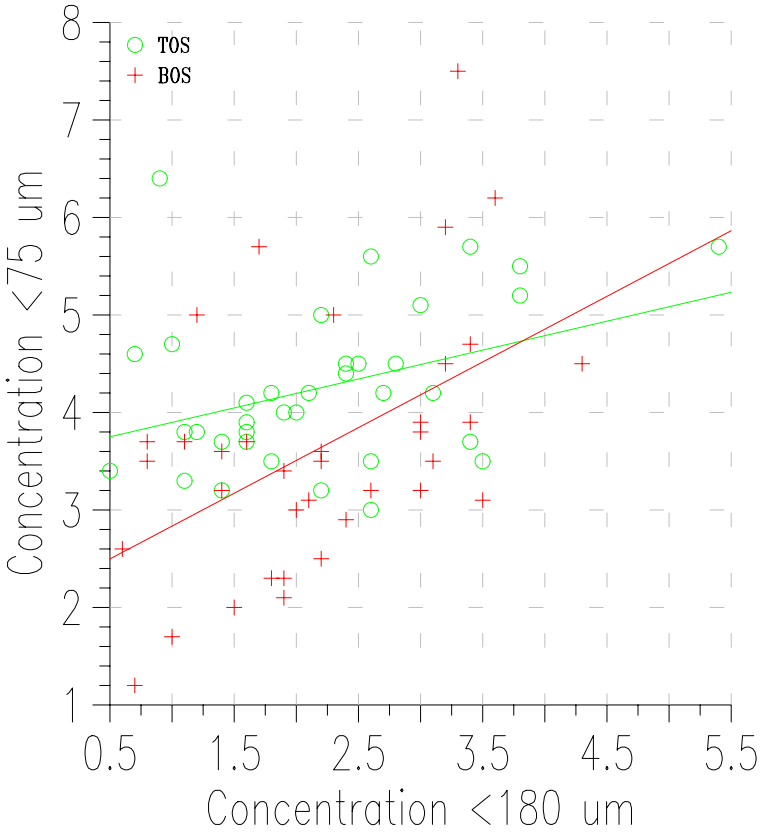
Top & Bottom Outlet Sediments (TOS & BOS)

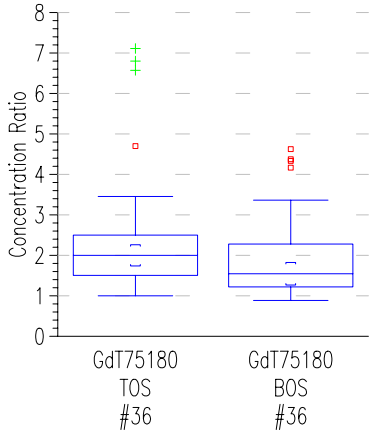


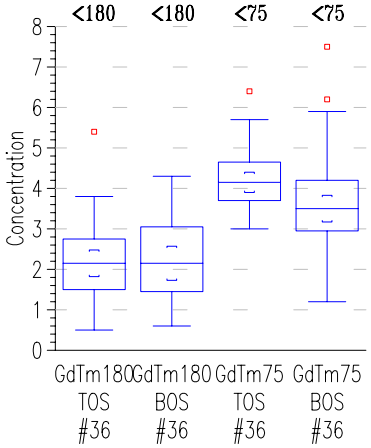
Gd ICP-MS (<75:<180 um)

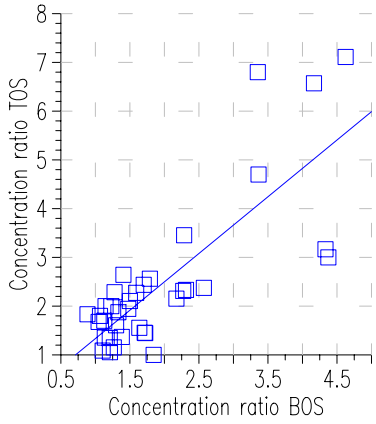
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

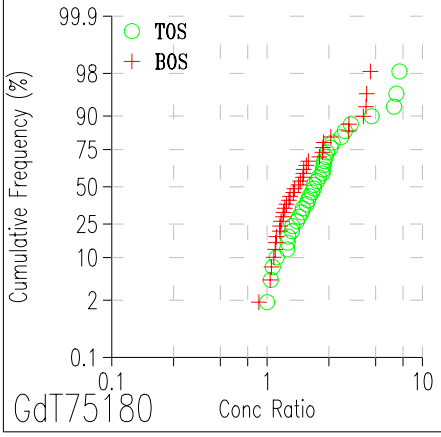
Gd ICP-MS (<75:<180 um)

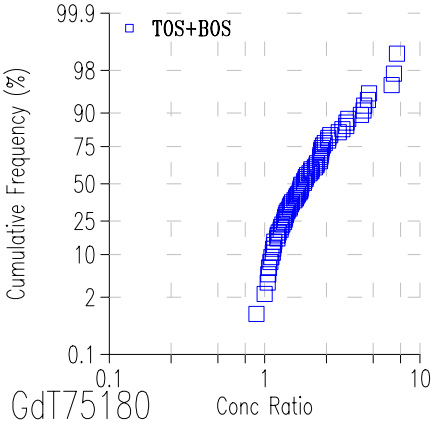


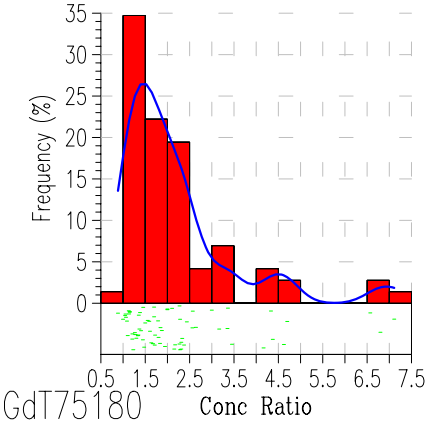






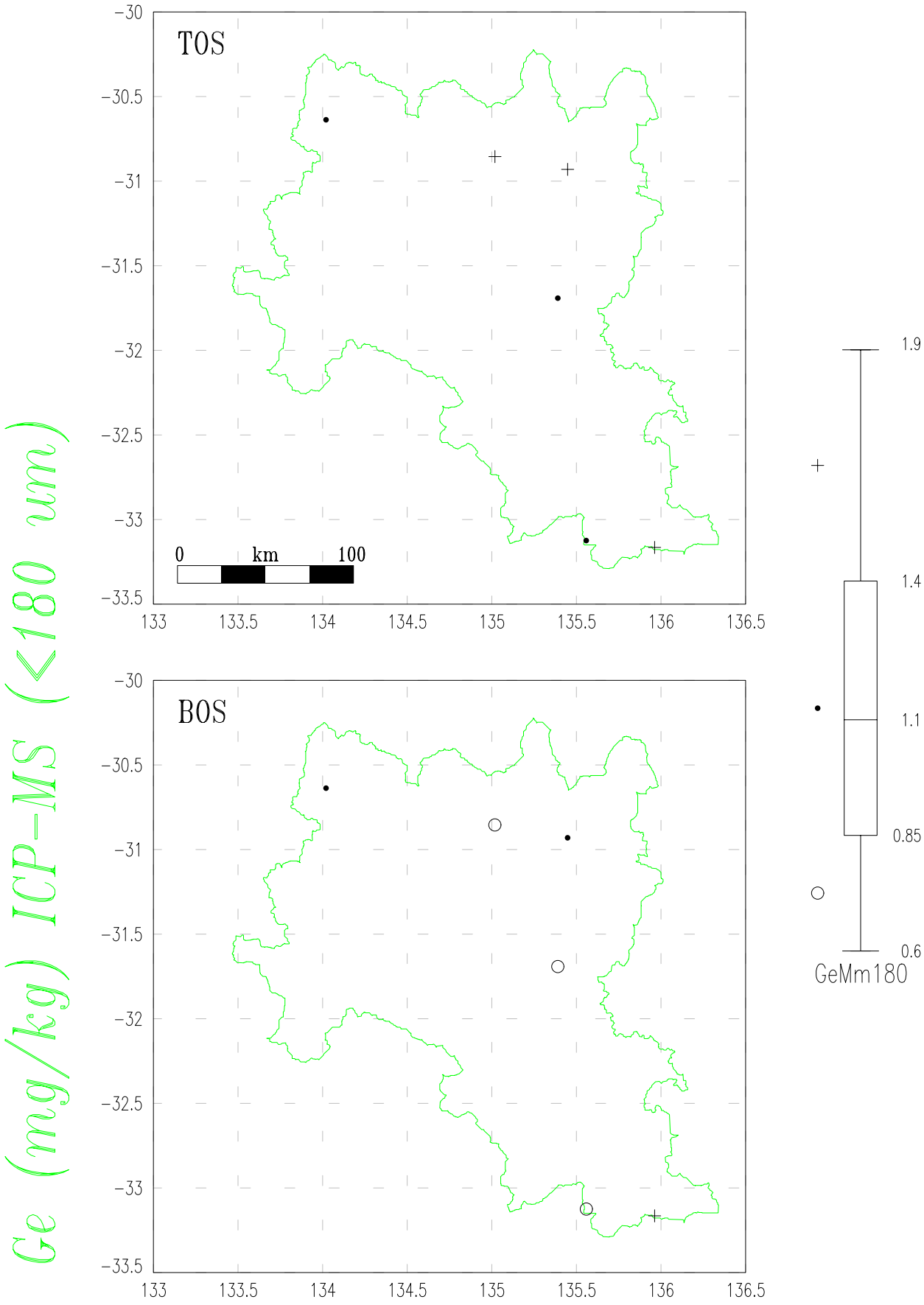






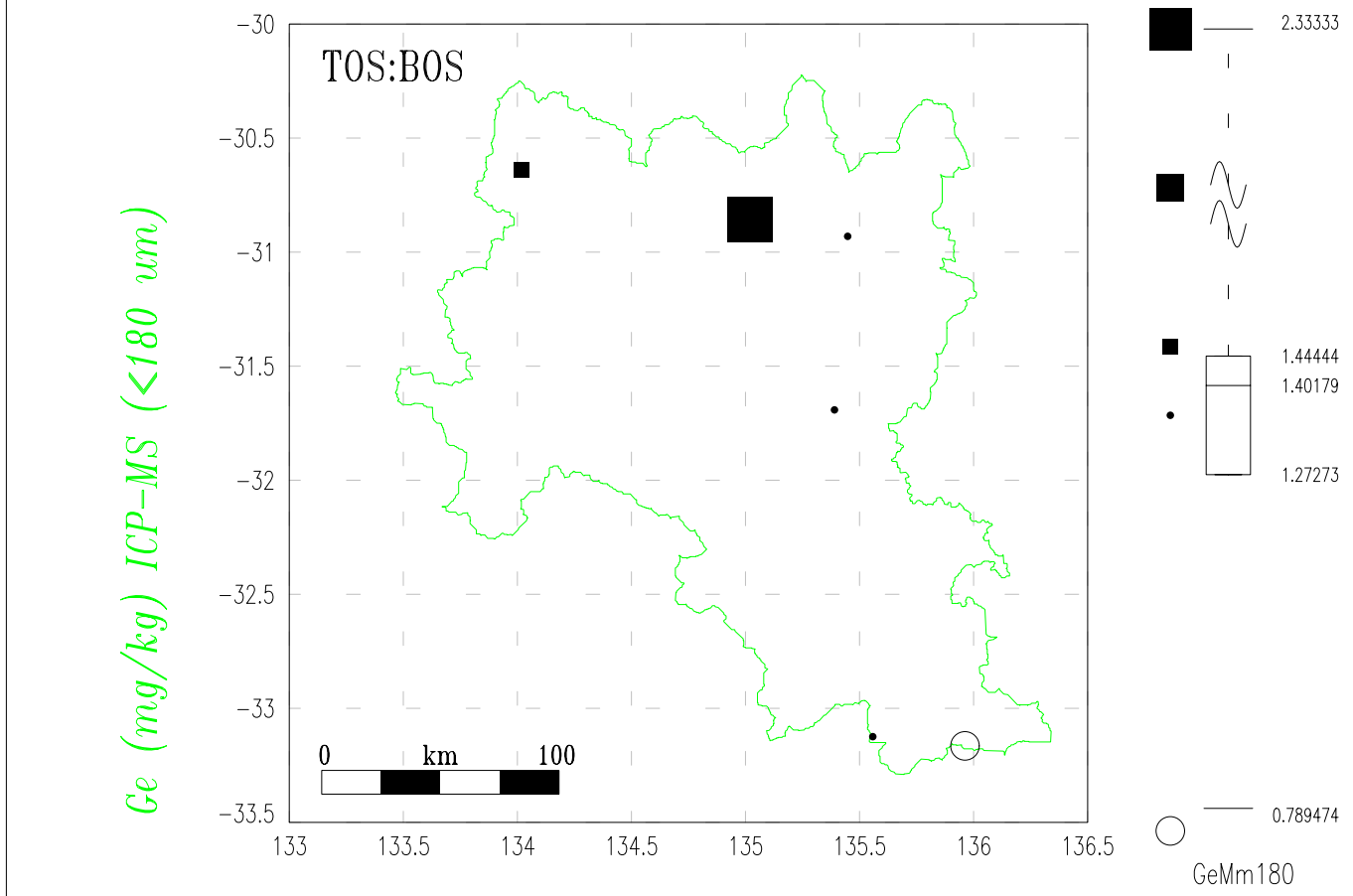
GAWLER GEOCHEMICAL SURVEY

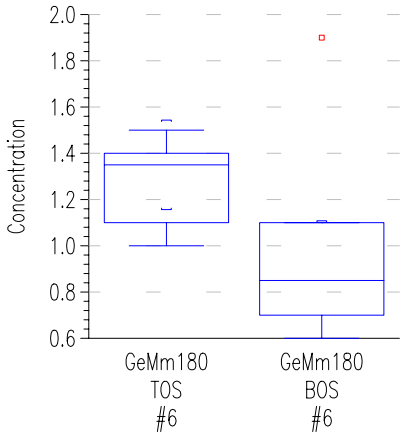
Top & Bottom Outlet Sediments (TOS & BOS)

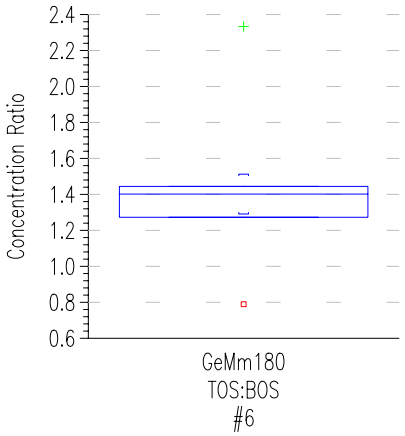


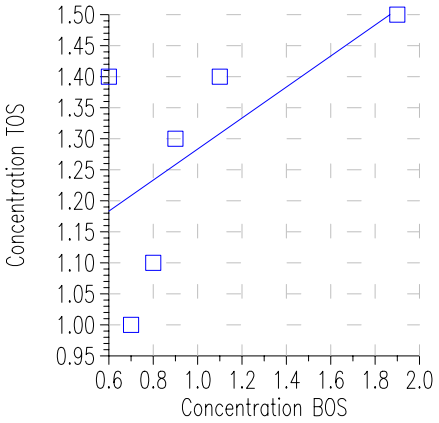
Ge (mg/kg) ICP-MS (<180 um)

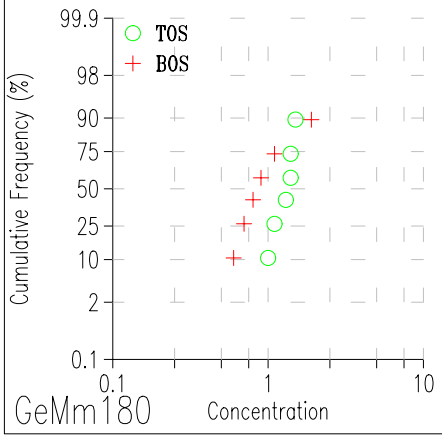
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

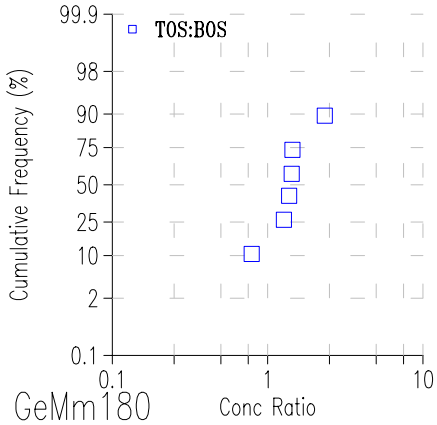


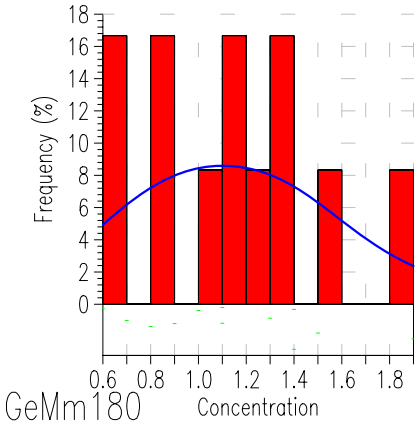












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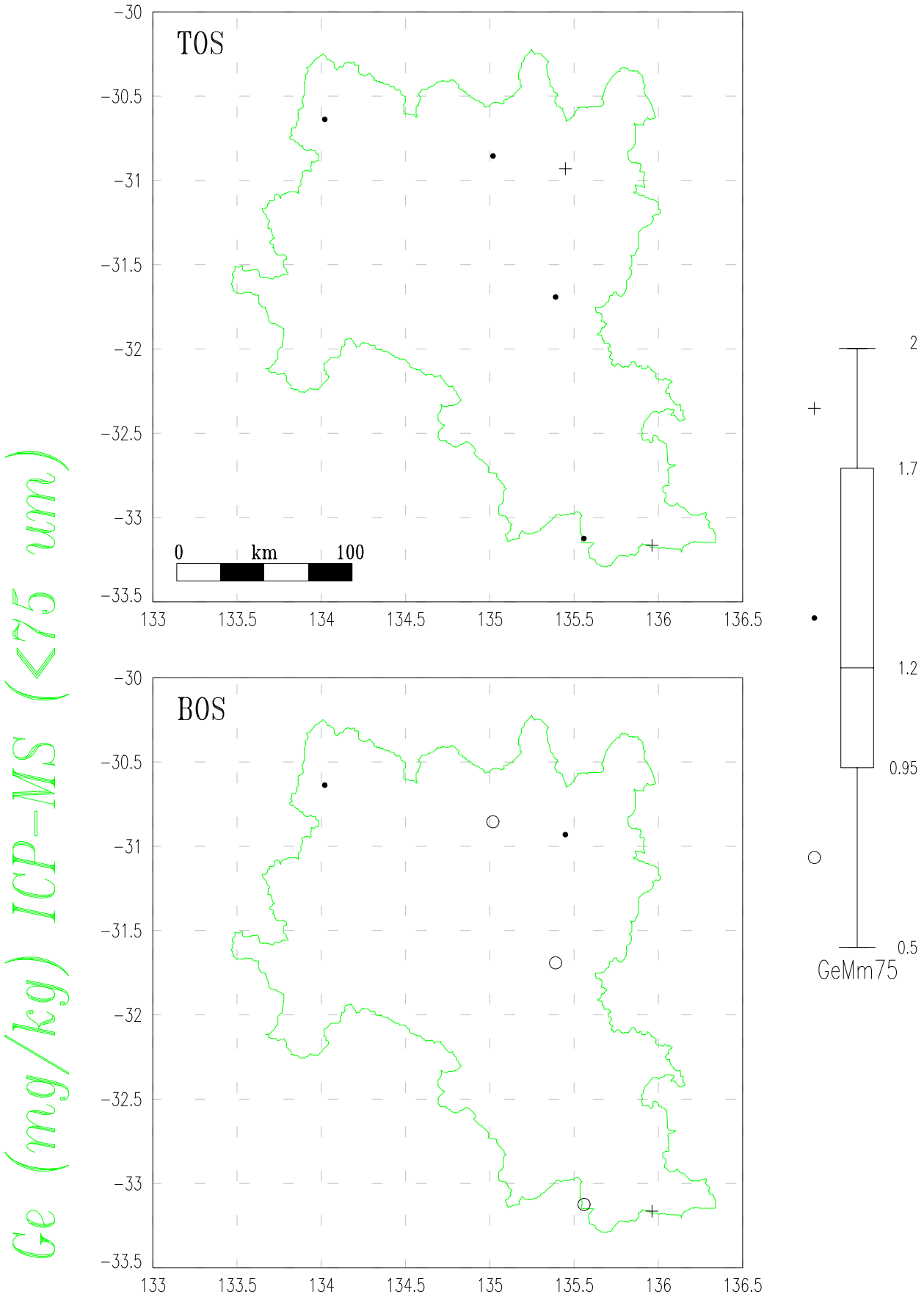

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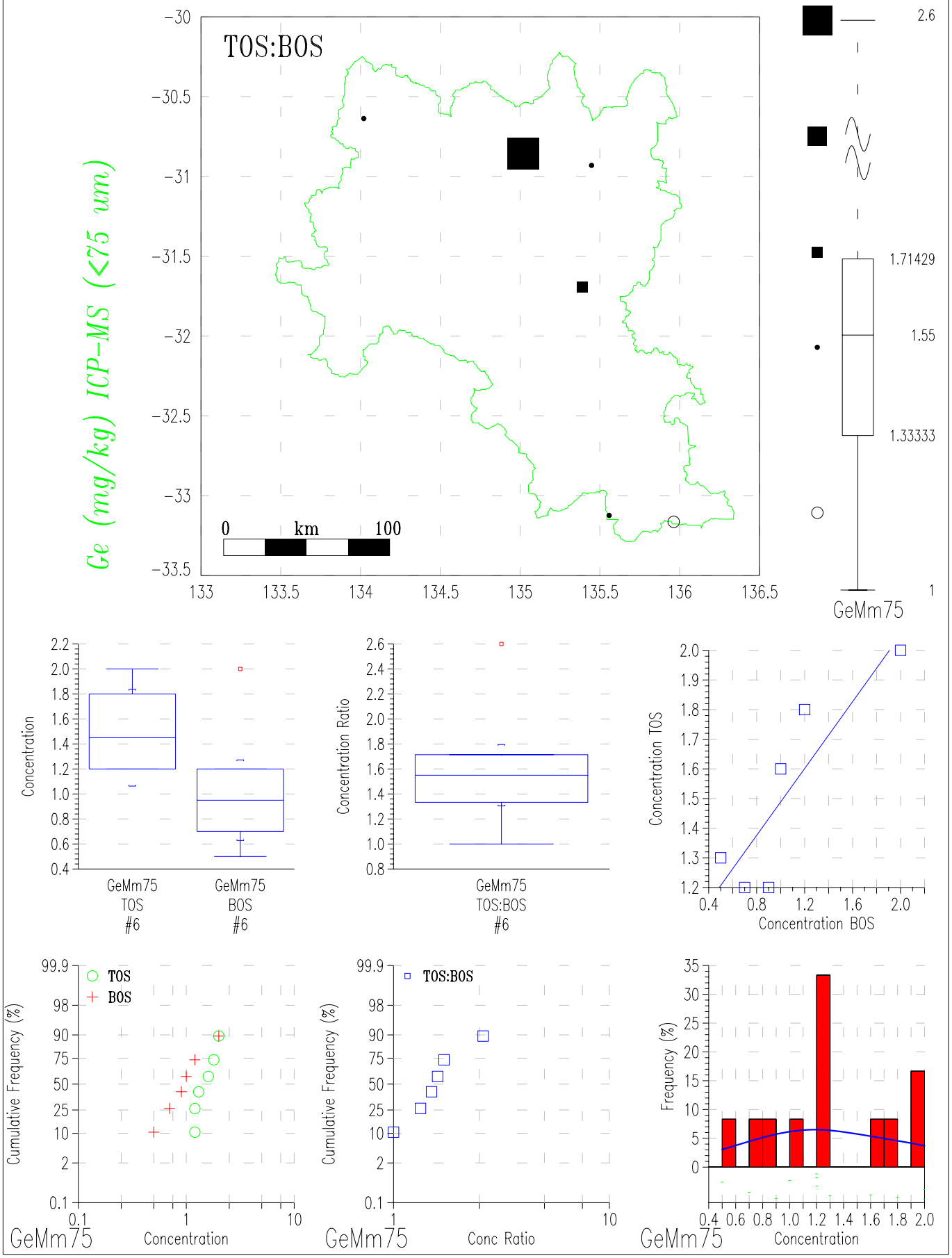

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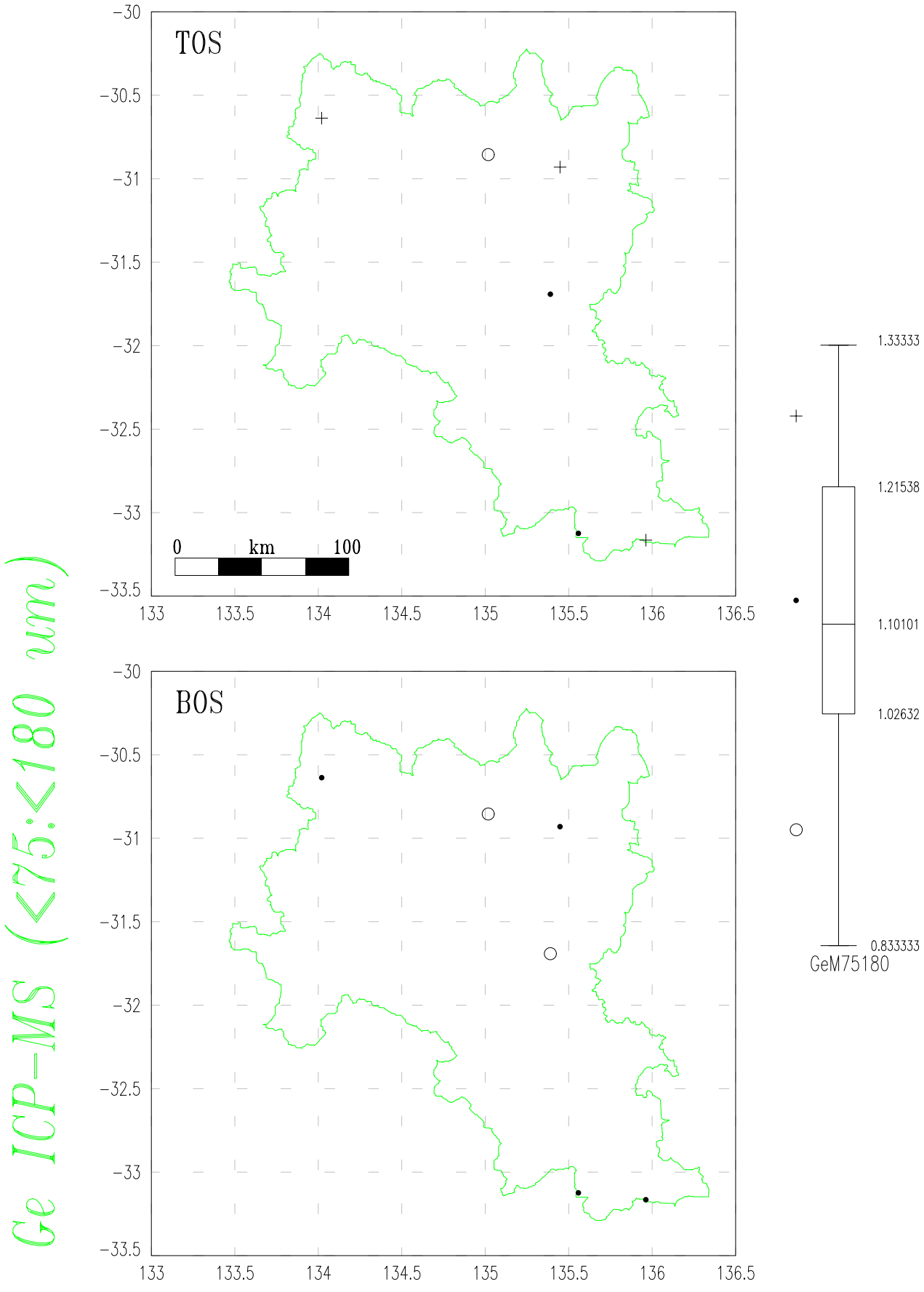

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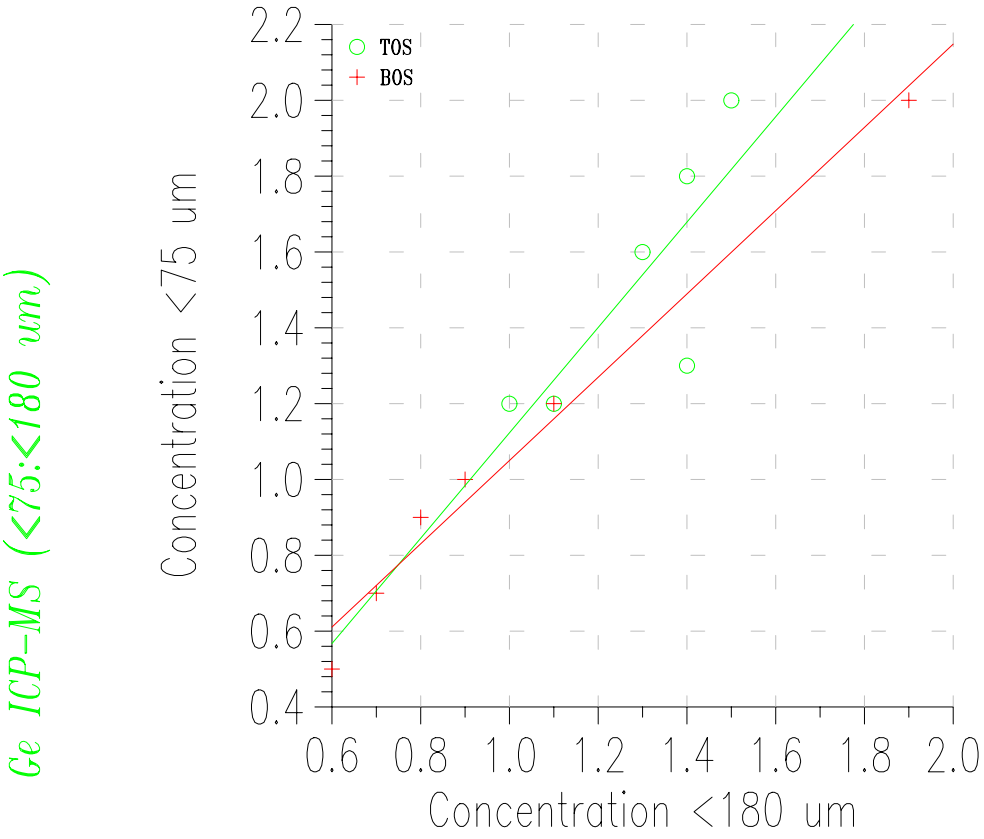

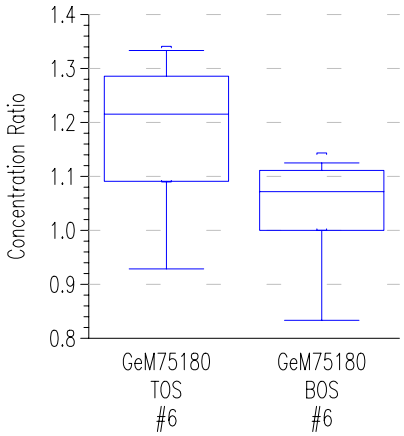

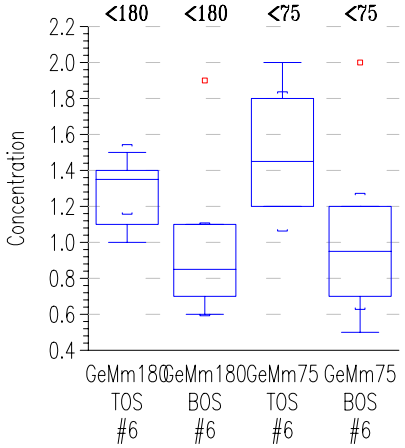

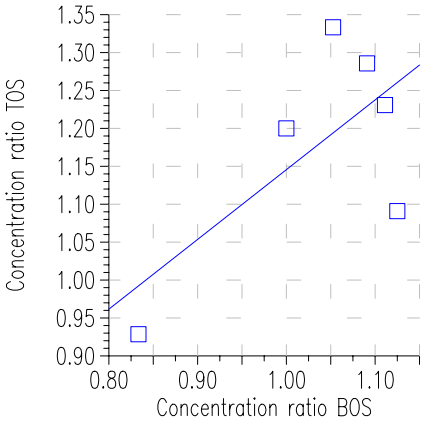

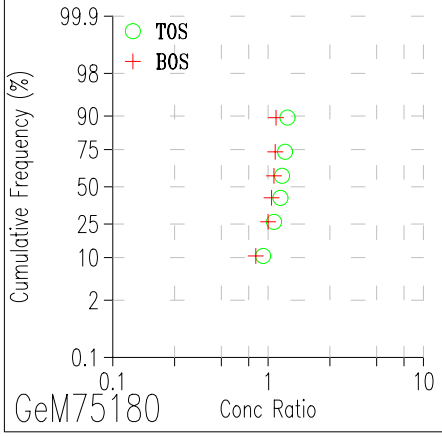

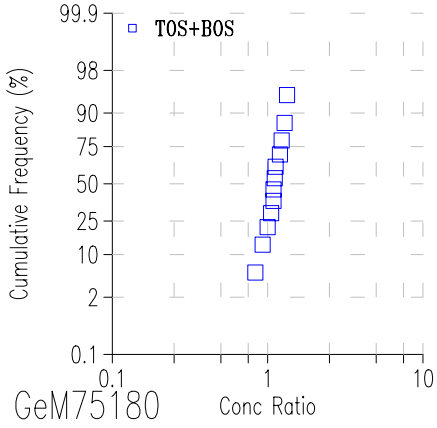

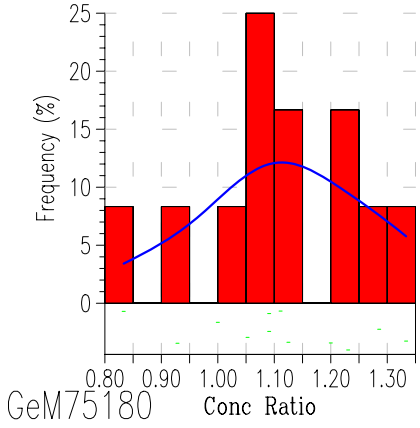

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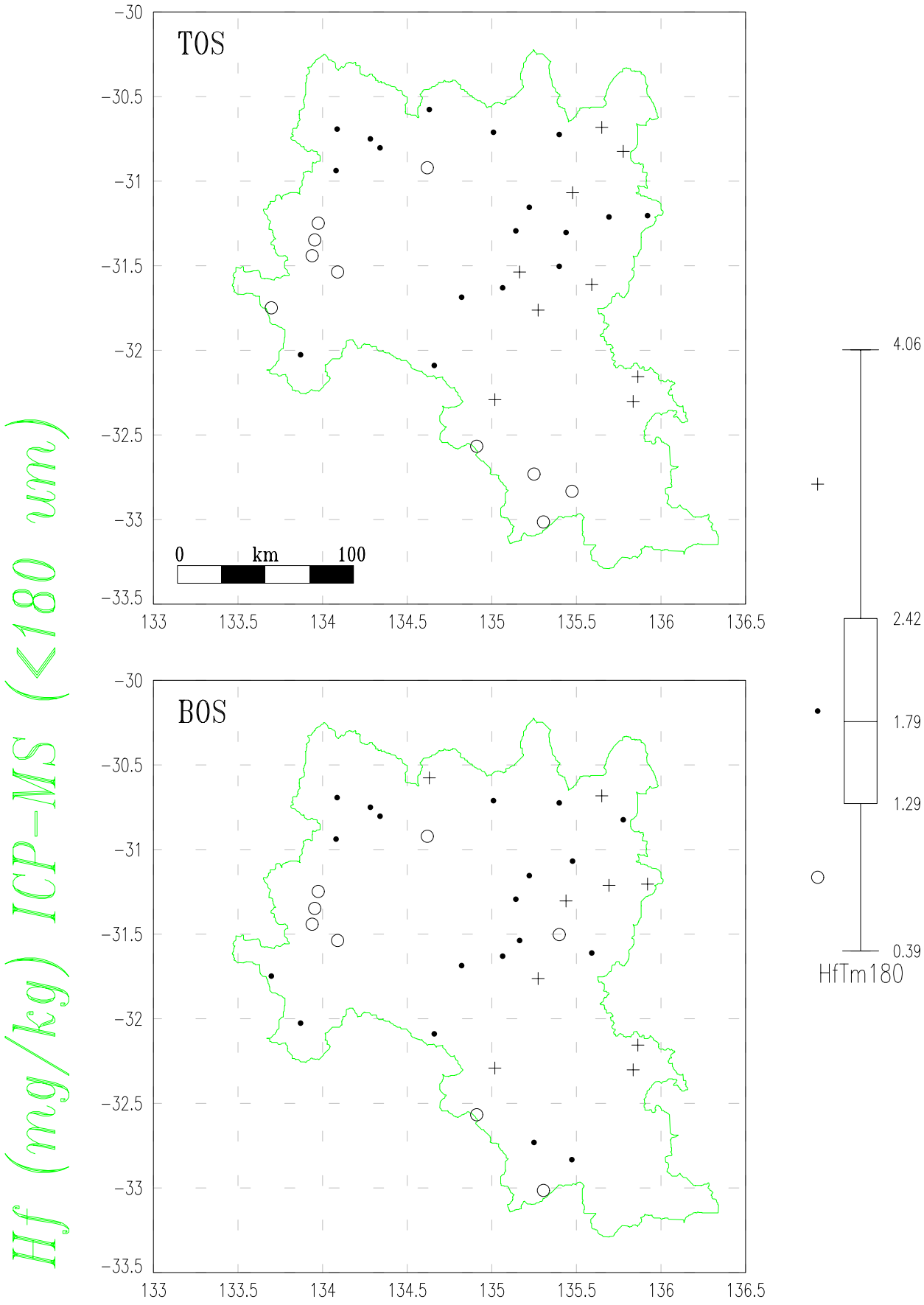

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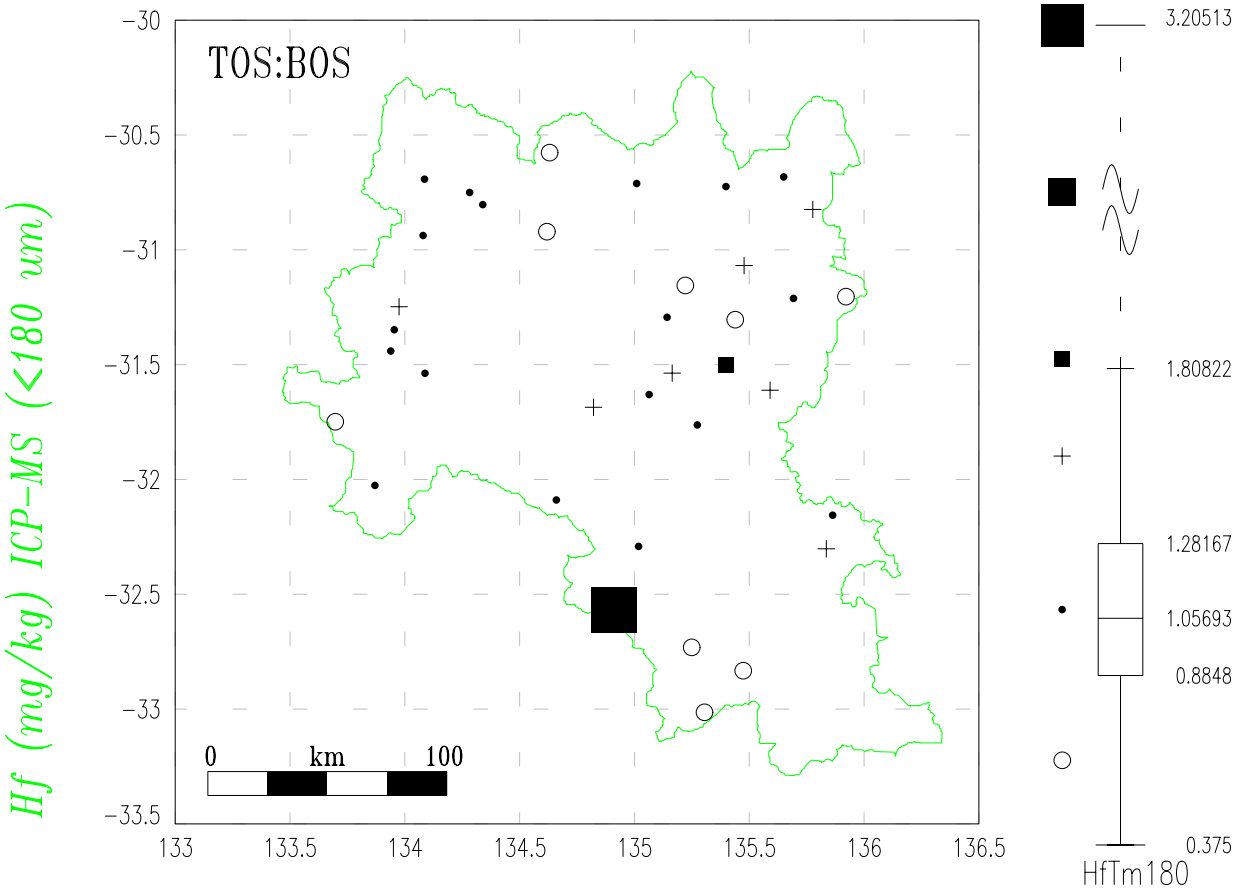

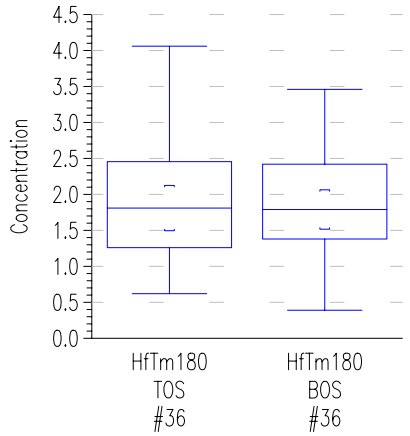

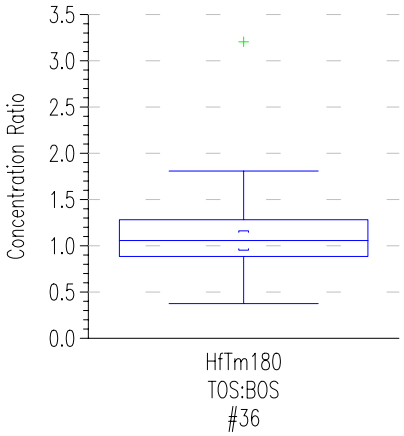

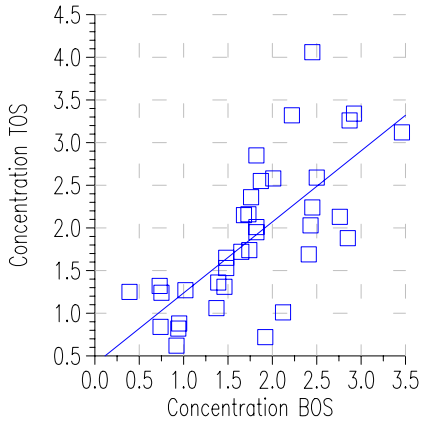

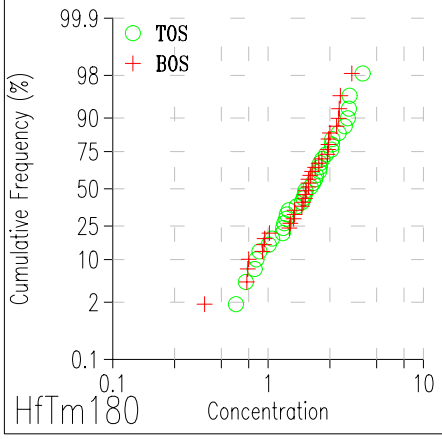

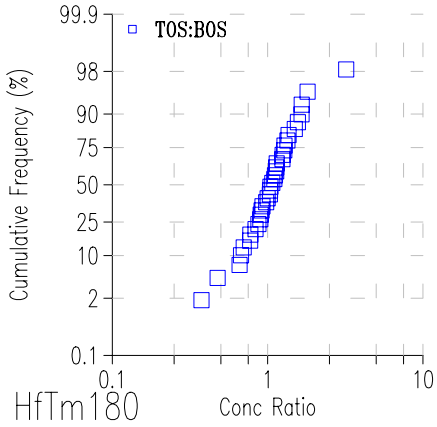

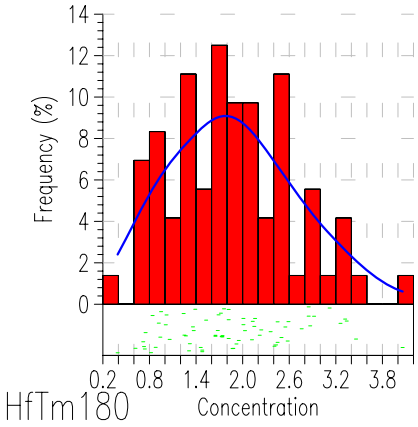

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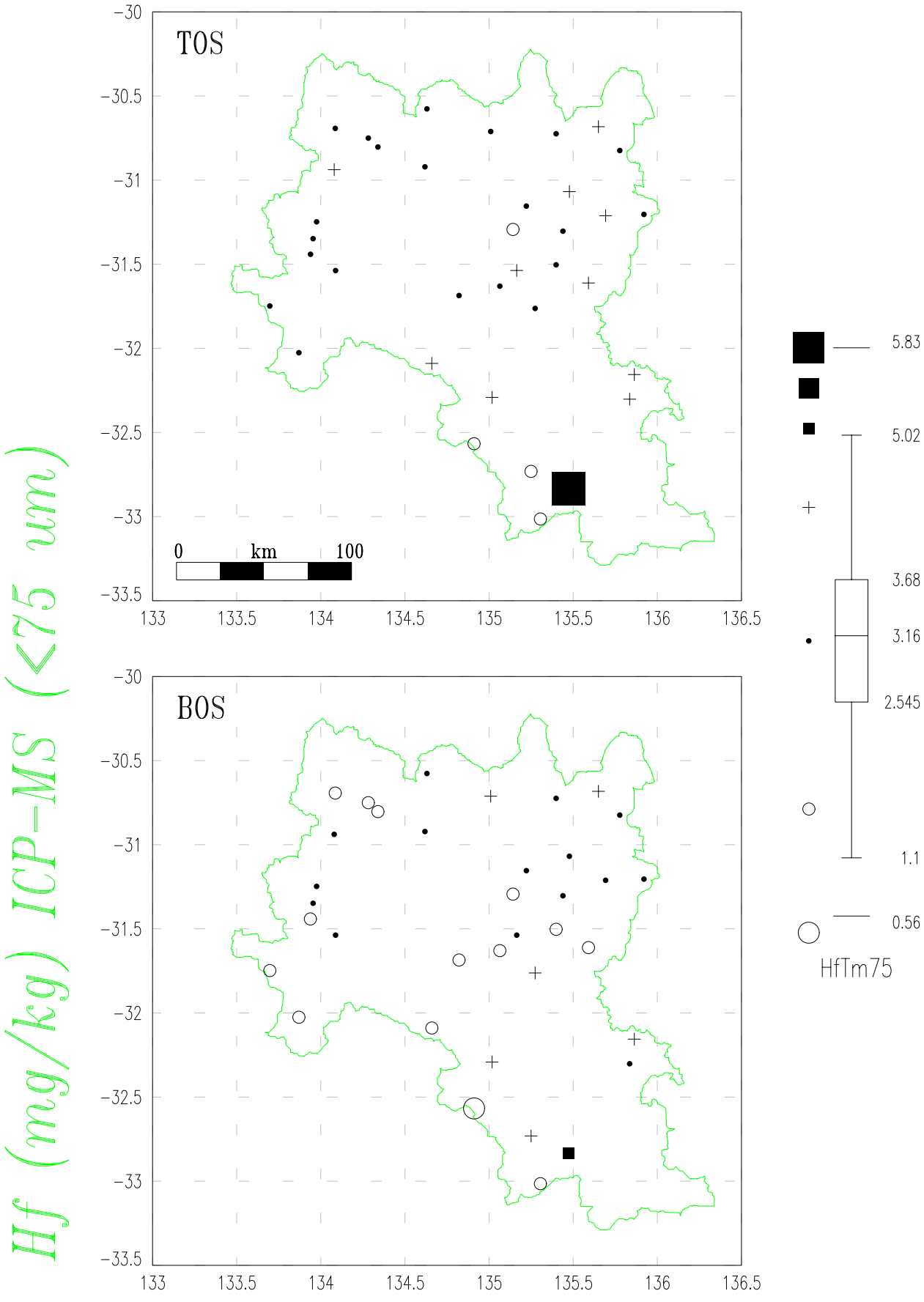

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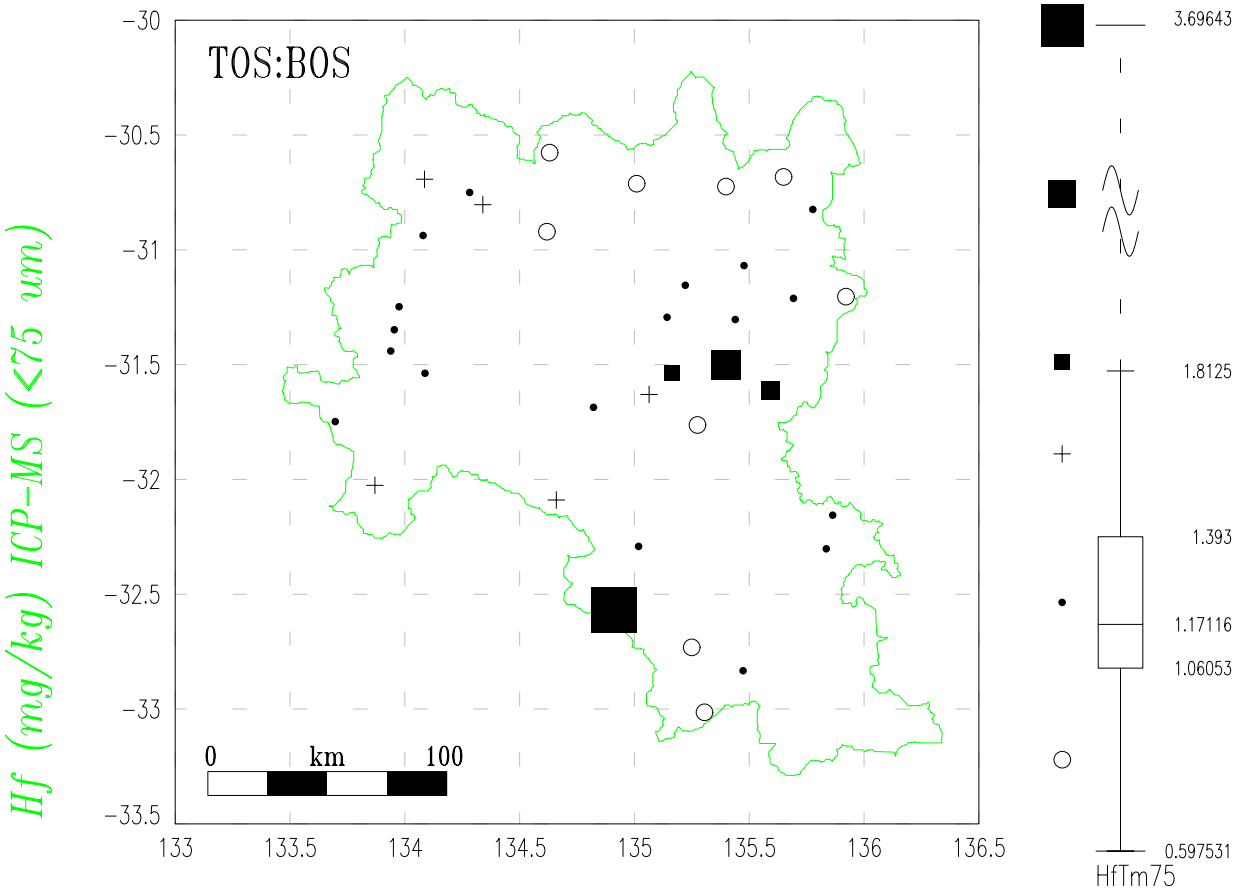

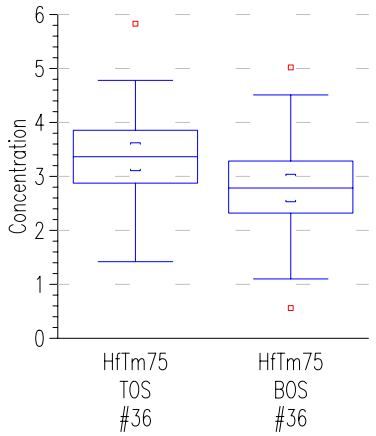

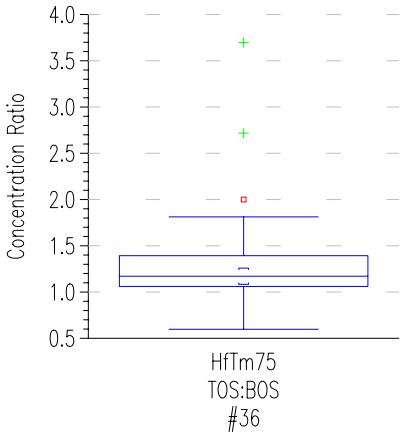

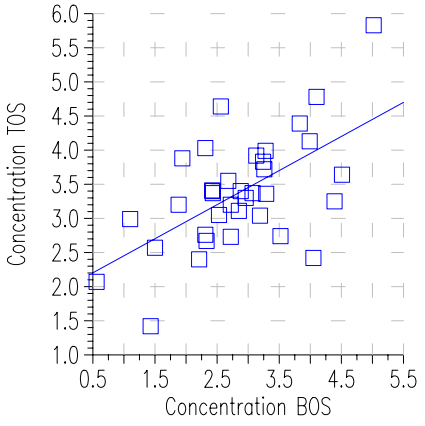

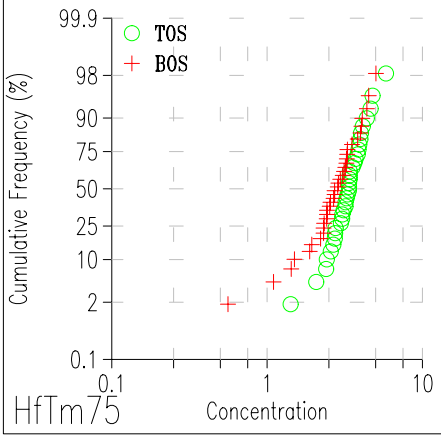

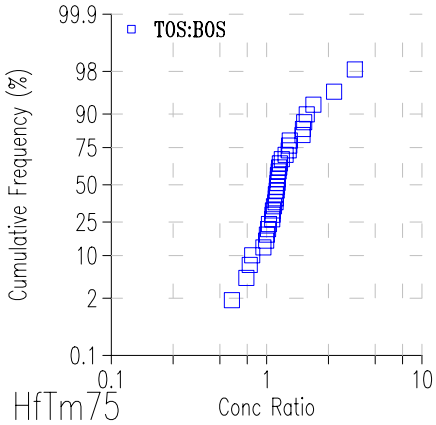

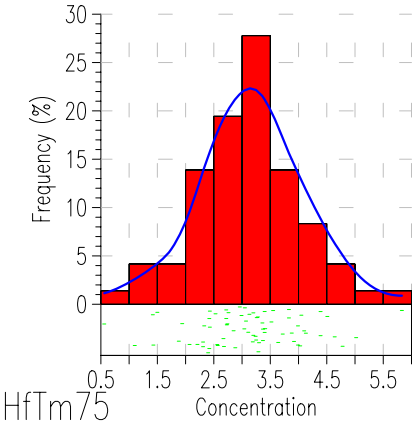

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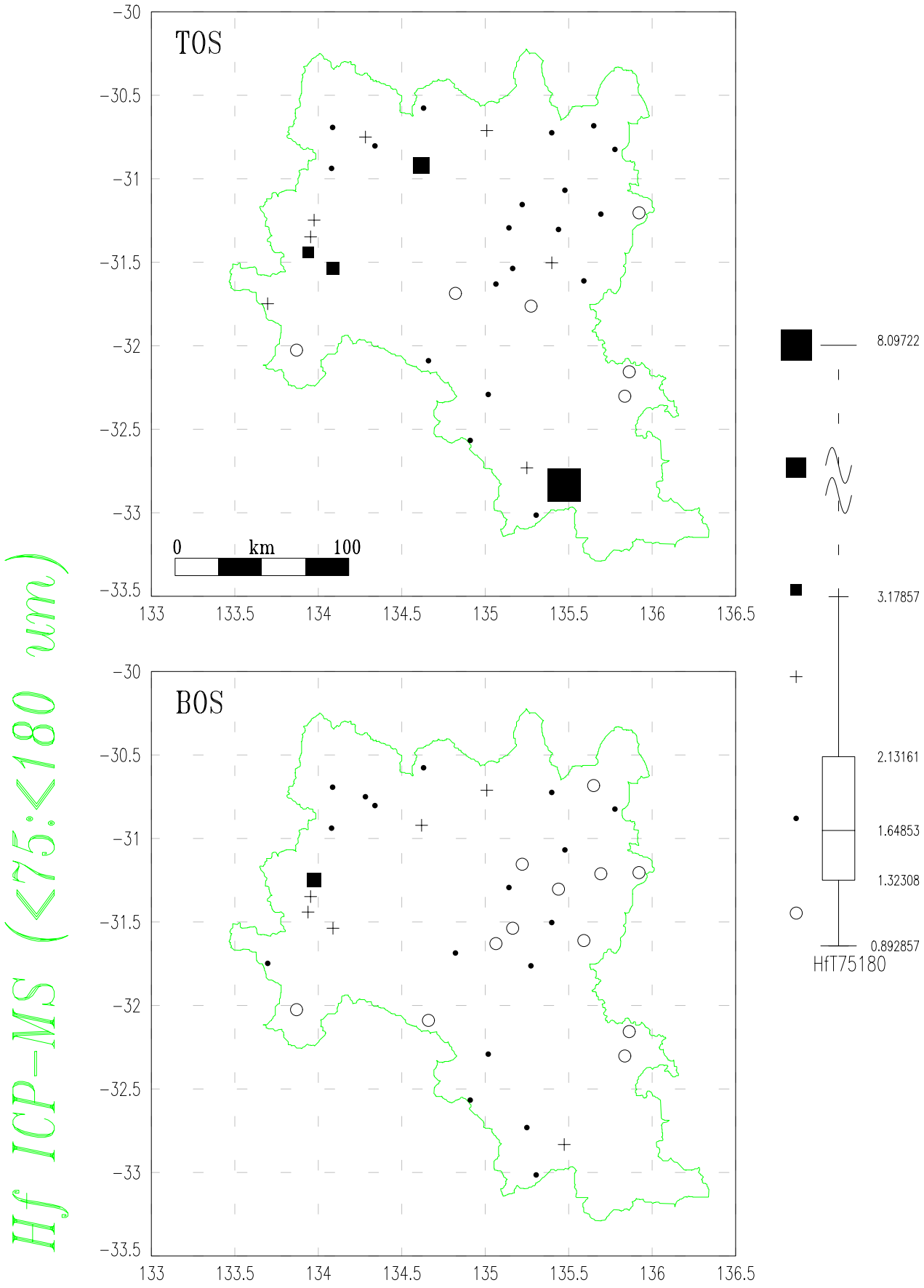

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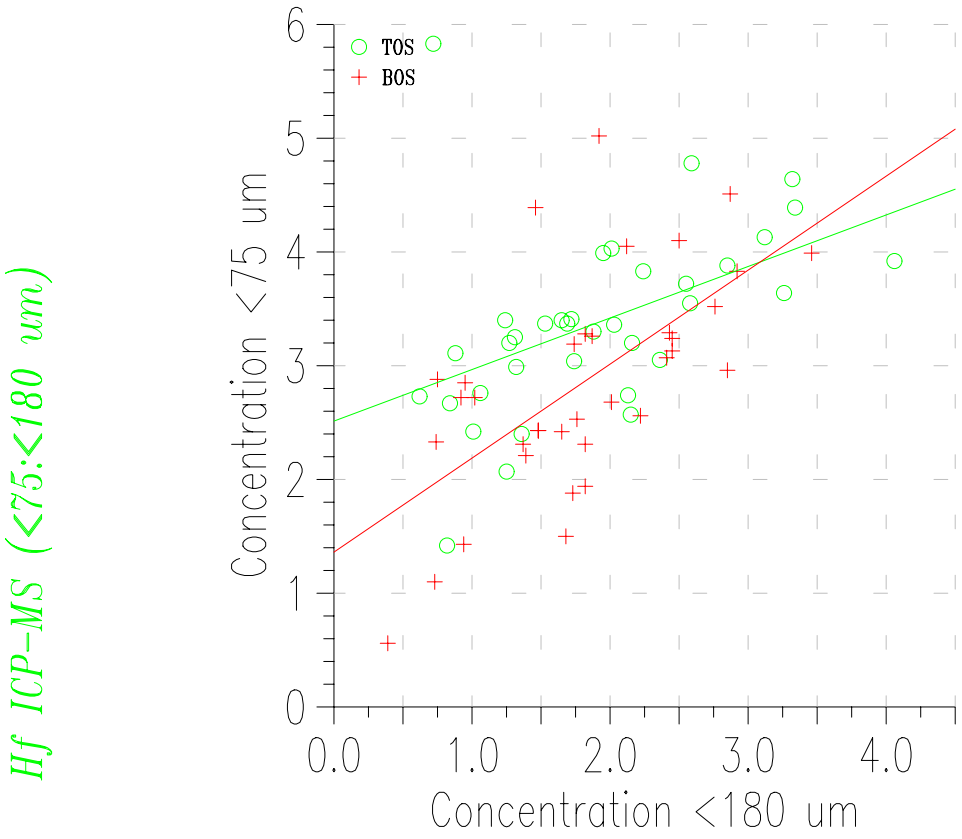
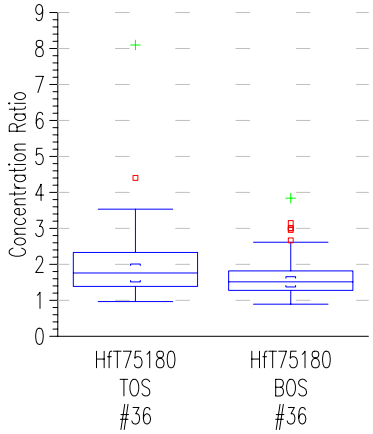
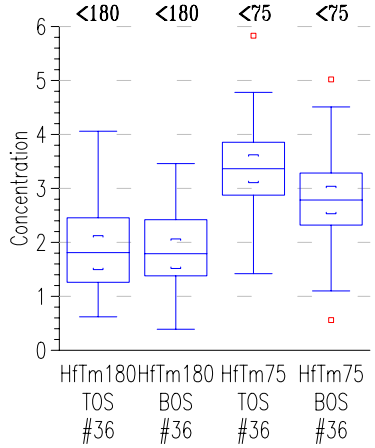
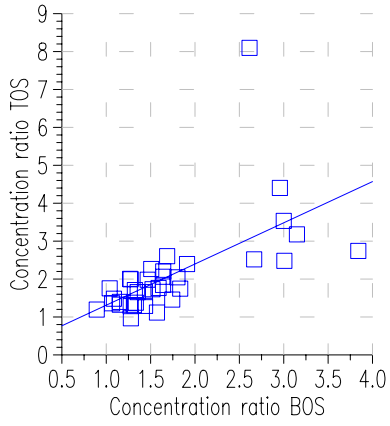
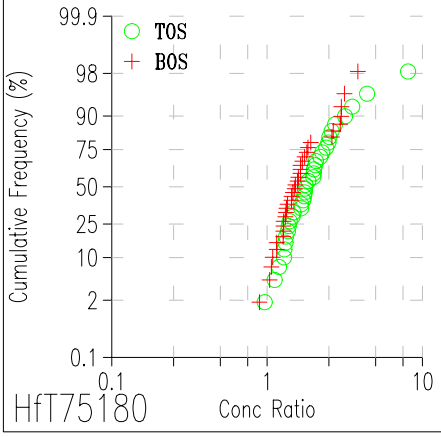
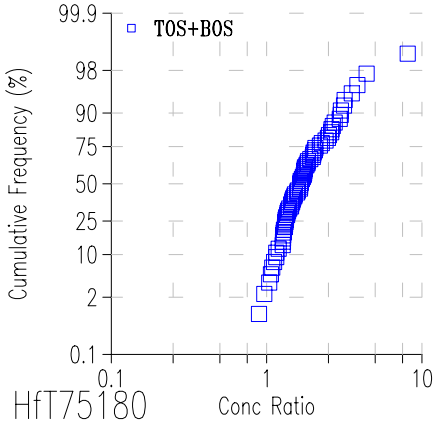


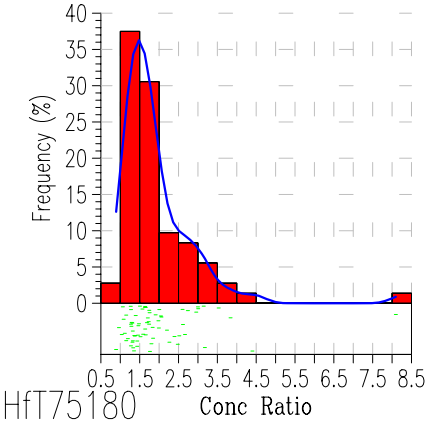






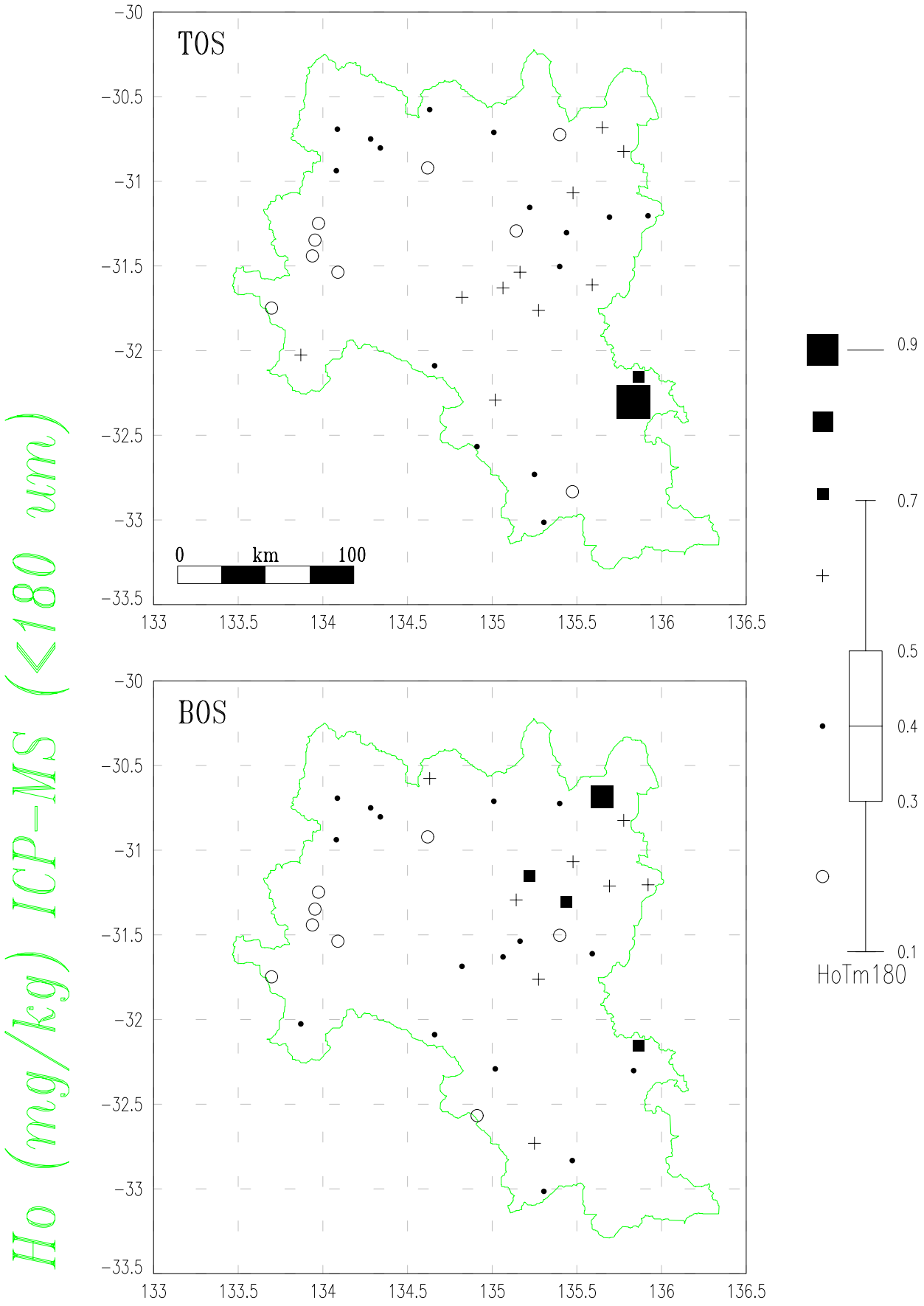






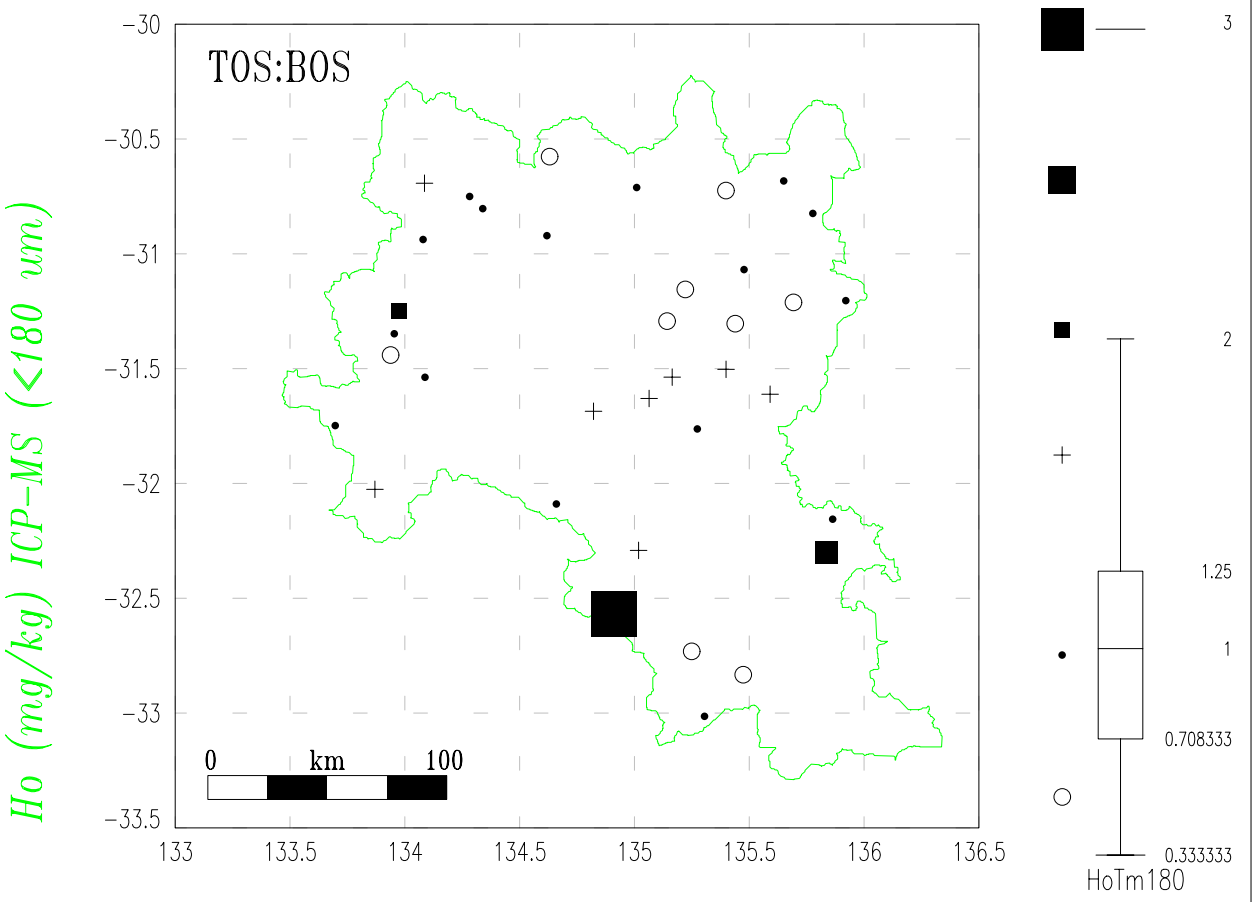
GAWLER GEOCHEMICAL SURVEY

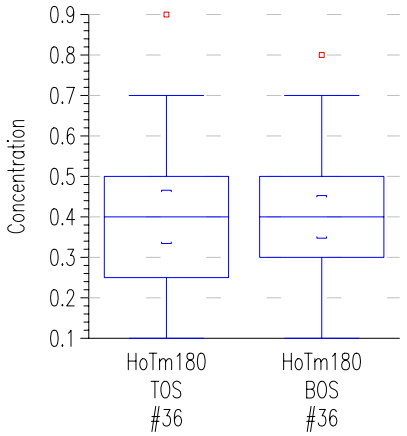
Top & Bottom Outlet Sediments (TOS & BOS)

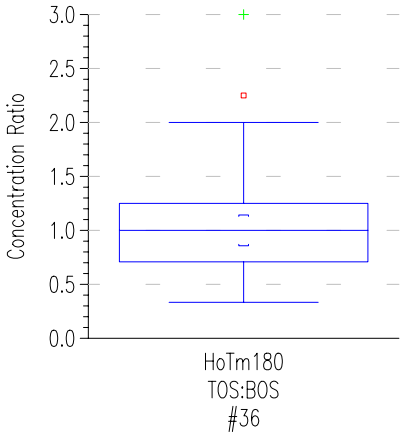


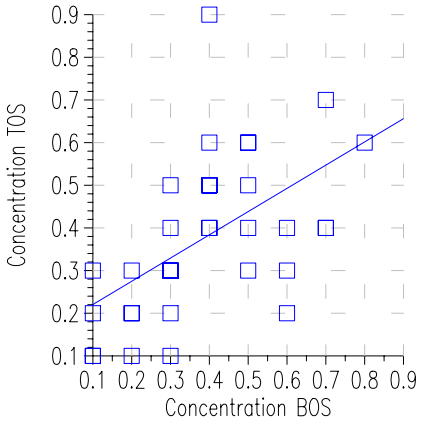
Ho (mg/kg) ICP-MS (<180 um)

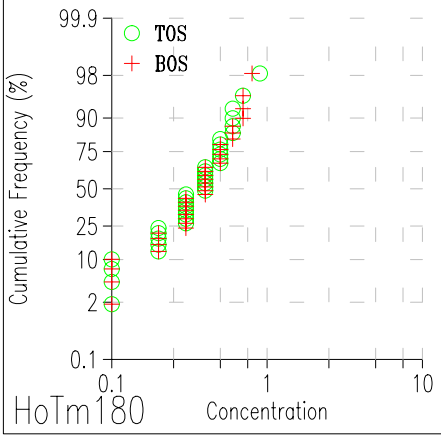
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

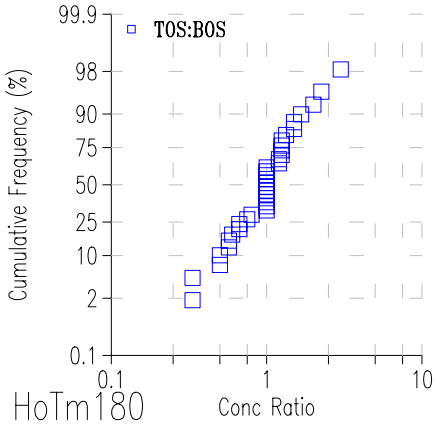


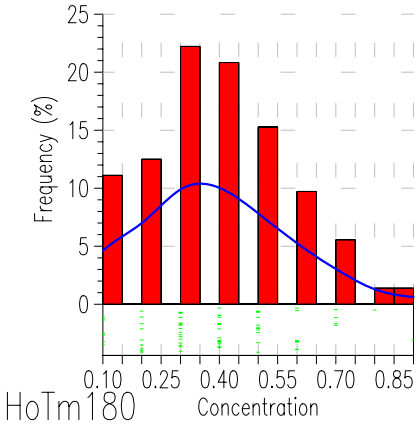






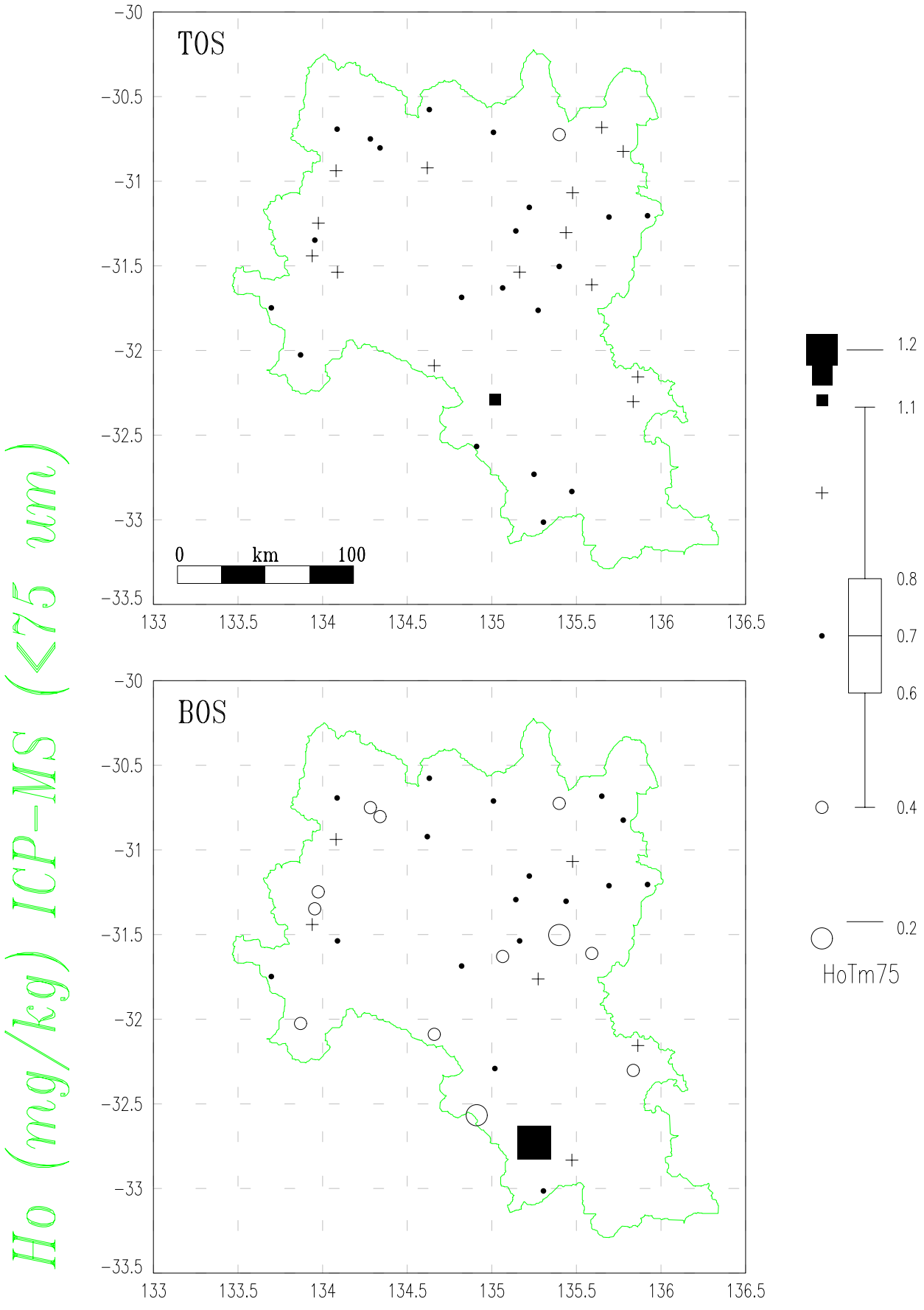






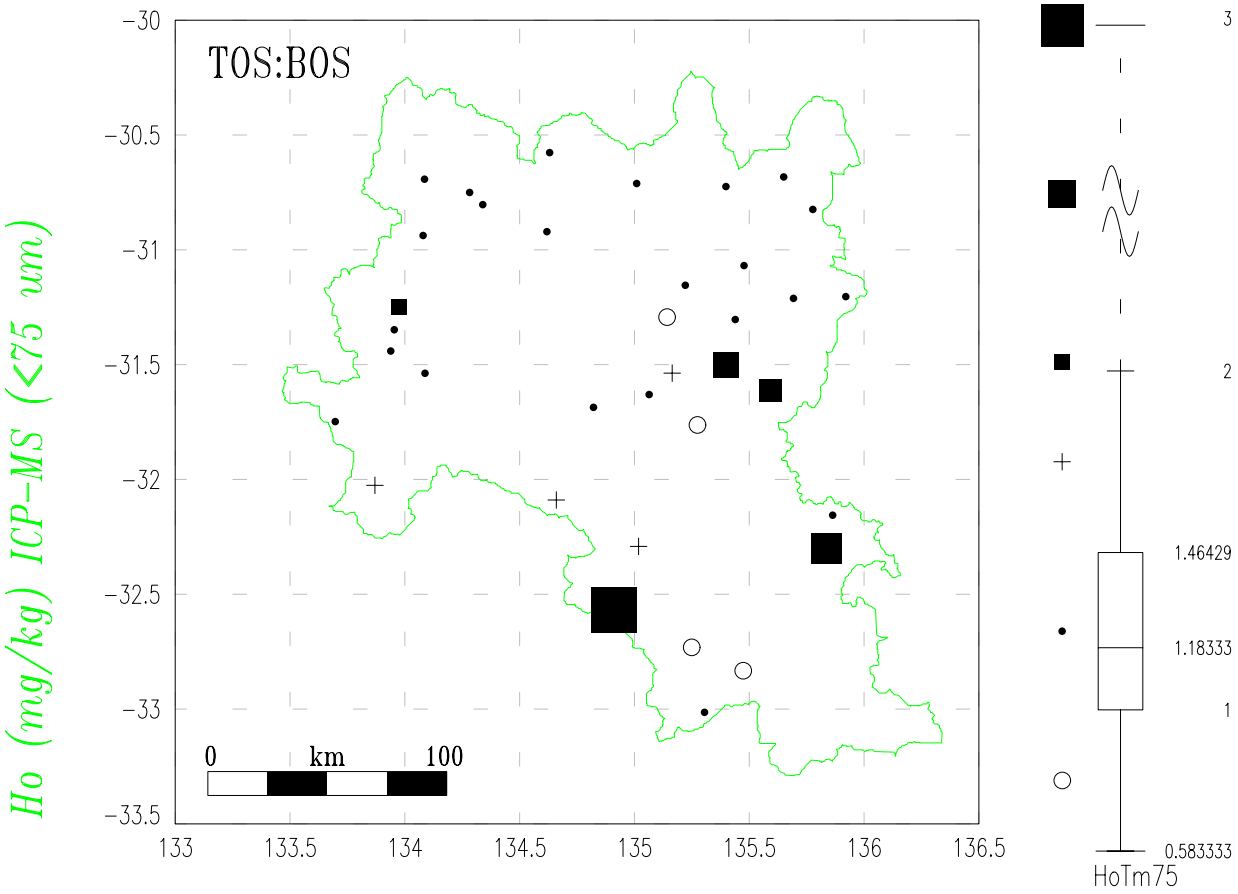
CAWLER GEOCHEMICAL SURVEY

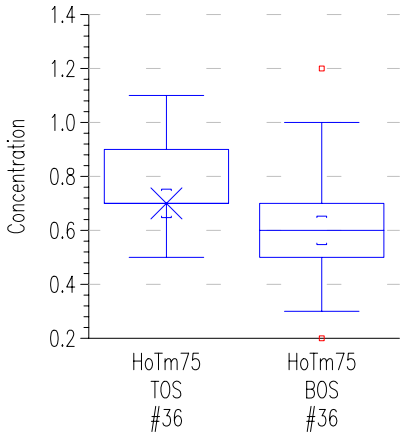
Top & Bottom Outlet Sediments (TOS & BOS)

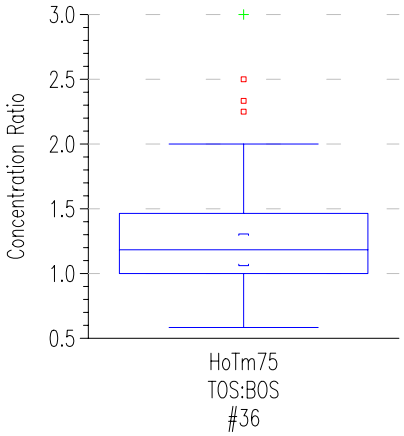


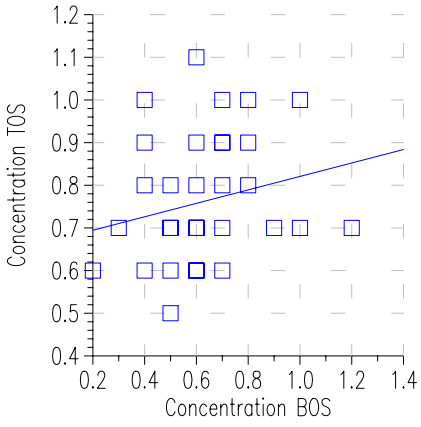
Ho (mg/kg) ICP-MS (<75 um)

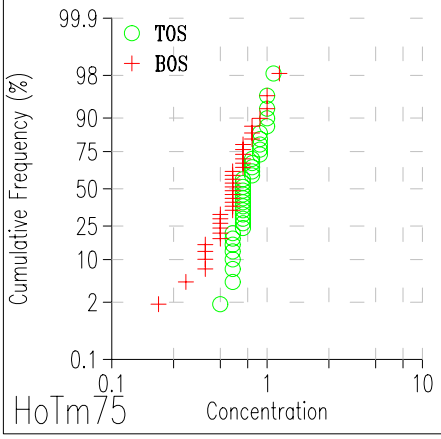
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

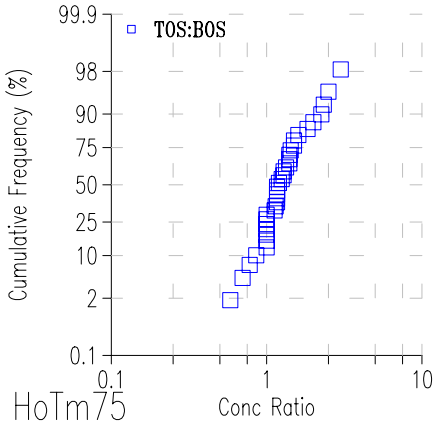


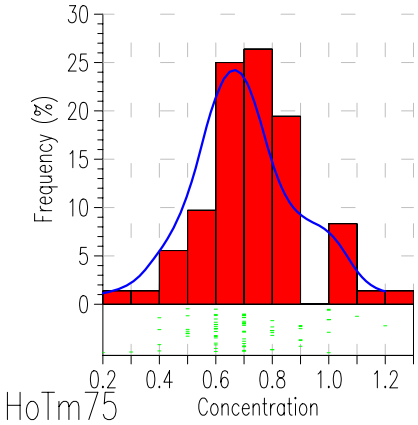




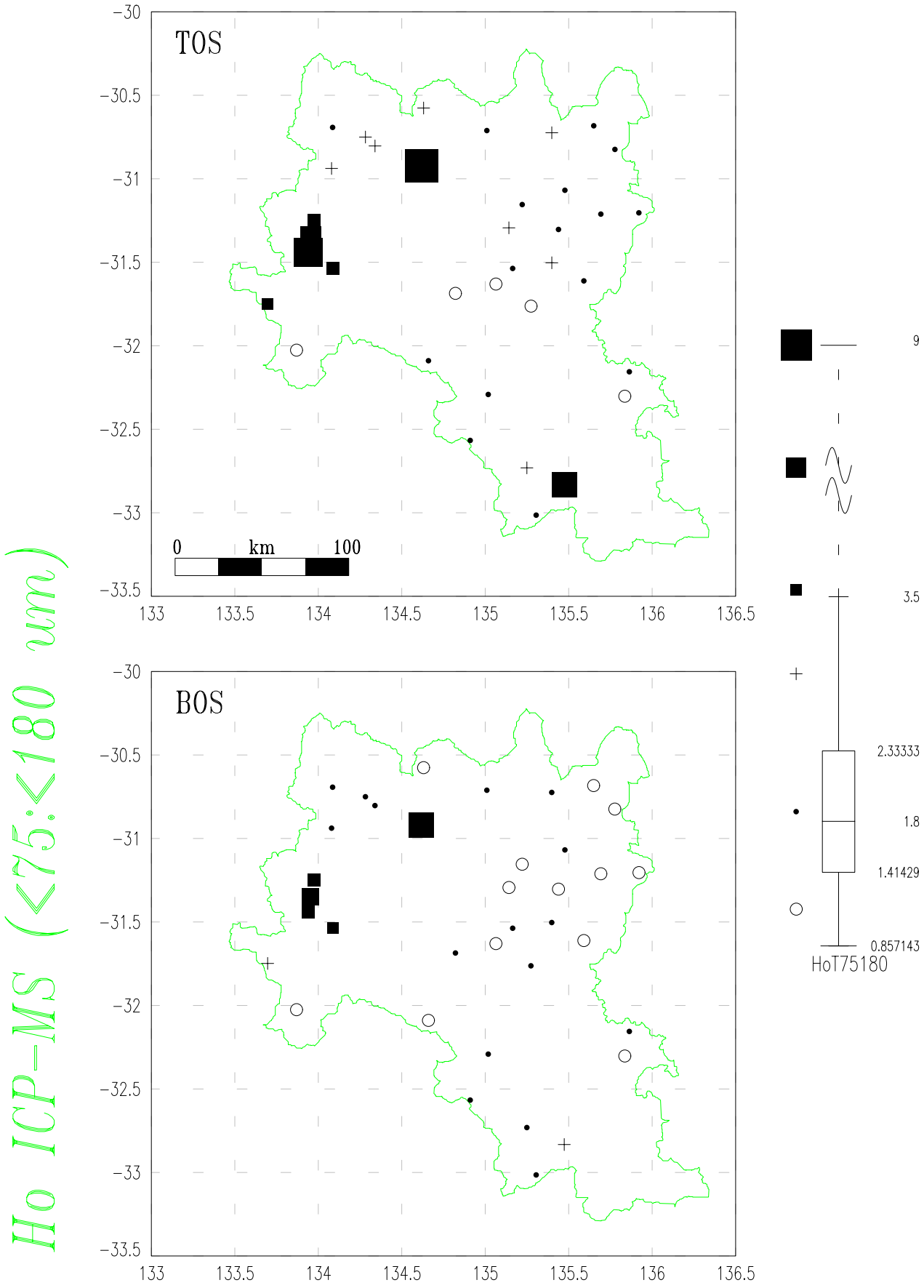






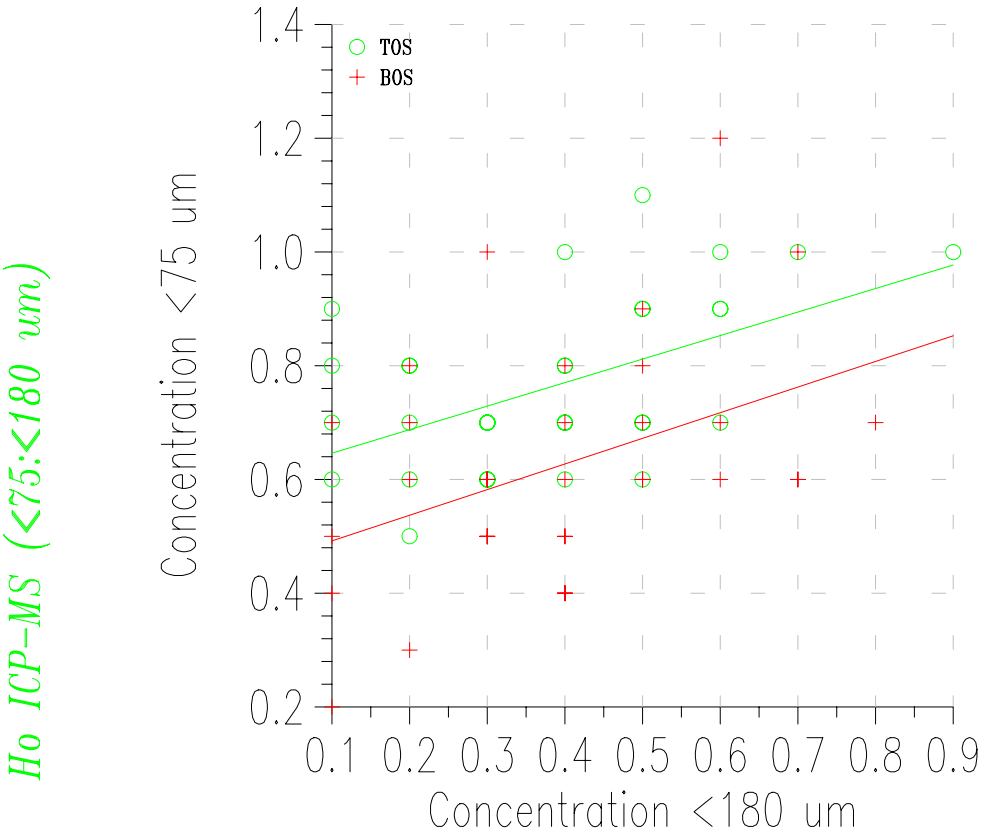


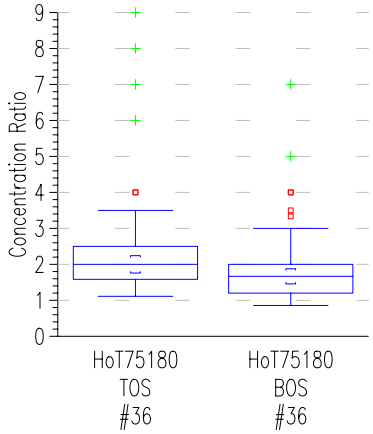
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

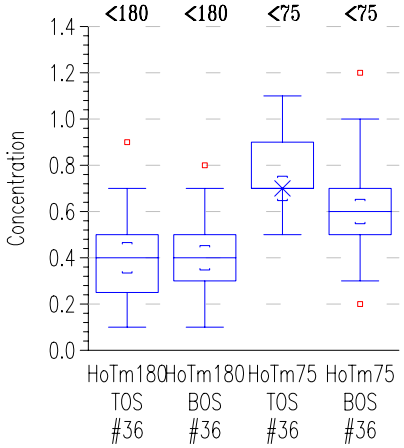


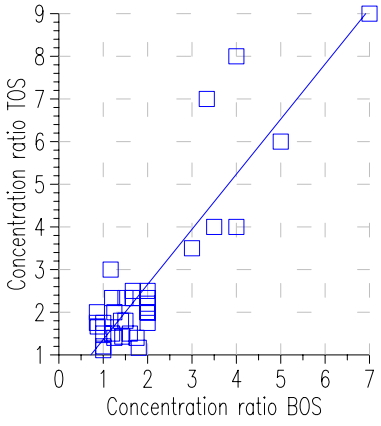
Ho ICP-MS (<75:<180 um)

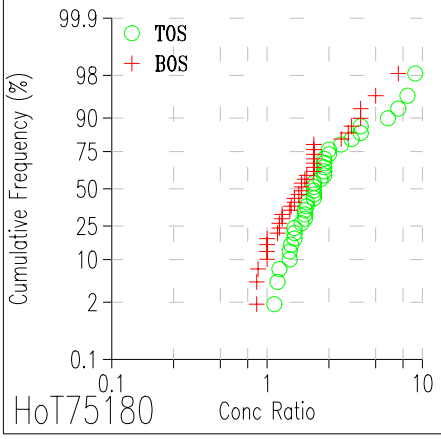
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

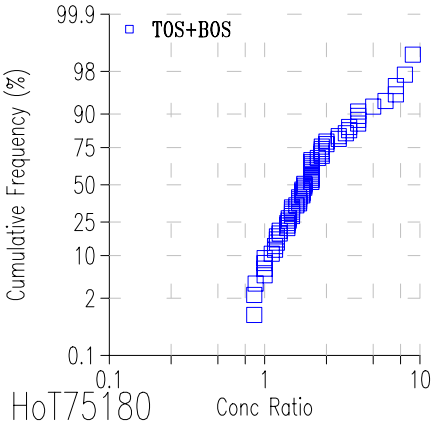


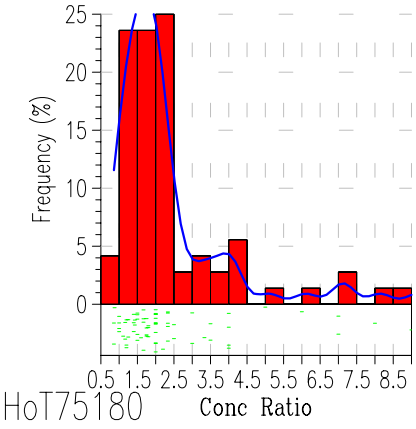






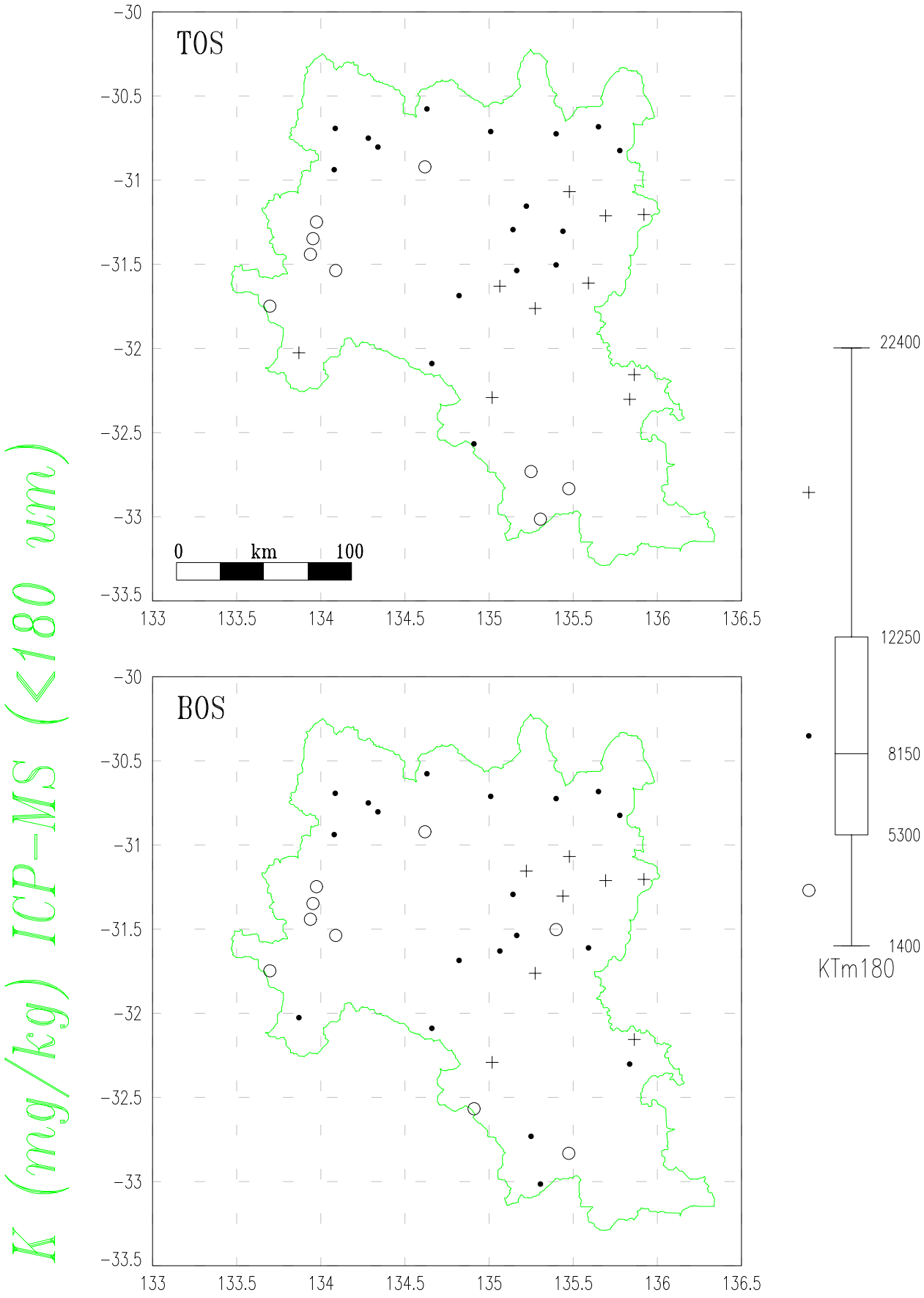




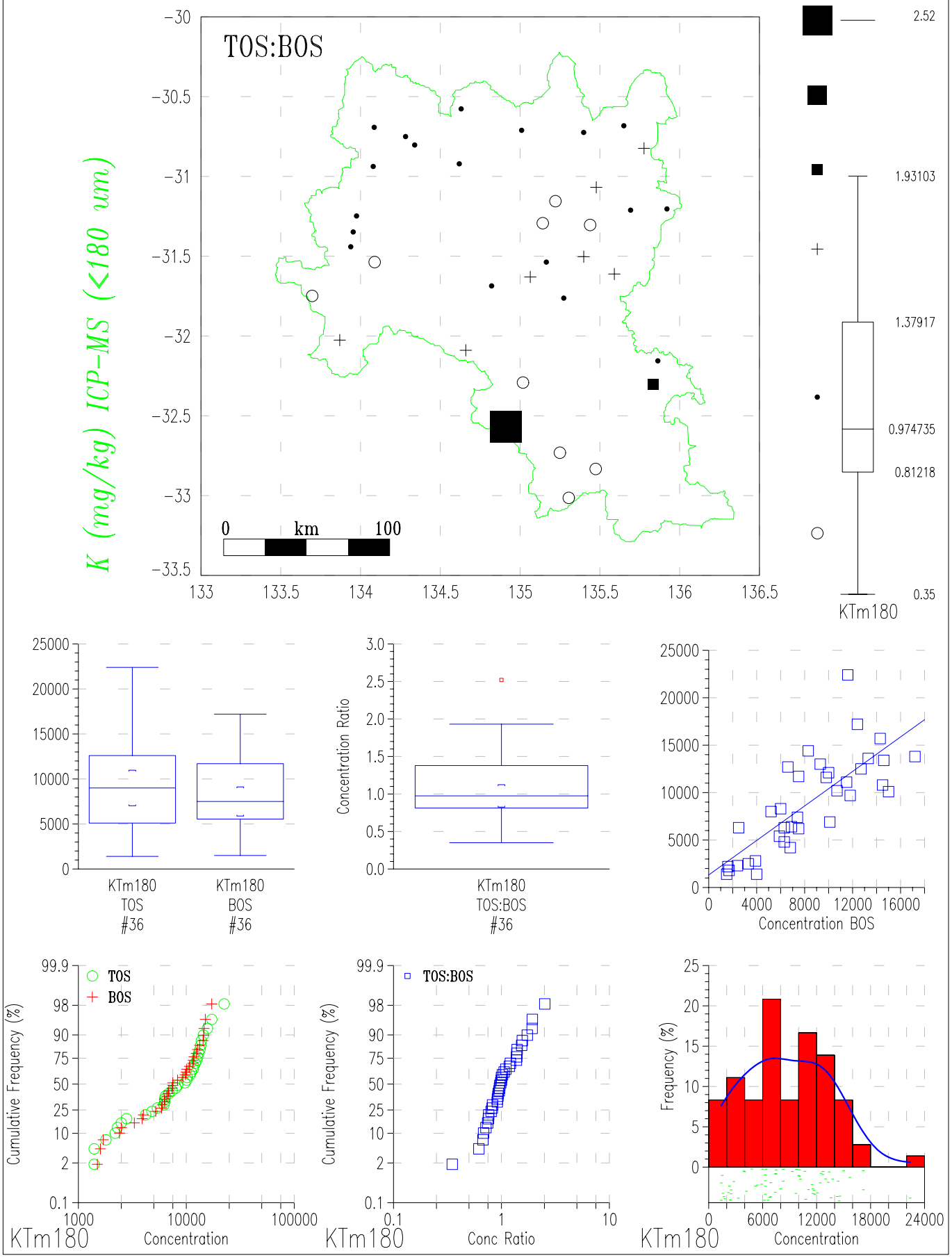


GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

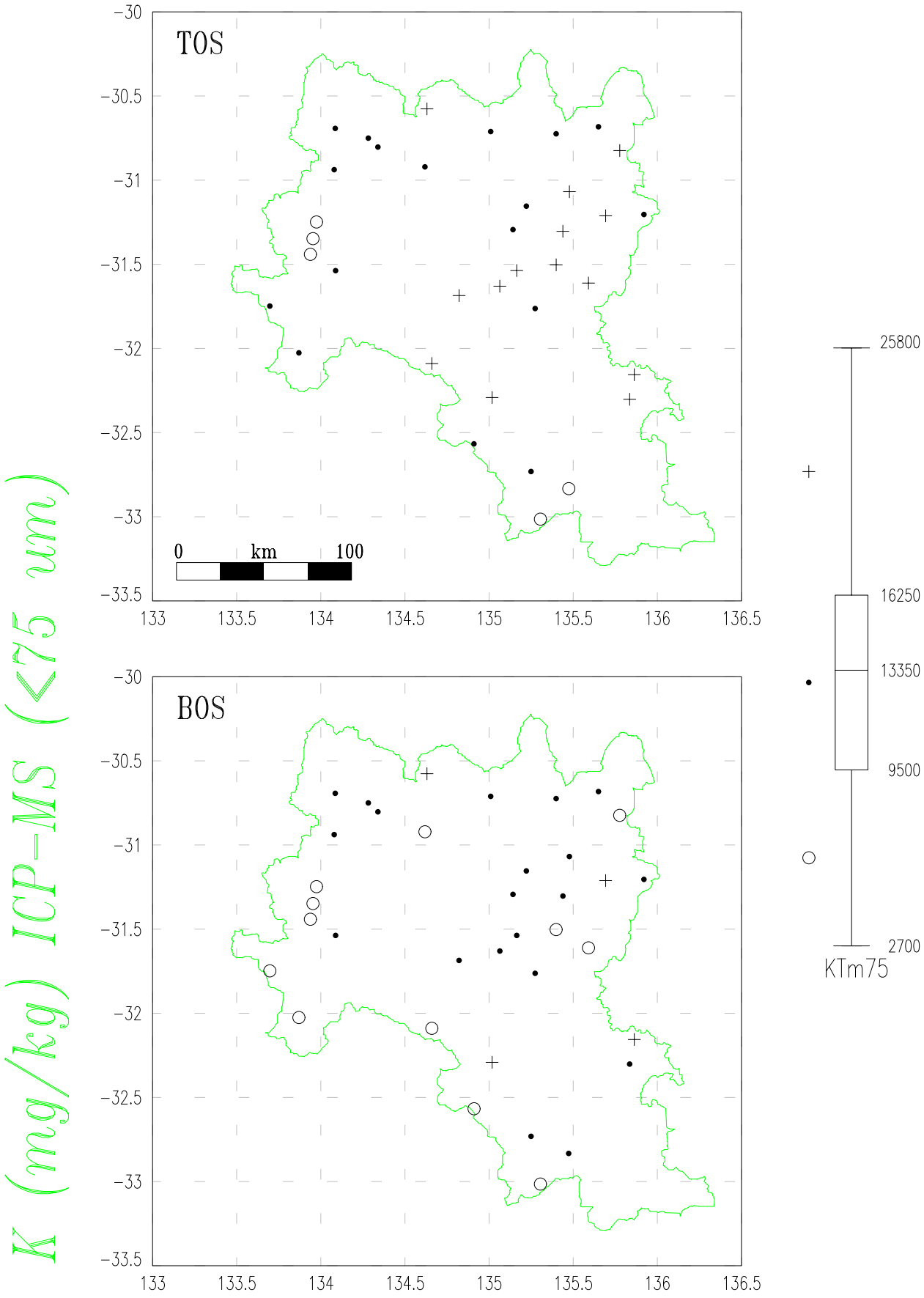


CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

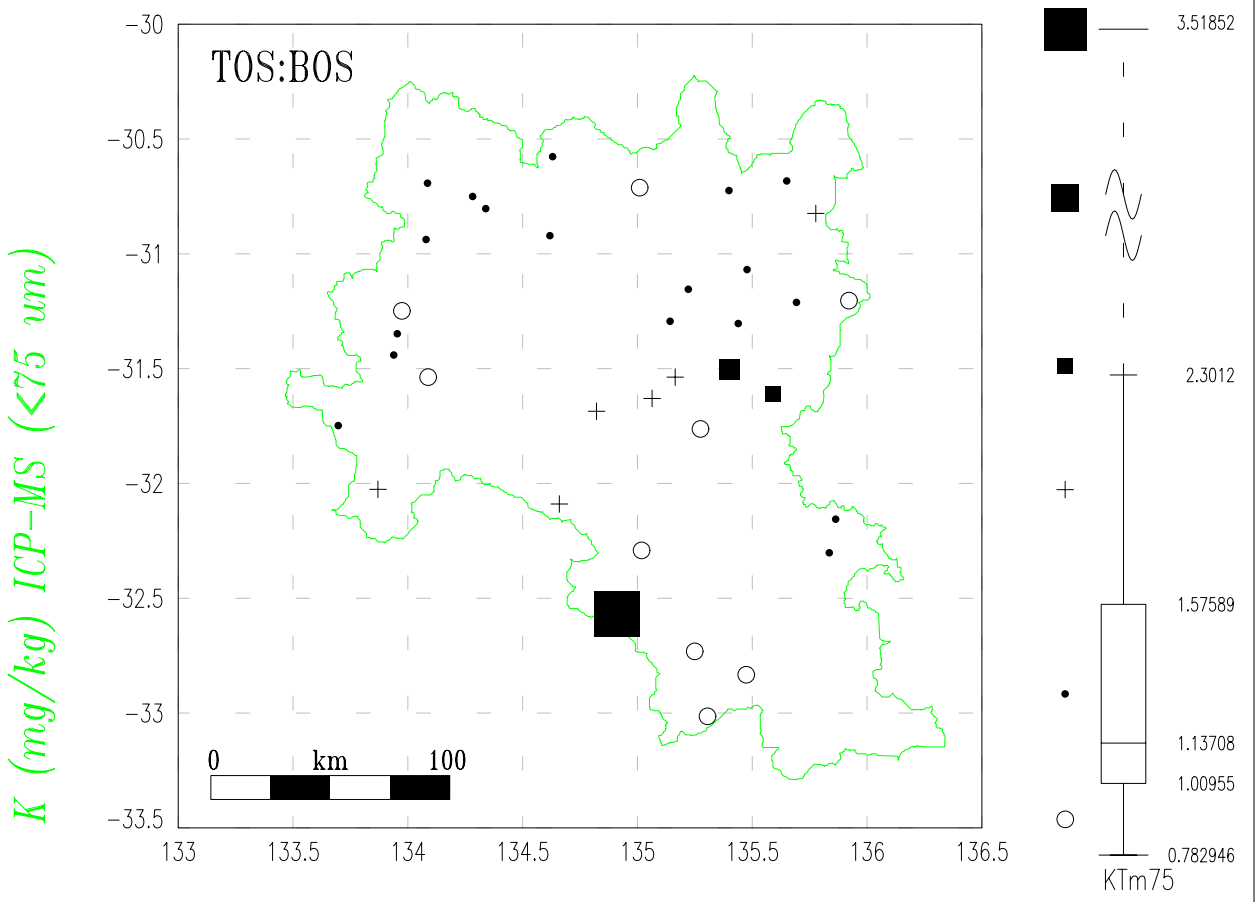


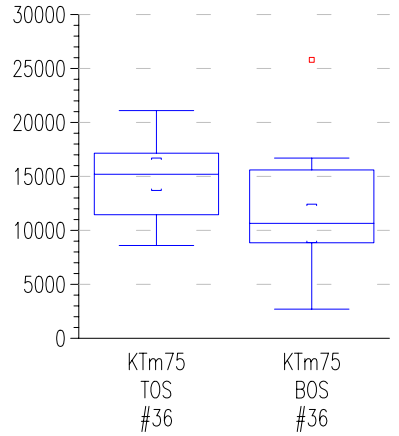
CAWLER GEOCHEMICAL SURVEY

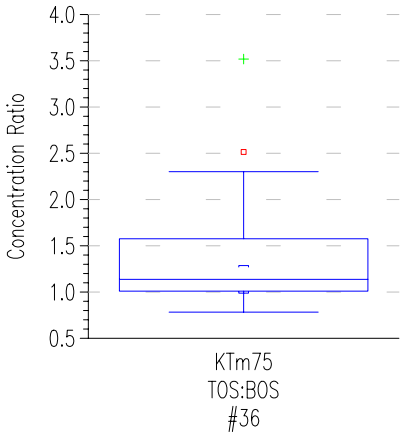
Top & Bottom Outlet Sediments (TOS & BOS)

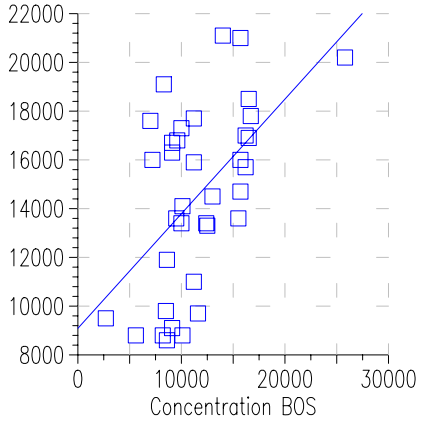


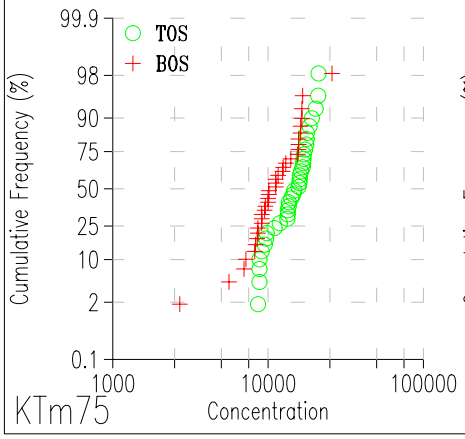
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

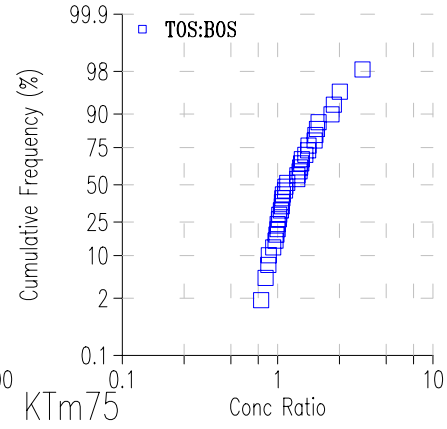


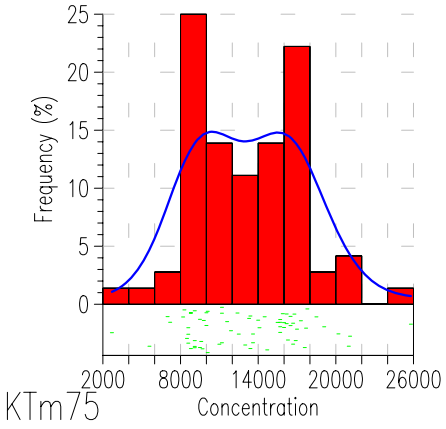






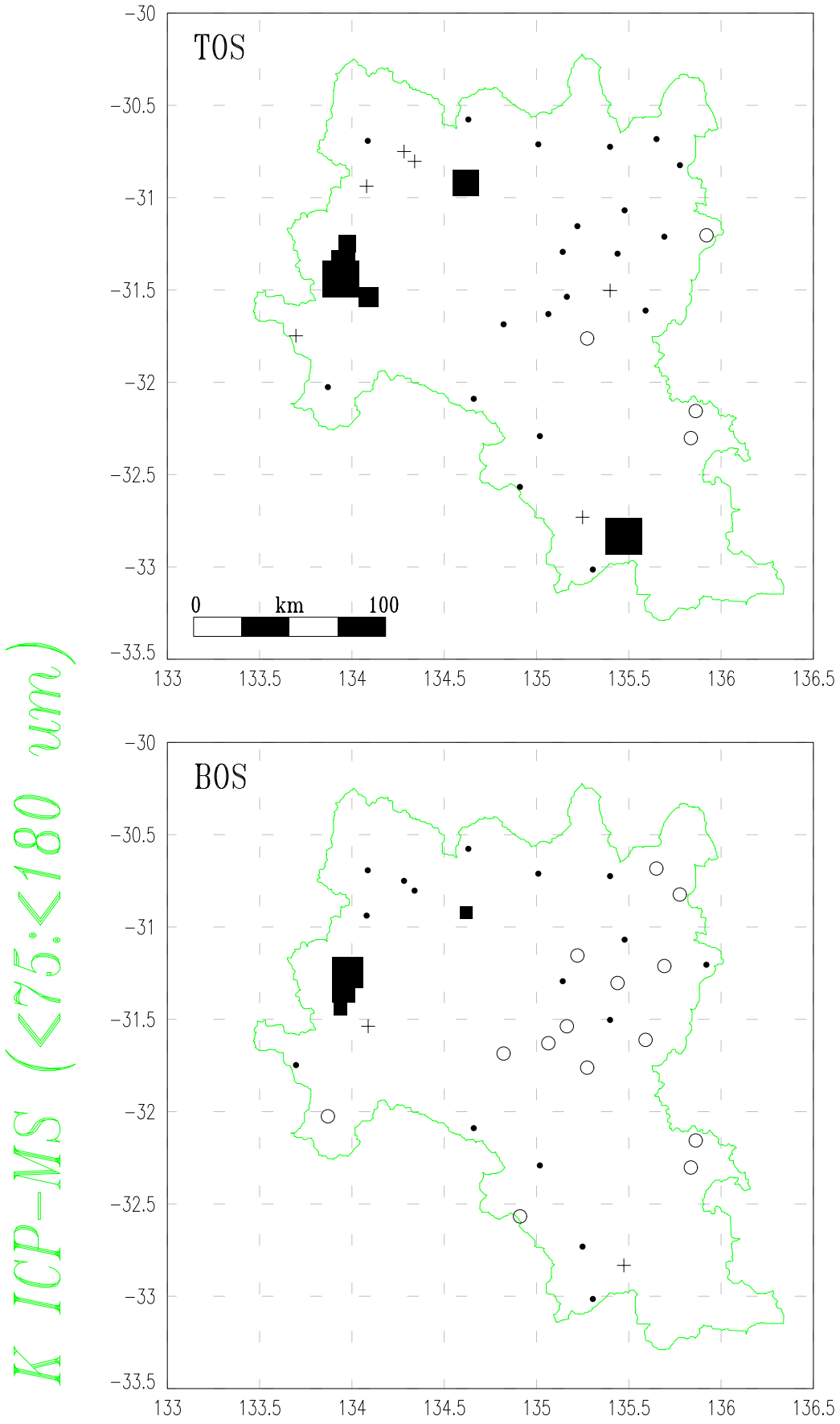






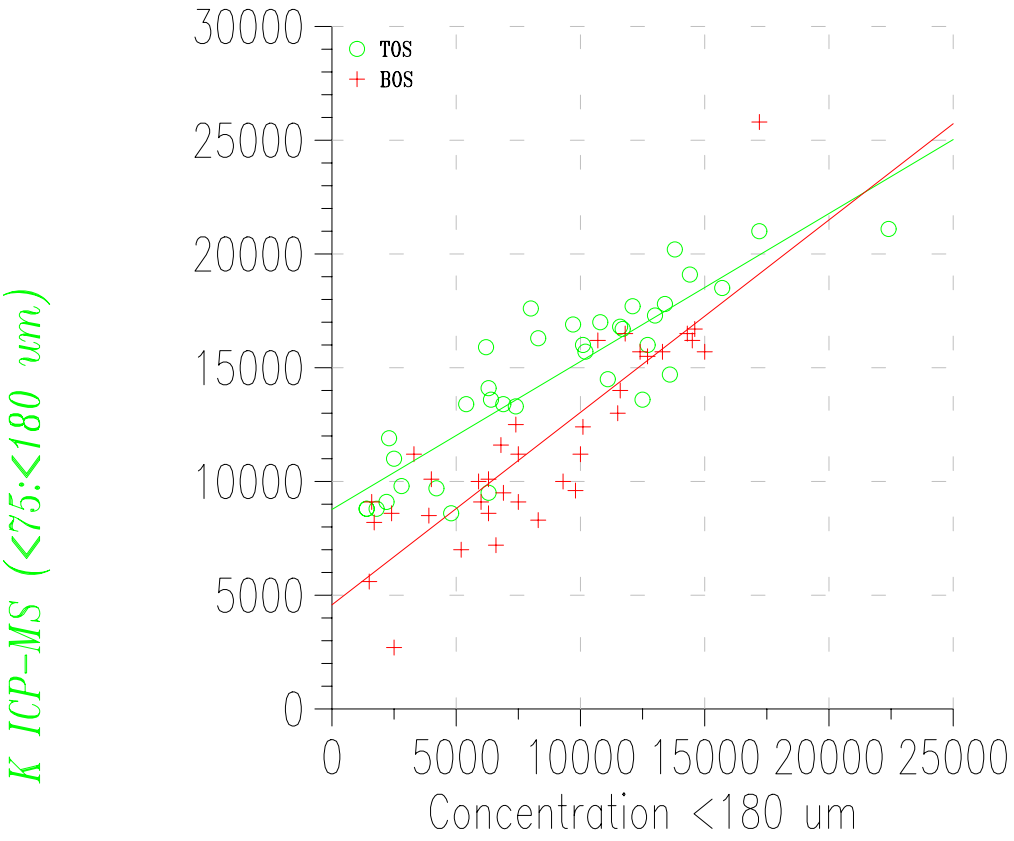
GAWLER GEOCHEMICAL SURVEY

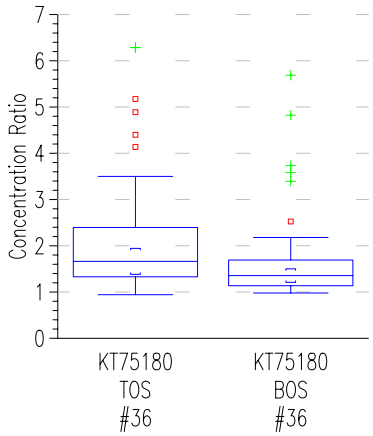
Top & Bottom Outlet Sediments (TOS & BOS)

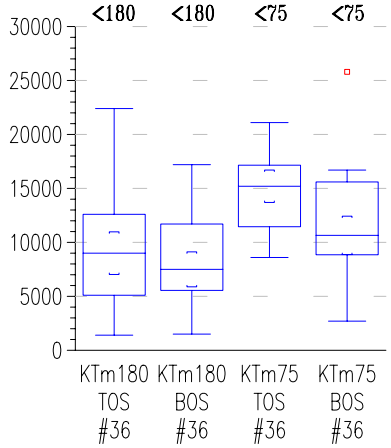


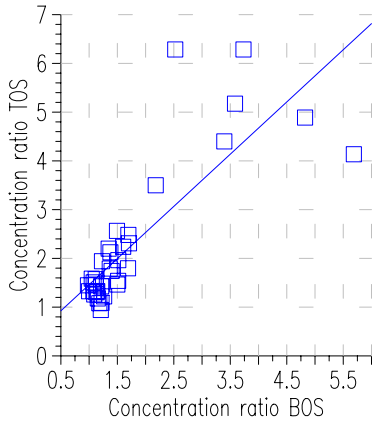
K ICP-MS (<75:<180 um)

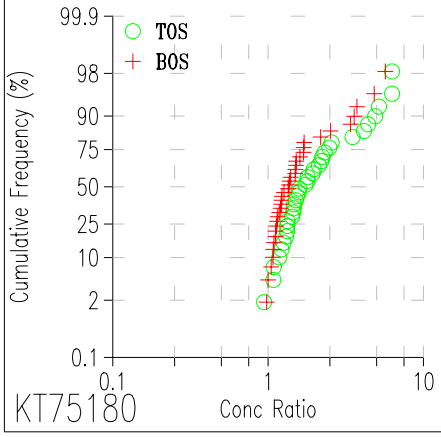
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

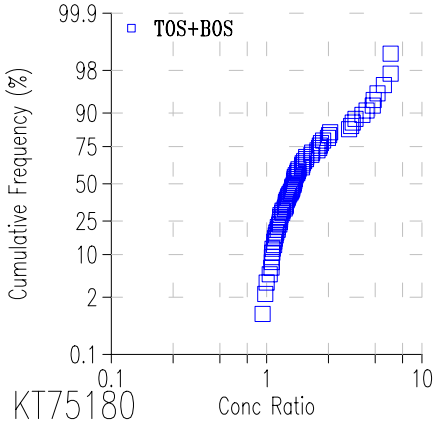


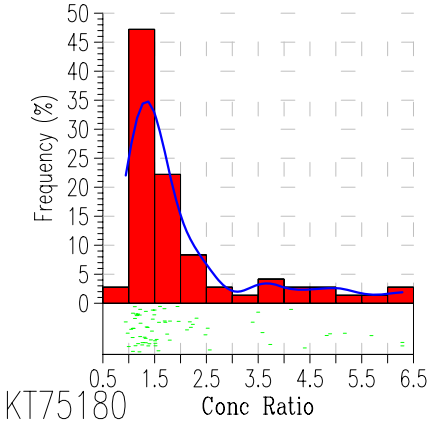






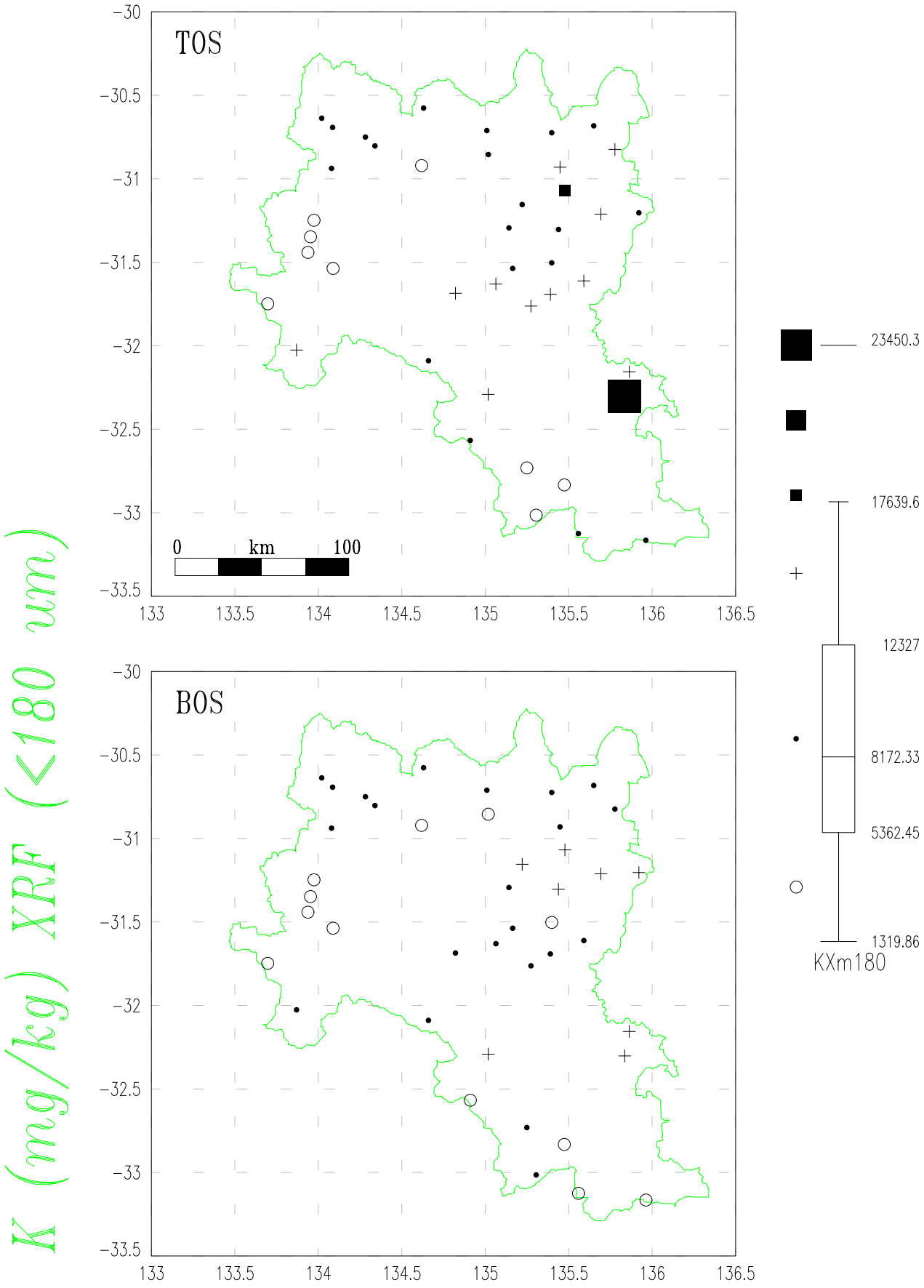






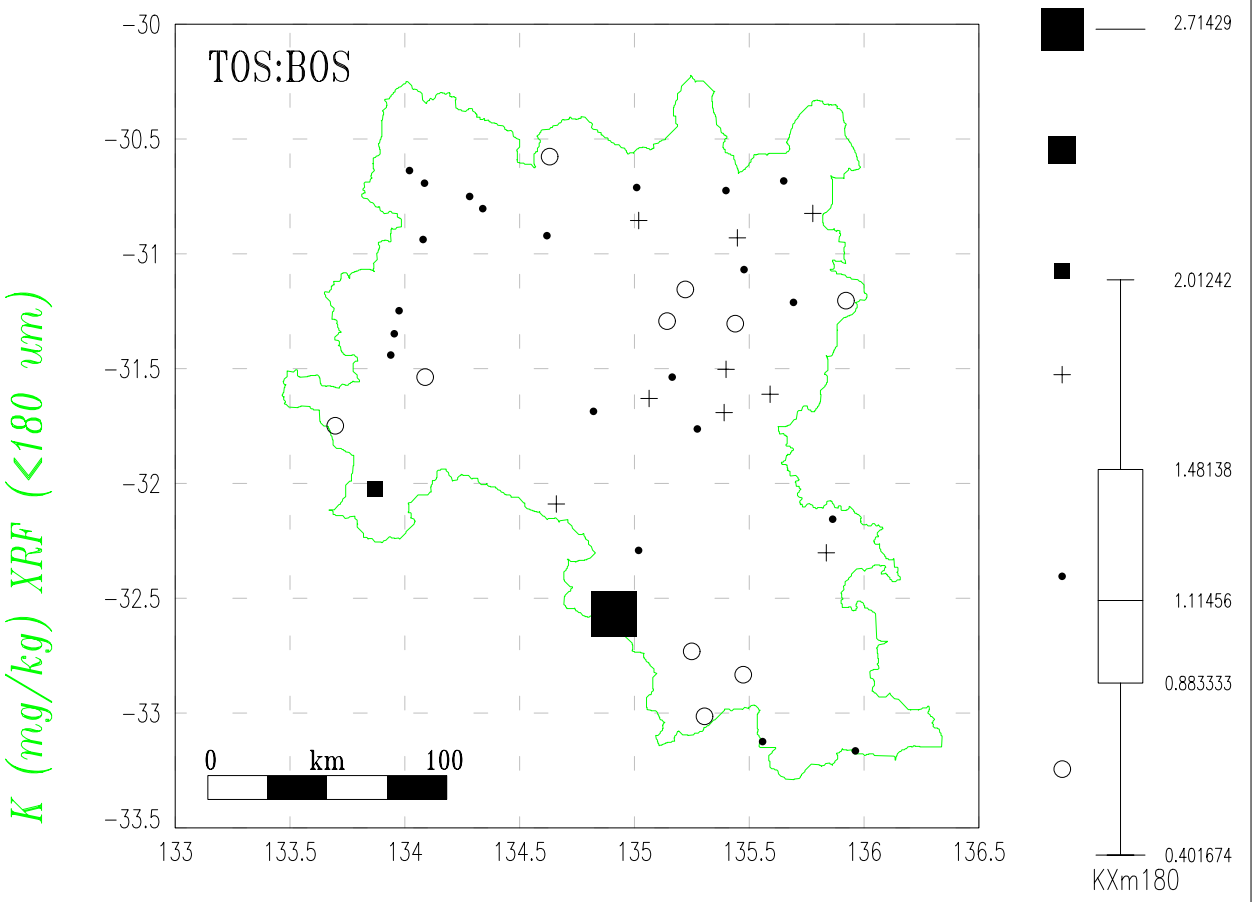
CAWLER GEOCHEMICAL SURVEY

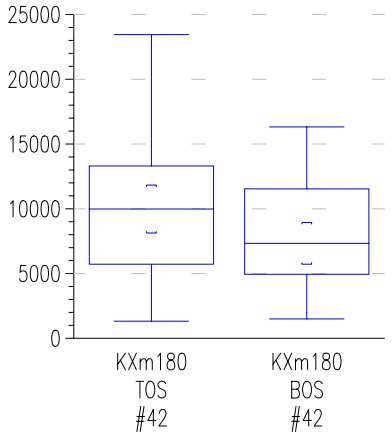
Top & Bottom Outlet Sediments (TOS & BOS)

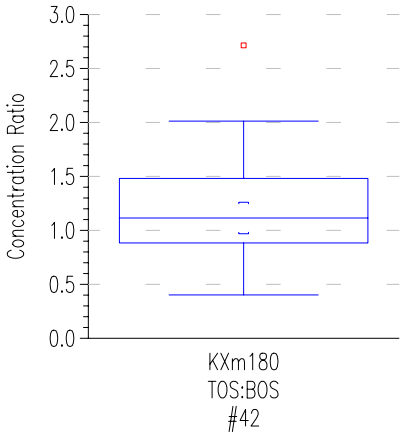


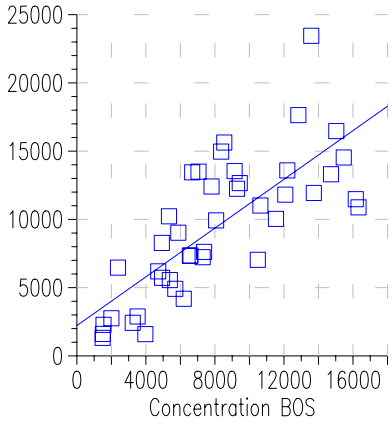
K (mg/kg) XRF (<180 um)

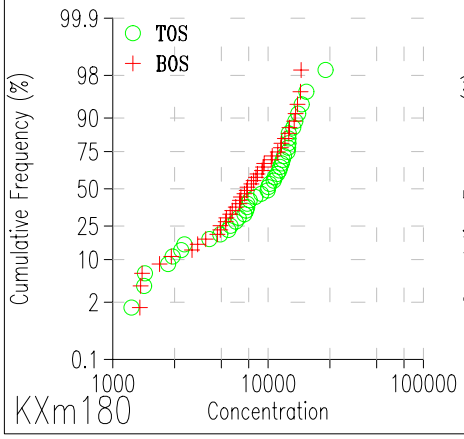
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

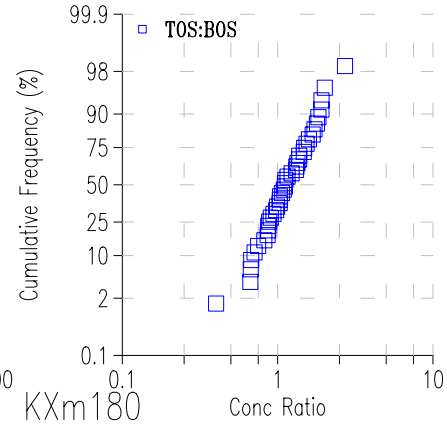


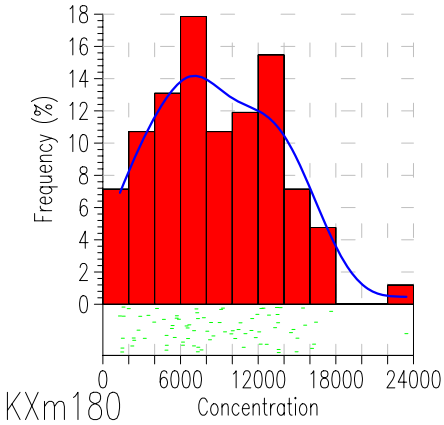






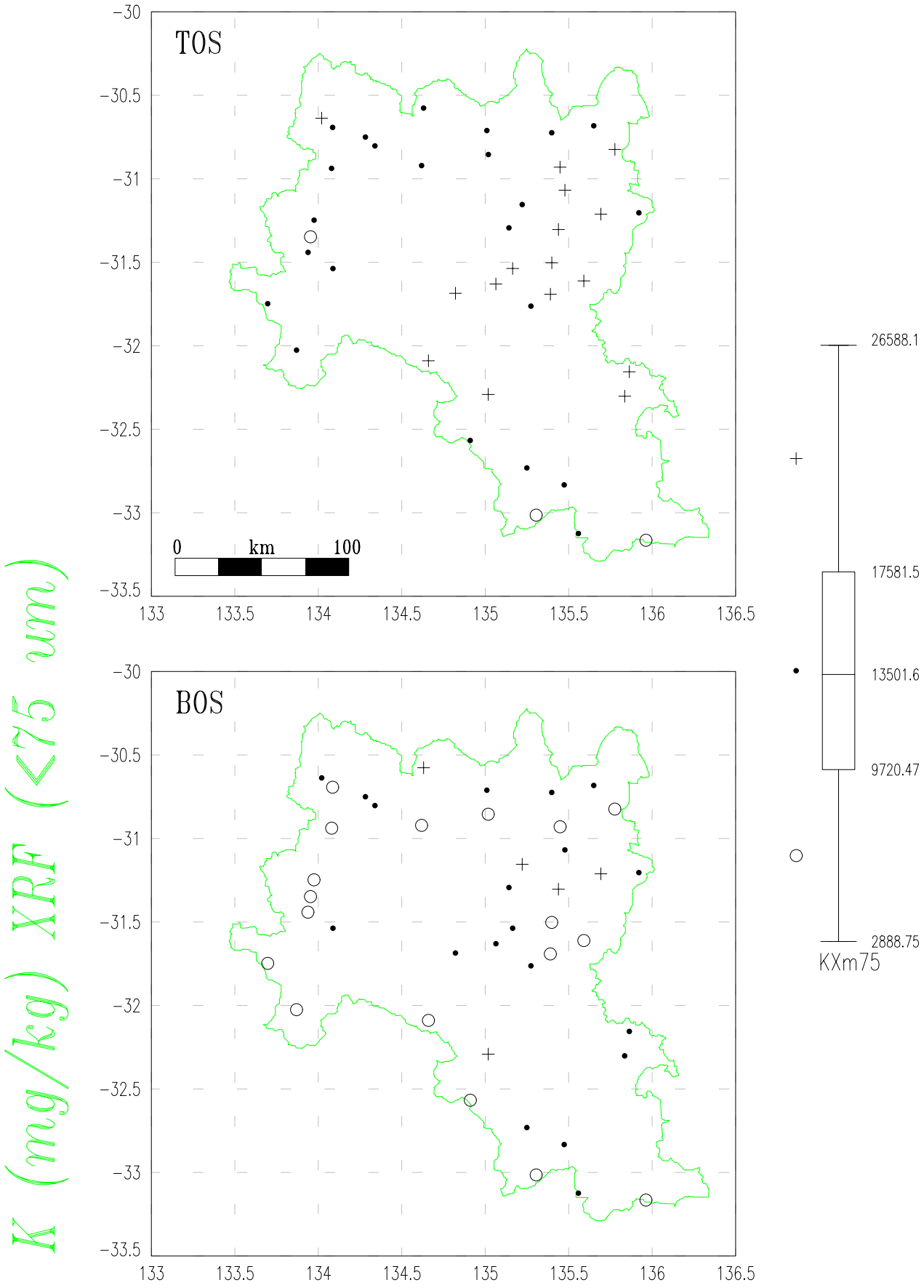




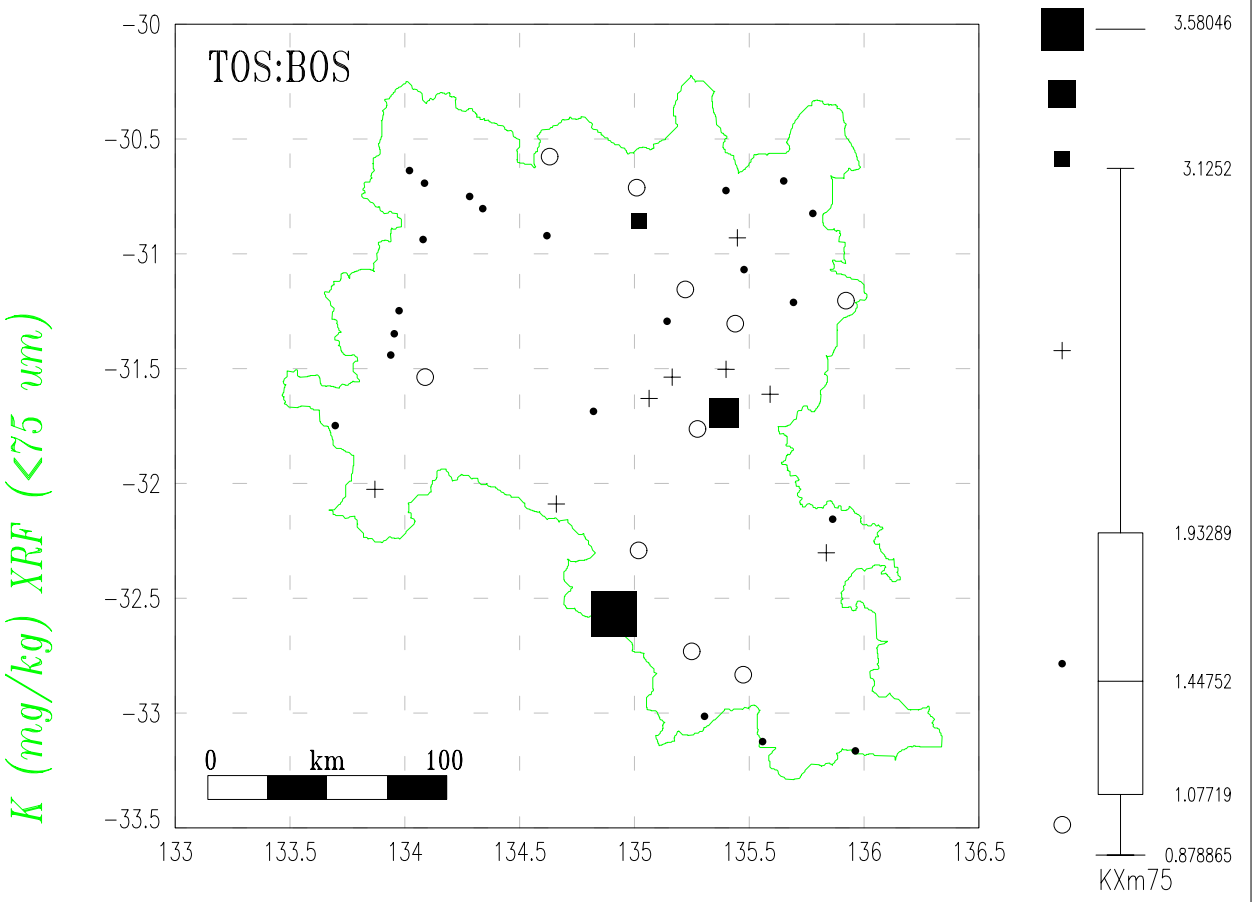


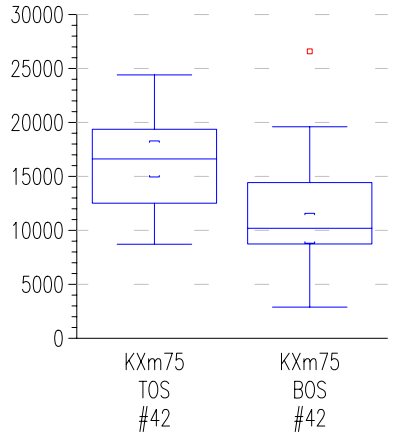
CAWLER GEOCHEMICAL SURVEY

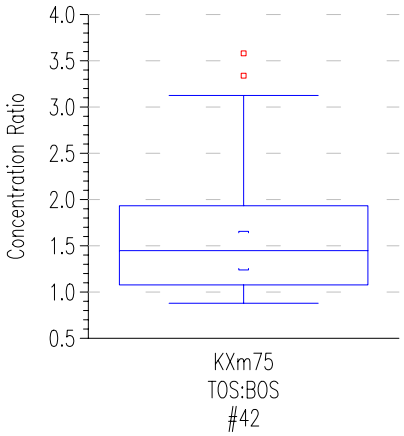
Top & Bottom Outlet Sediments (TOS & BOS)

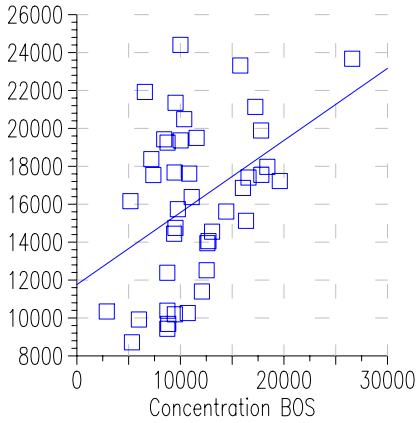


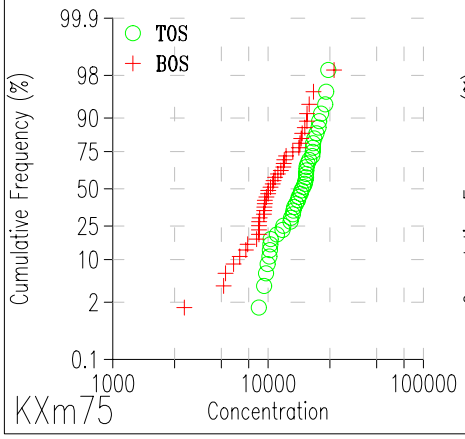
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

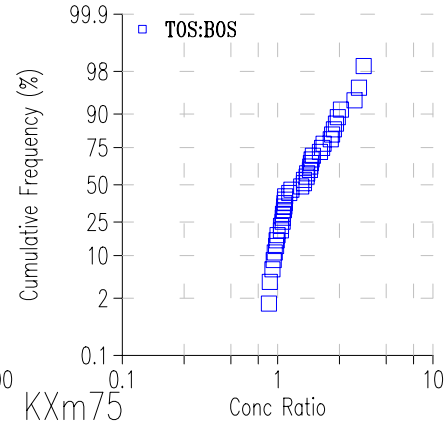


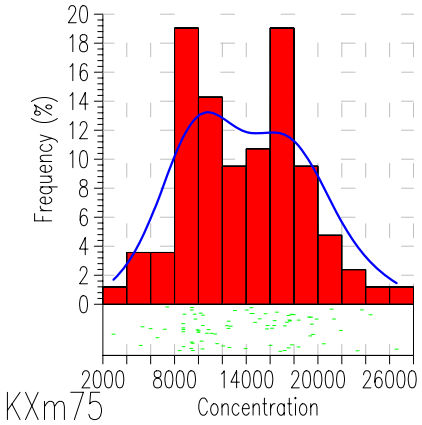




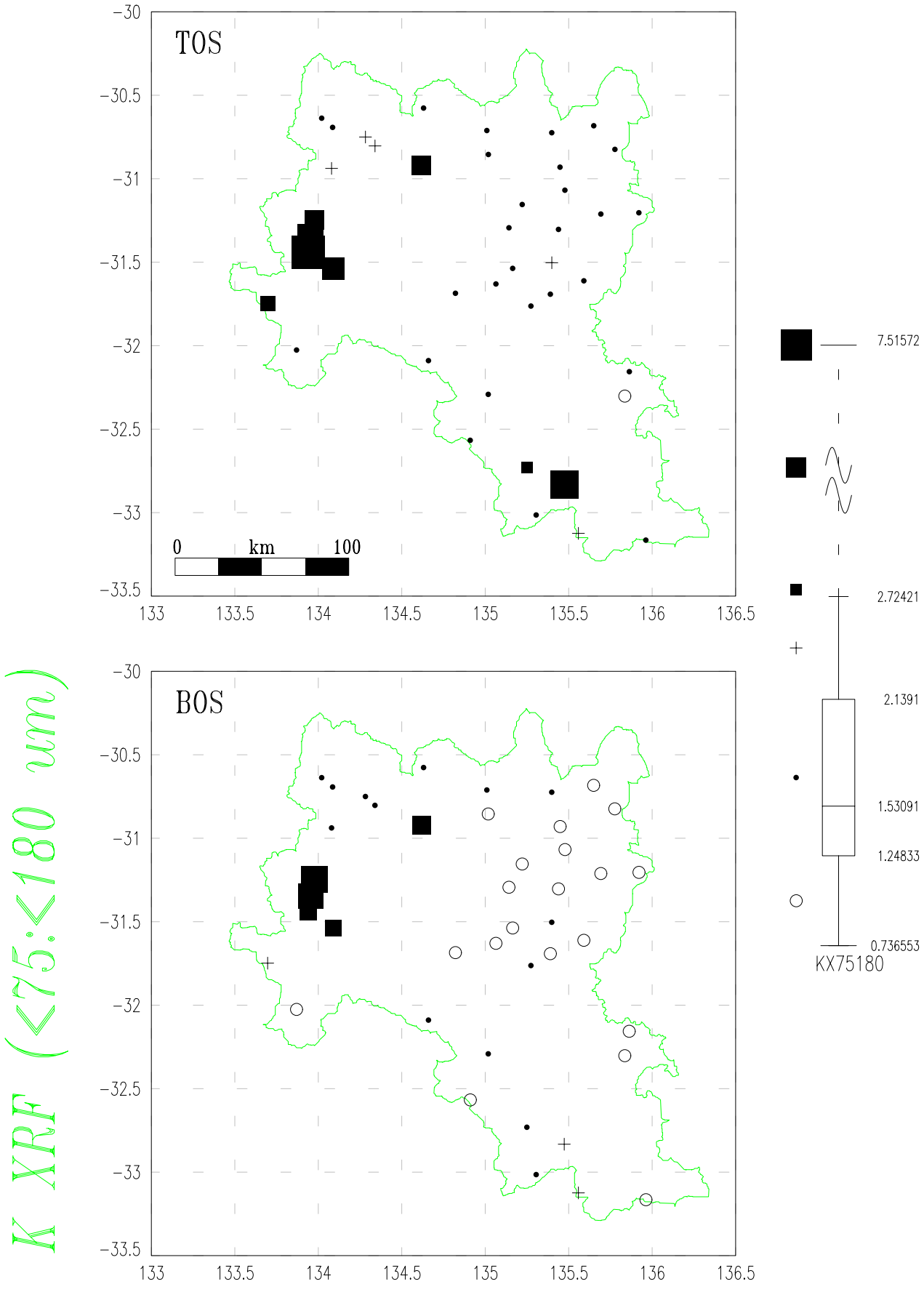




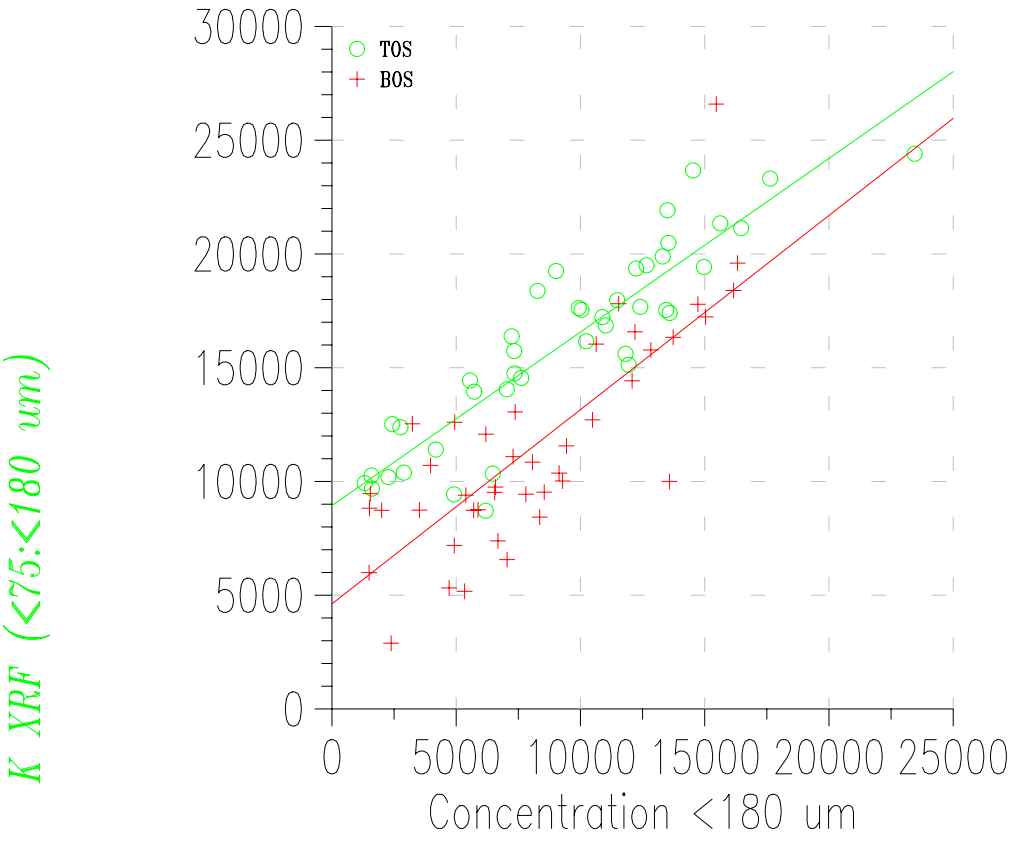


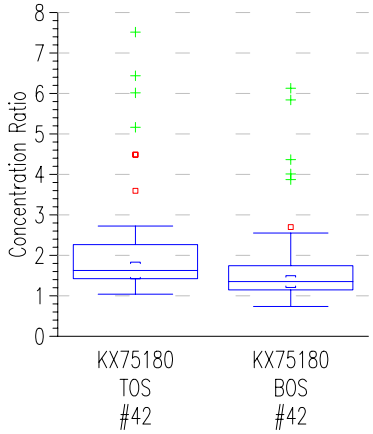


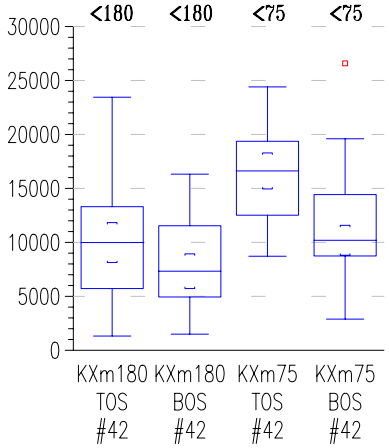
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

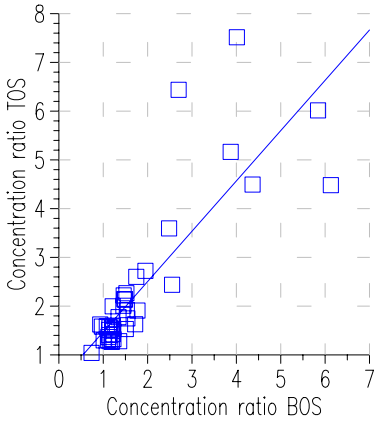


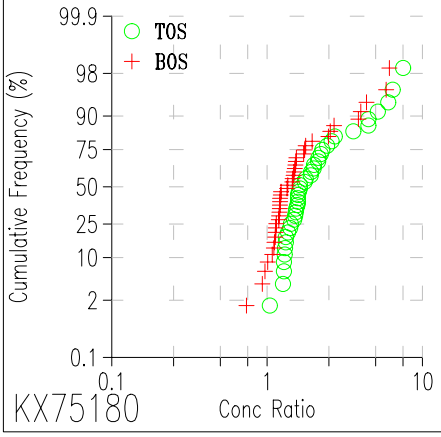
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

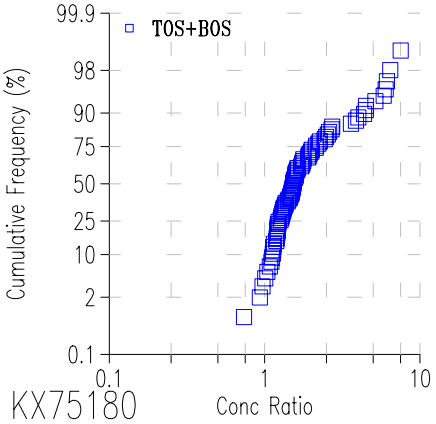


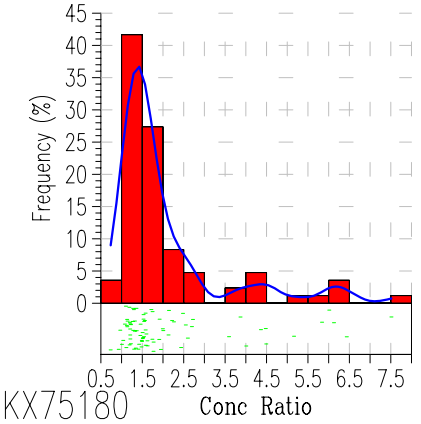






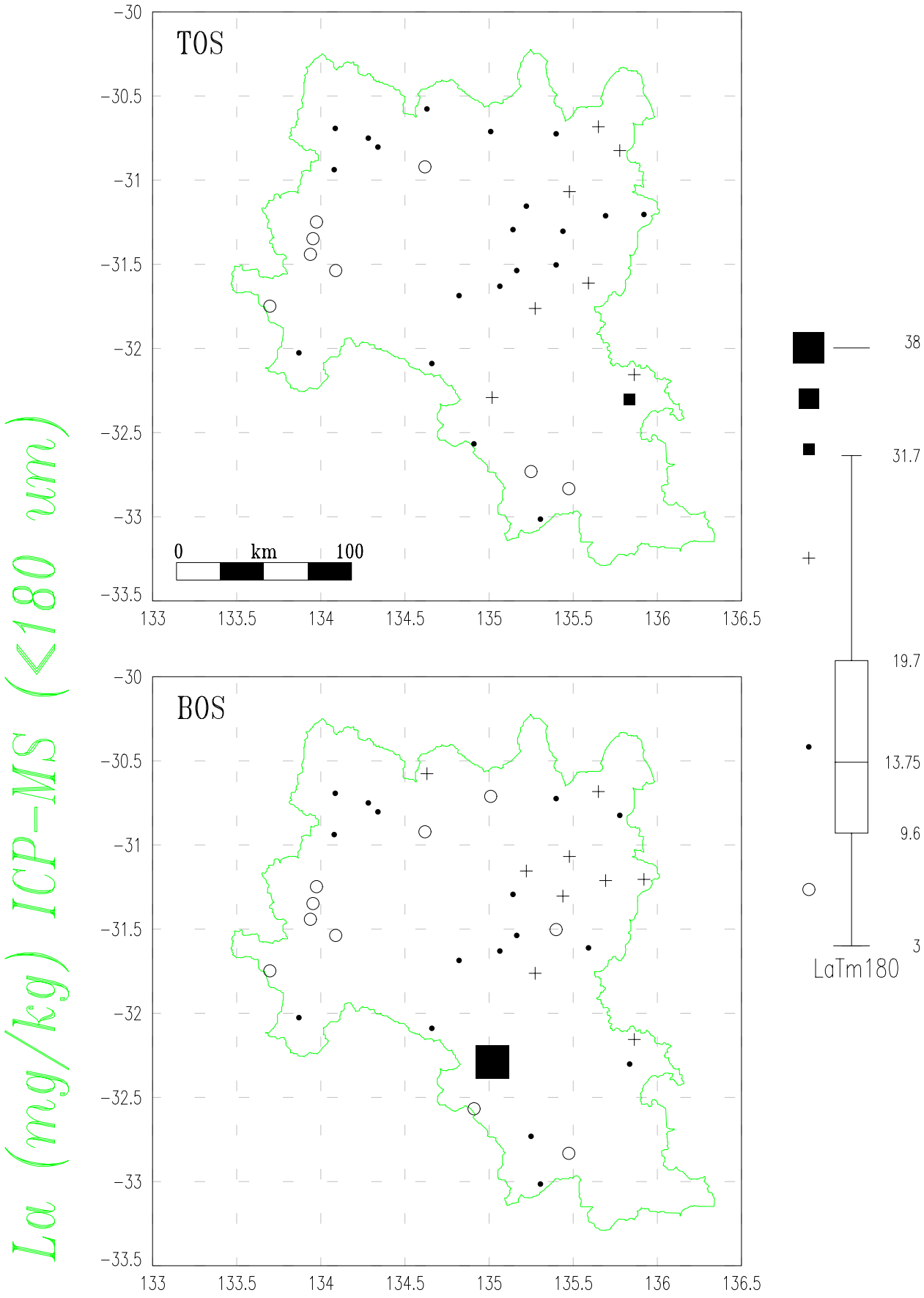




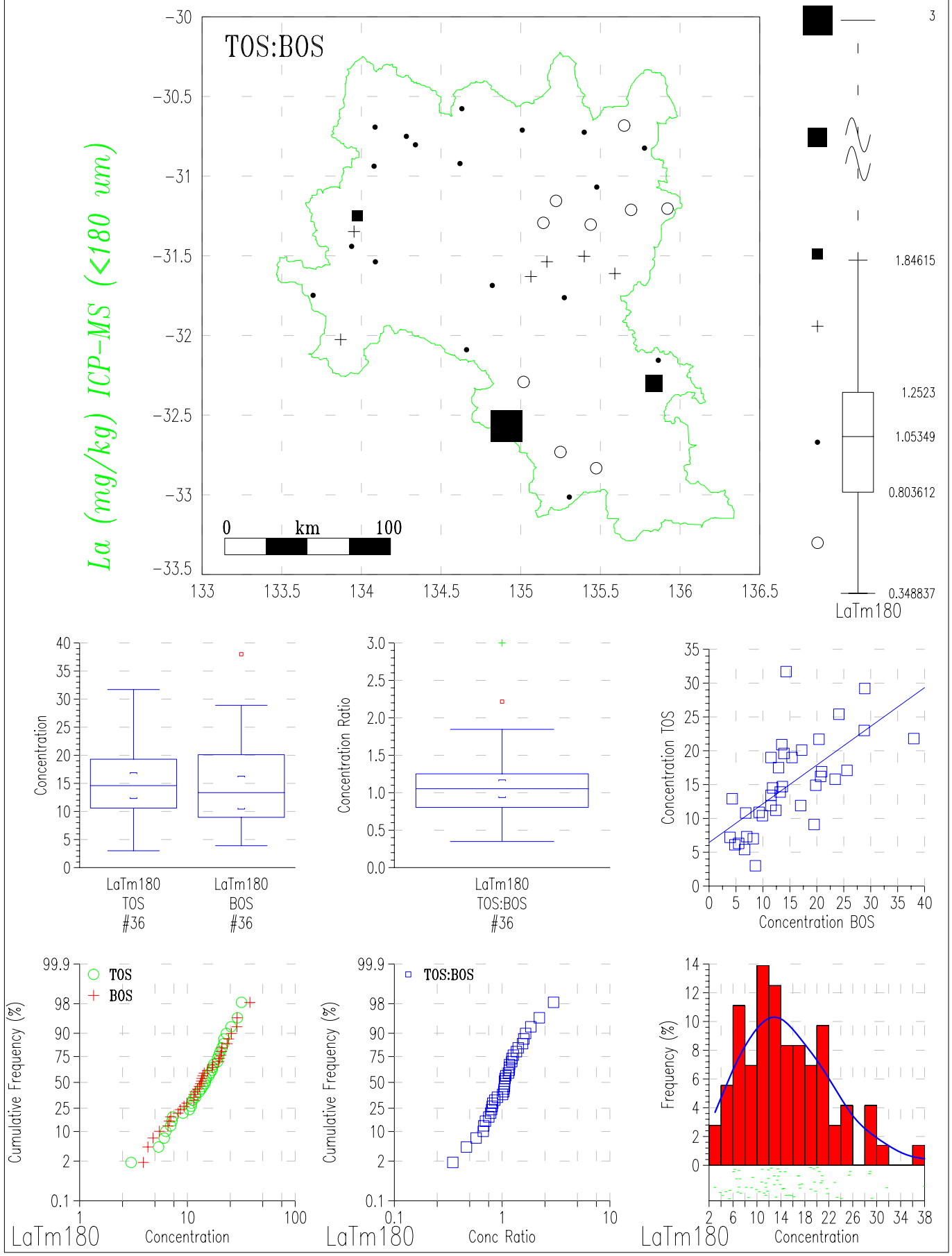


CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

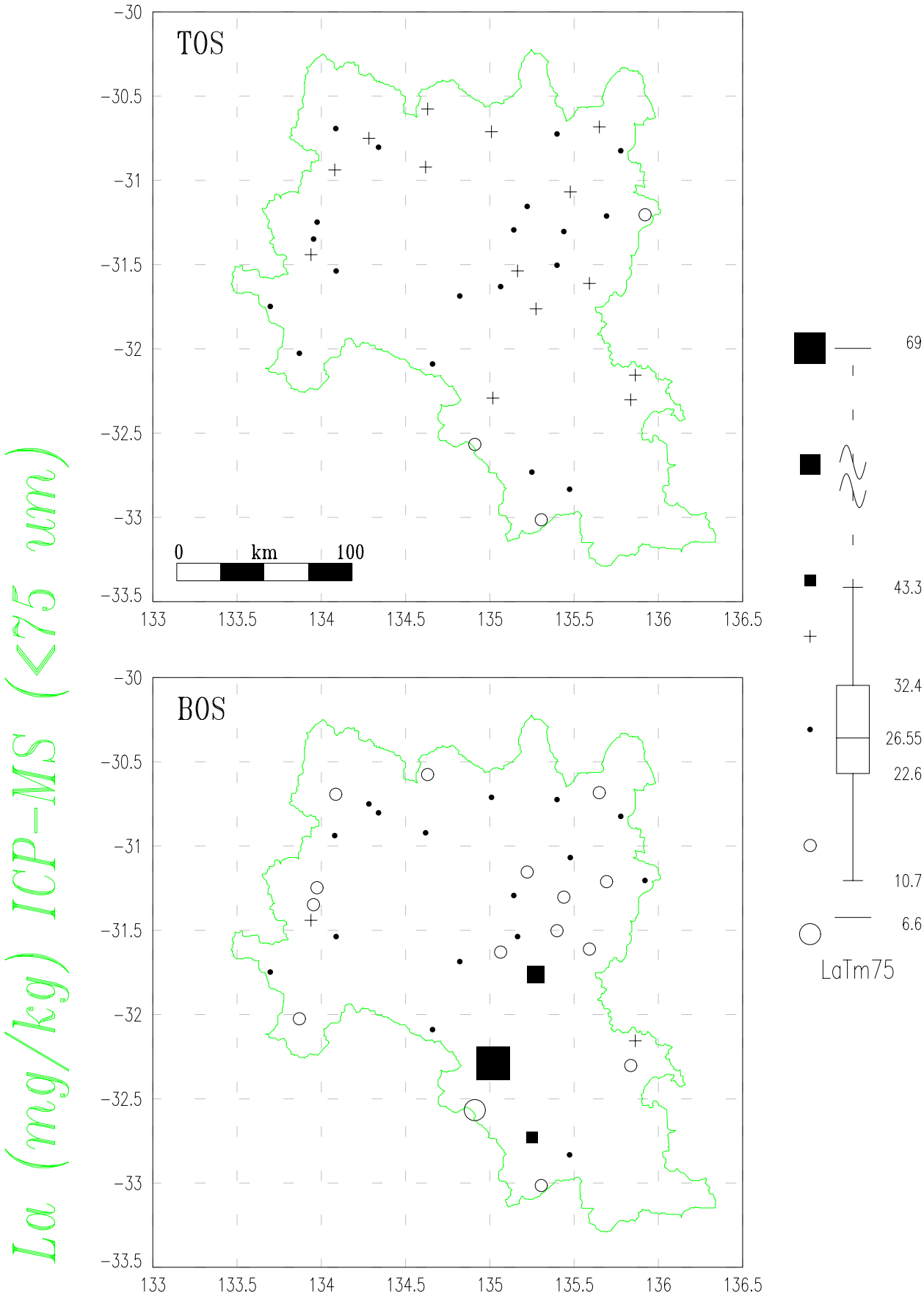


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

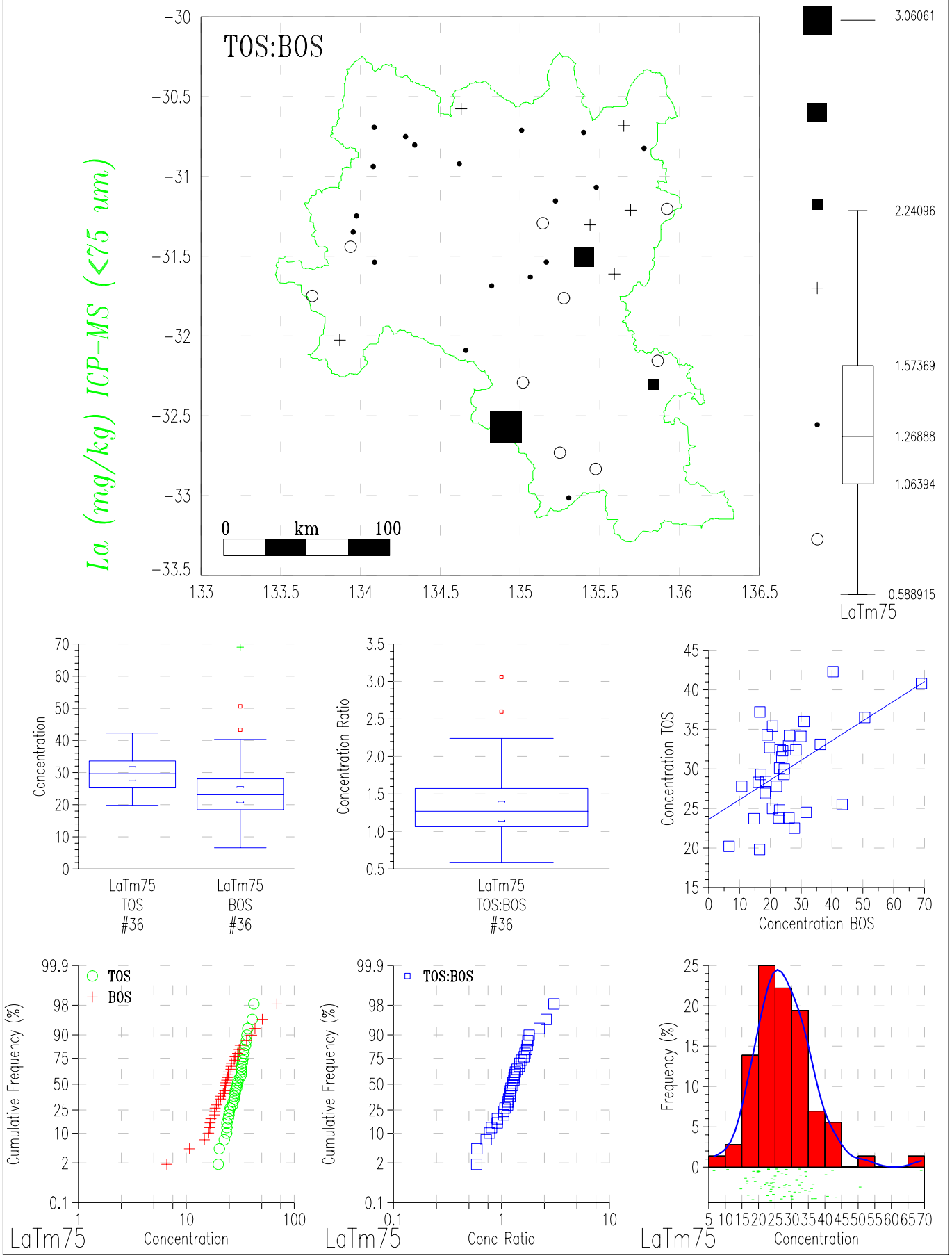


CAWLER GEOCHEMICAL SURVEY

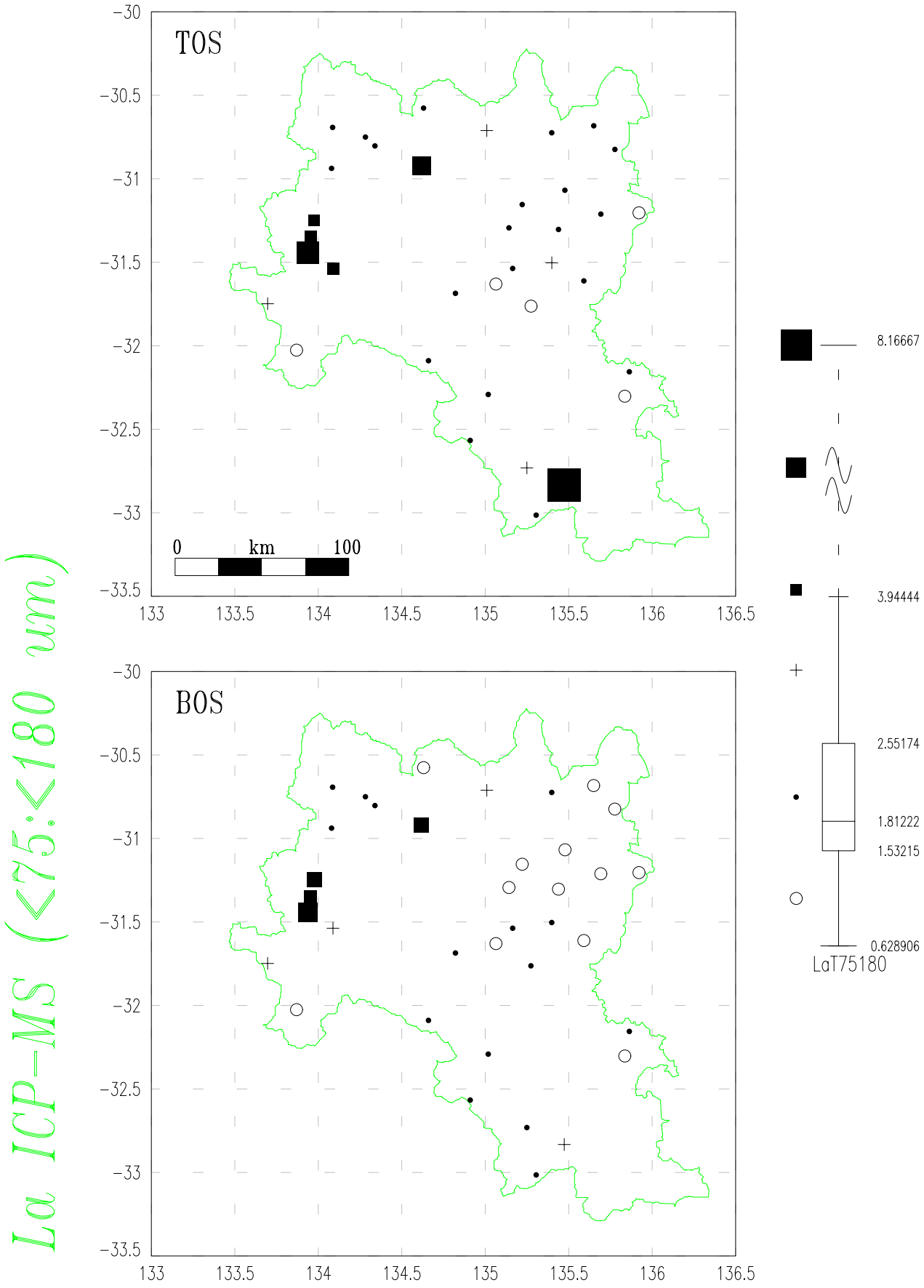
Top & Bottom Outlet Sediments (TOS & BOS)



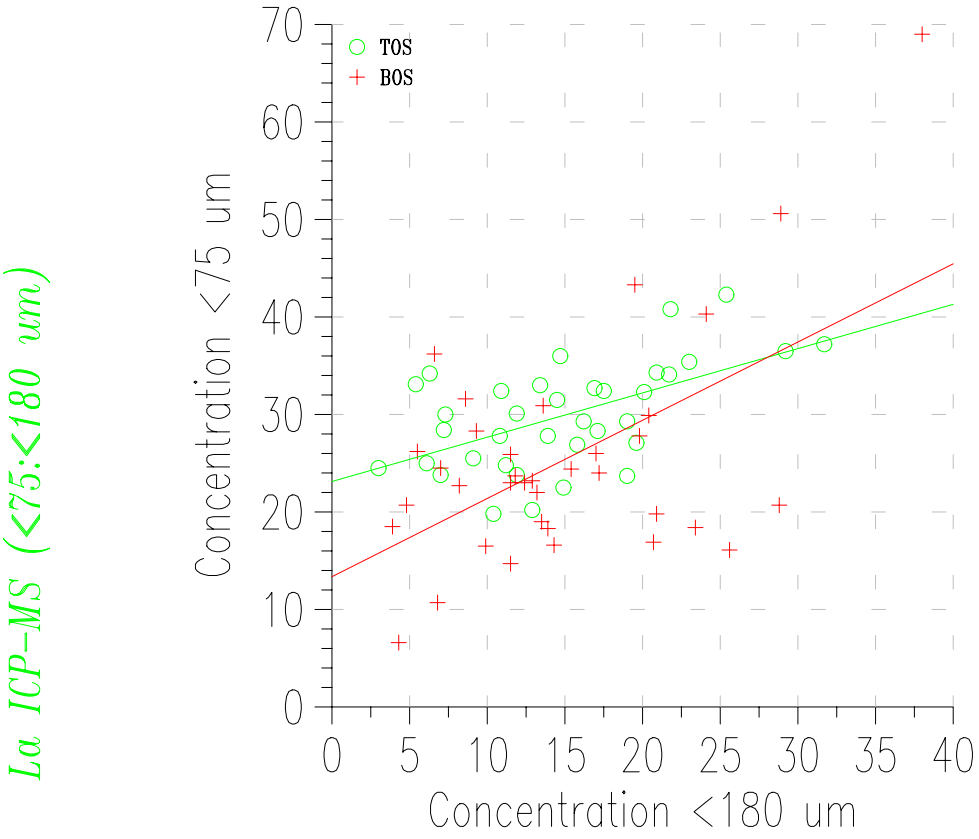
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

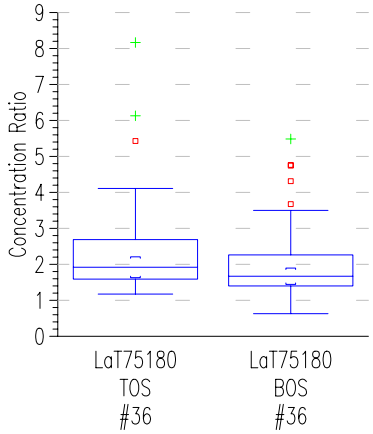


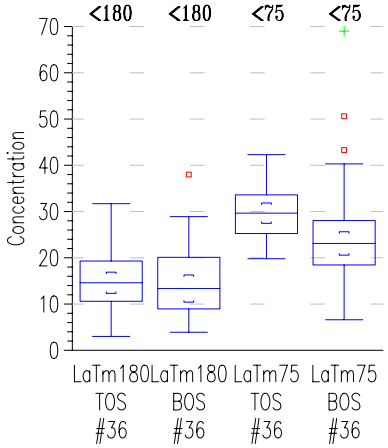
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

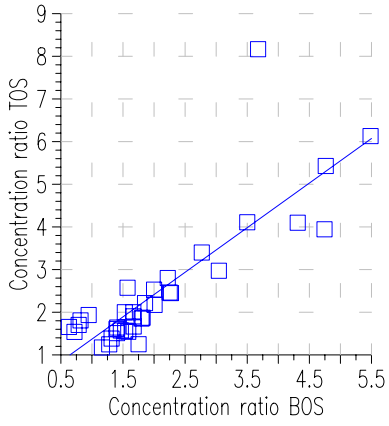


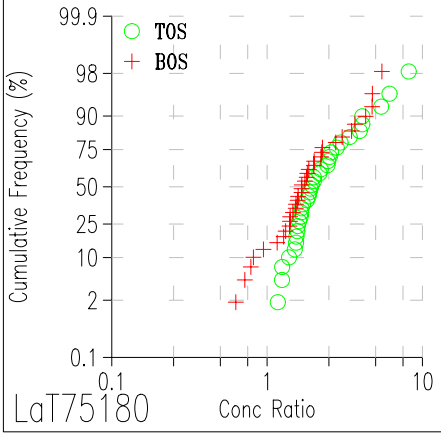
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

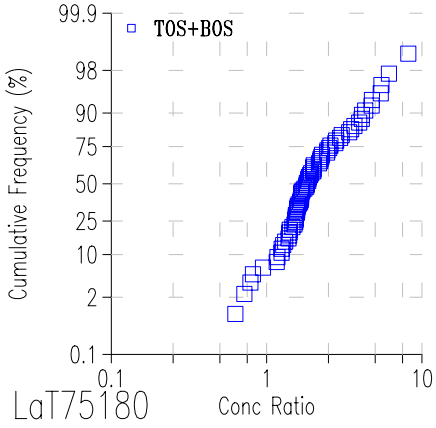


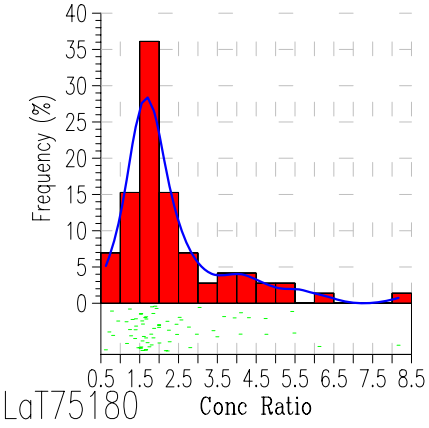






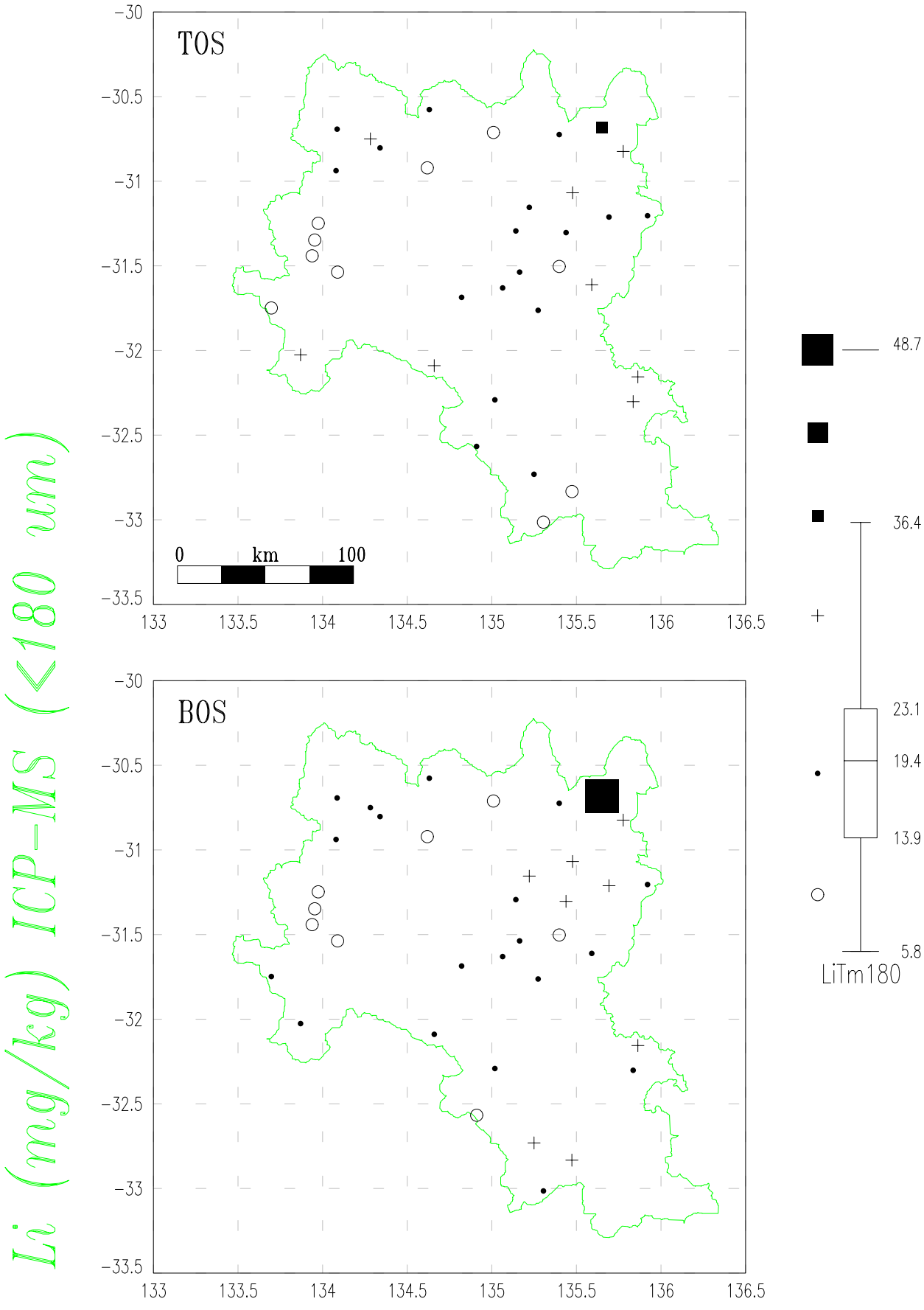






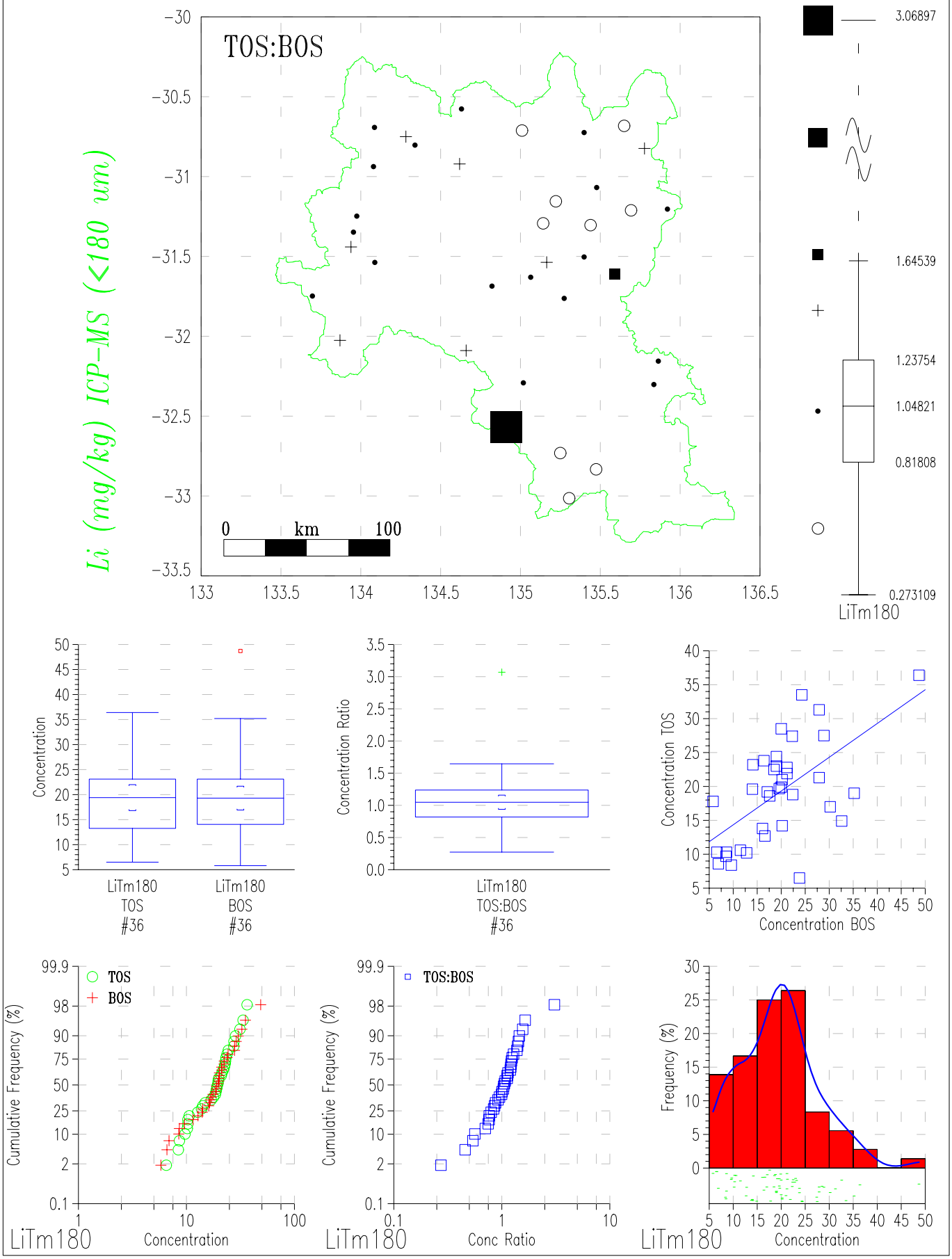
GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



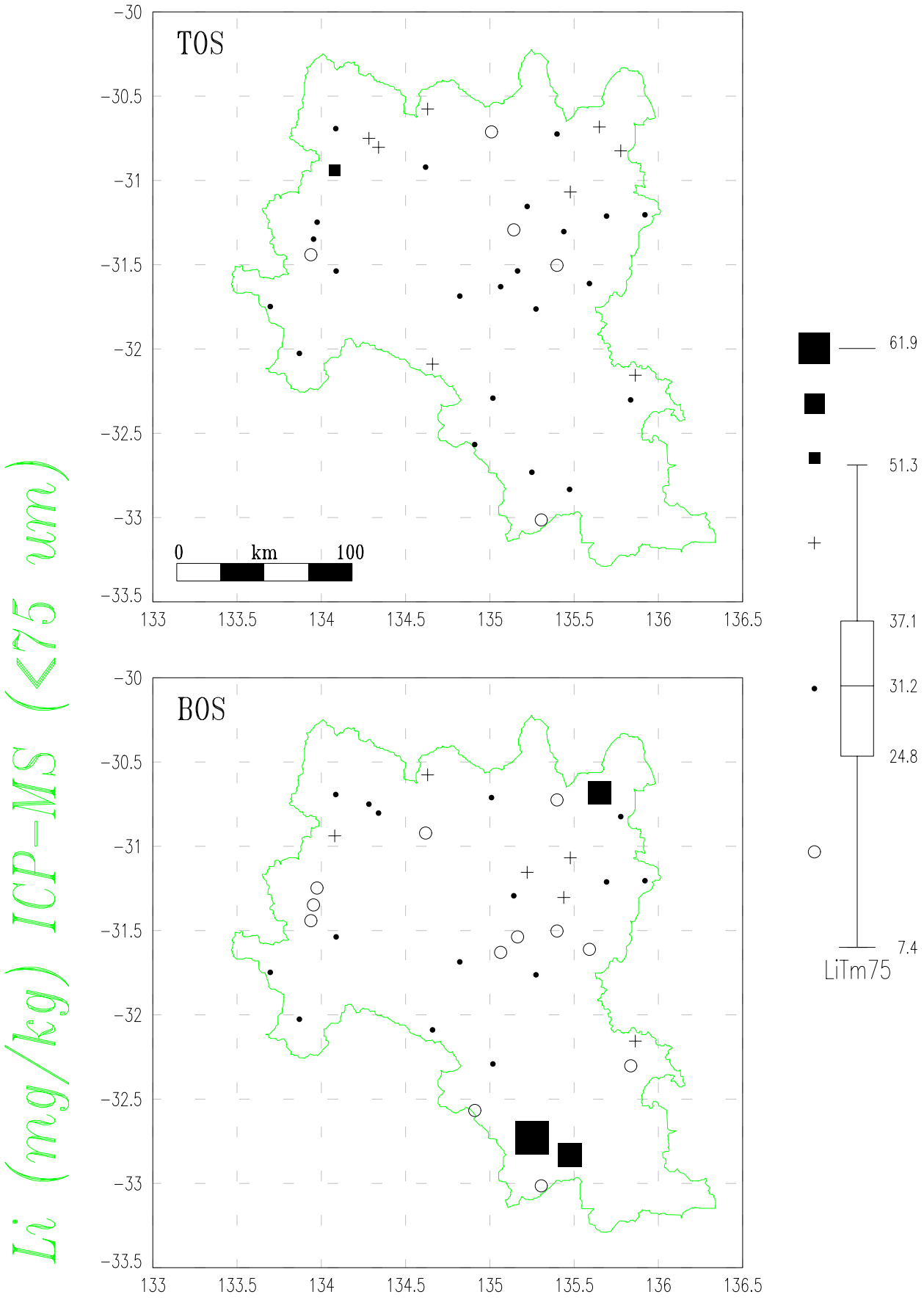
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

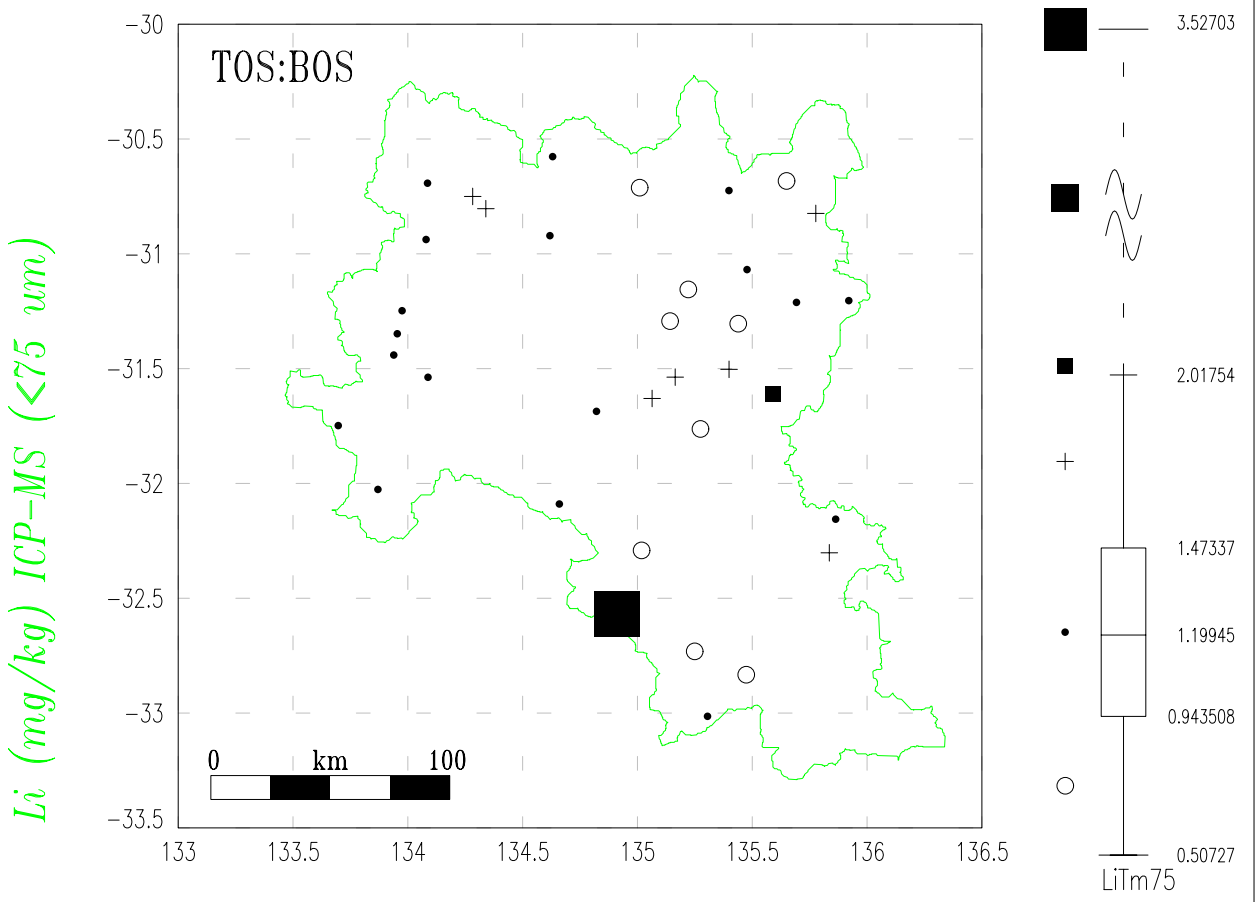


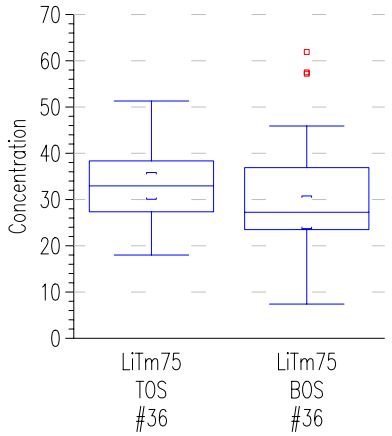
GAWLER GEOCHEMICAL SURVEY

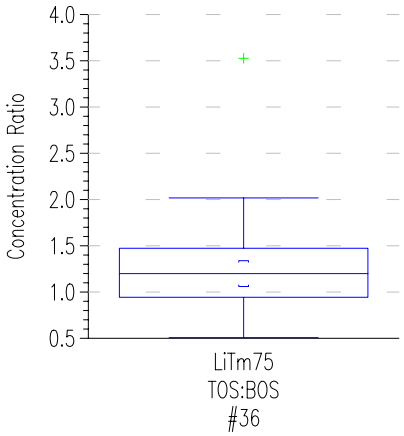
Top & Bottom Outlet Sediments (TOS & BOS)

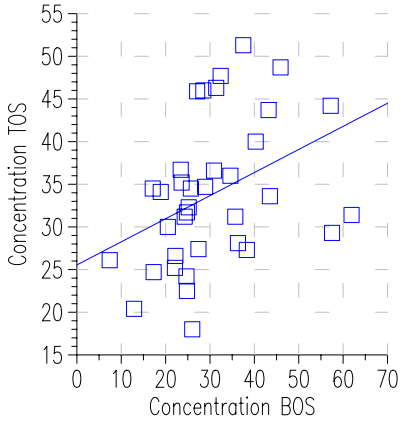


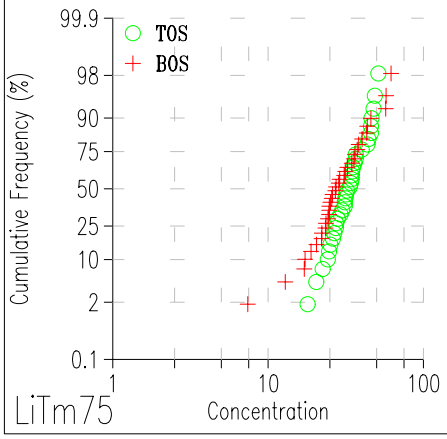
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

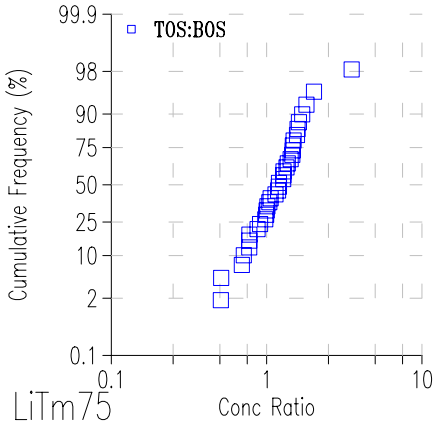


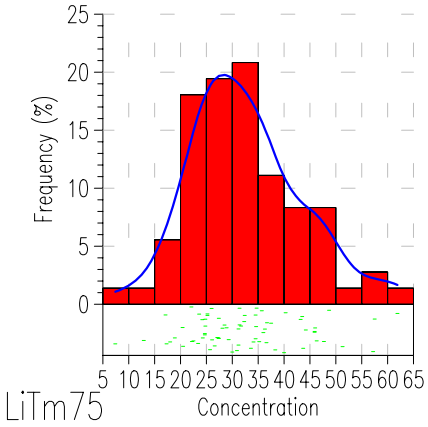






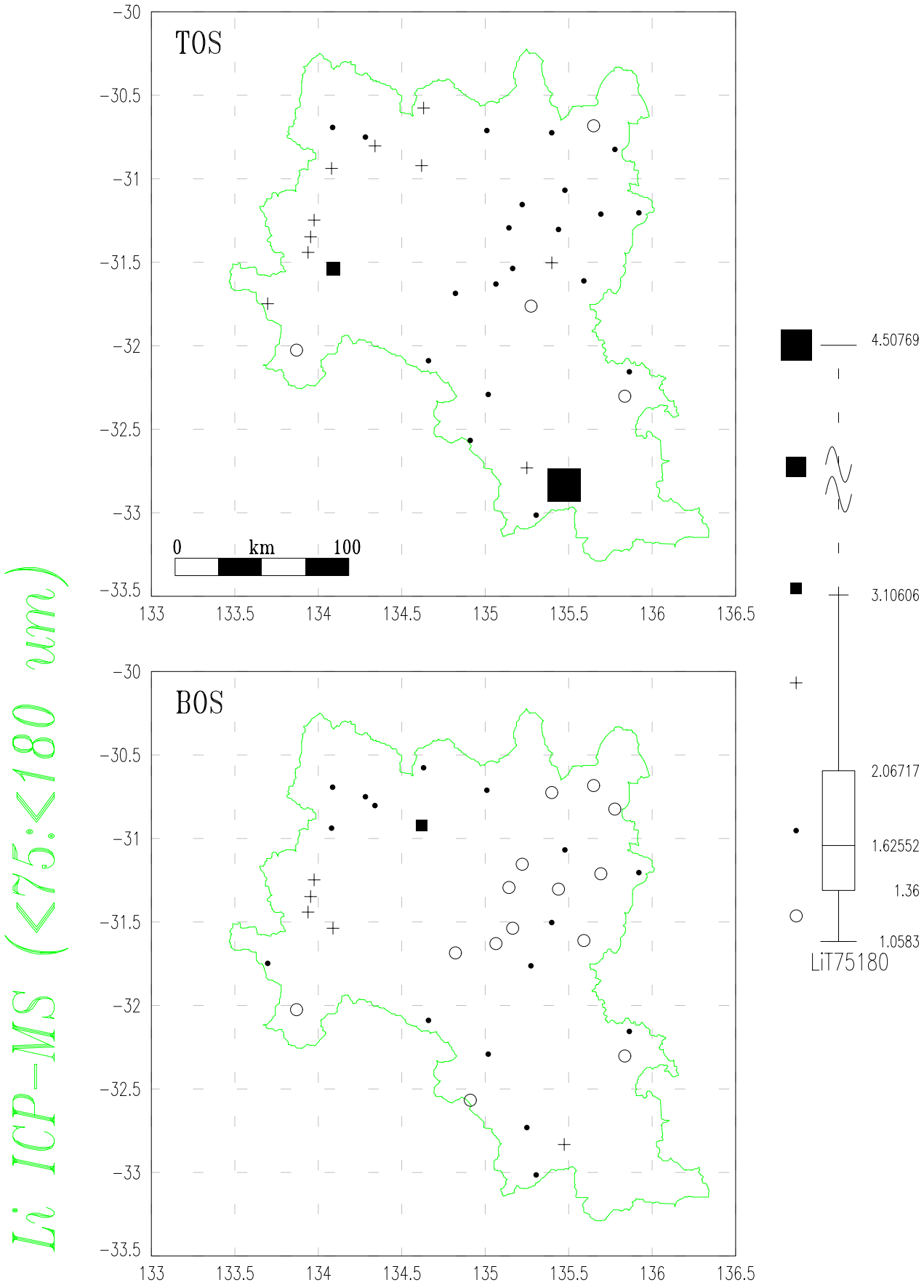






CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

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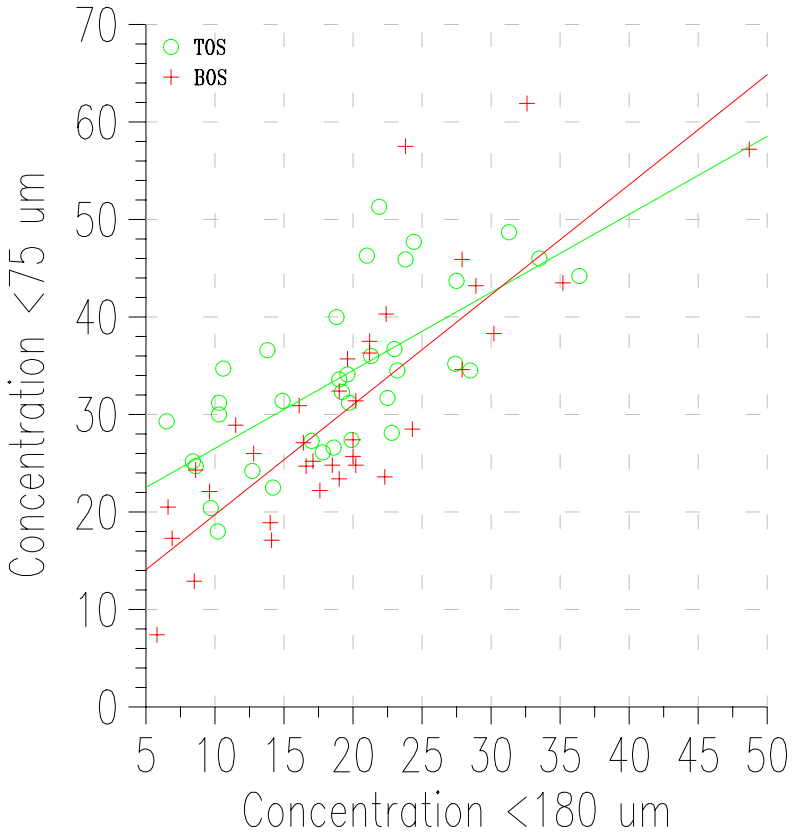
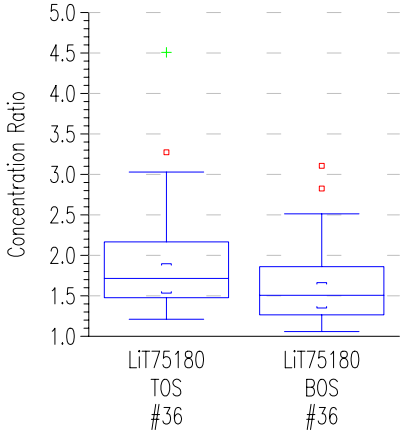
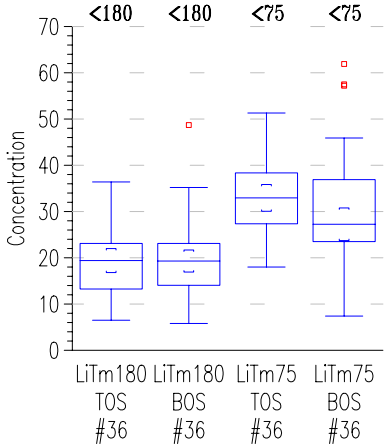
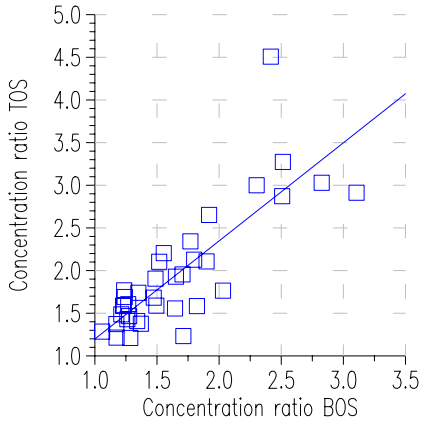
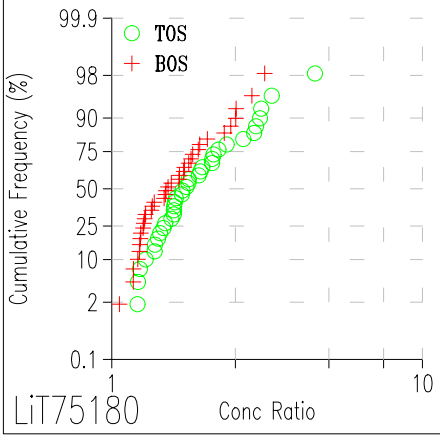
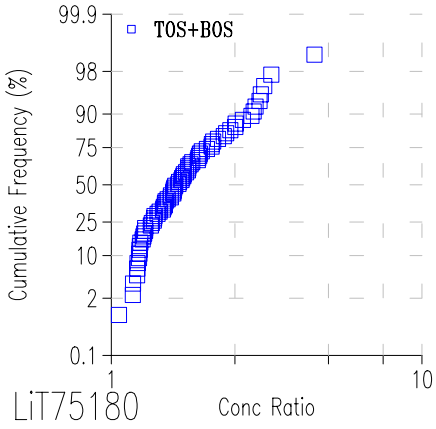


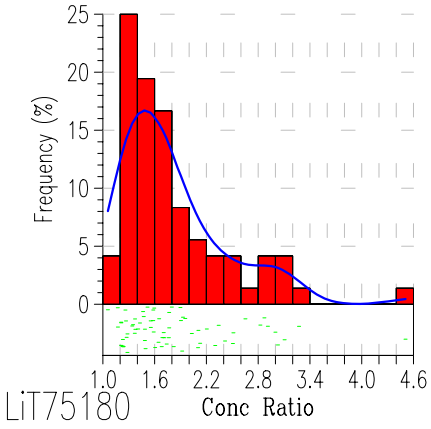






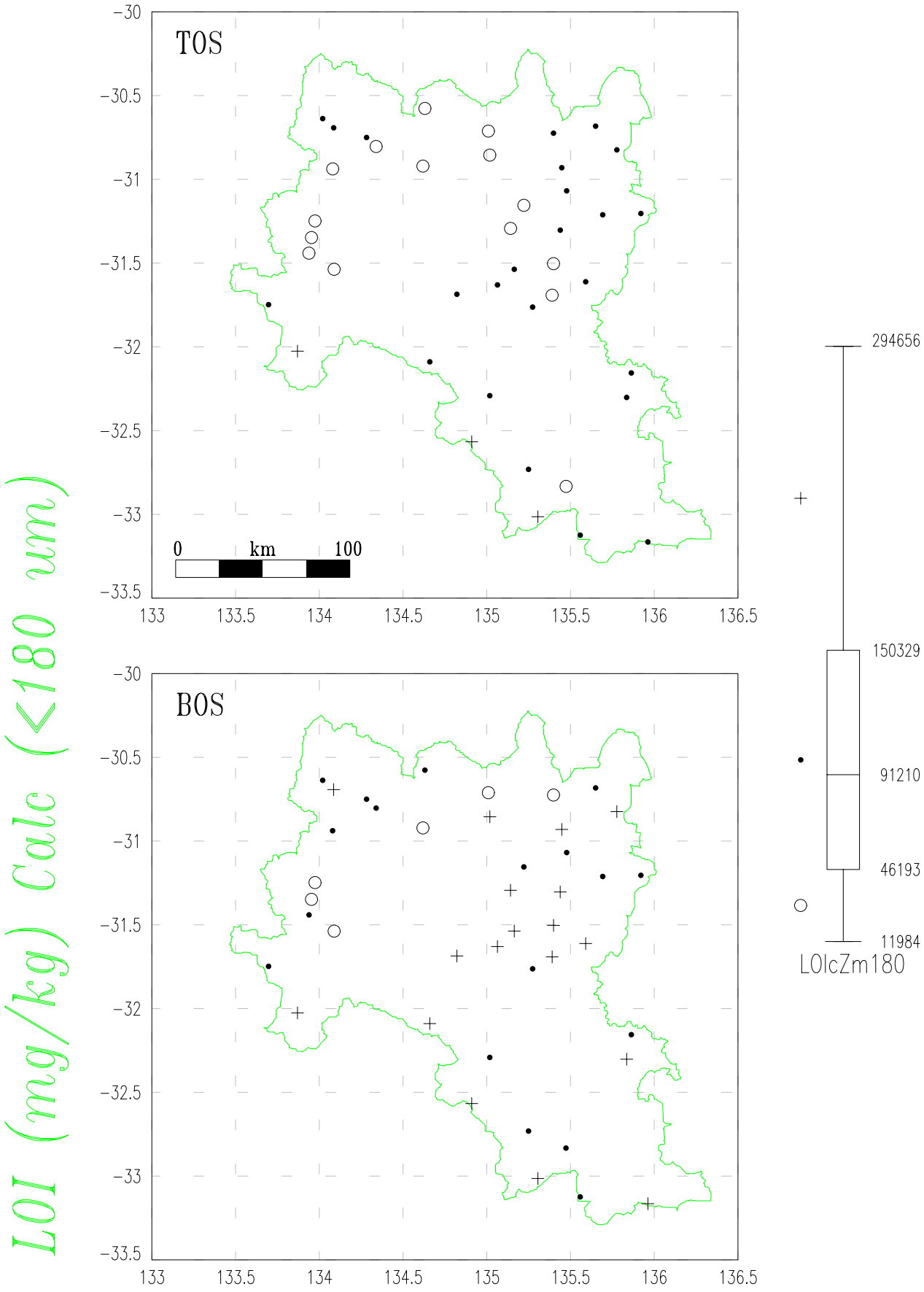




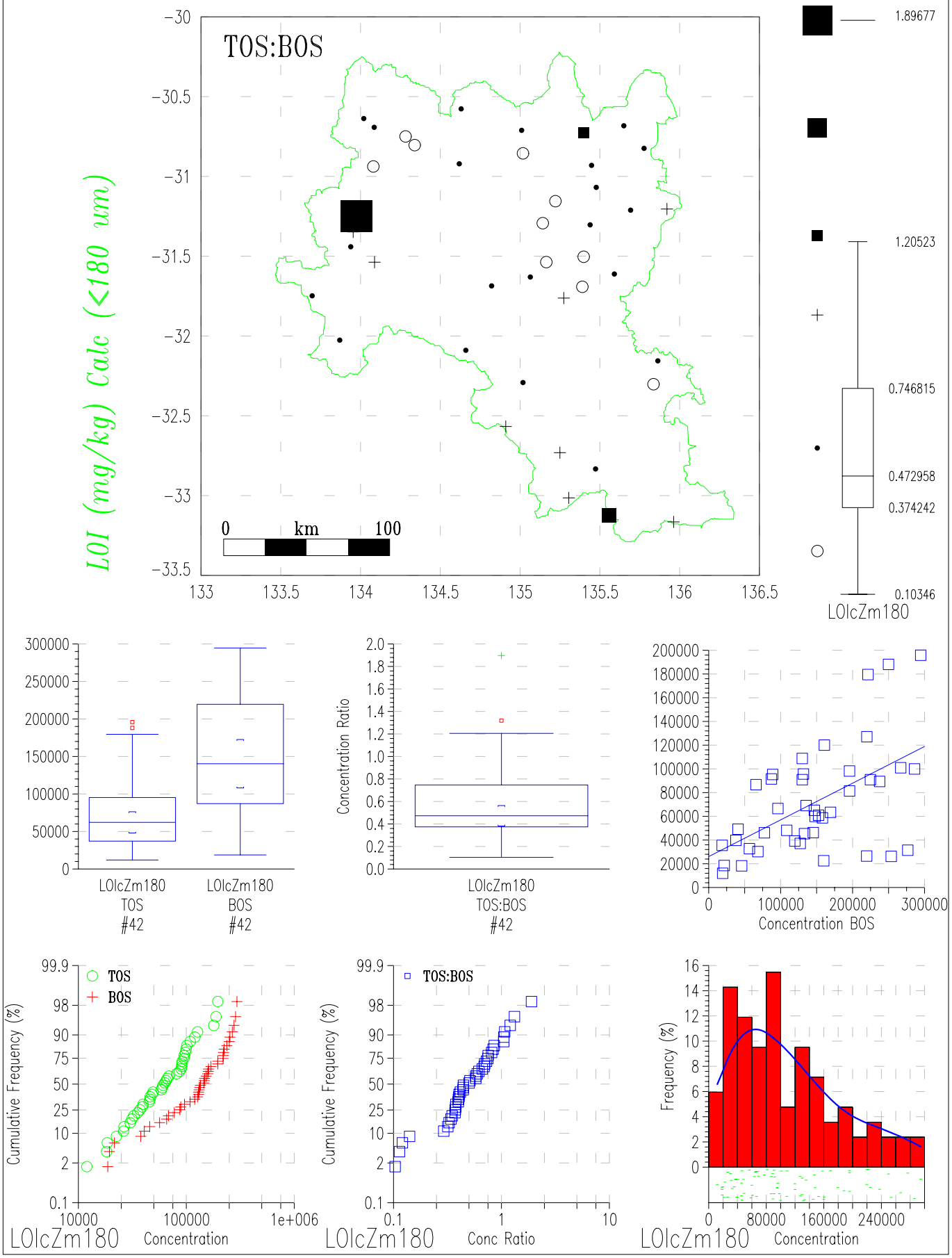


GAWLER GEOCHEMICAL SURVEY

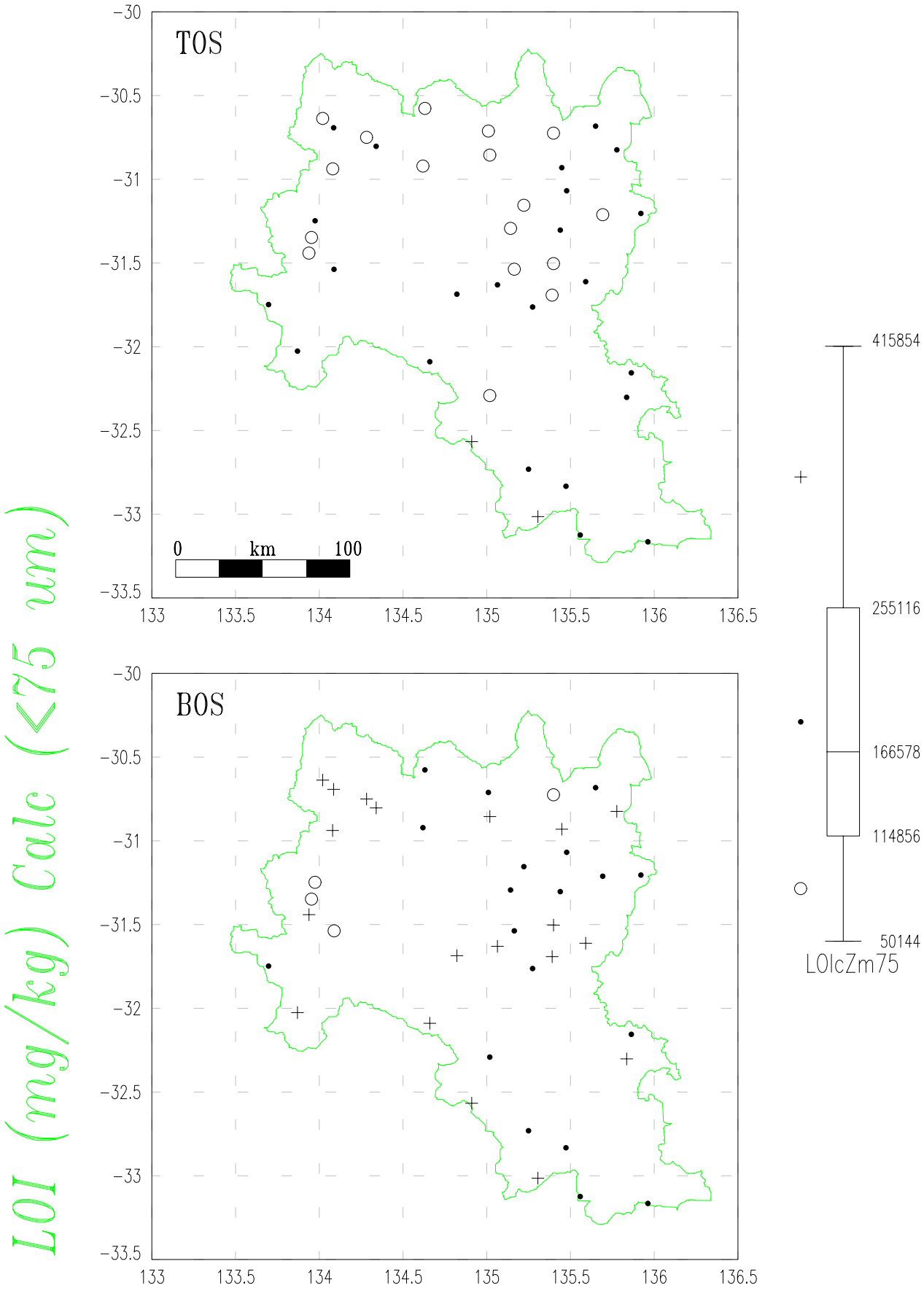
Top & Bottom Outlet Sediments (TOS & BOS)



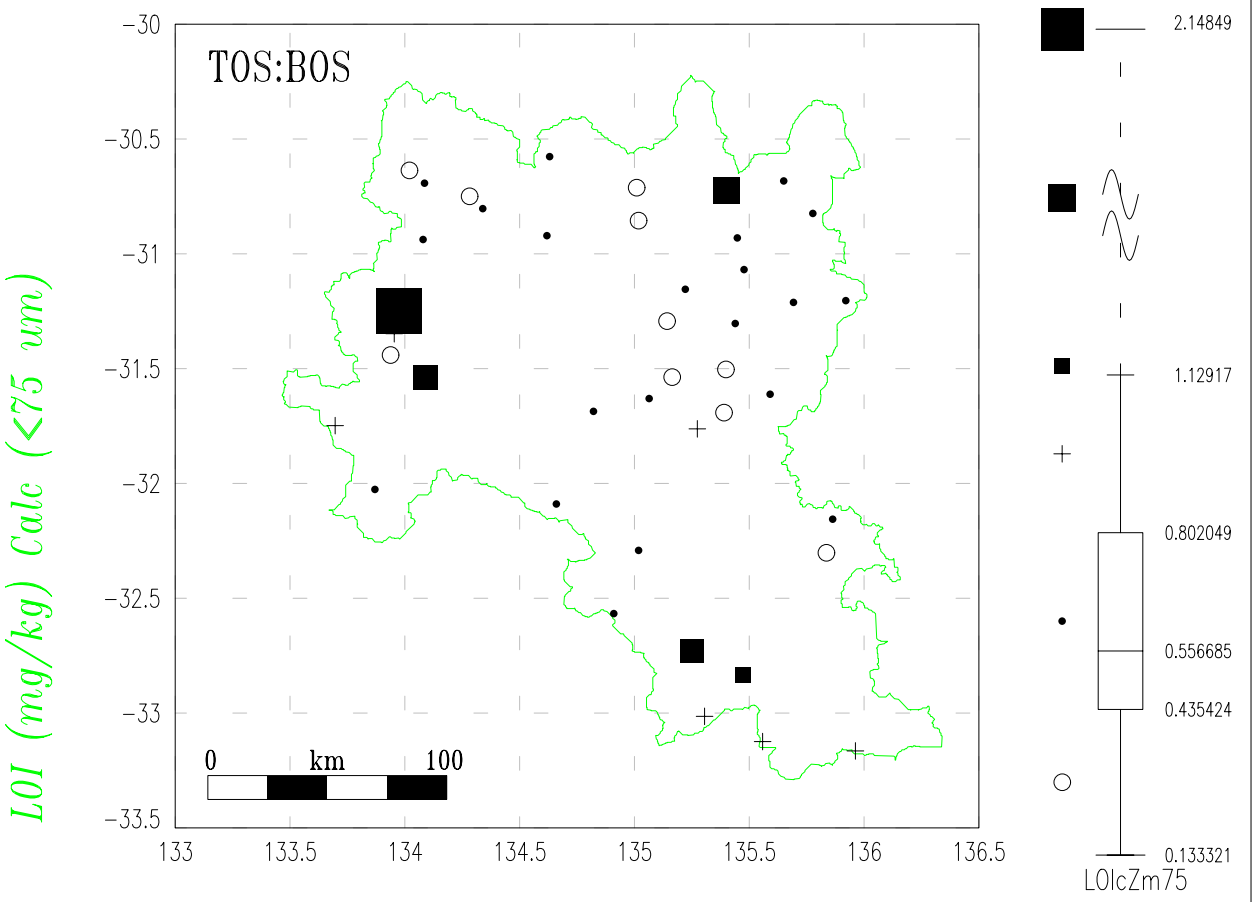
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

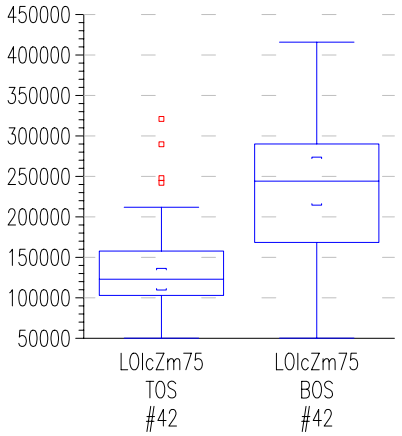


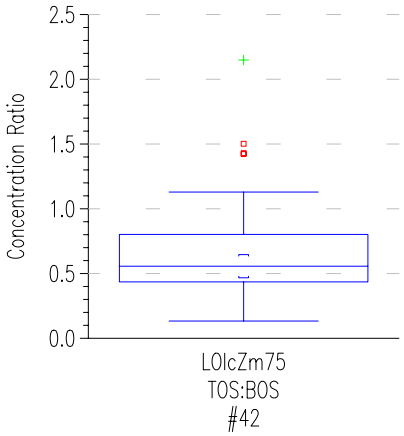
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

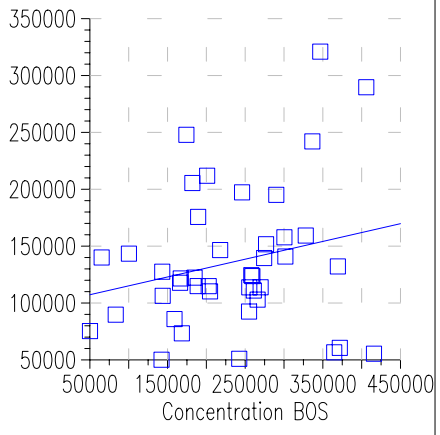


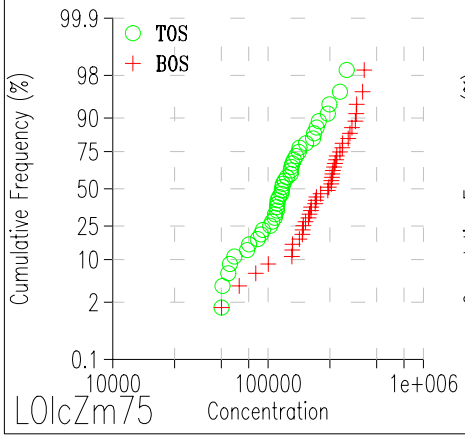
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

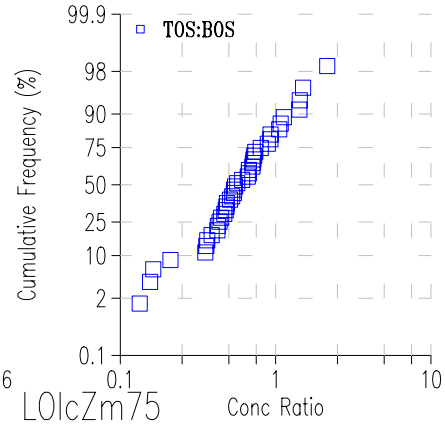


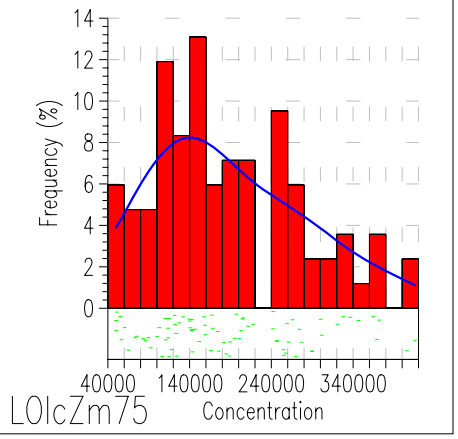






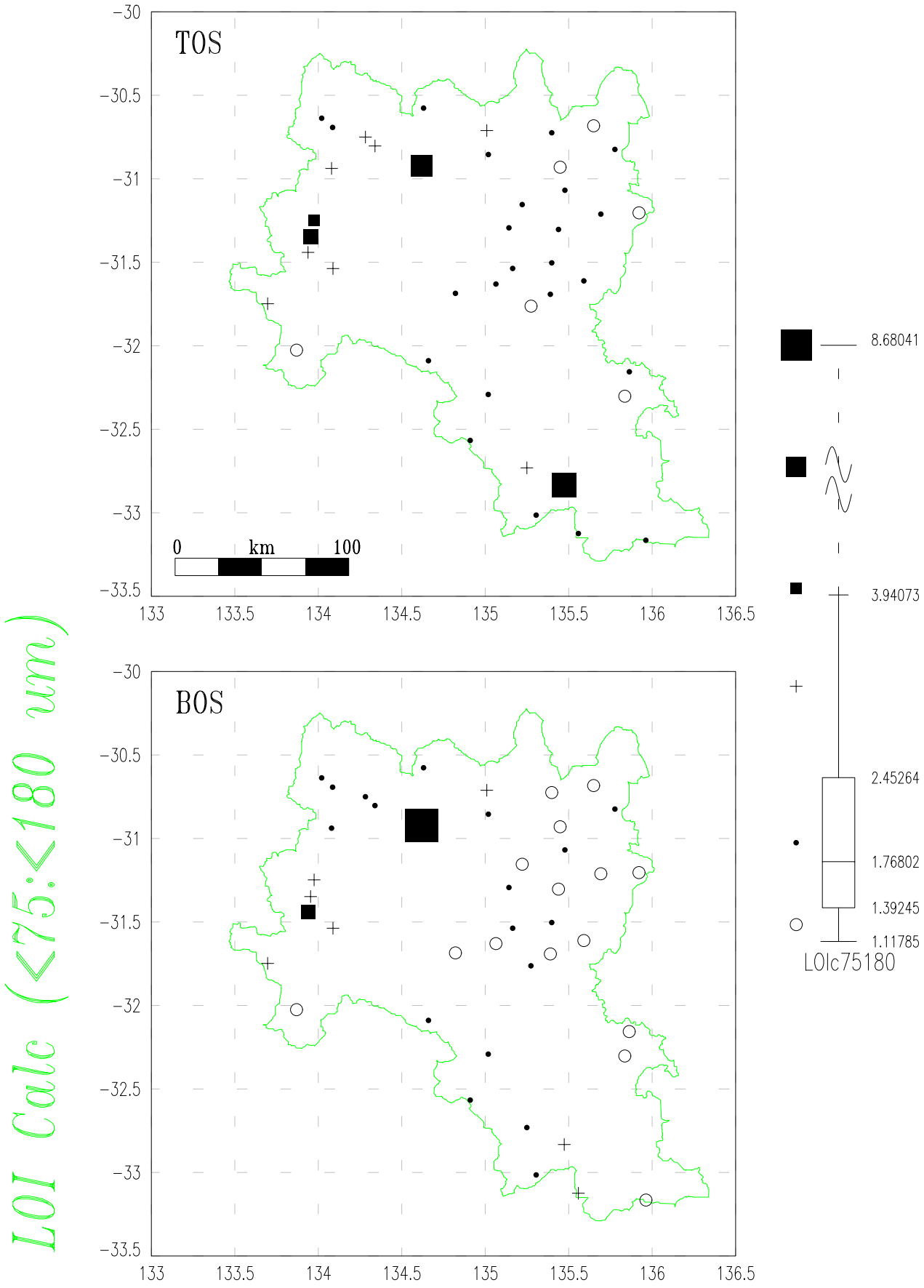






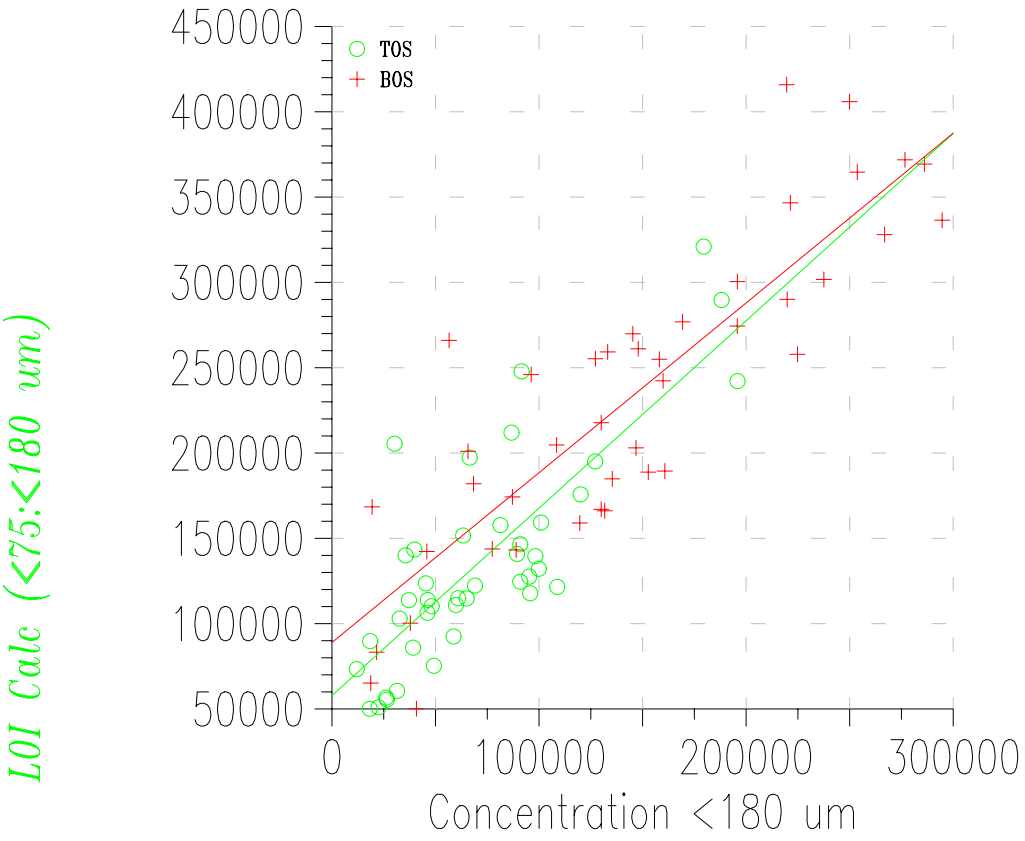
CAWLER GEOCHEMICAL SURVEY

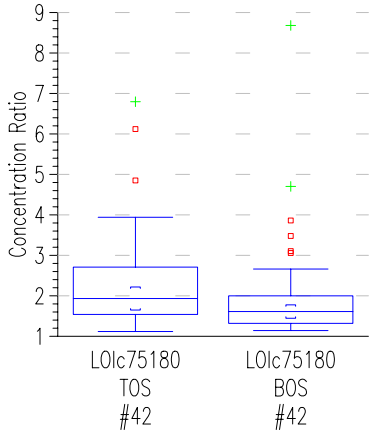
Top & Bottom Outlet Sediments (TOS & BOS)

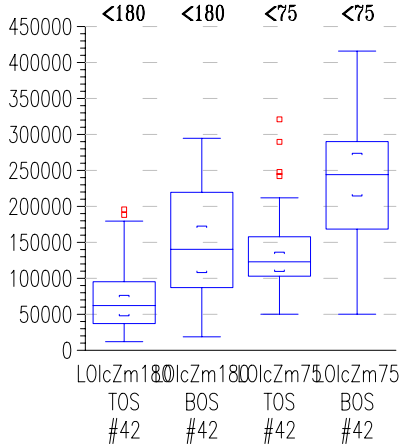


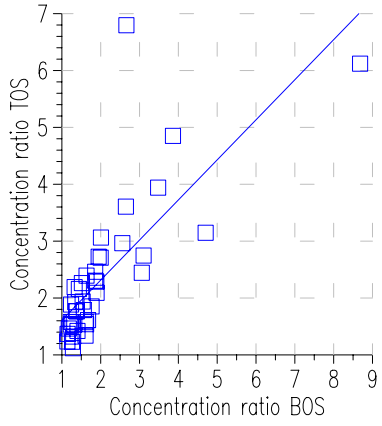
LOI Calc (<75:<180 um)

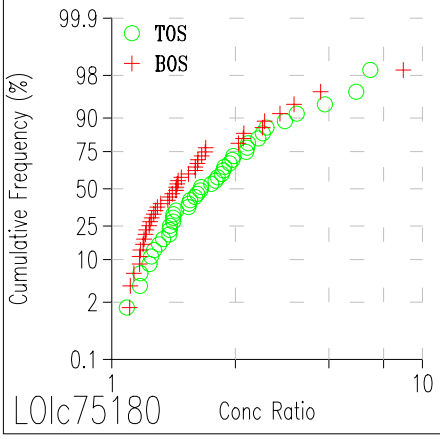
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

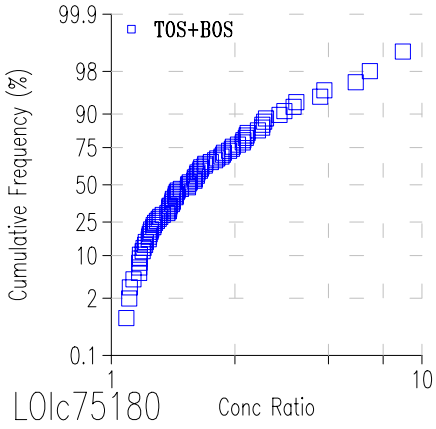


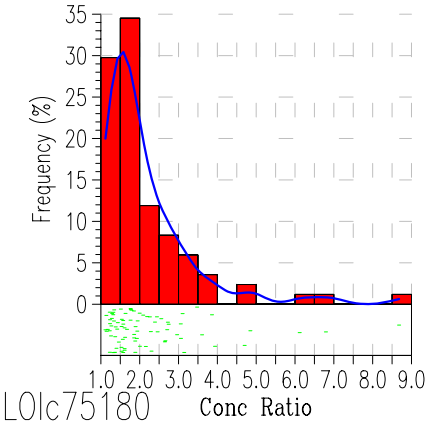




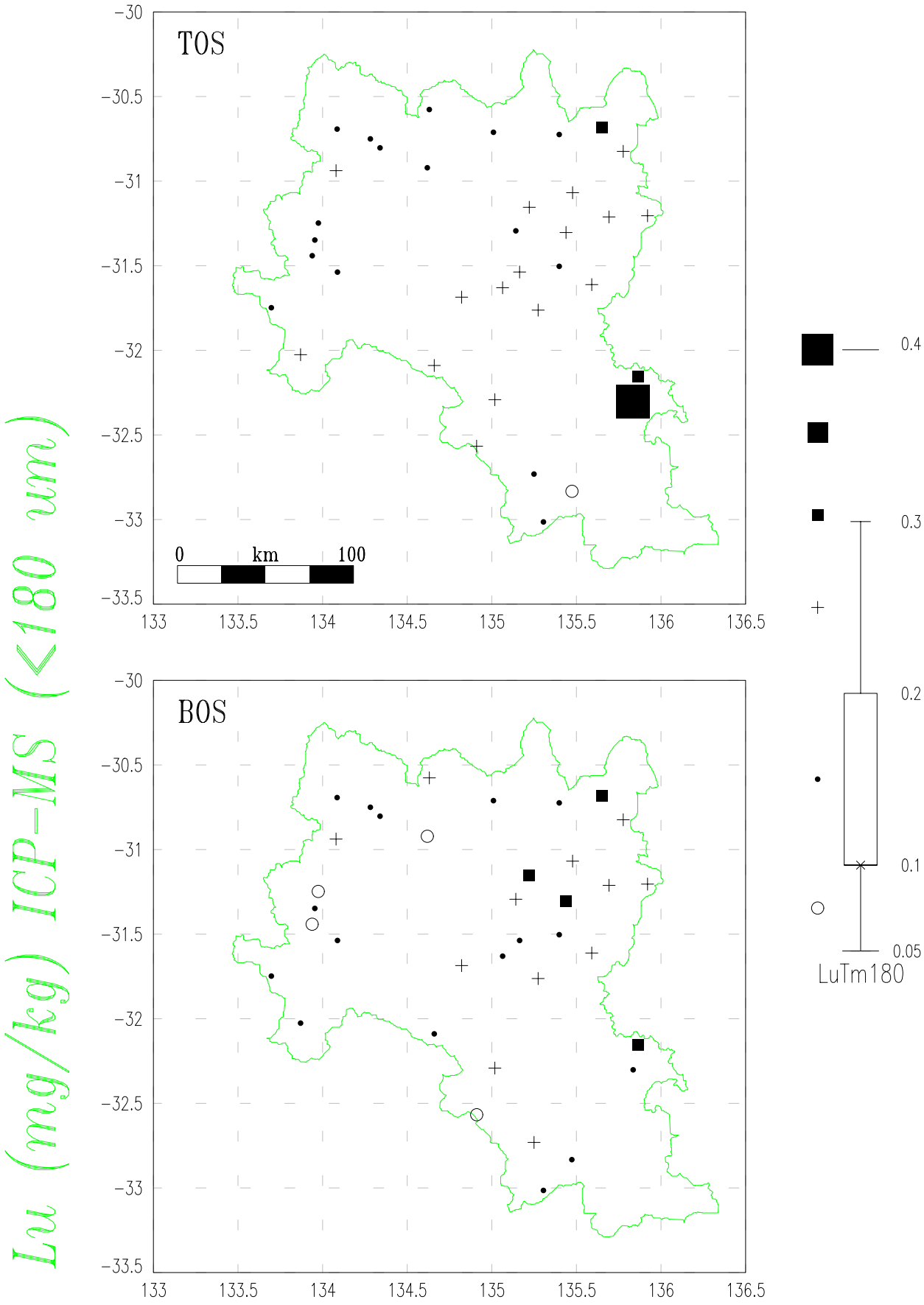




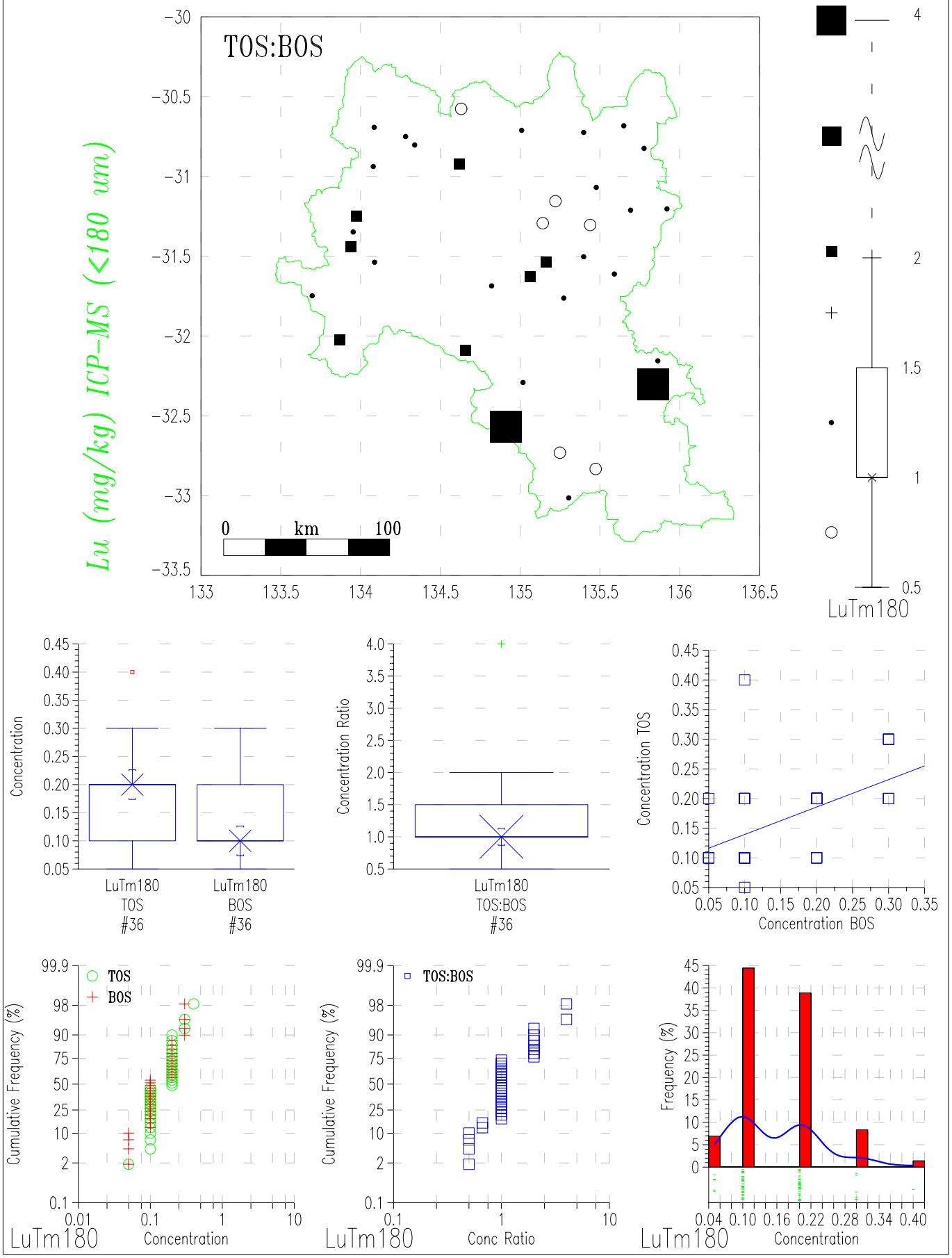




GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

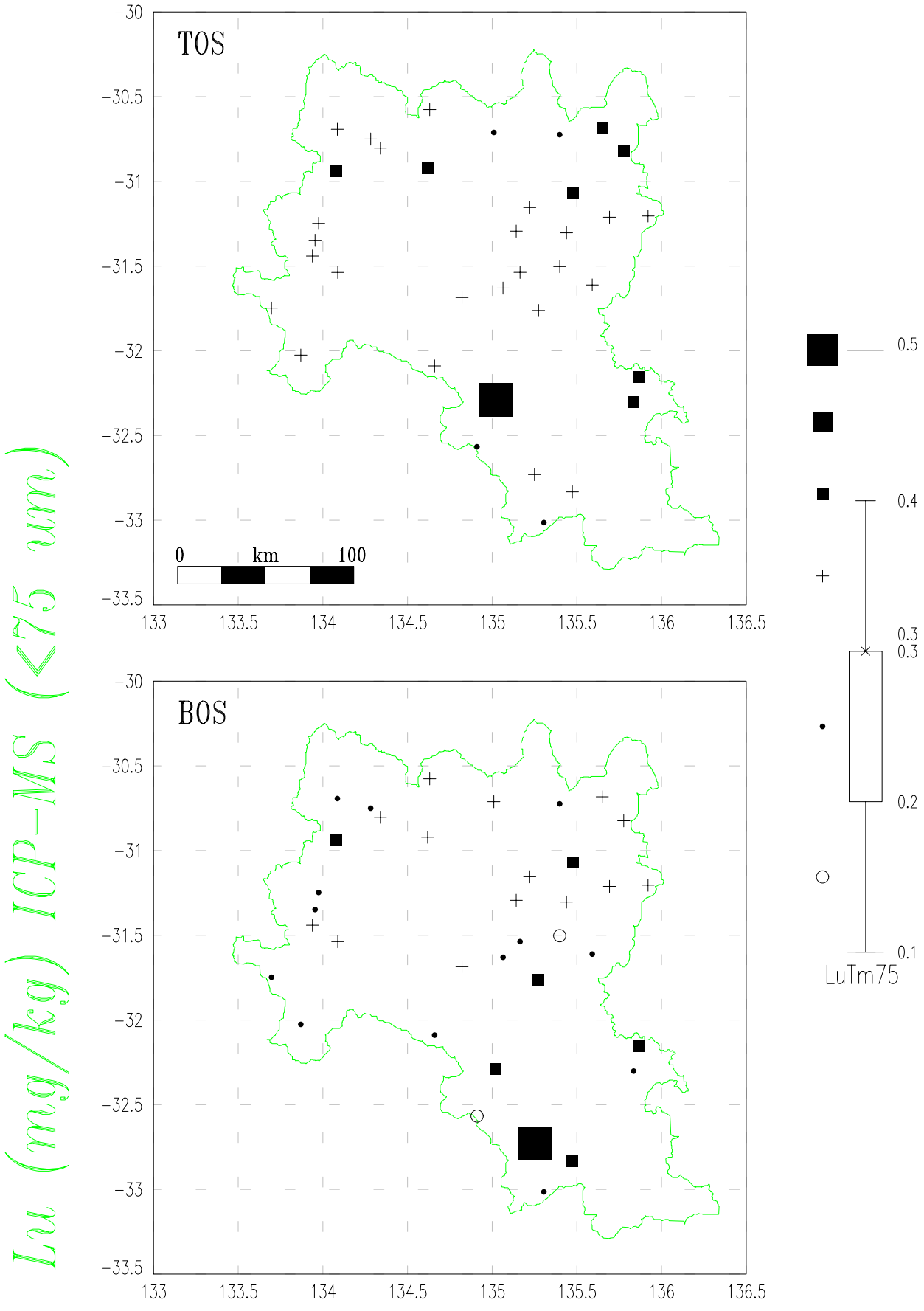


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

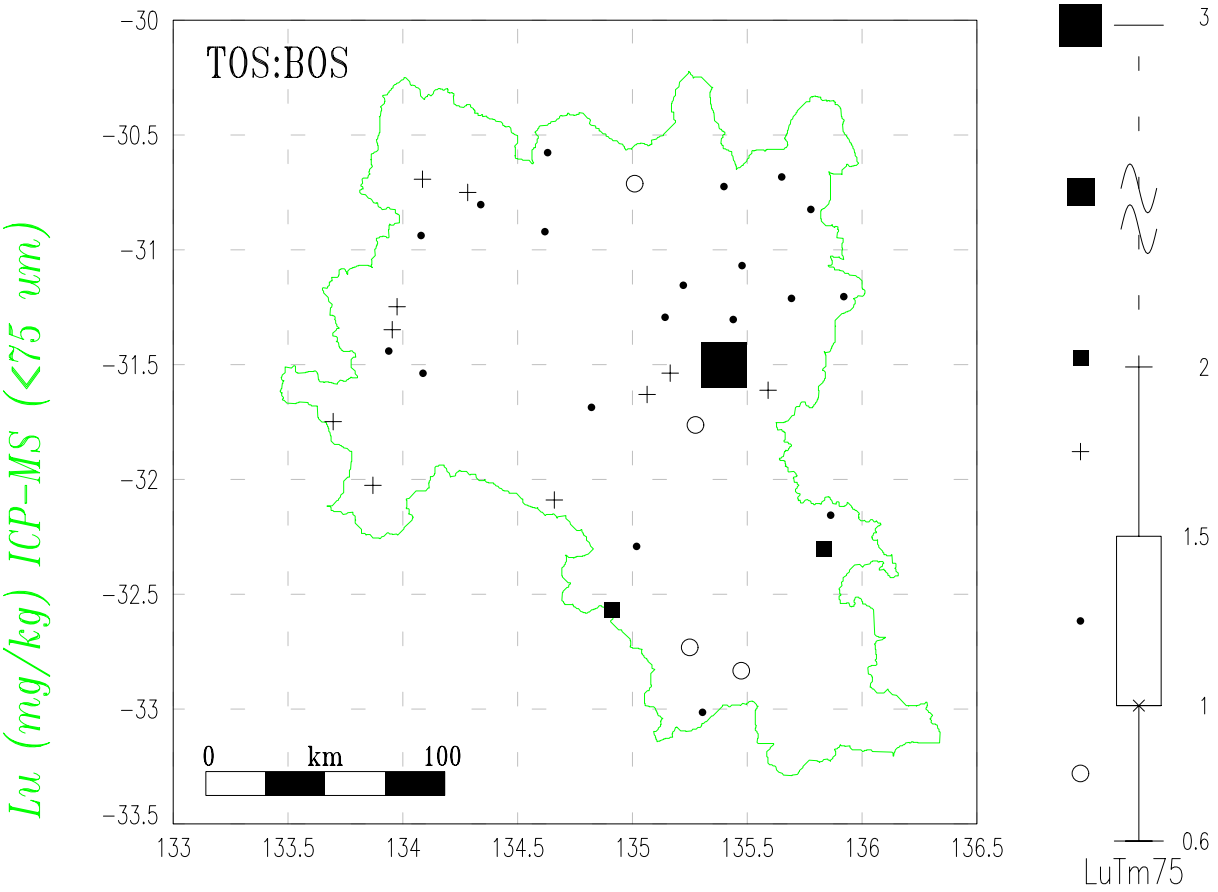


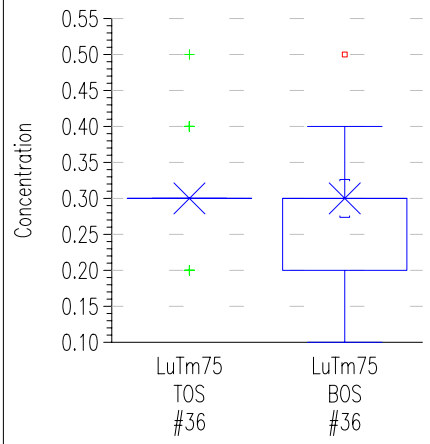
CAWLER GEOCHEMICAL SURVEY

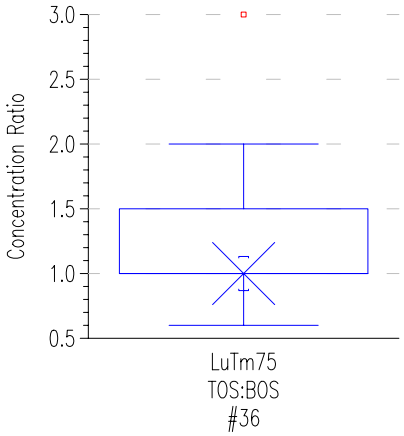
Top & Bottom Outlet Sediments (TOS & BOS)

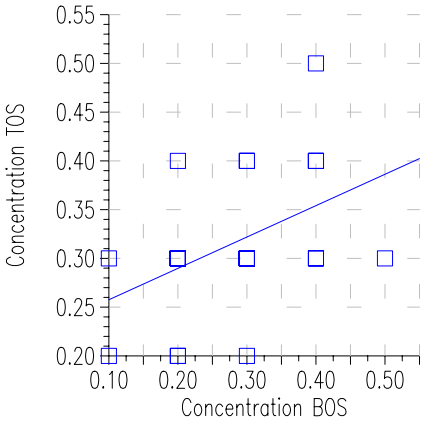


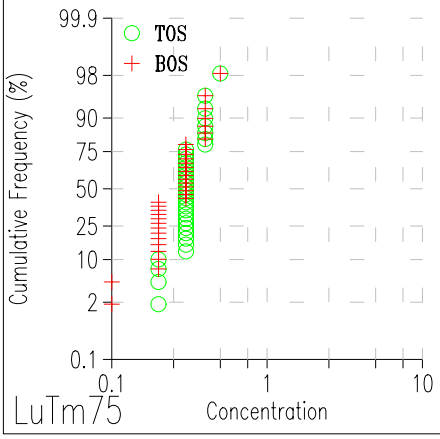
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

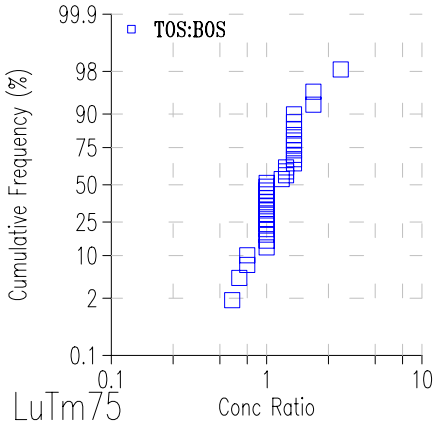


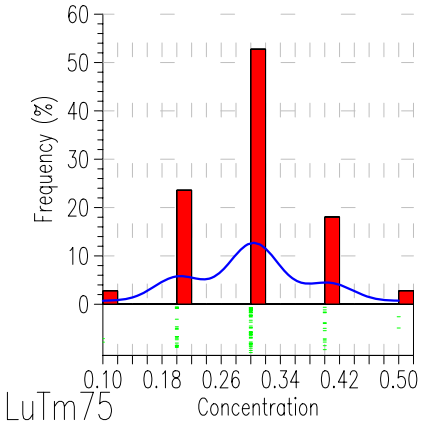






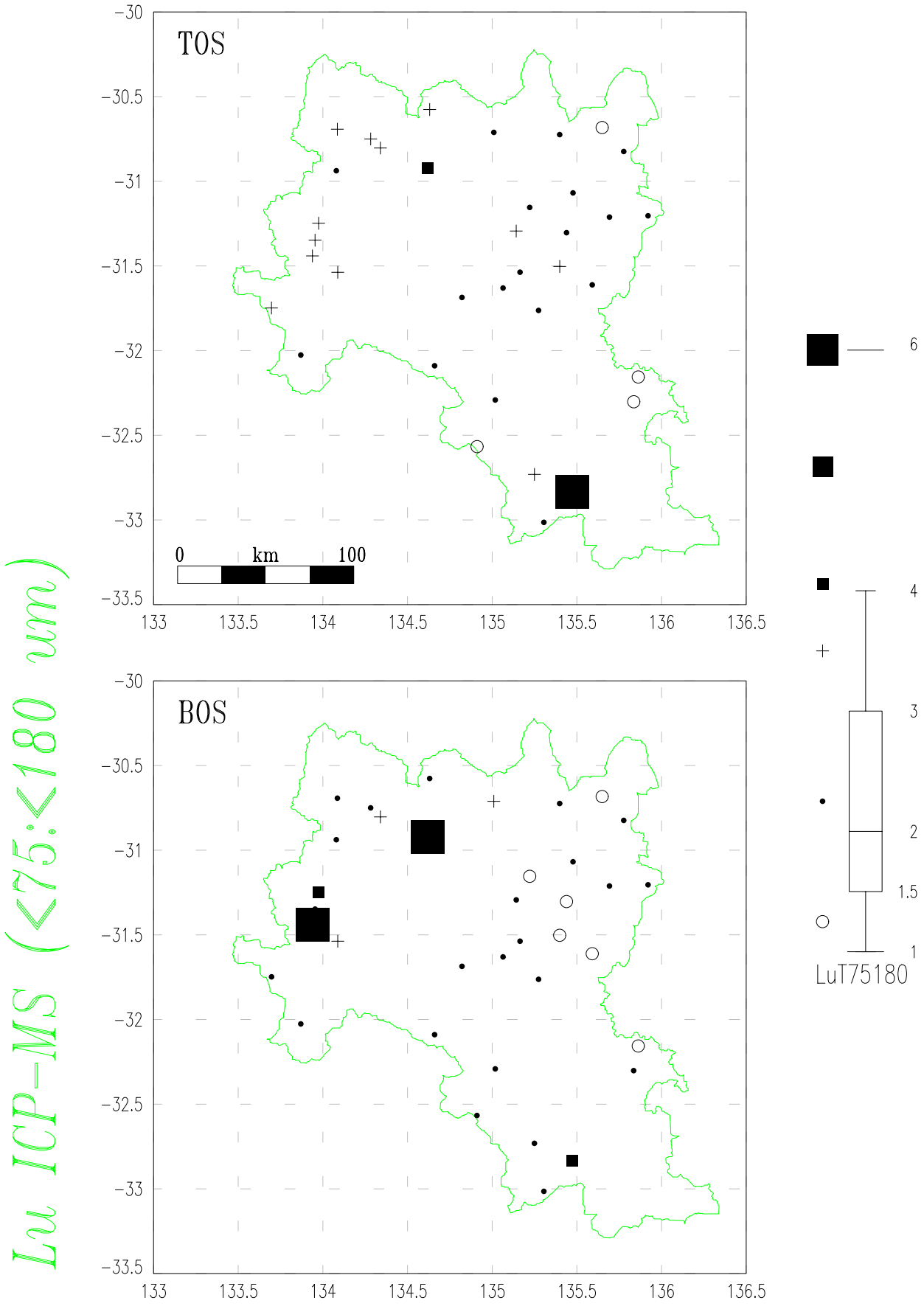




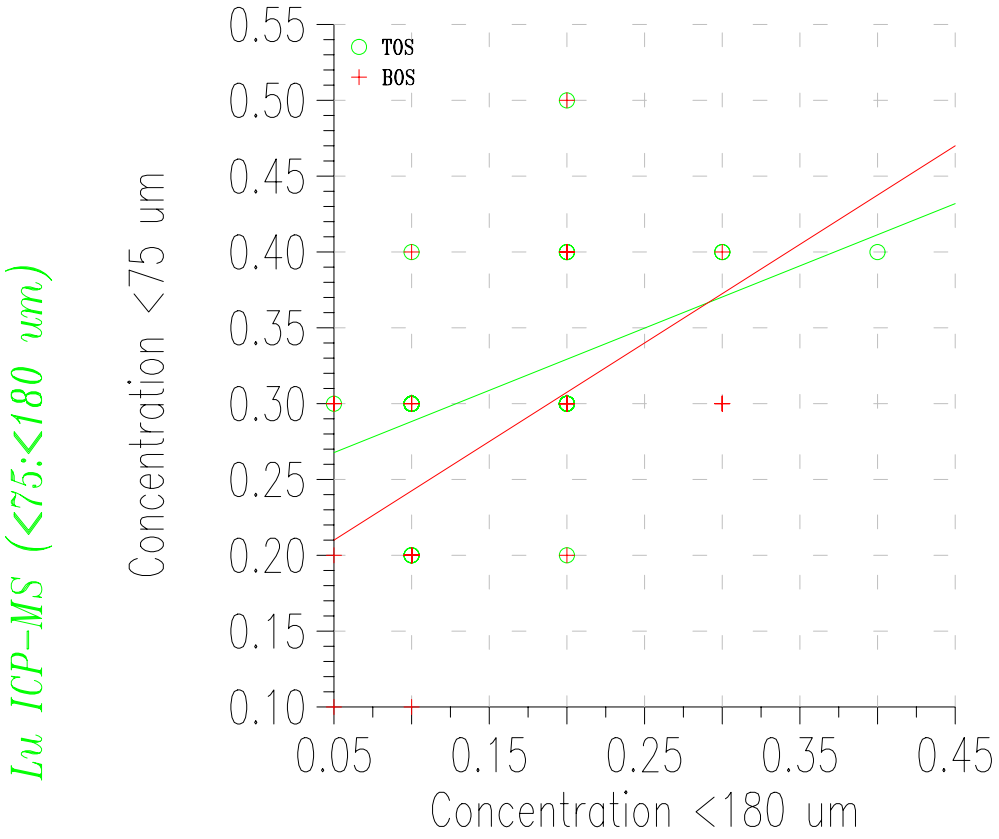


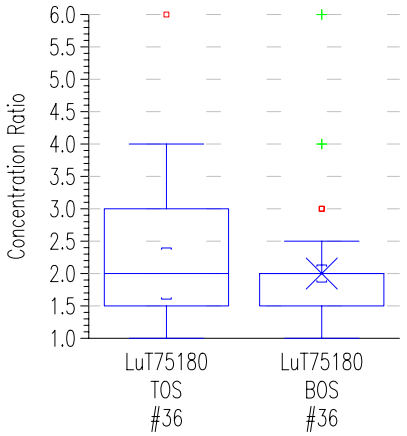
GAWLER GEOCHEMICAL SURVEY

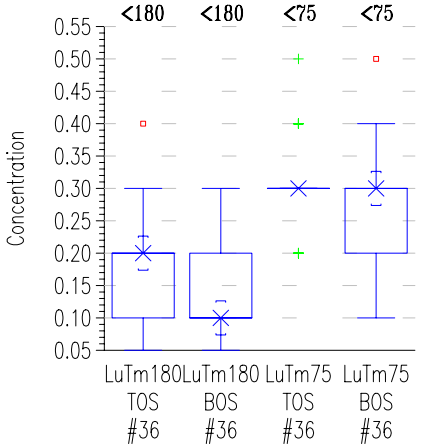
Top & Bottom Outlet Sediments (TOS & BOS)

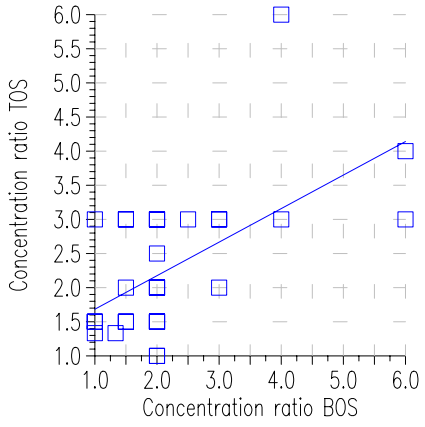


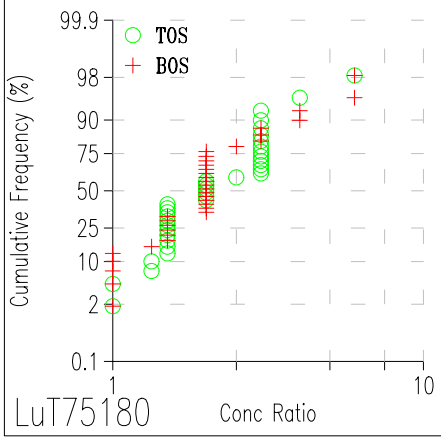
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

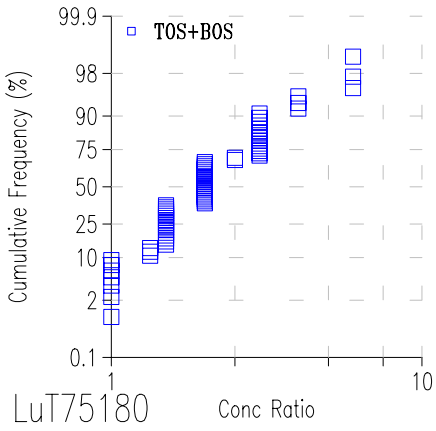


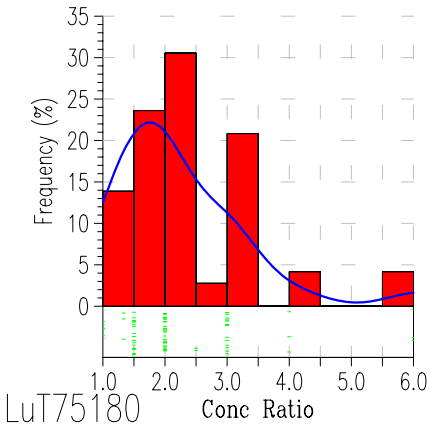




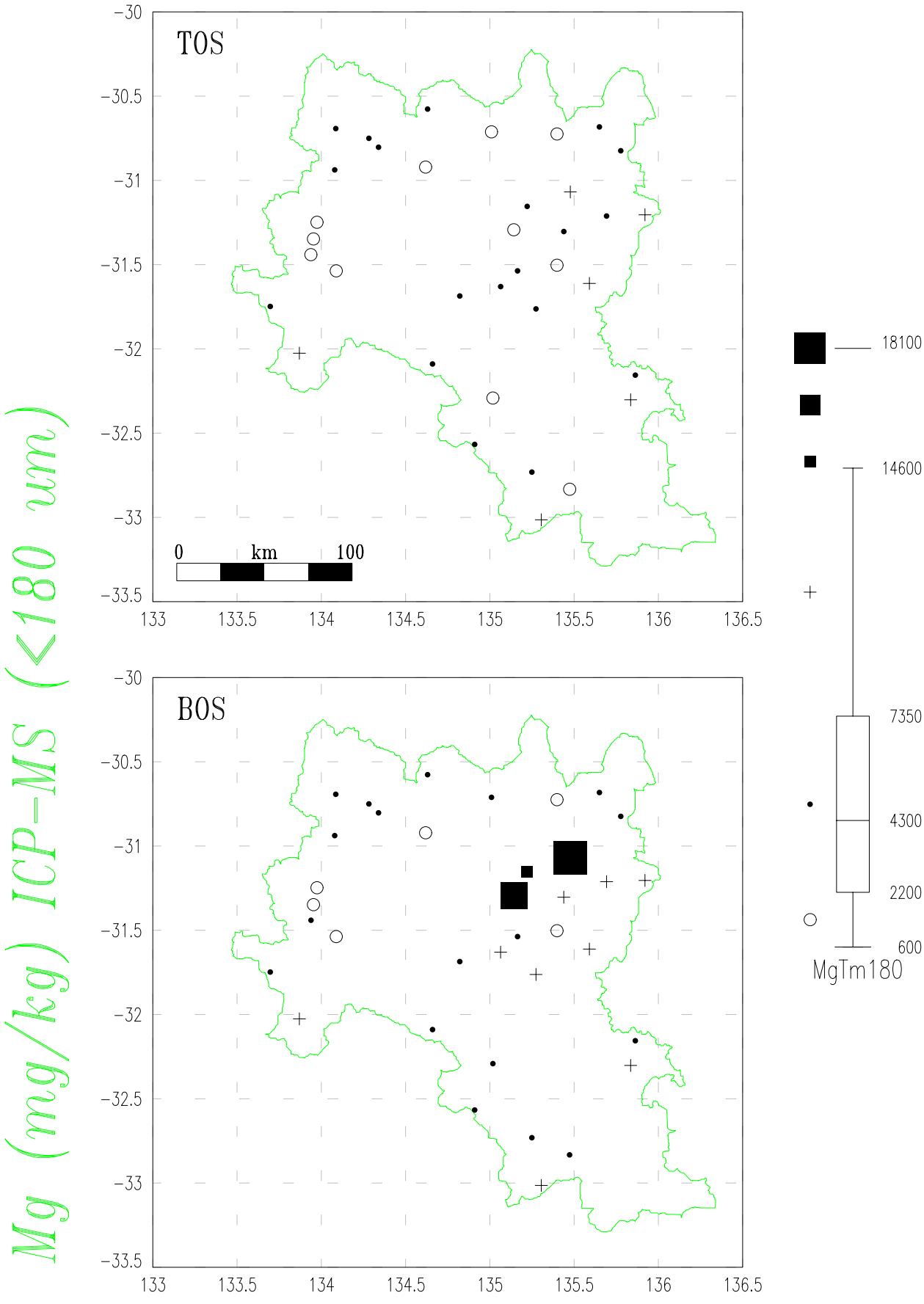




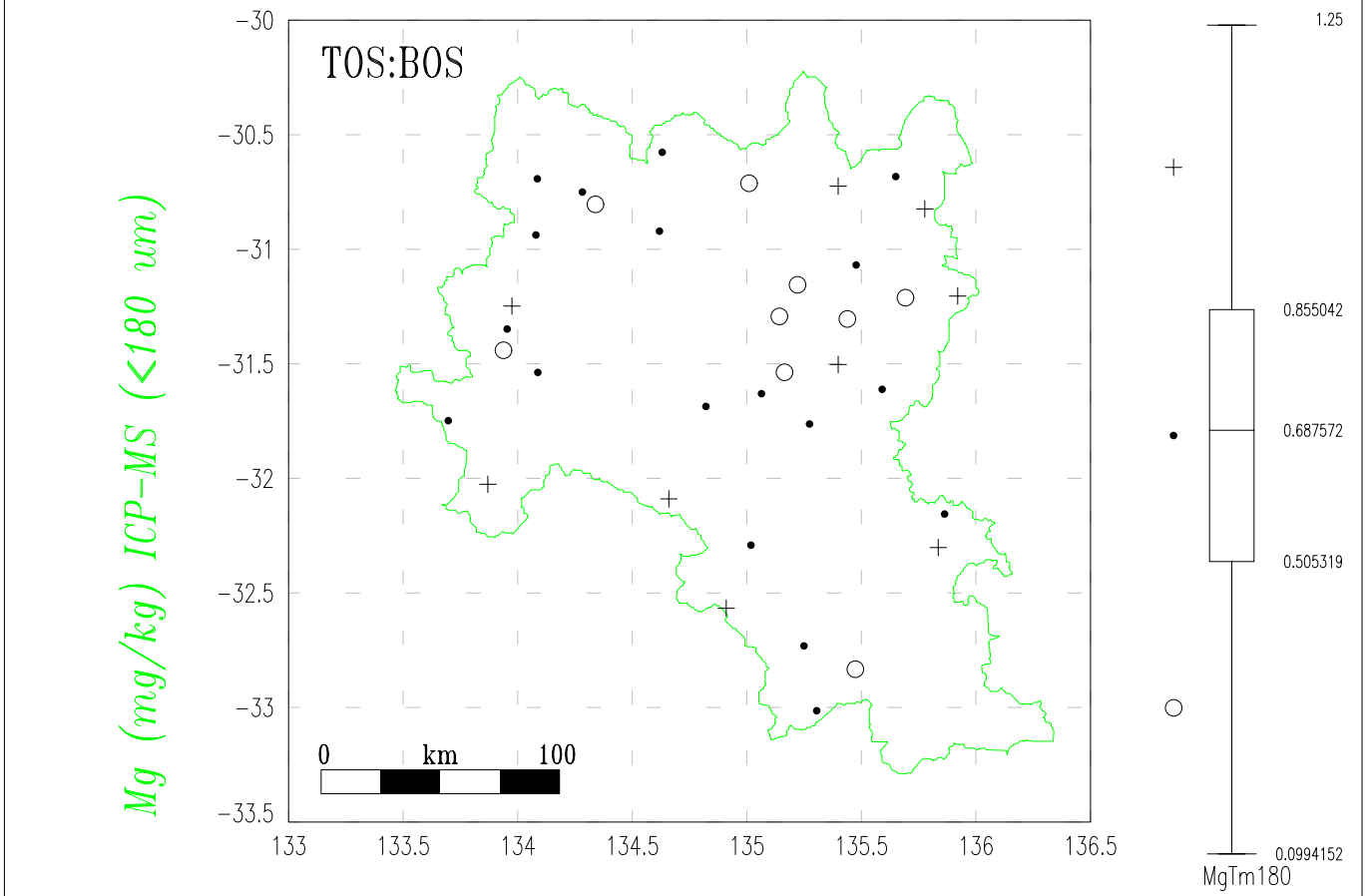


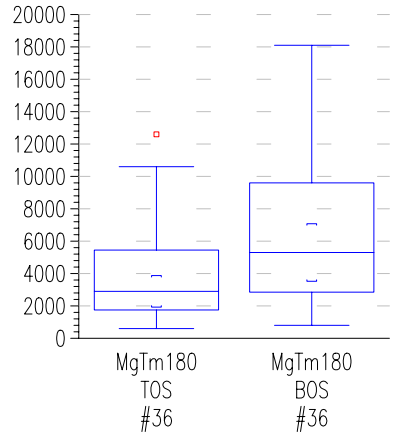


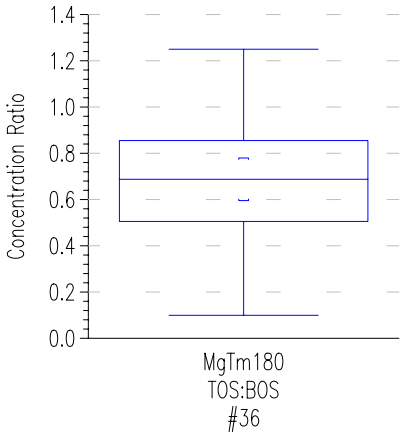
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

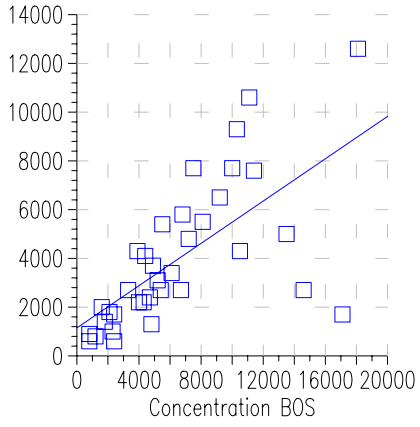


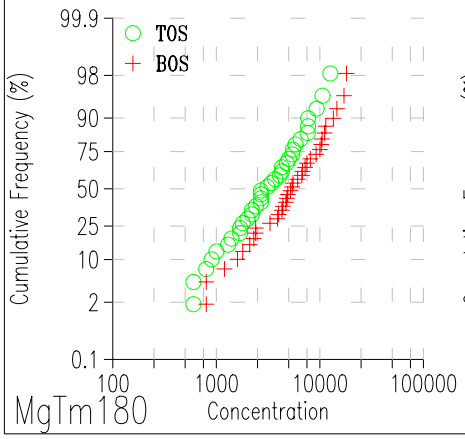
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

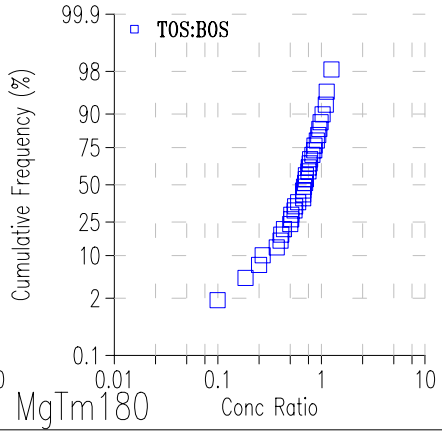


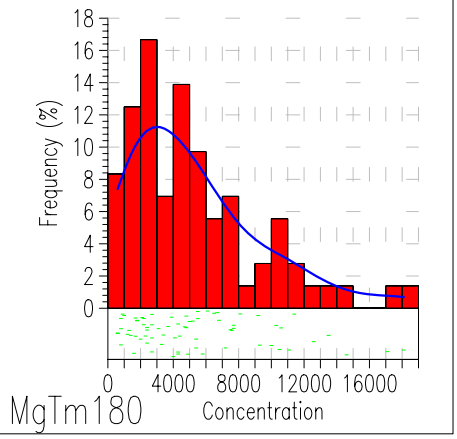






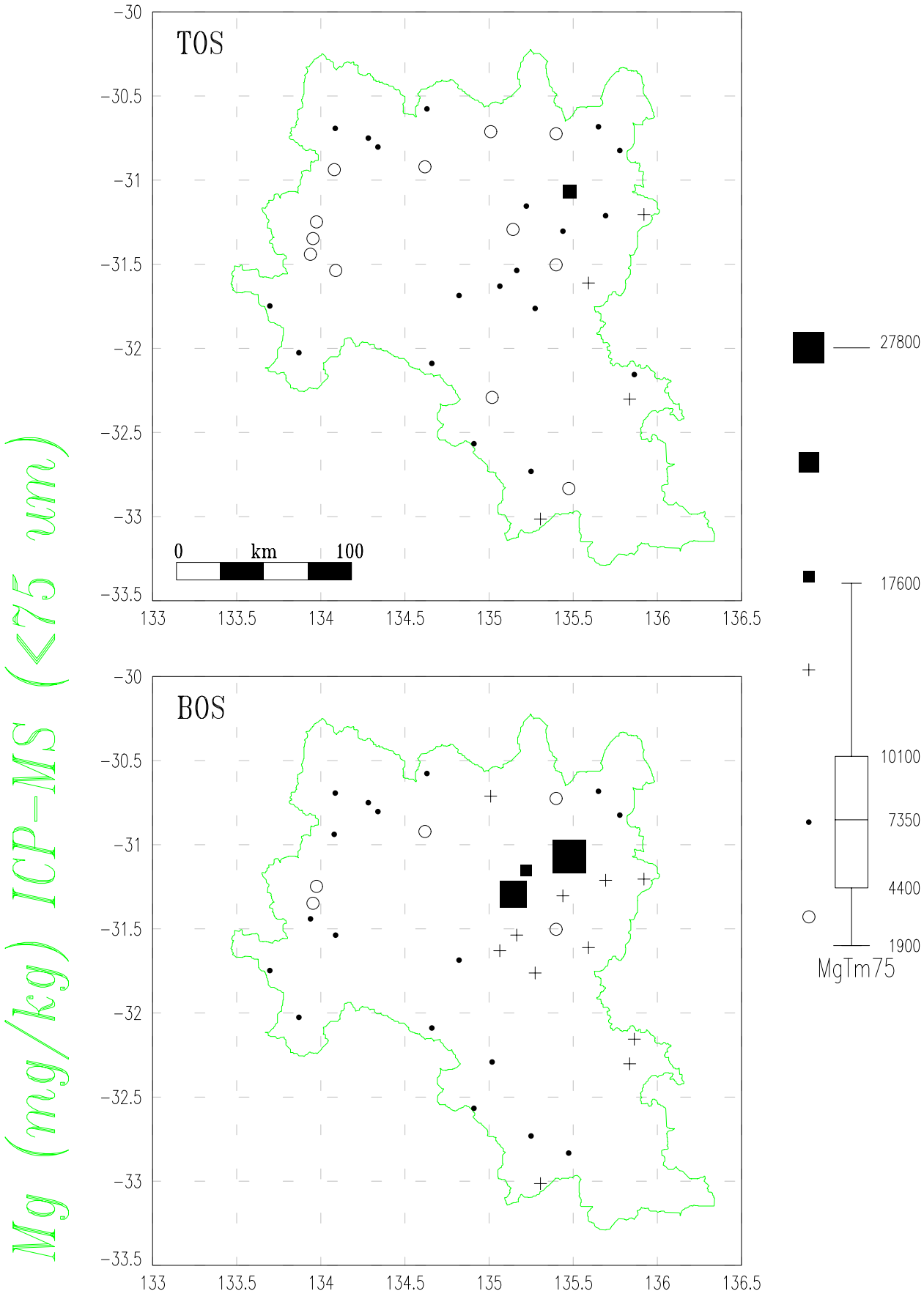




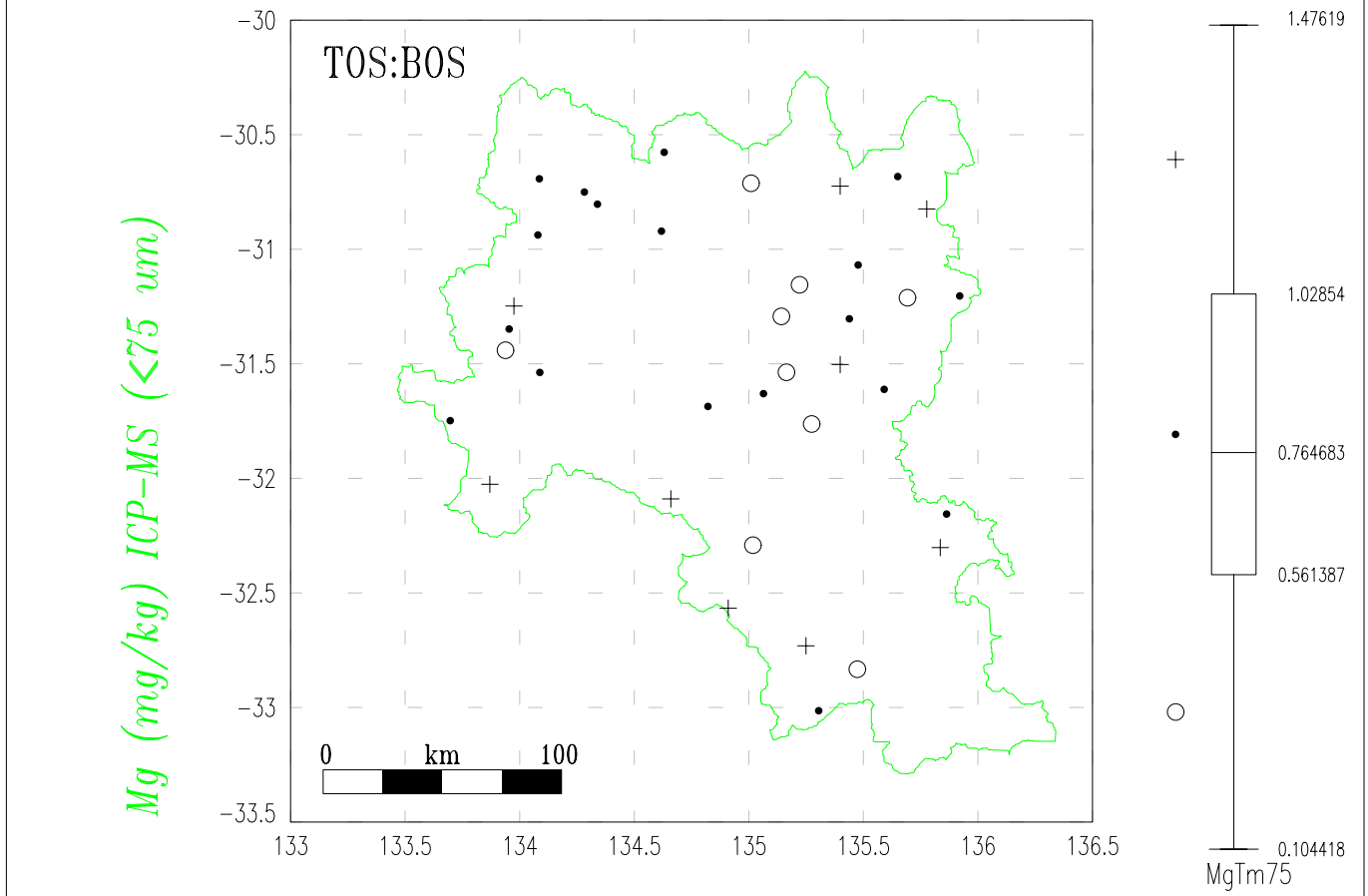


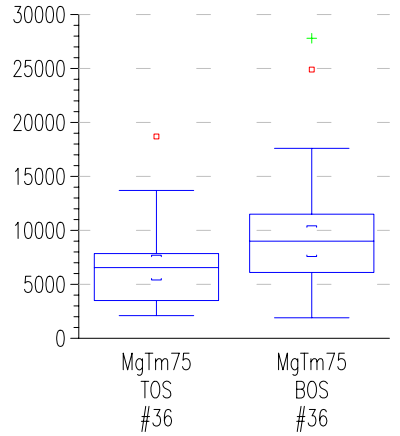
CAWLER GEOCHEMICAL SURVEY

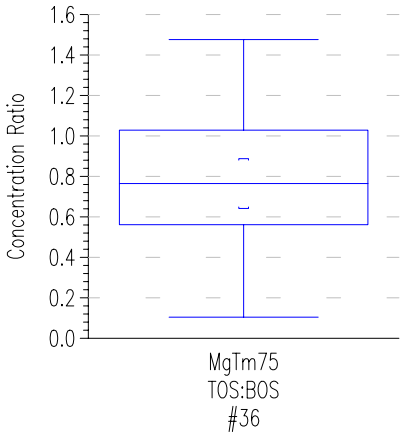
Top & Bottom Outlet Sediments (TOS & BOS)

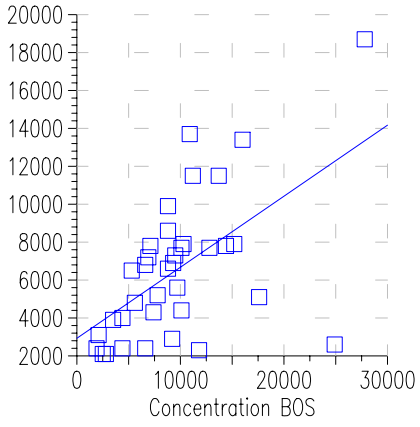


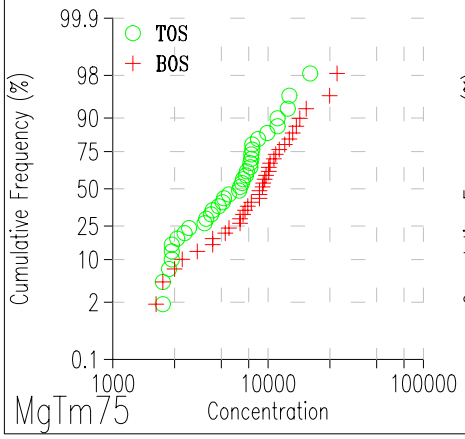
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

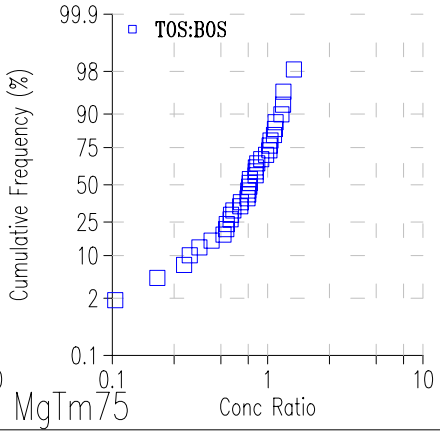


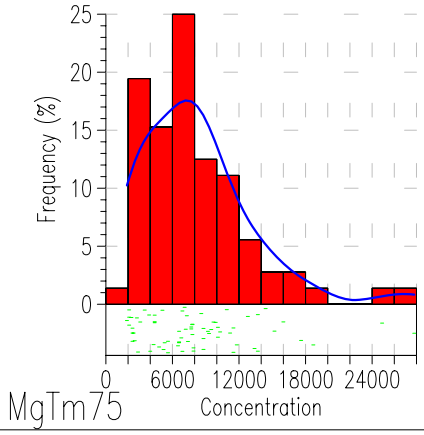






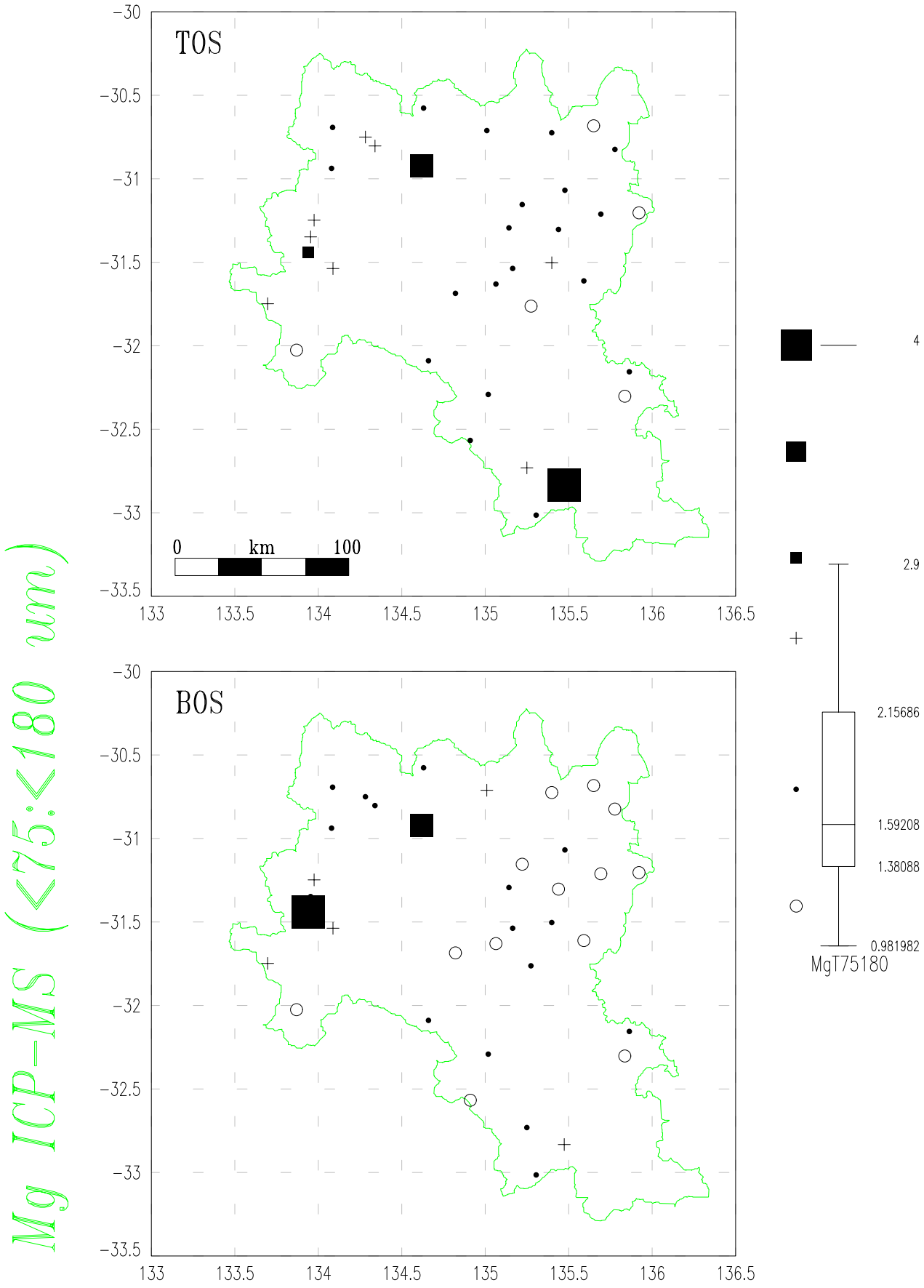






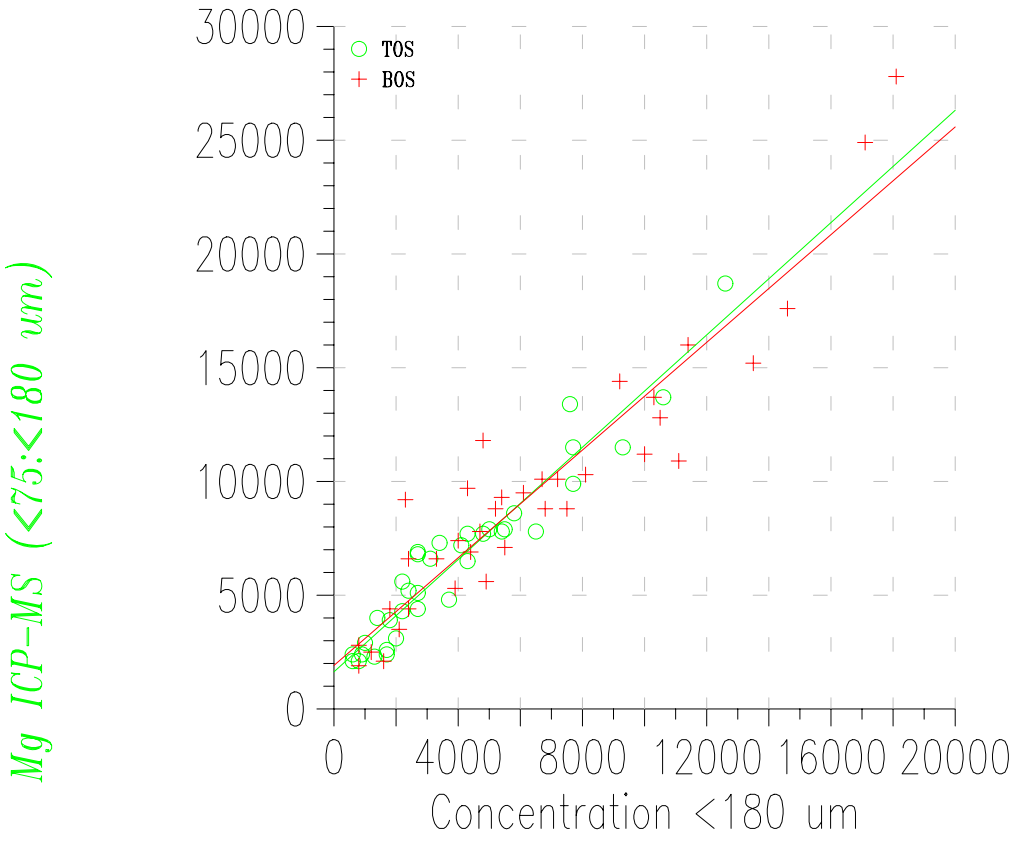
GAWLER GEOCHEMICAL SURVEY

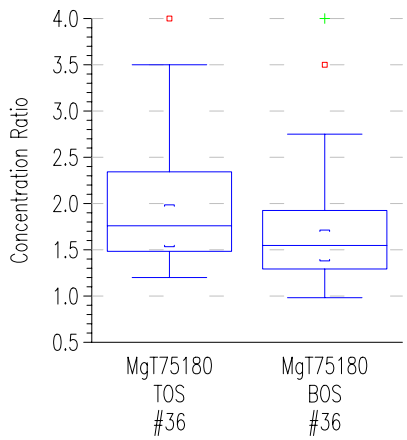
Top & Bottom Outlet Sediments (TOS & BOS)

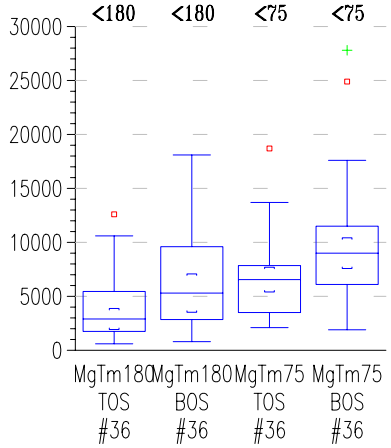


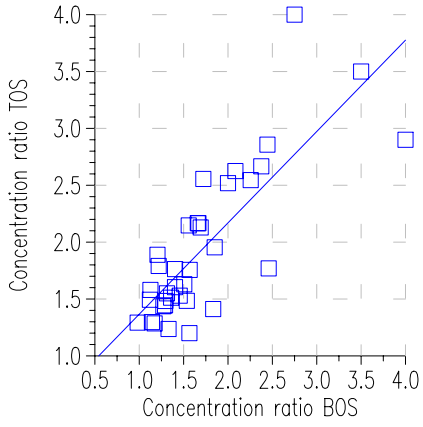
Mg ICP-MS (<75:<180 um)

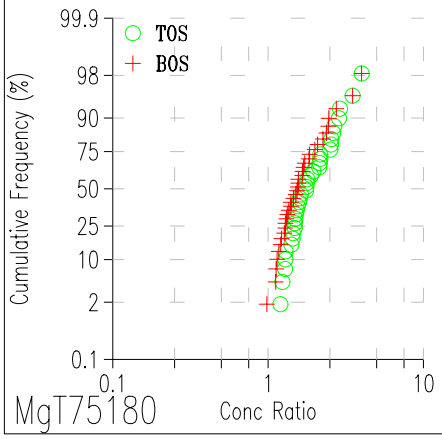
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

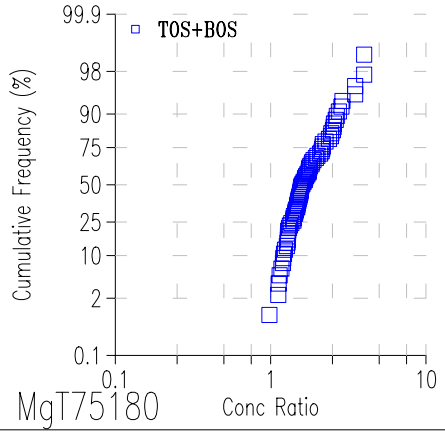


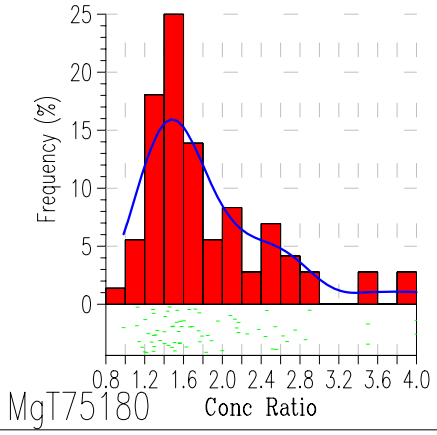






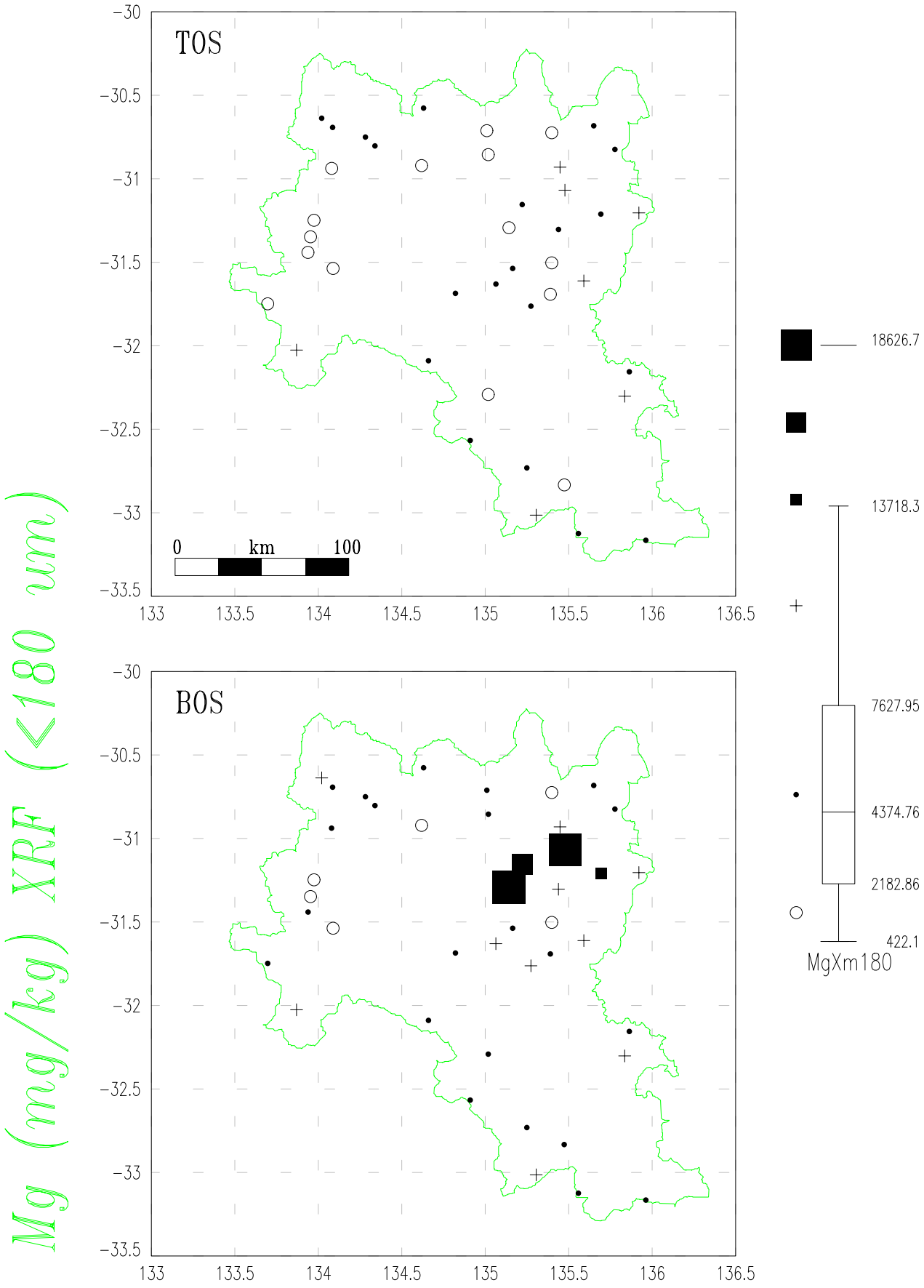






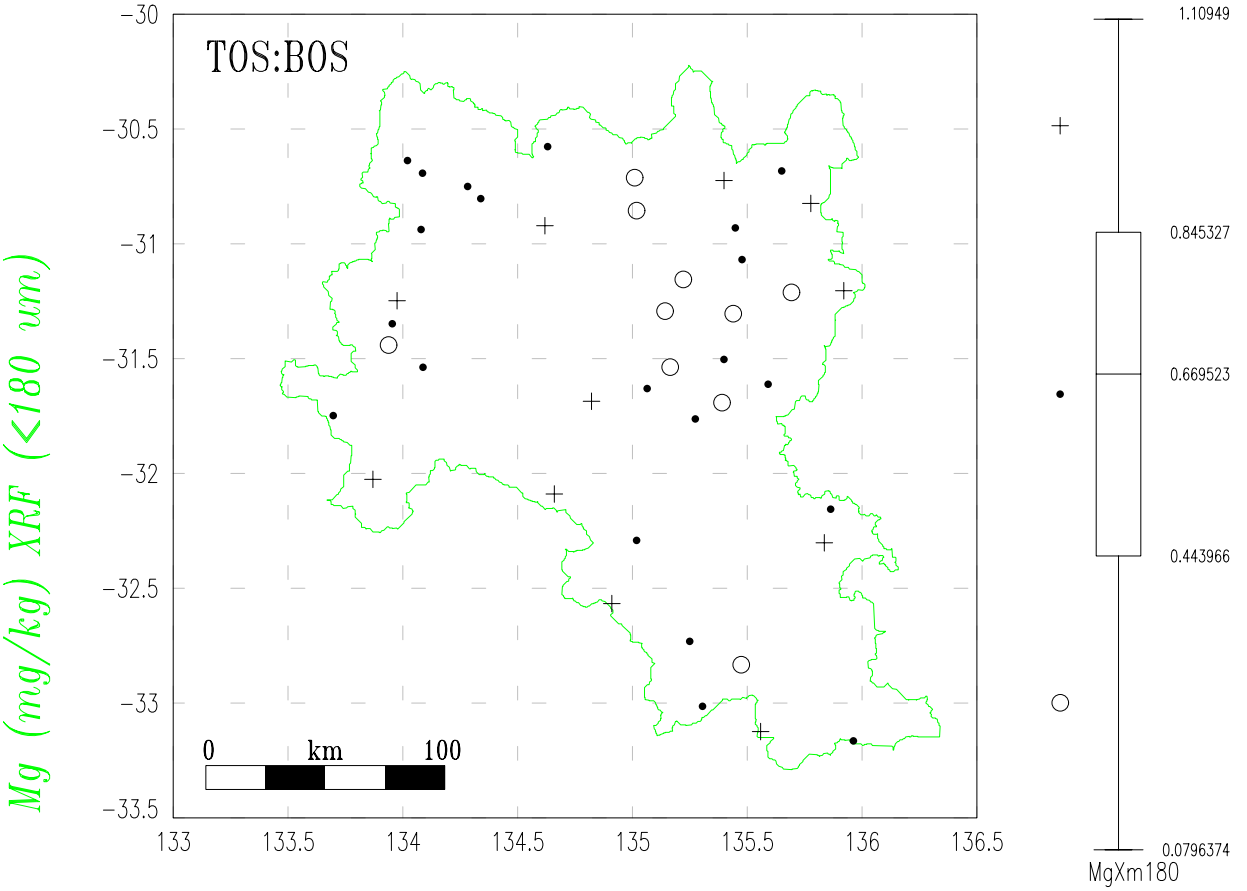
CAWLER GEOCHEMICAL SURVEY

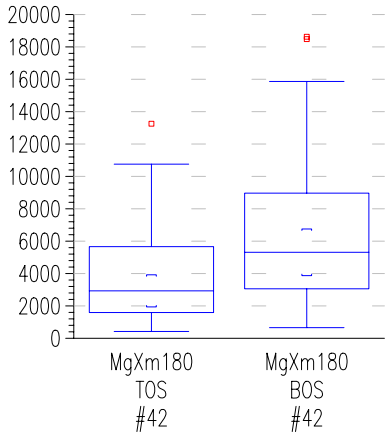
Top & Bottom Outlet Sediments (TOS & BOS)

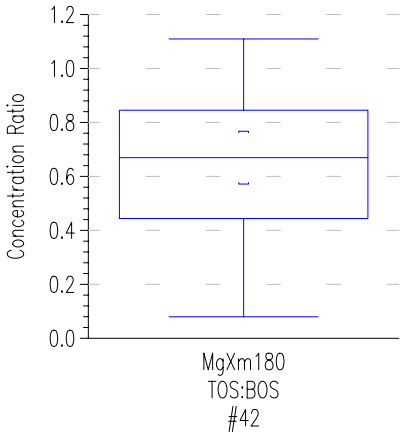


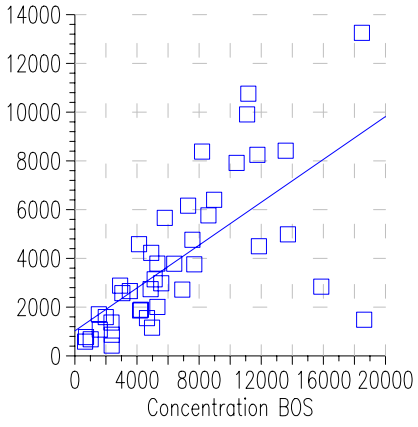
GAWLER GEOCHEMICAL SURVEY

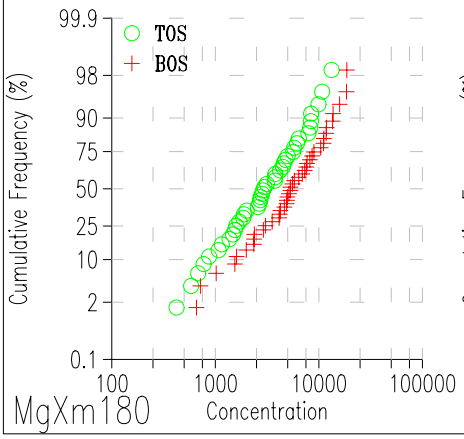
Top & Bottom Outlet Sediments (TOS & BOS)

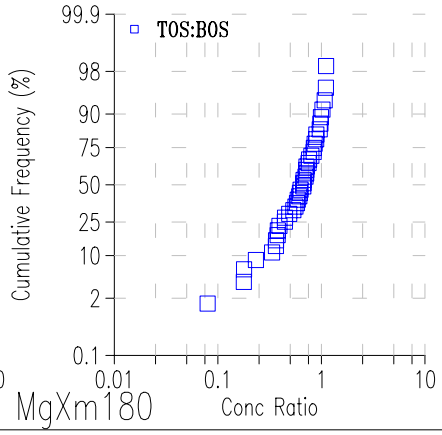


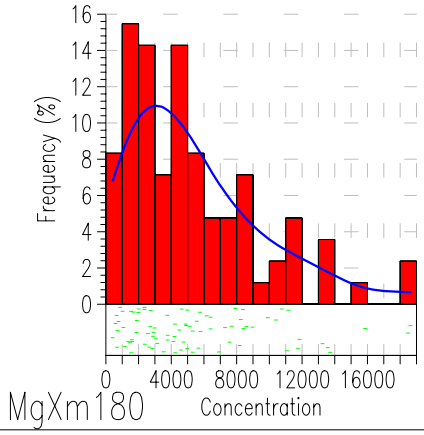






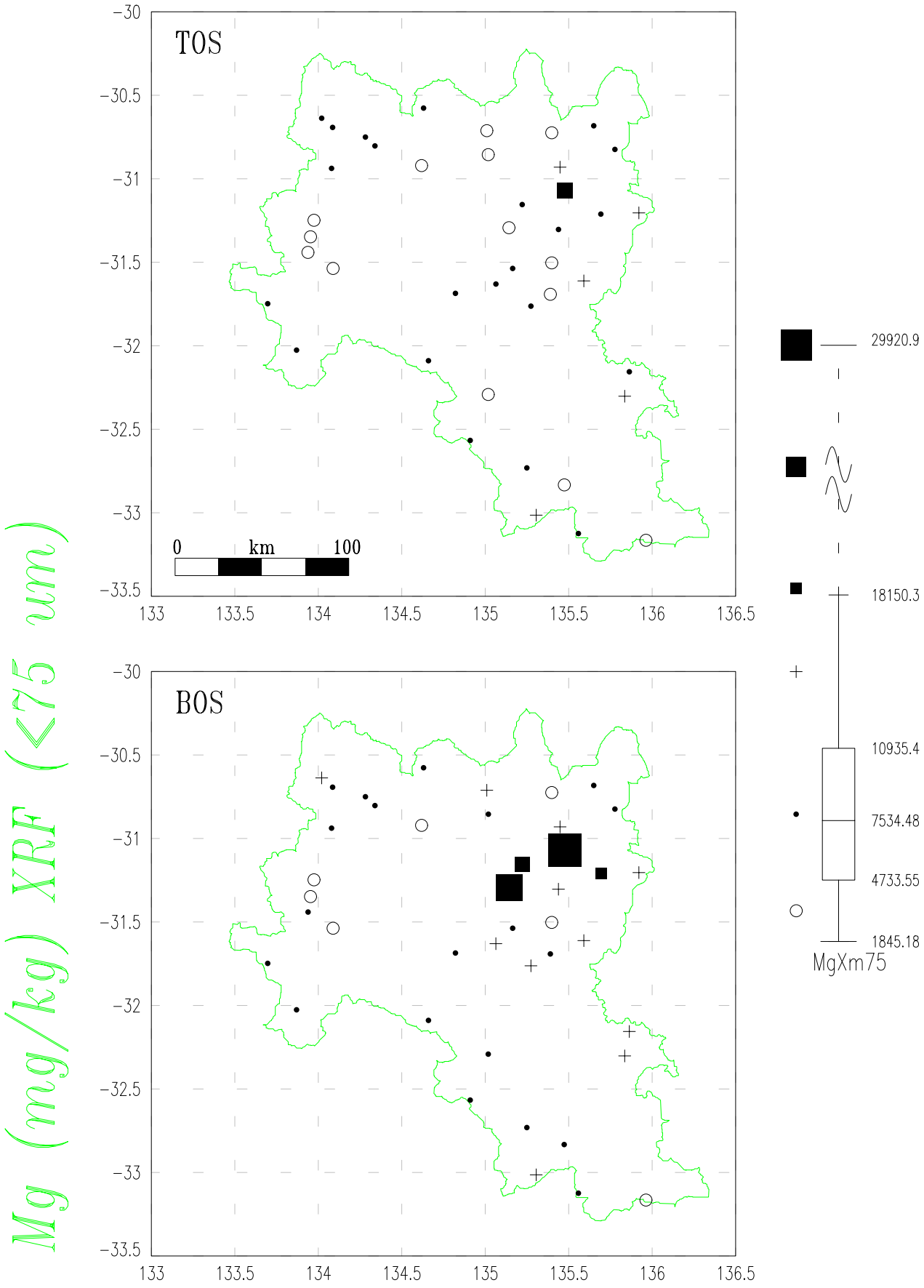






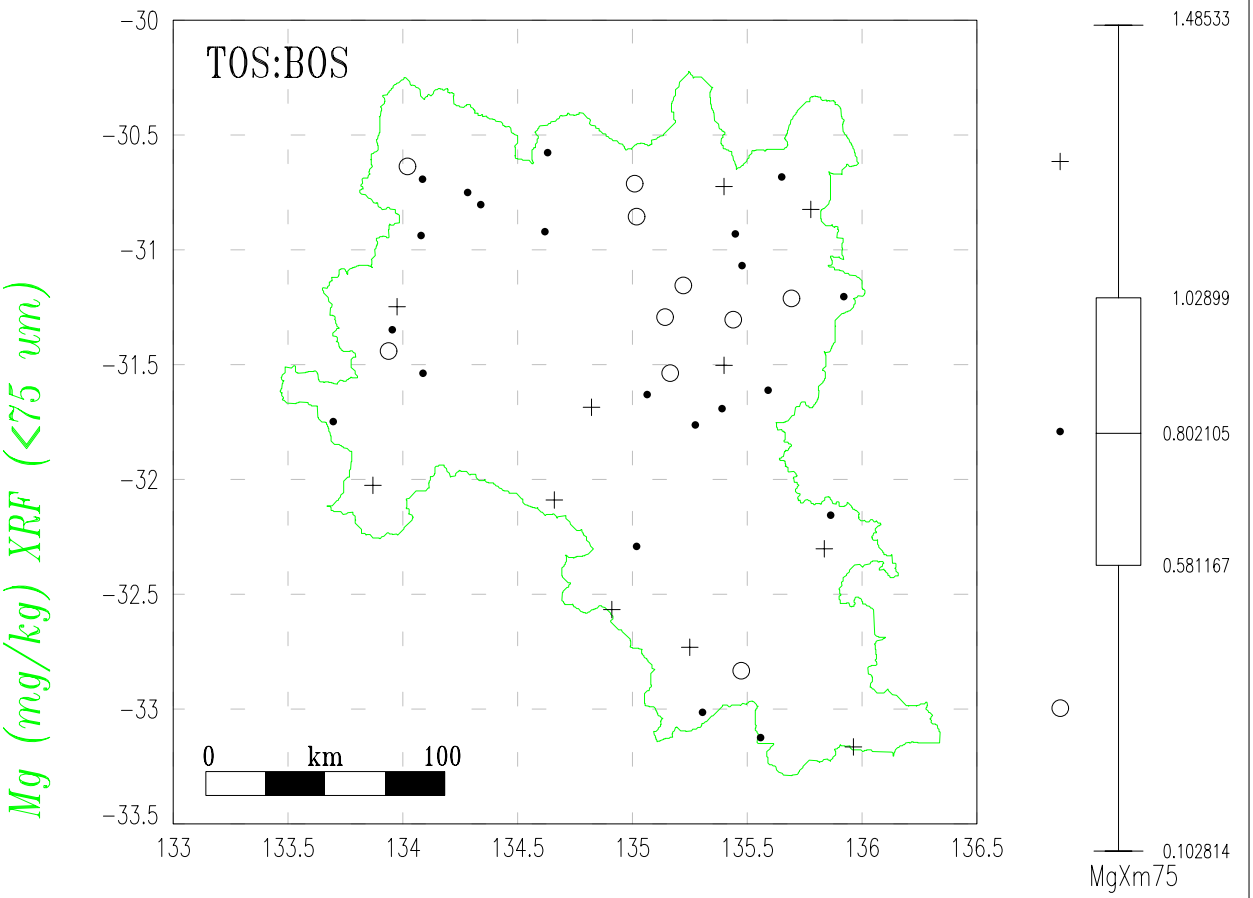
CAWLER GEOCHEMICAL SURVEY

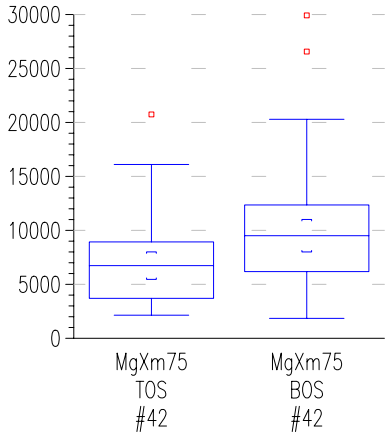
Top & Bottom Outlet Sediments (TOS & BOS)

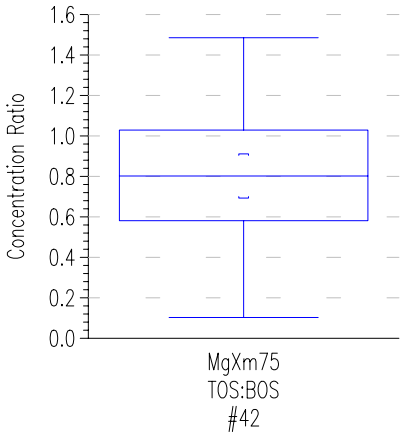


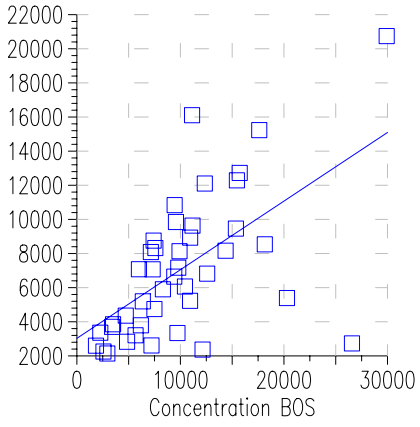
Mg (mg/kg) XRF (<75 um)

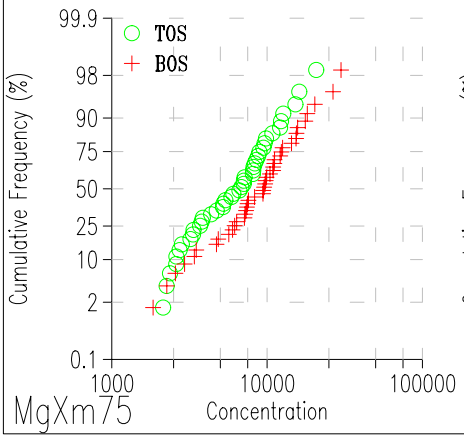
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

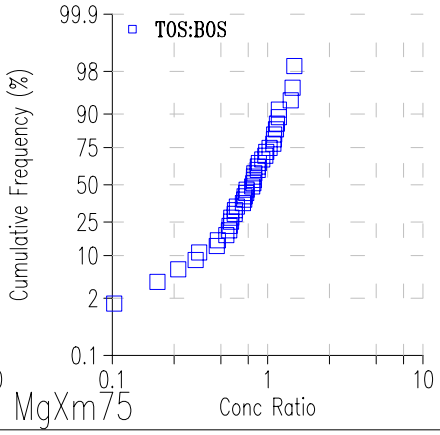


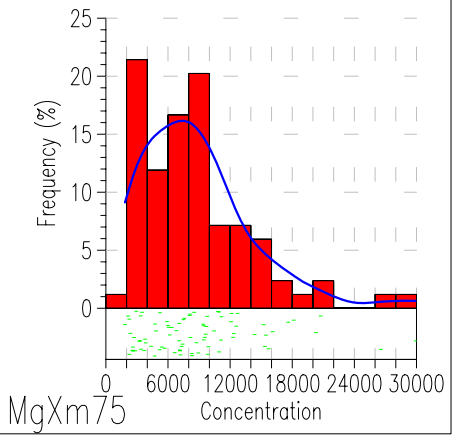






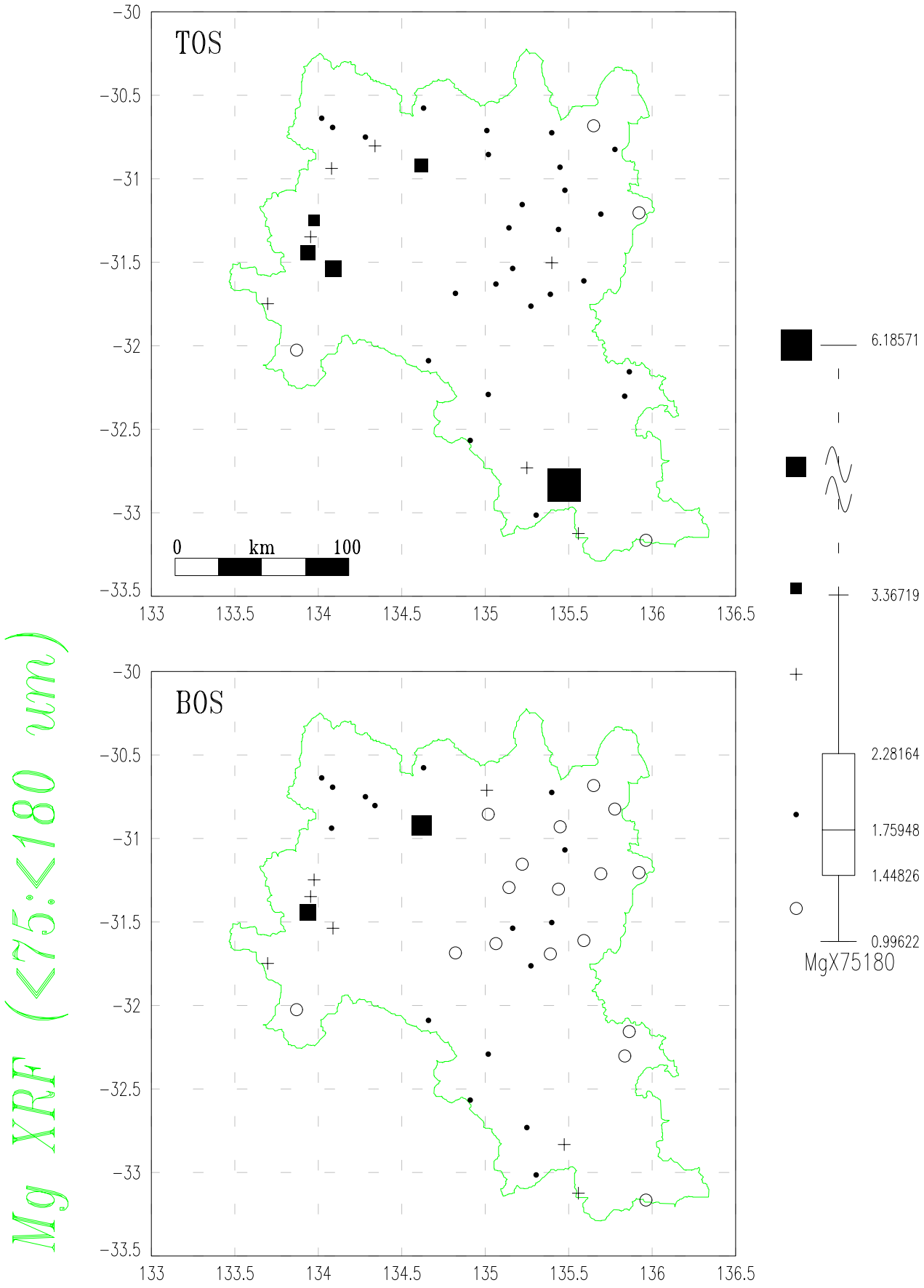




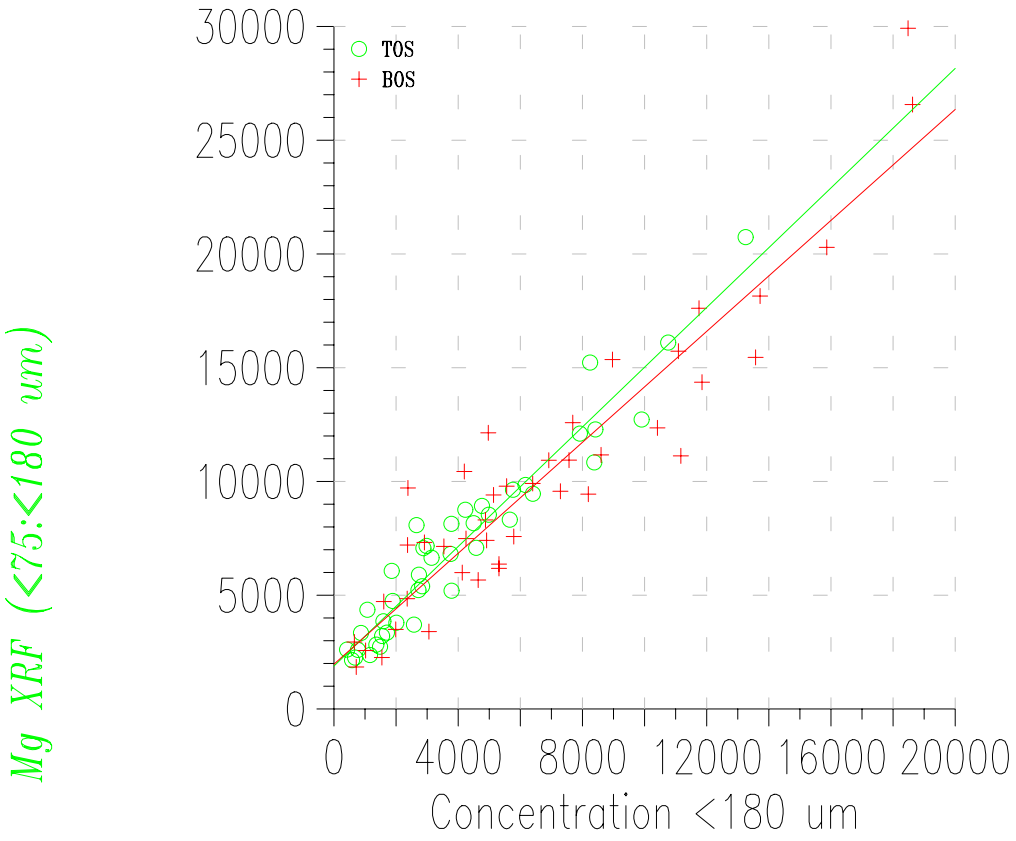


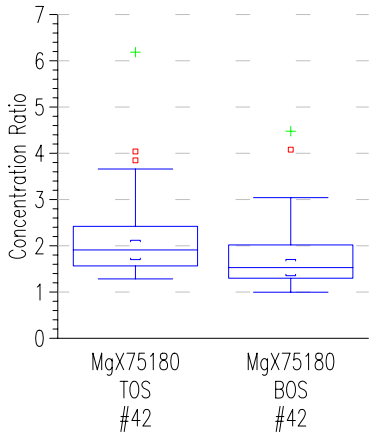
CAWLER GEOCHEMICAL SURVEY

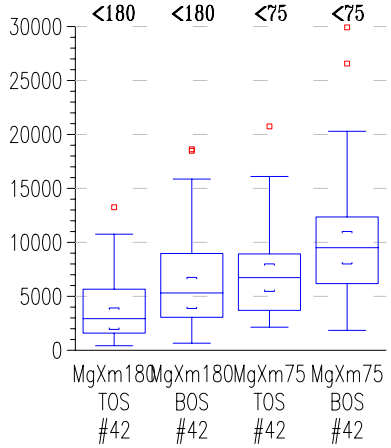
Top & Bottom Outlet Sediments (TOS & BOS)

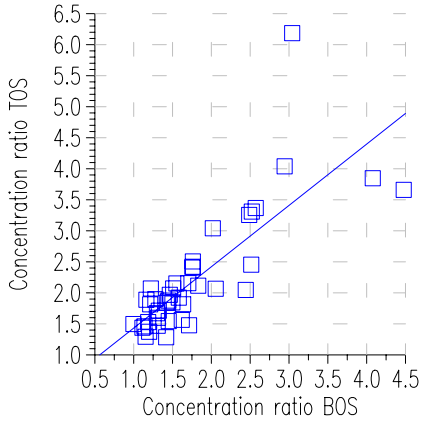


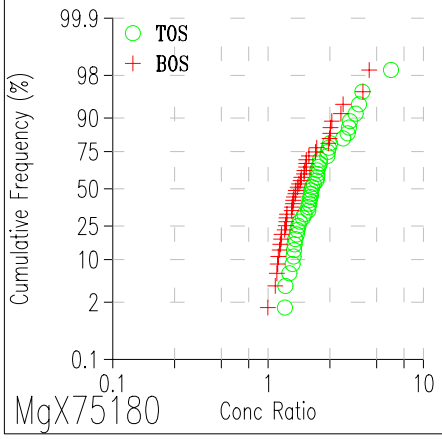
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

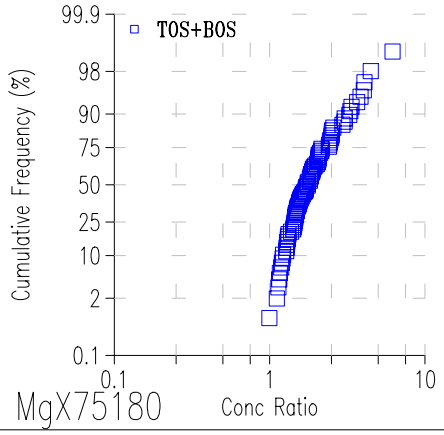


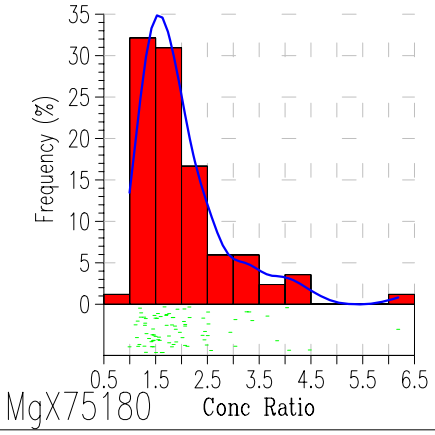




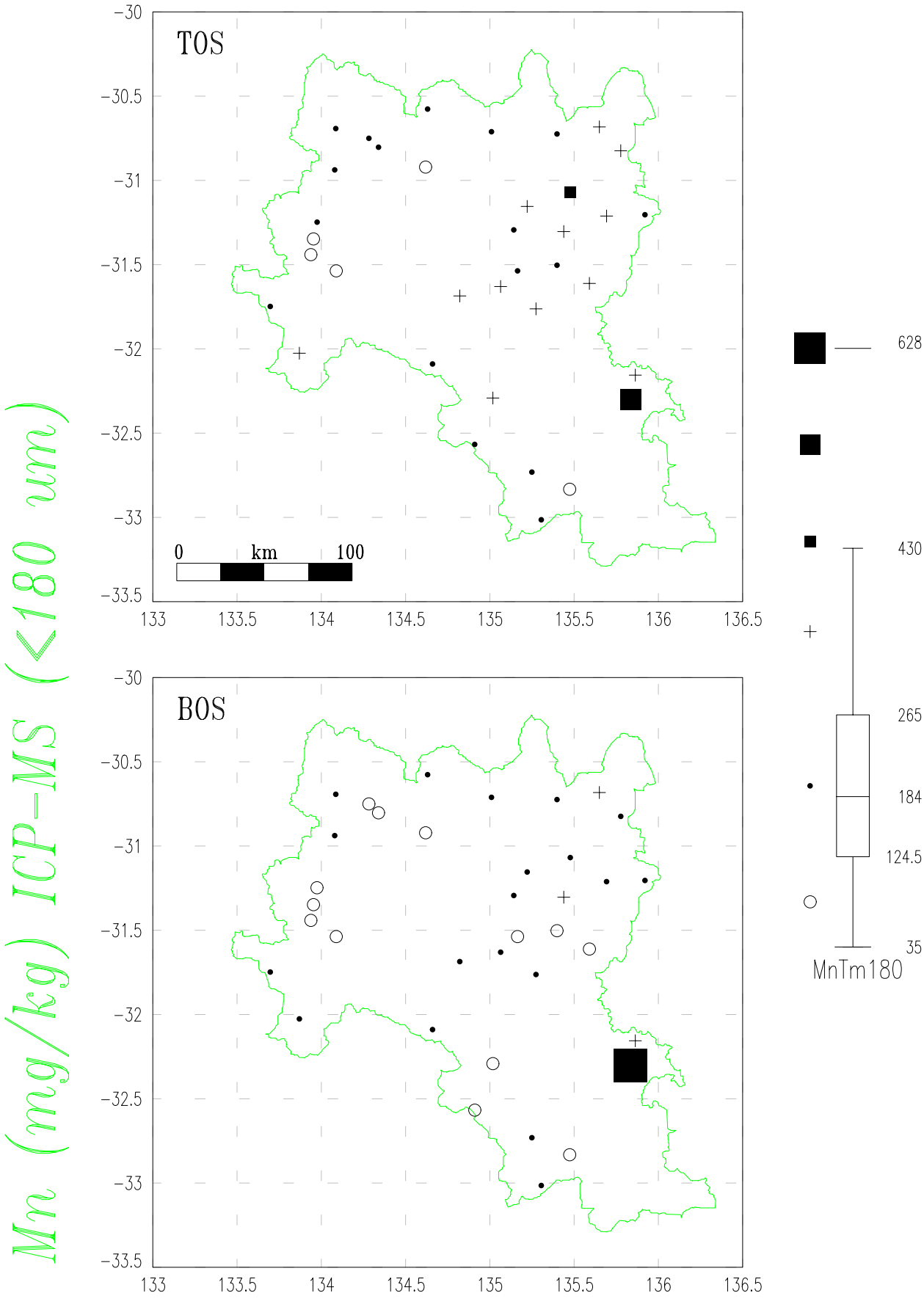




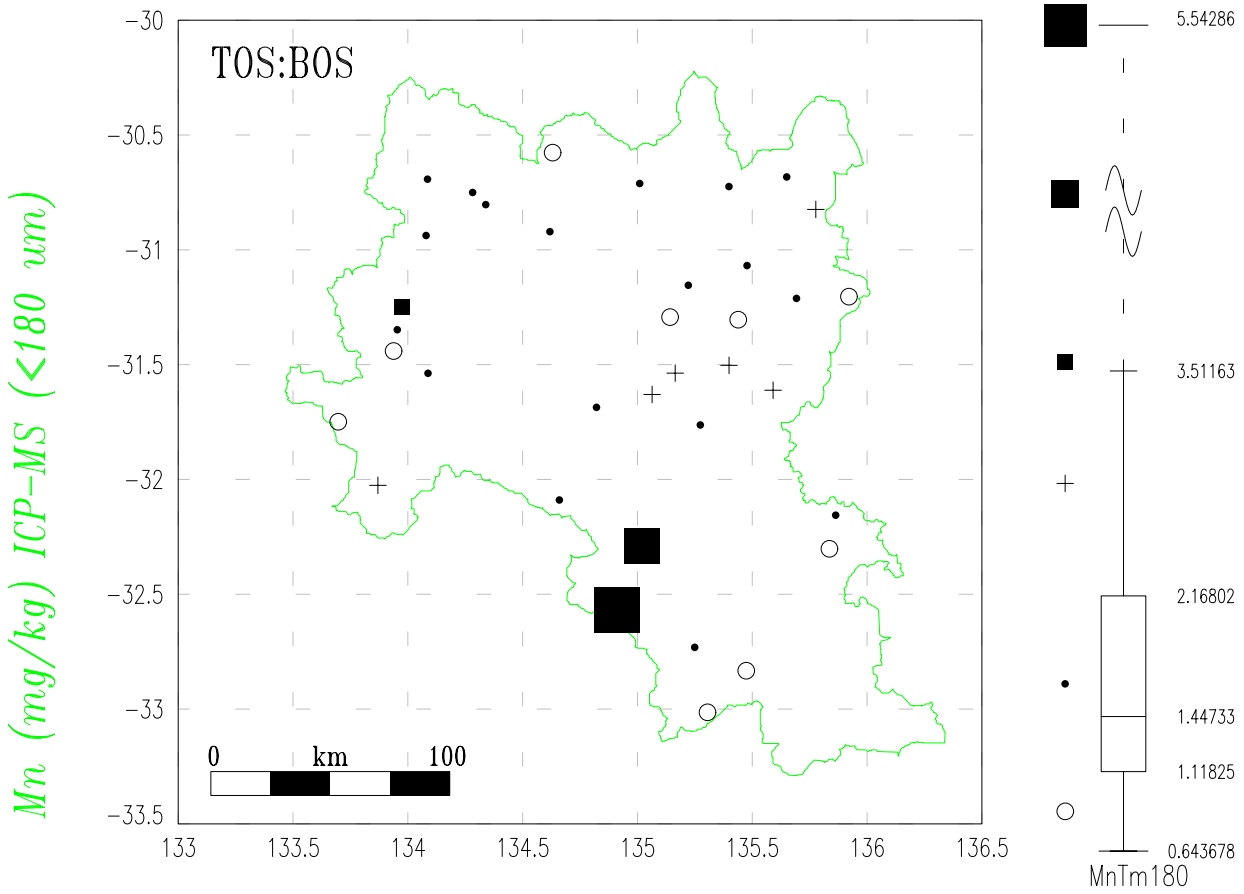


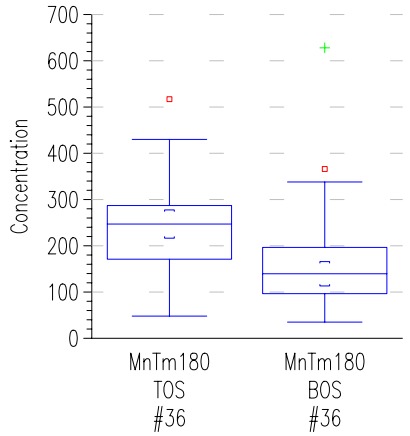


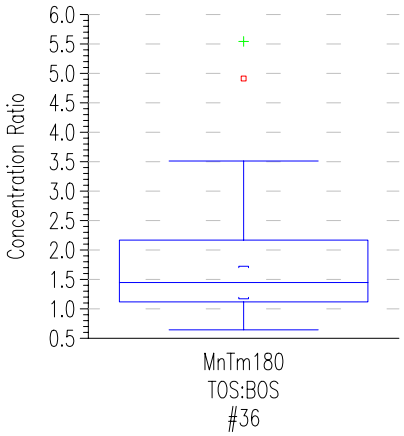
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

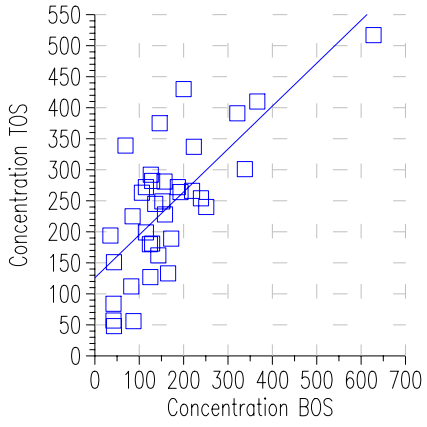


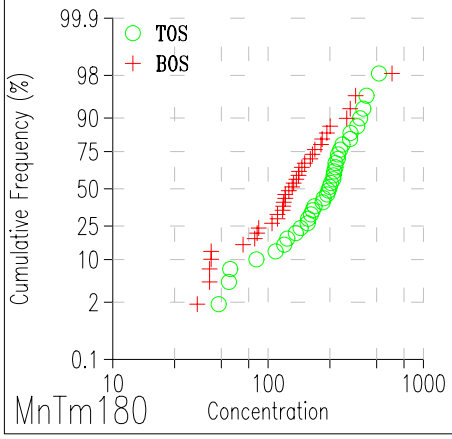
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

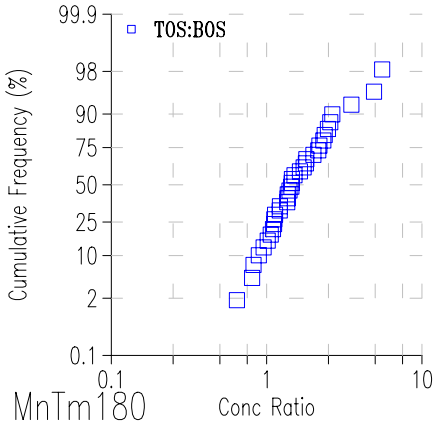


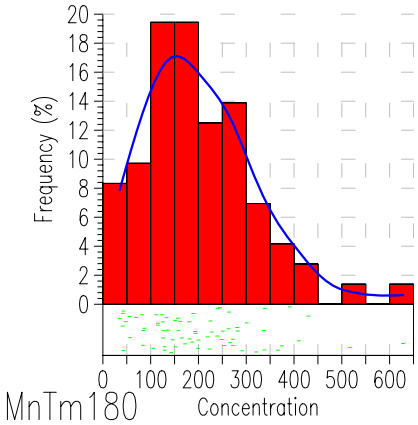




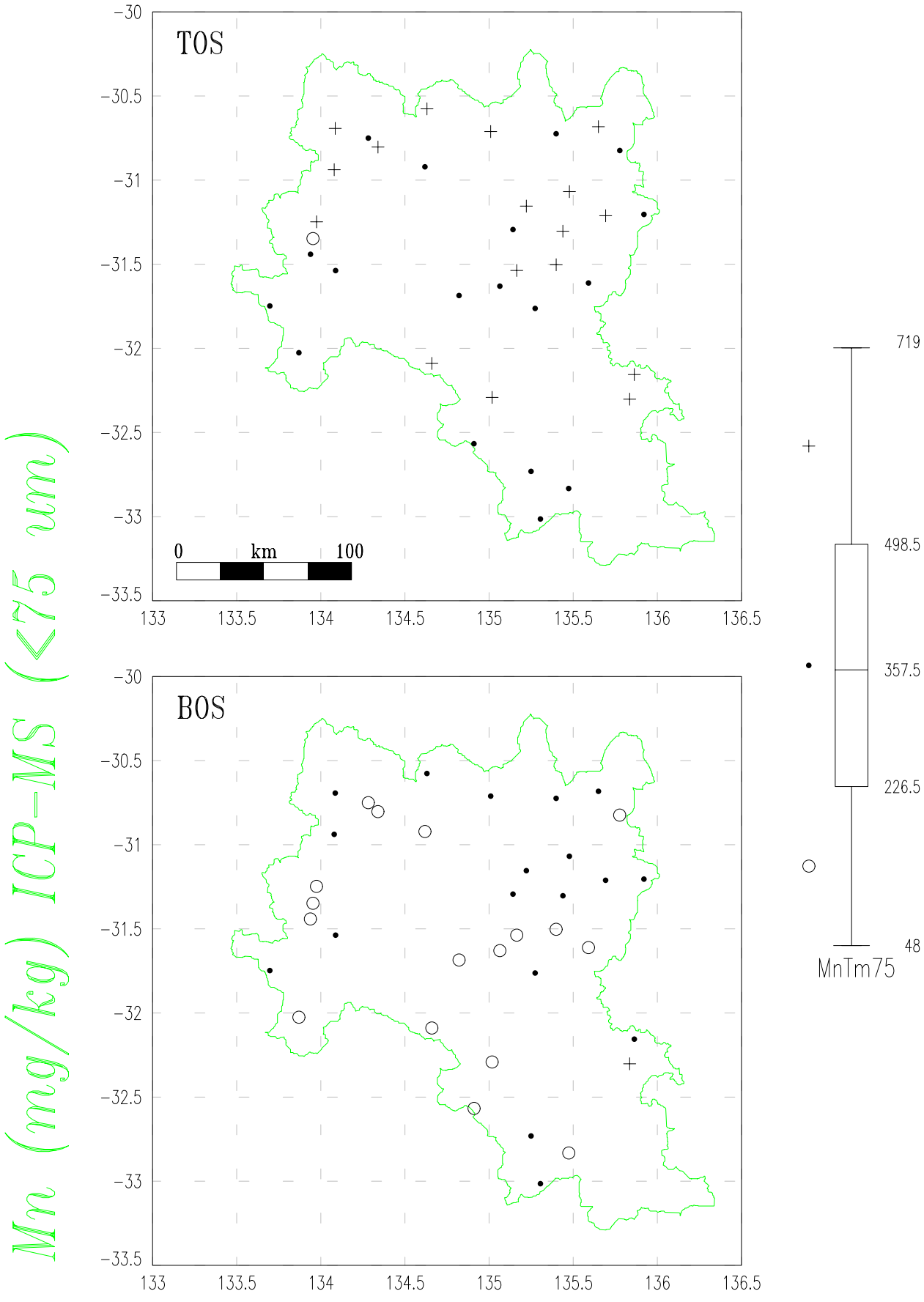






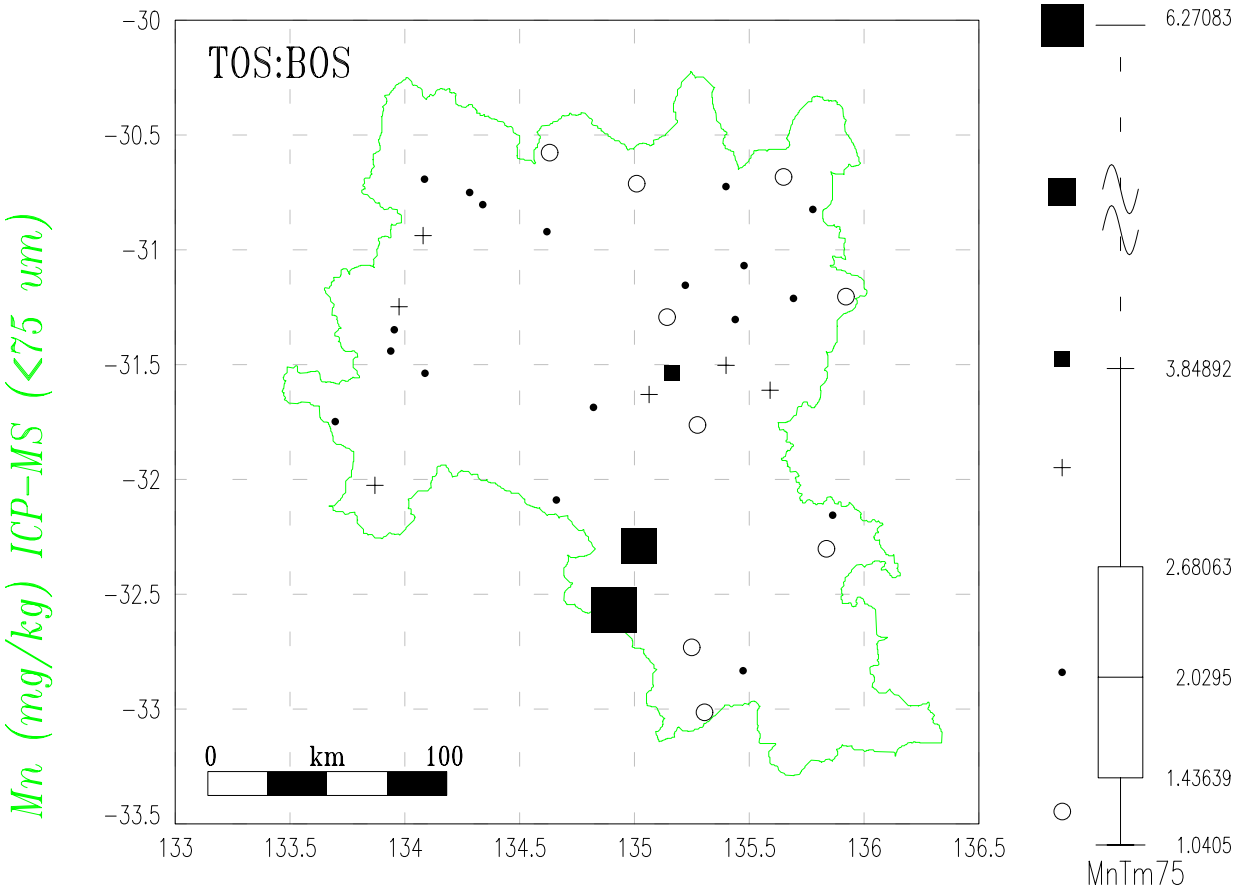


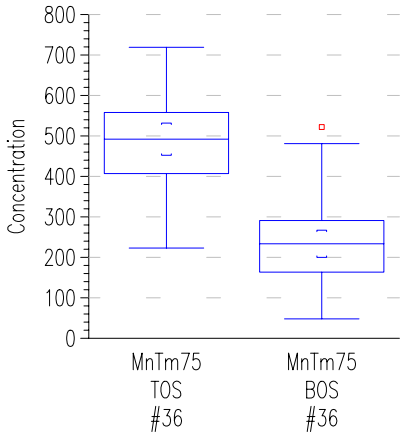
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

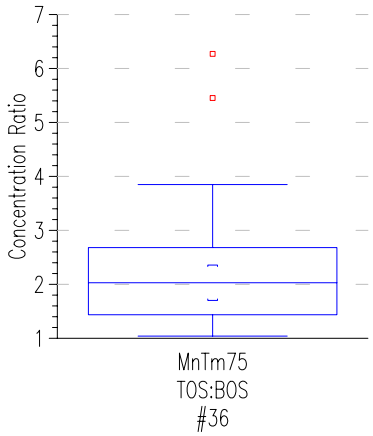


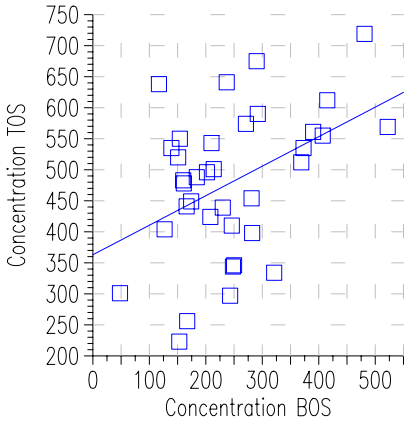
CAWLER GEOCHEMICAL SURVEY

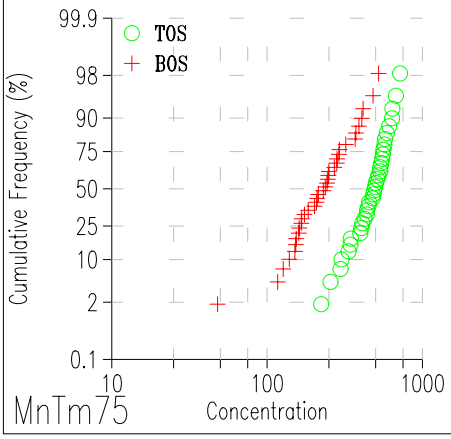
Top & Bottom Outlet Sediments (TOS & BOS)

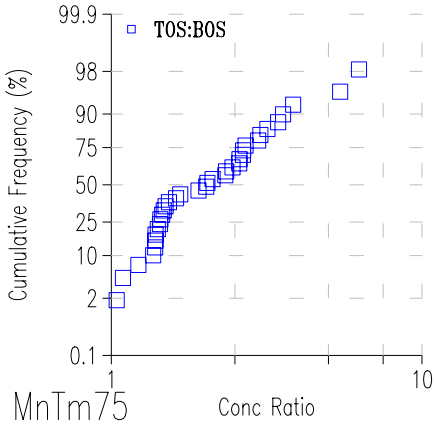


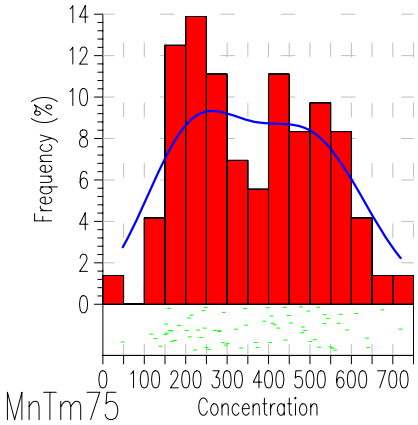




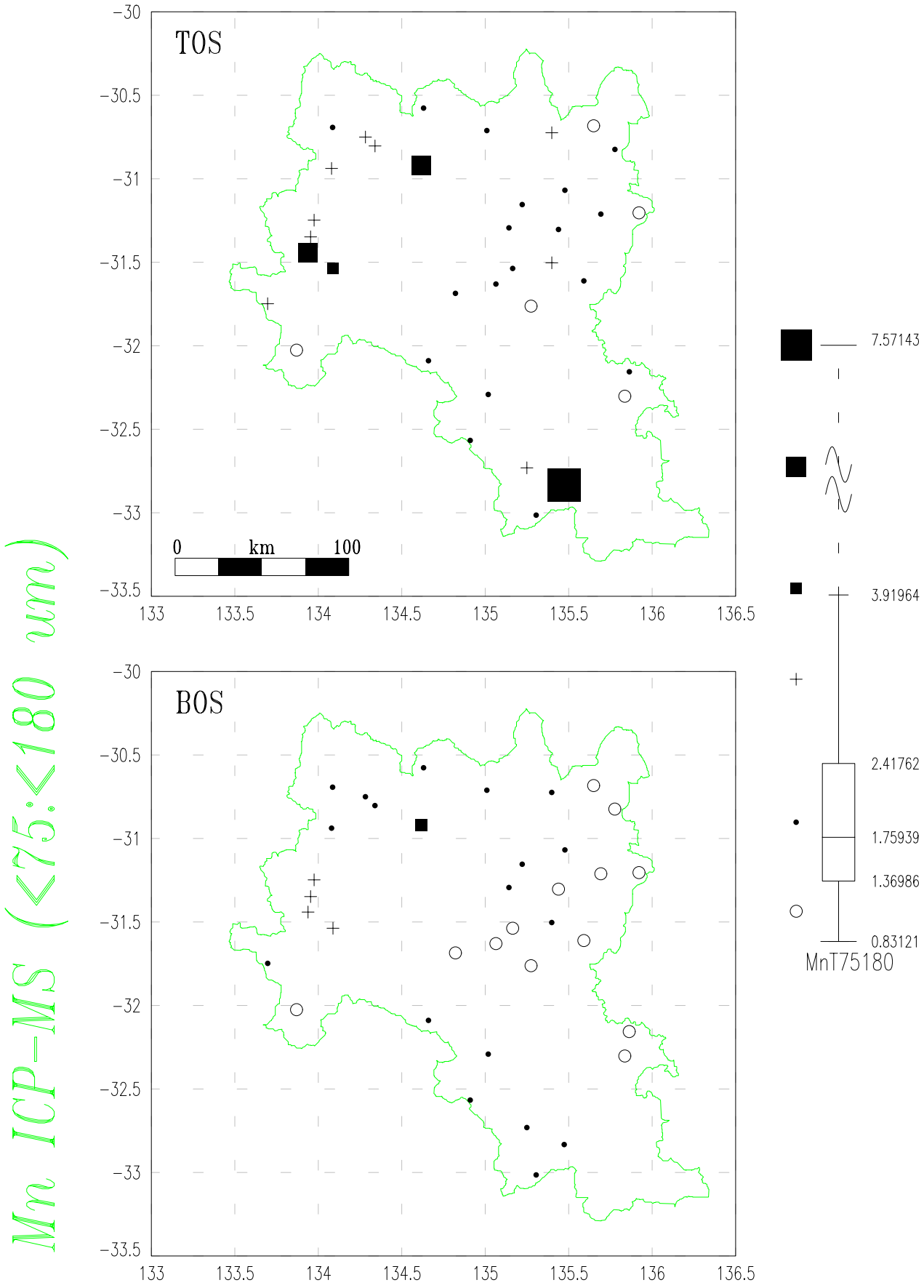




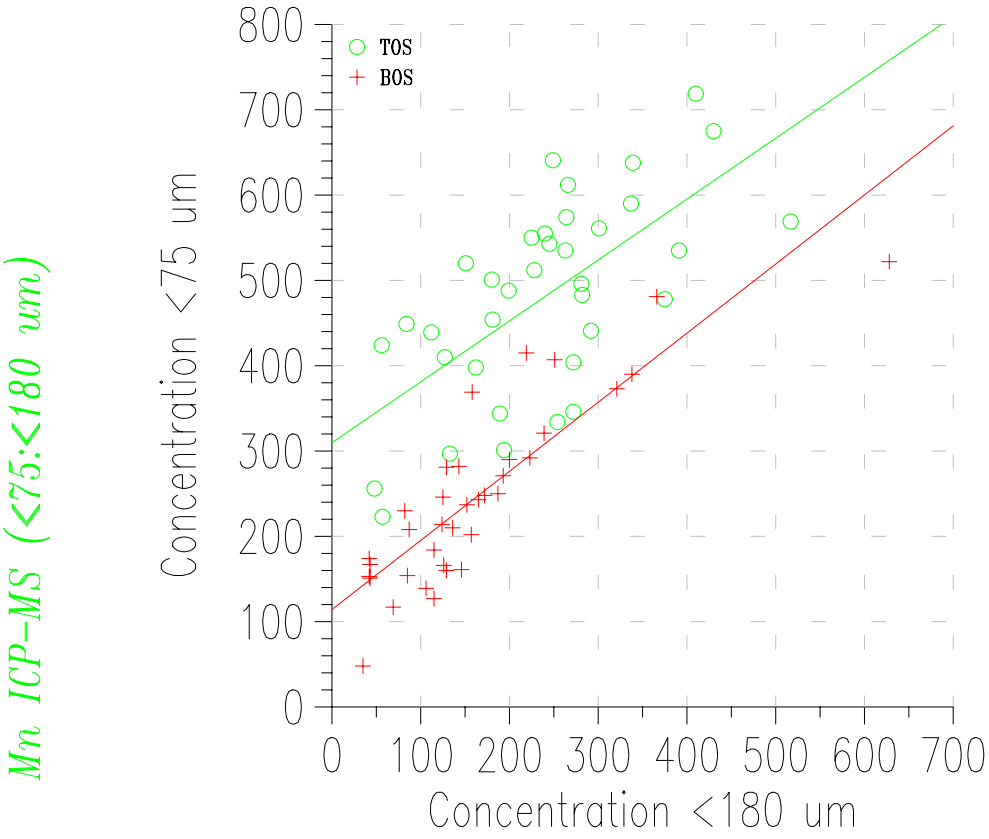


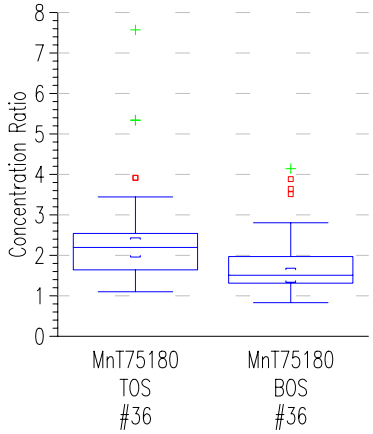


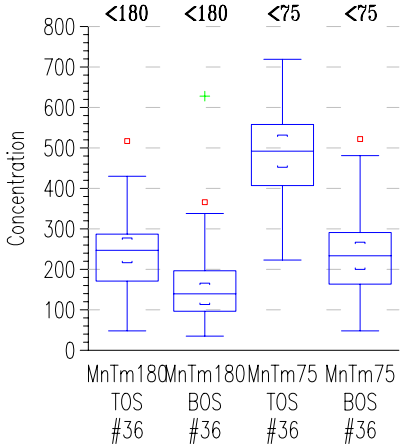
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

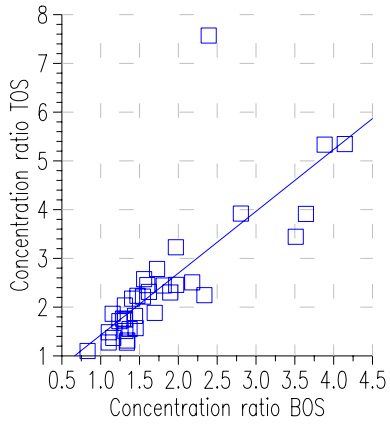


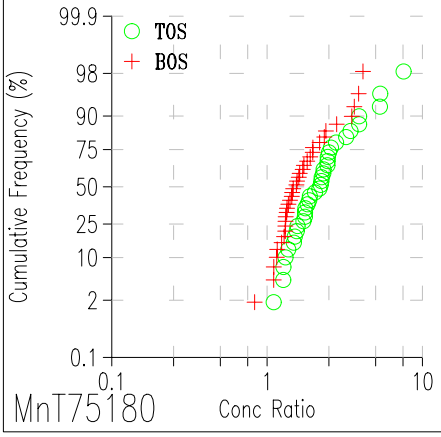
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

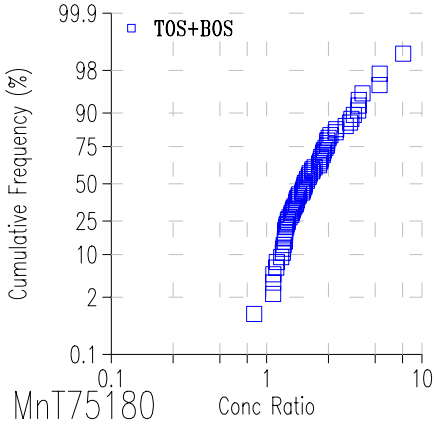


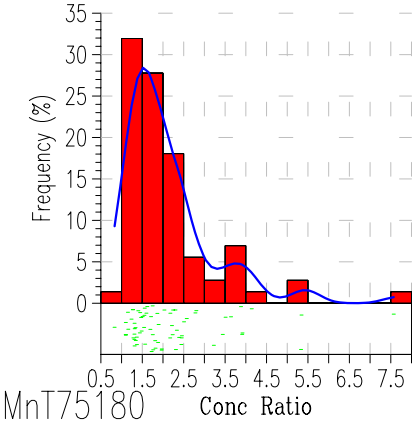






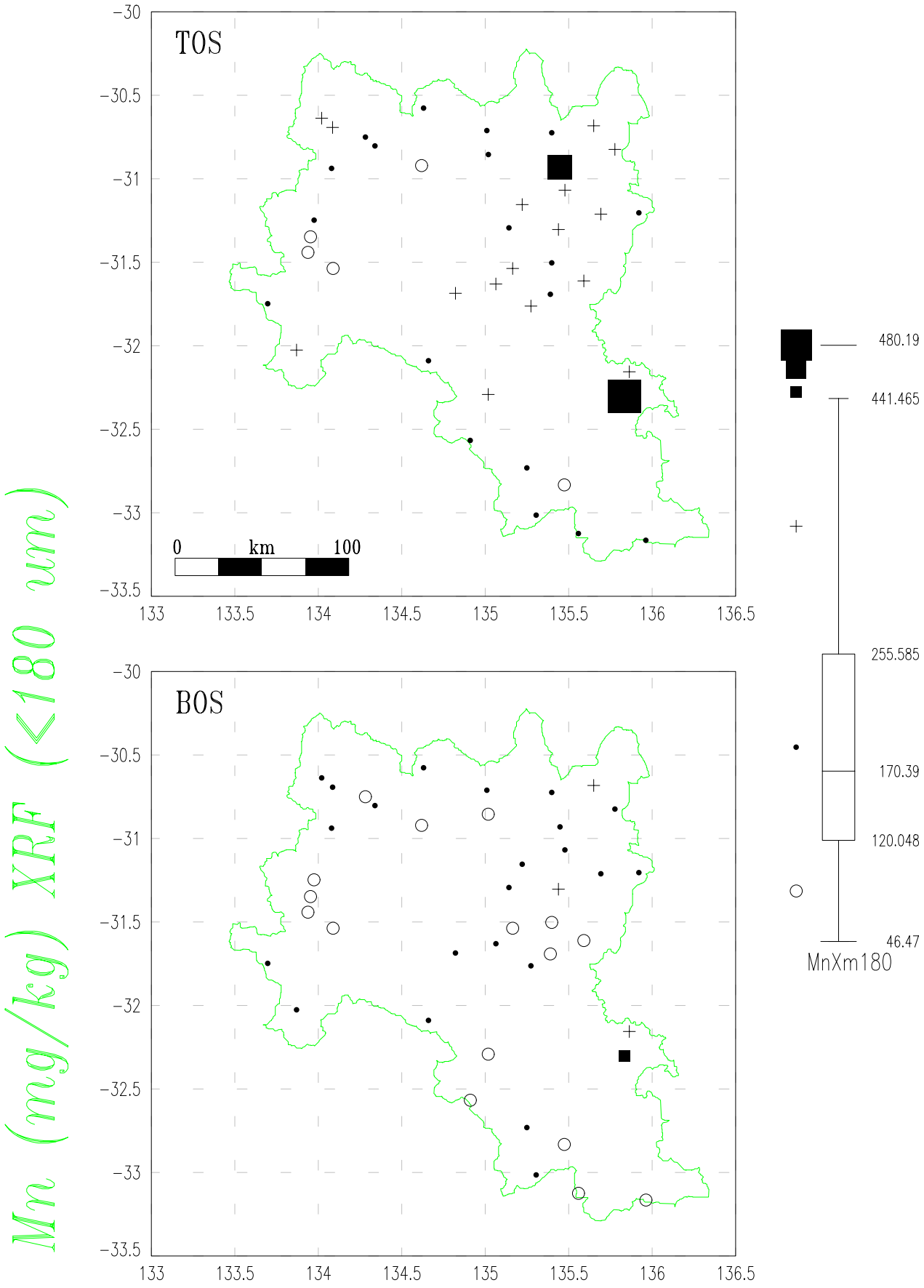




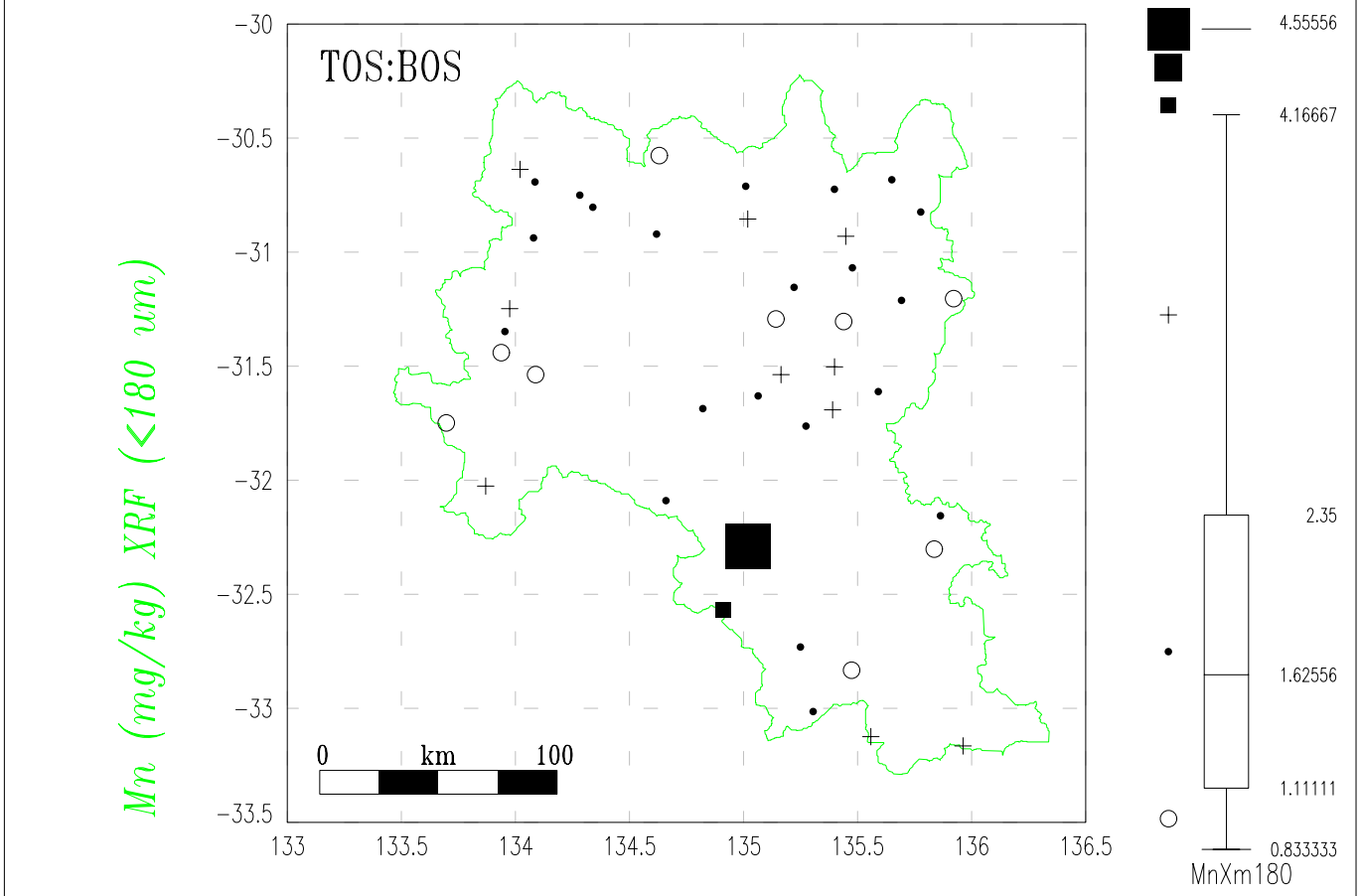


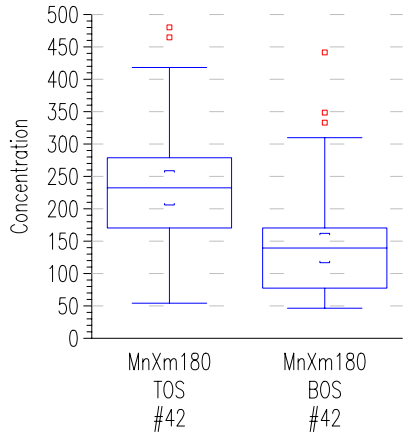
CAWLER GEOCHEMICAL SURVEY

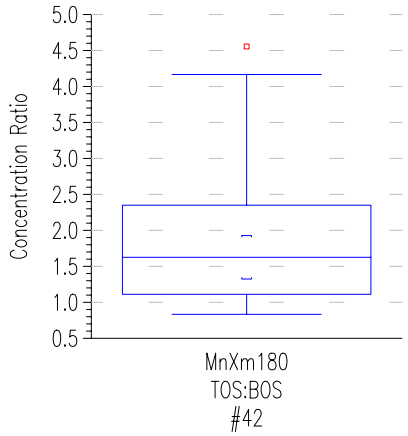
Top & Bottom Outlet Sediments (TOS & BOS)

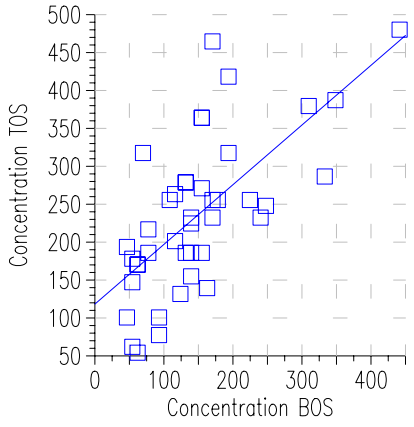


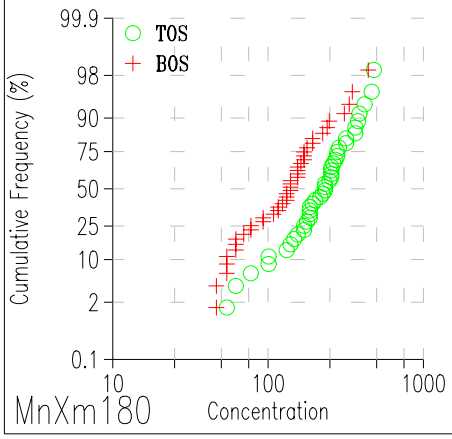
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

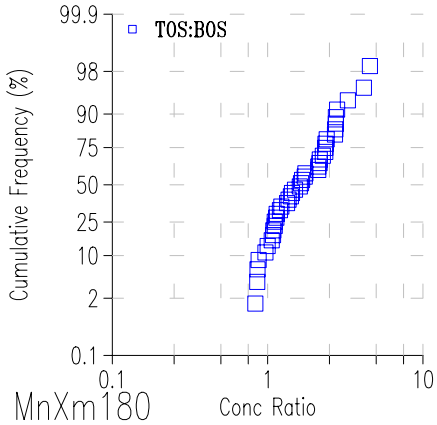


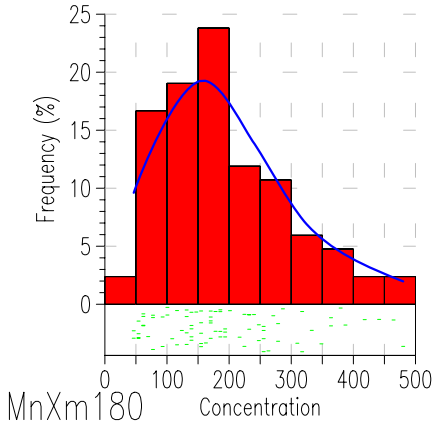






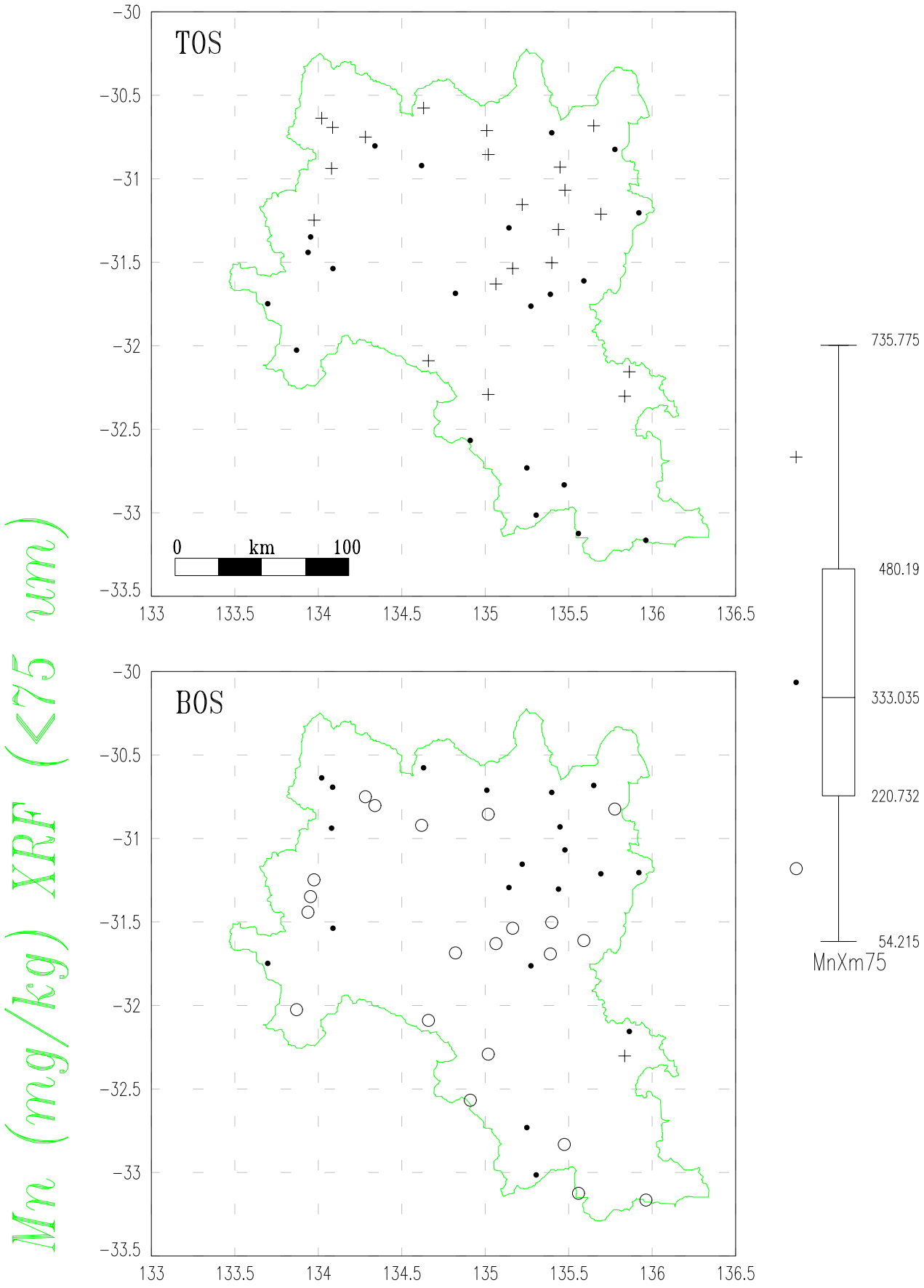




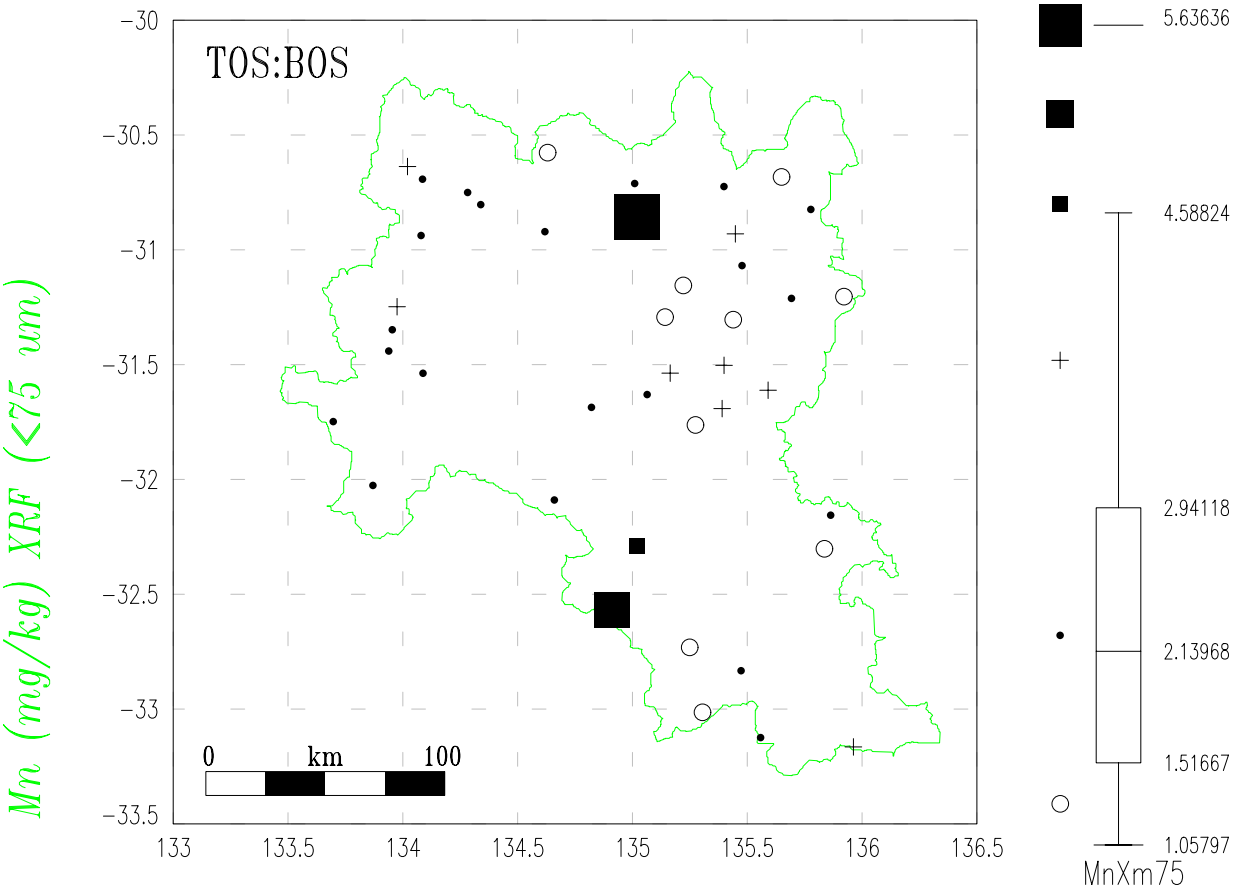


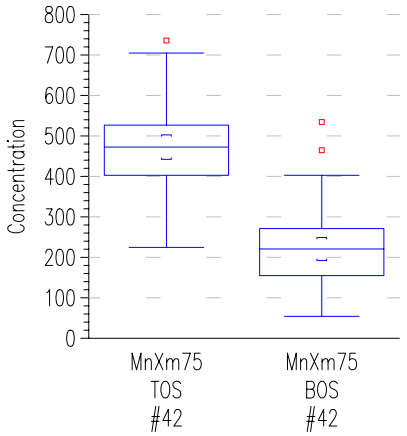
CAWLER GEOCHEMICAL SURVEY

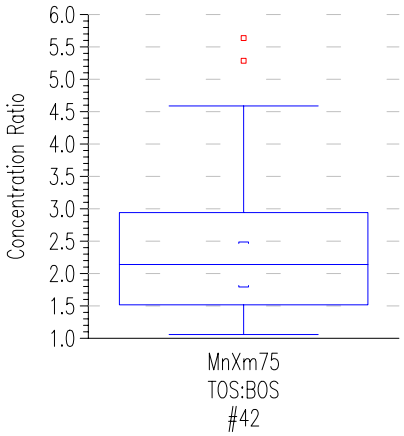
Top & Bottom Outlet Sediments (TOS & BOS)

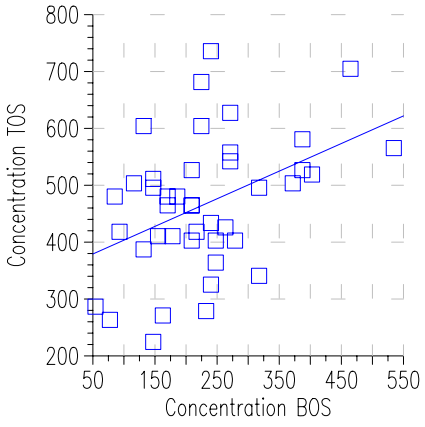


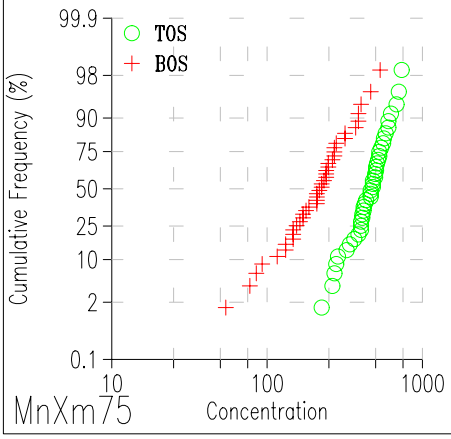
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

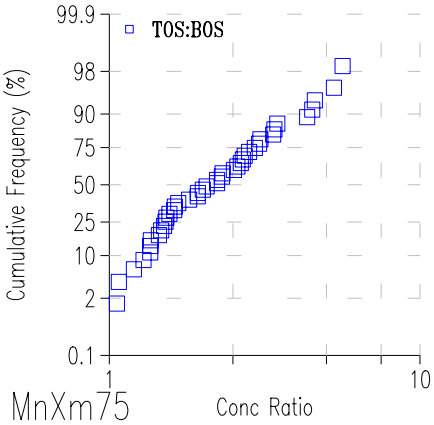


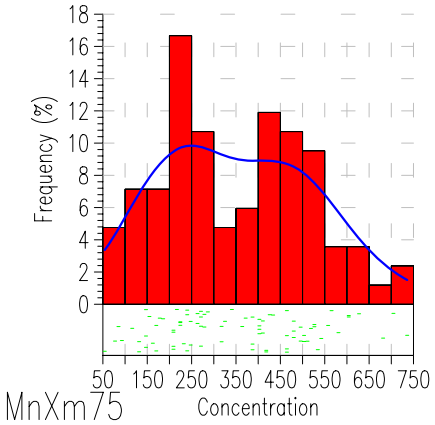






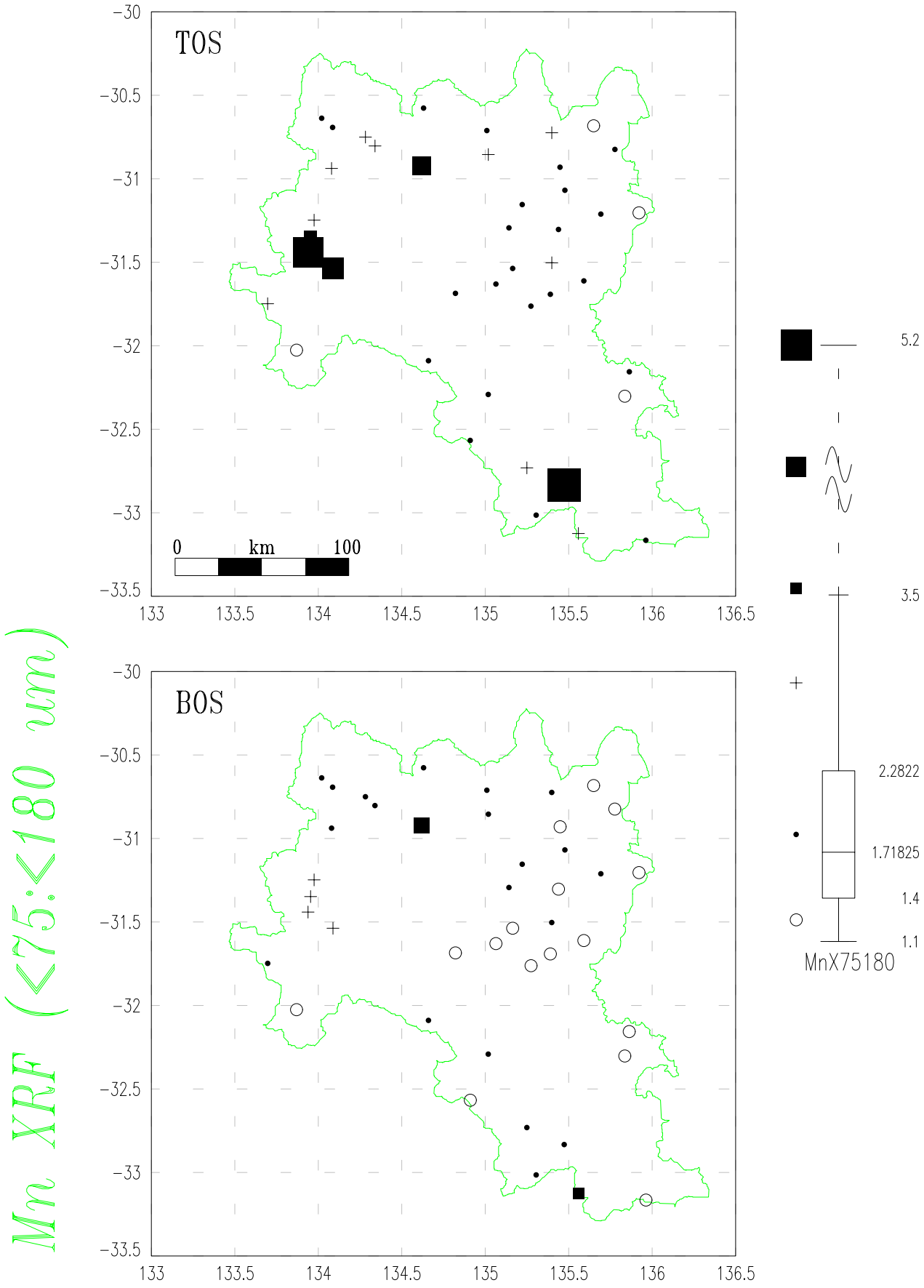






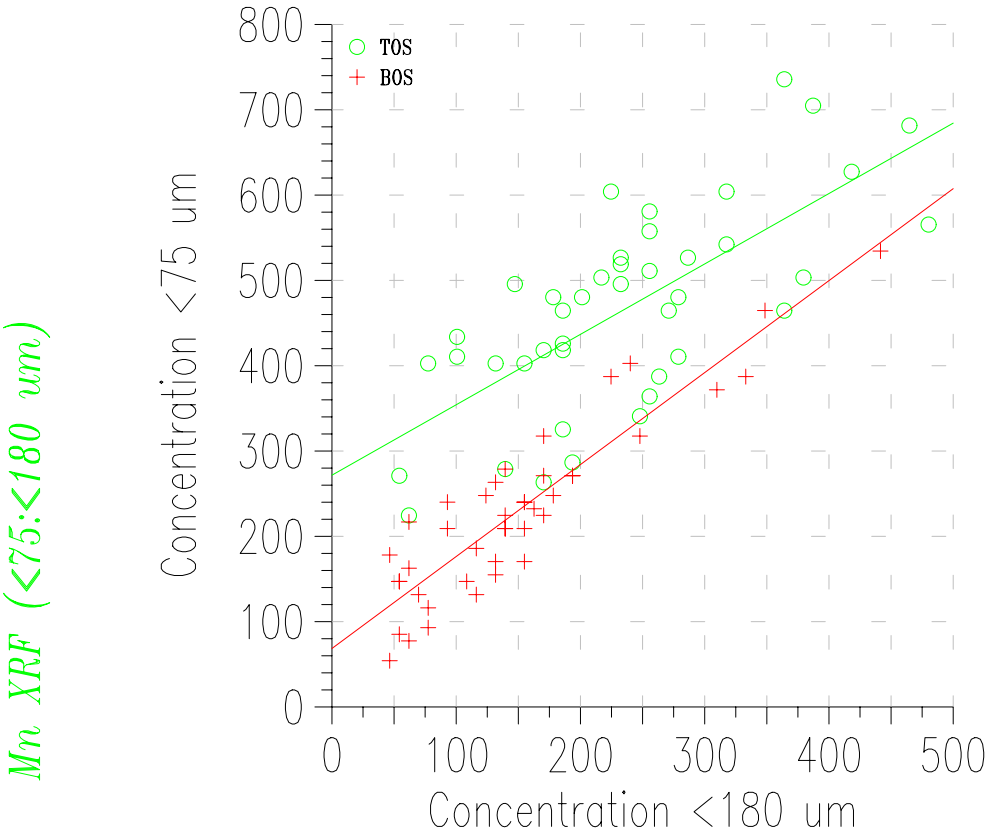
CAWLER GEOCHEMICAL SURVEY

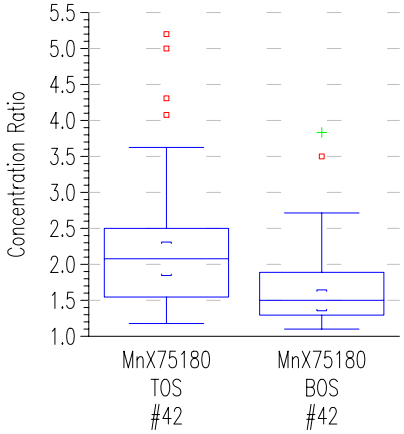
Top & Bottom Outlet Sediments (TOS & BOS)

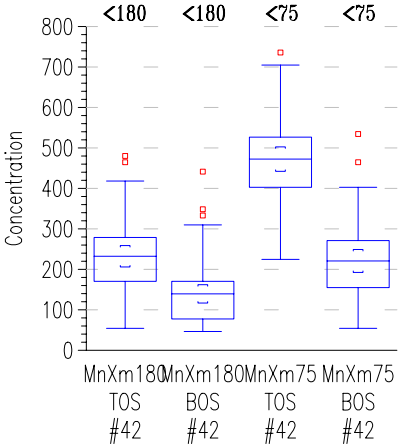


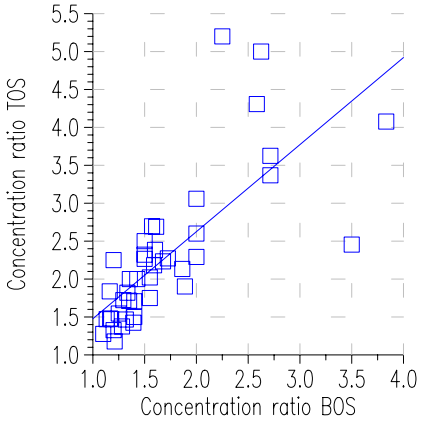
Mn XRF (<75:<180 um)

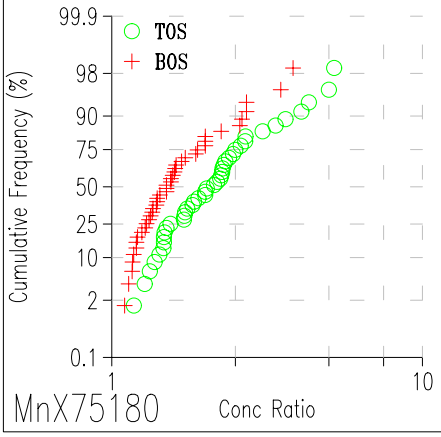
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

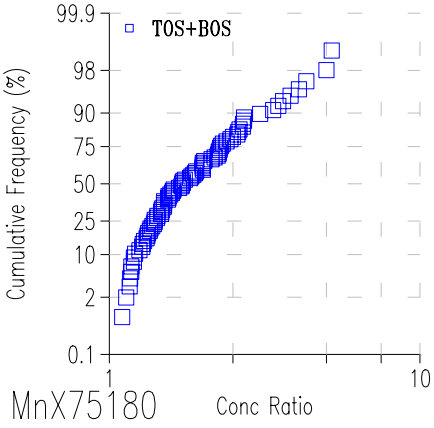


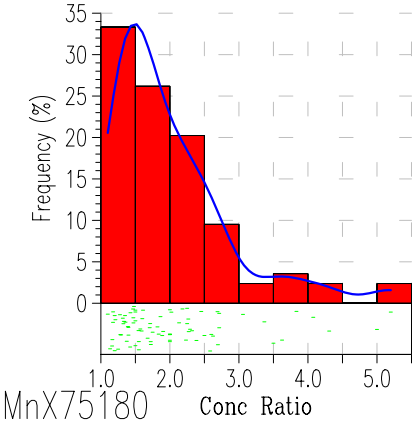








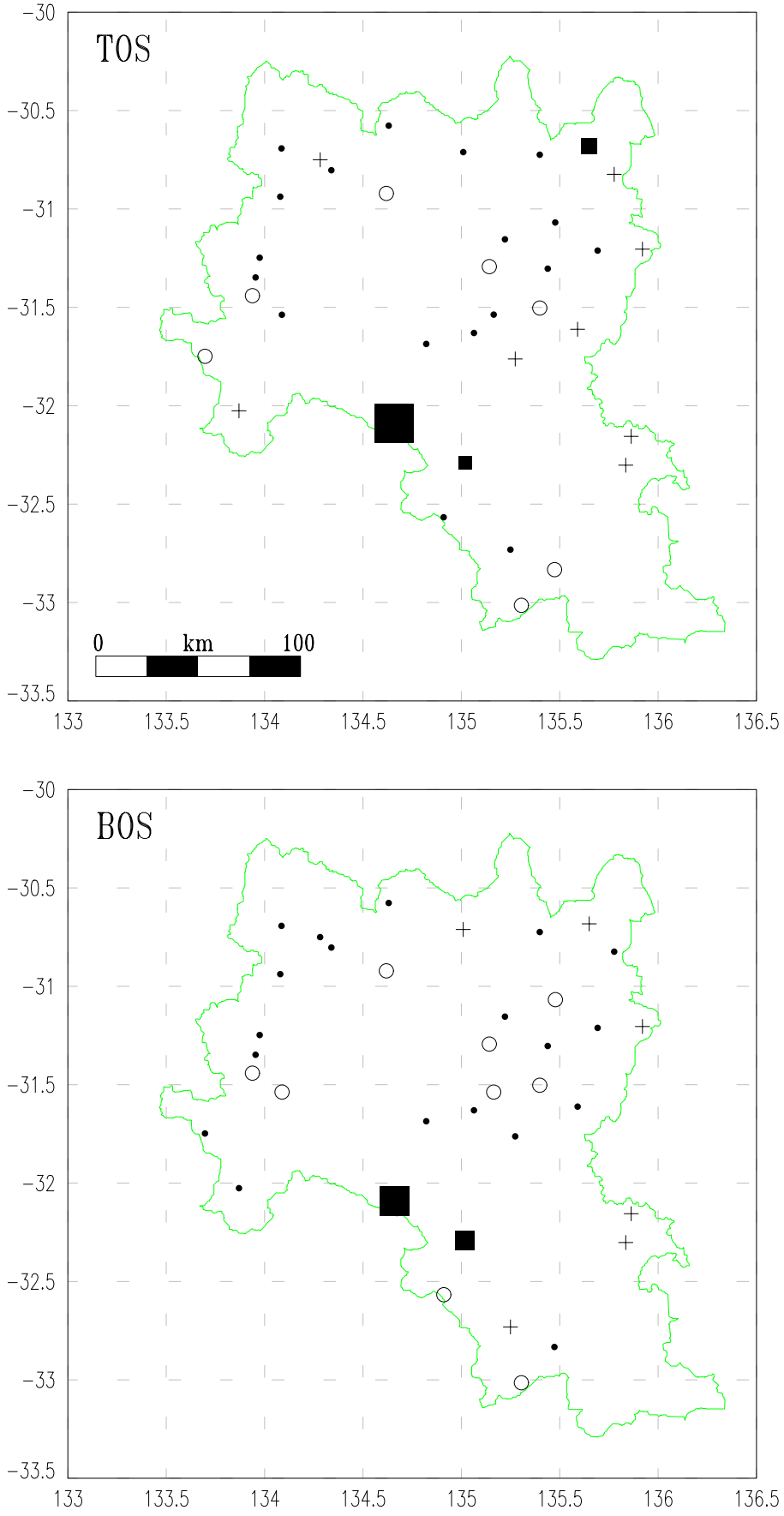




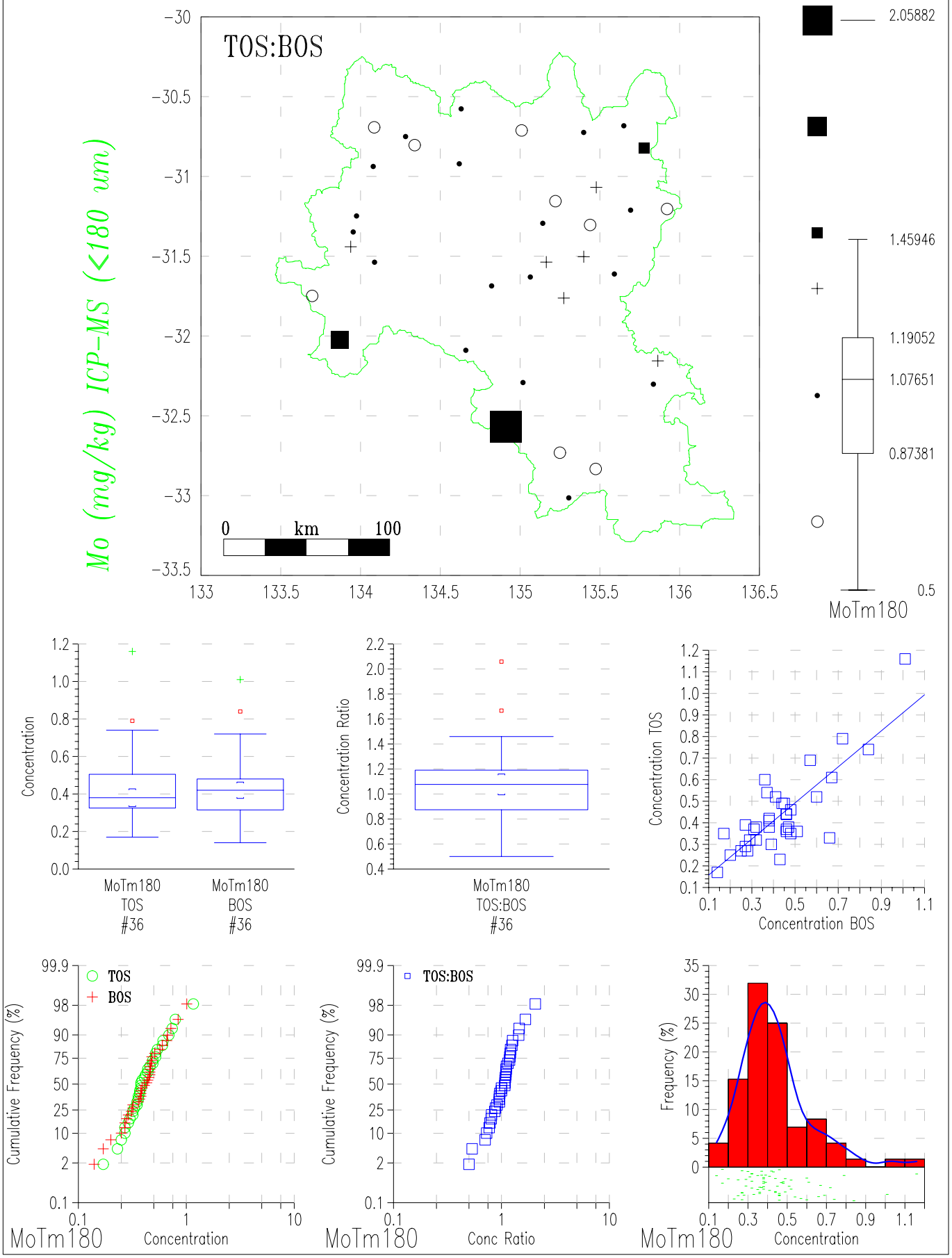
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

Mo (mg/kg) ICP-MS (<180 um)

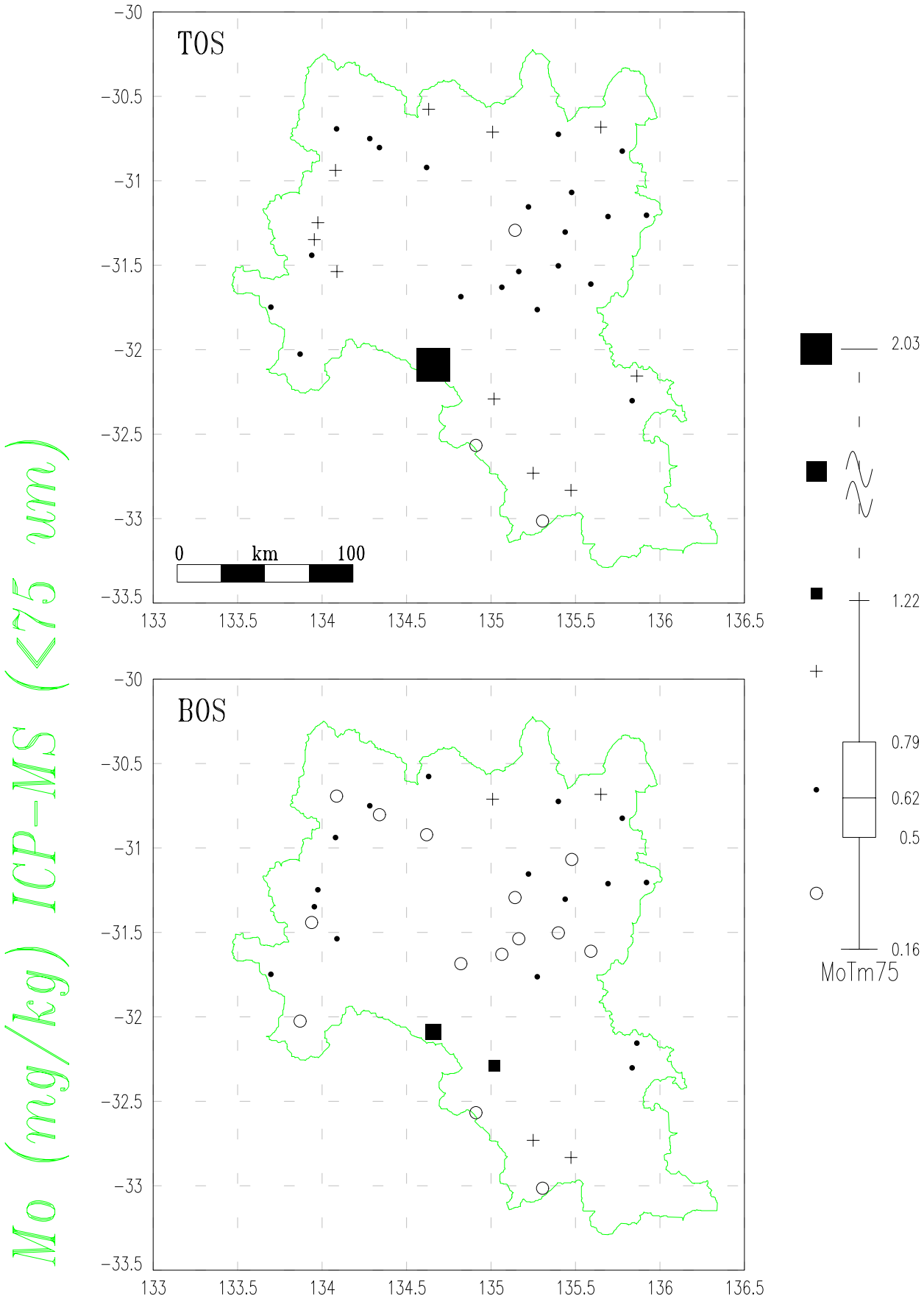


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

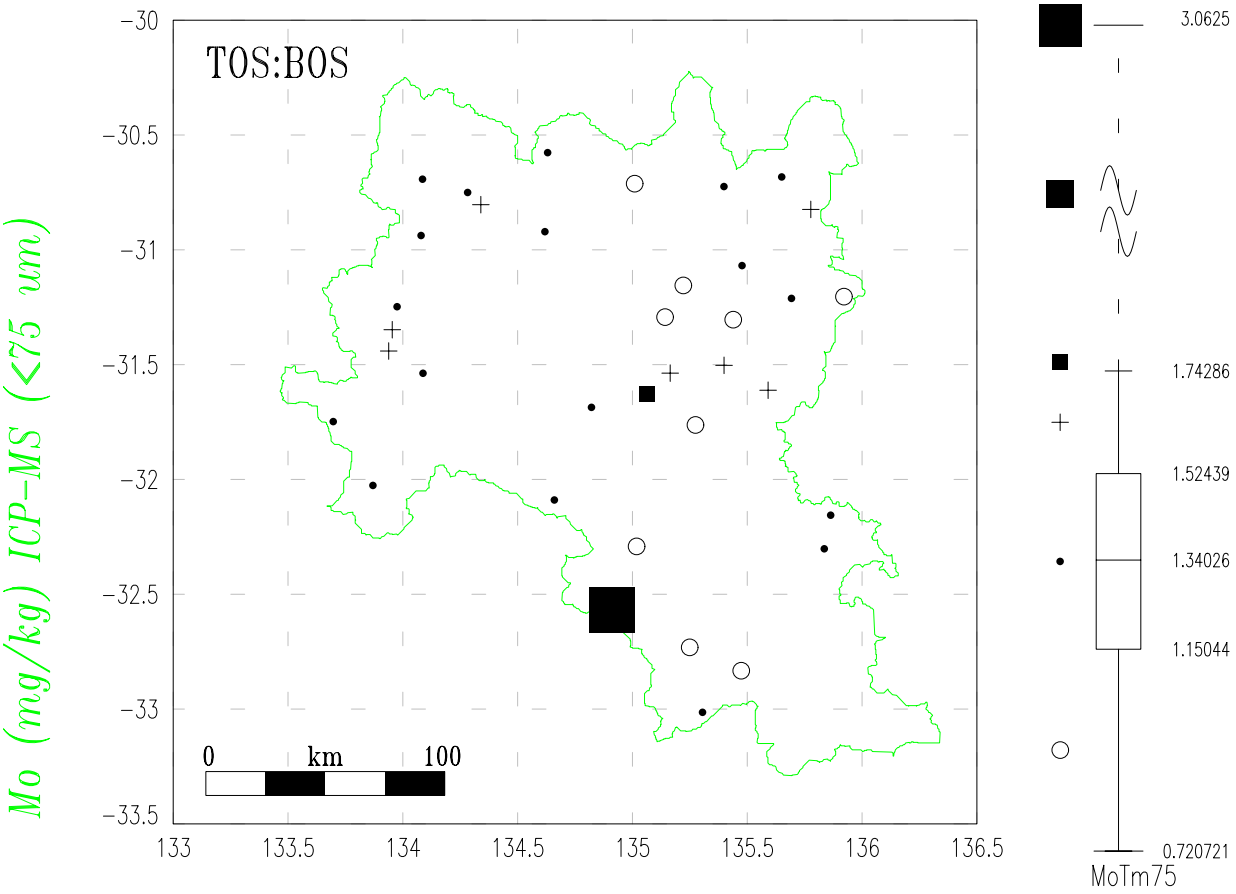


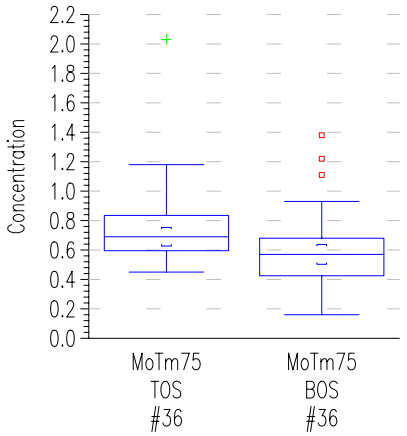
CAWLER GEOCHEMICAL SURVEY

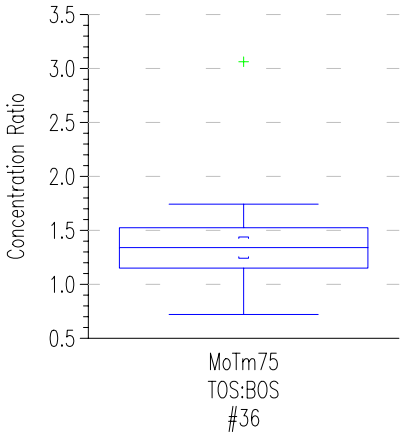
Top & Bottom Outlet Sediments (TOS & BOS)

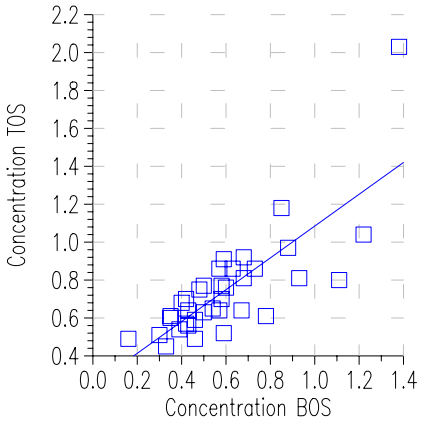


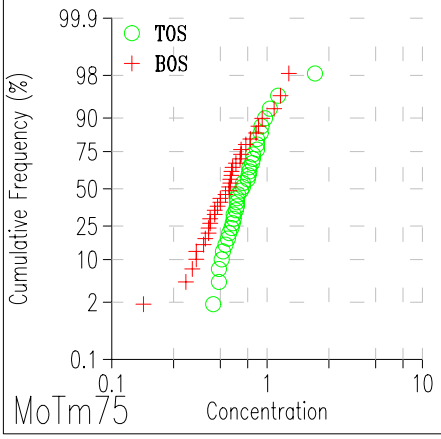
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

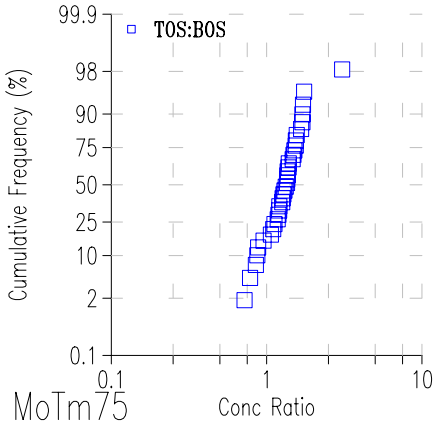


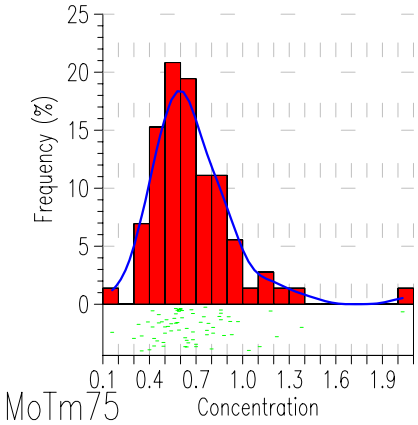




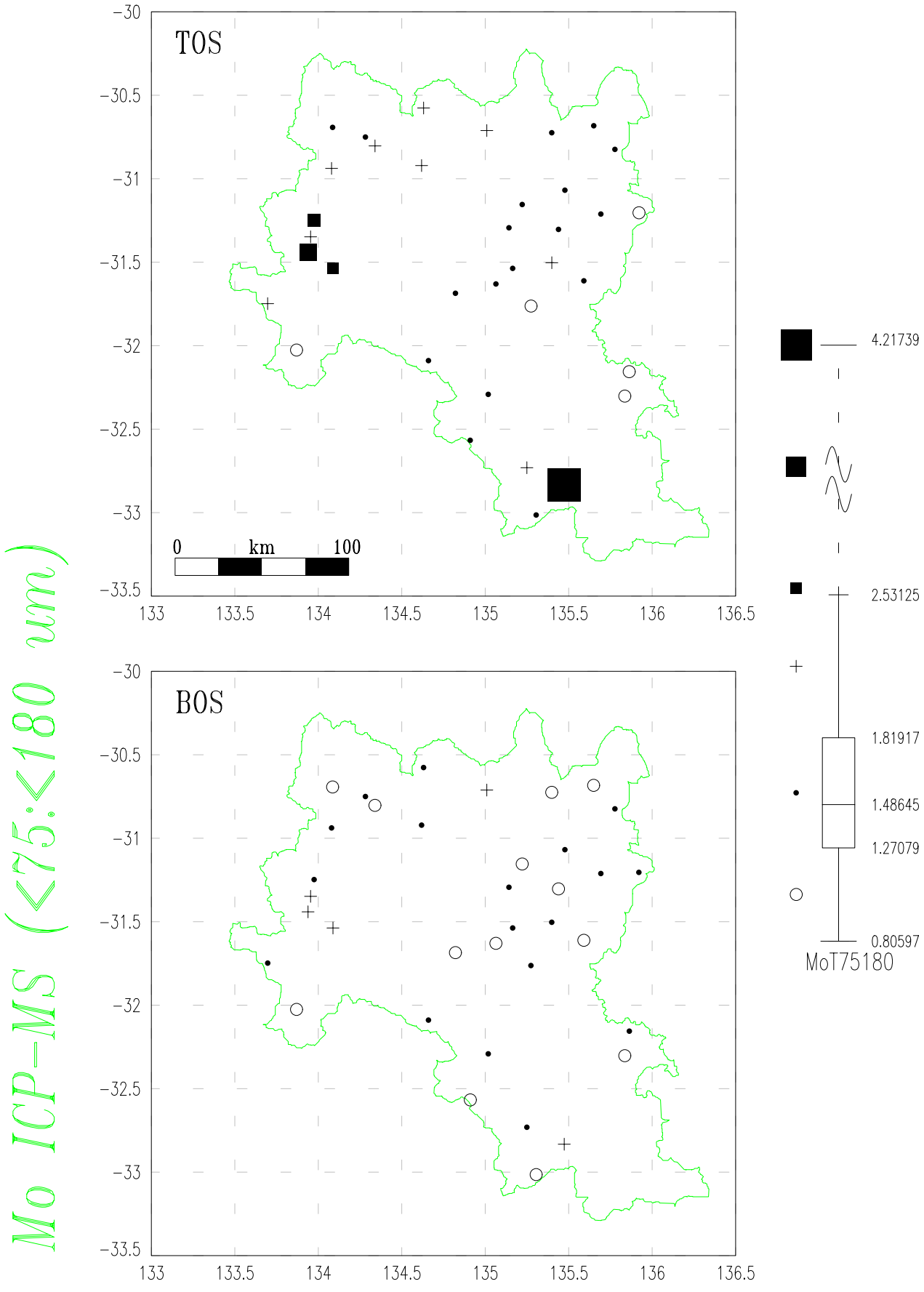




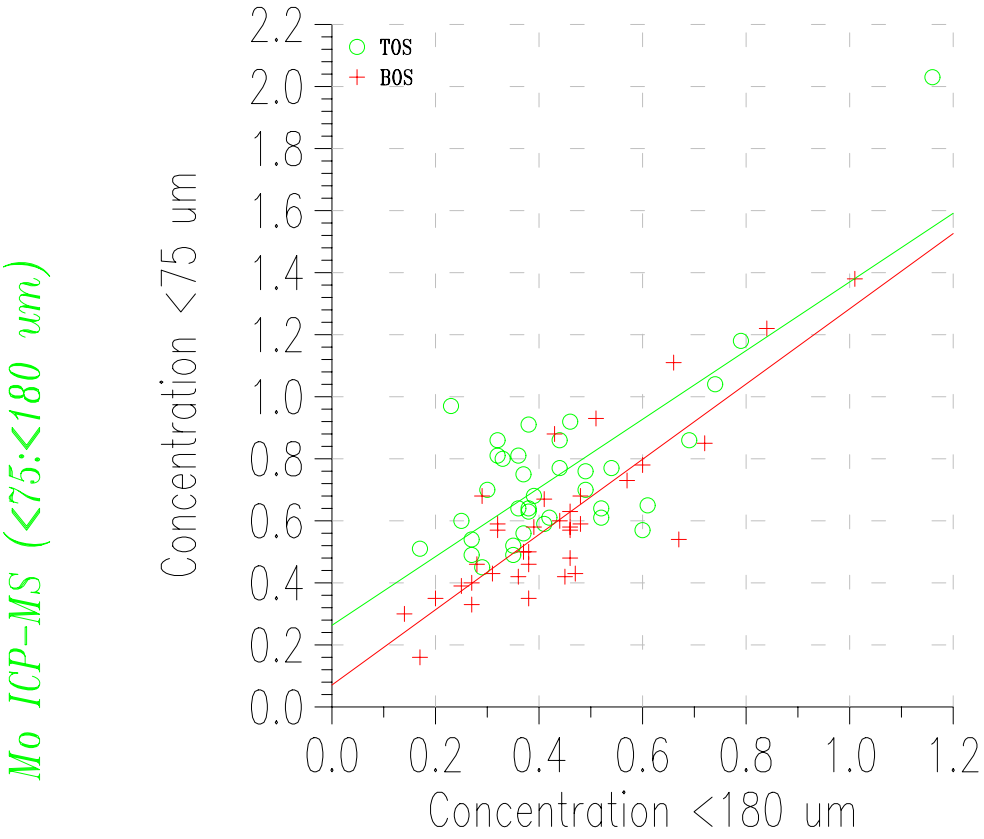


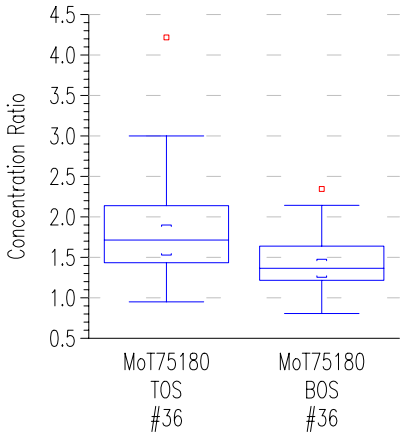


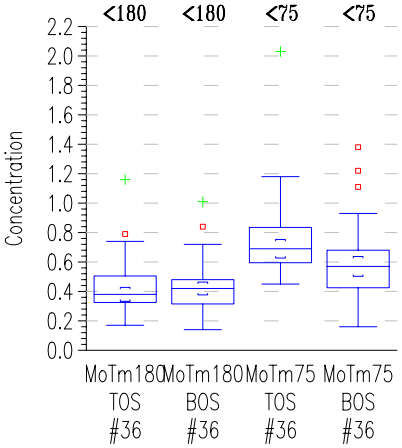
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

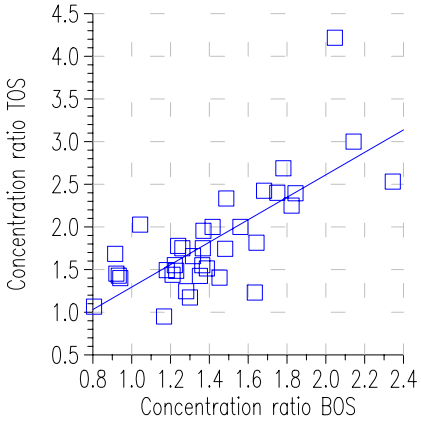


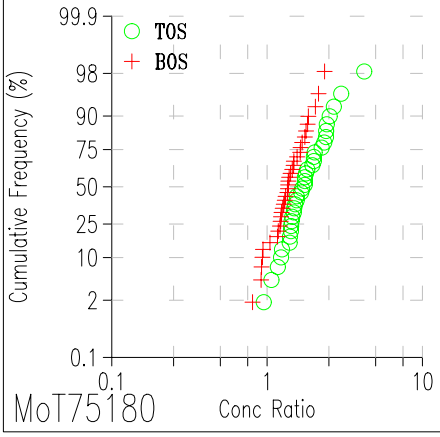
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

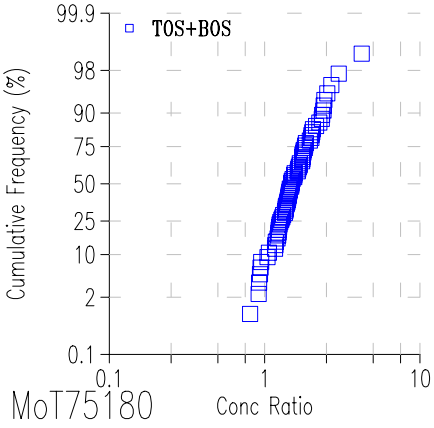


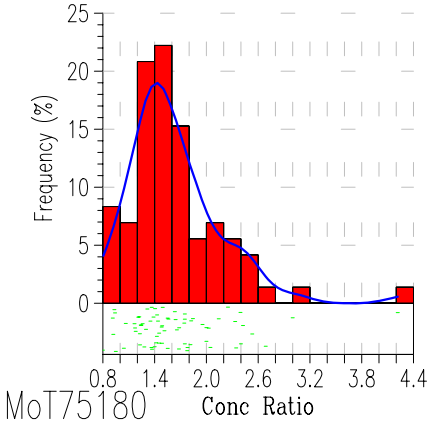






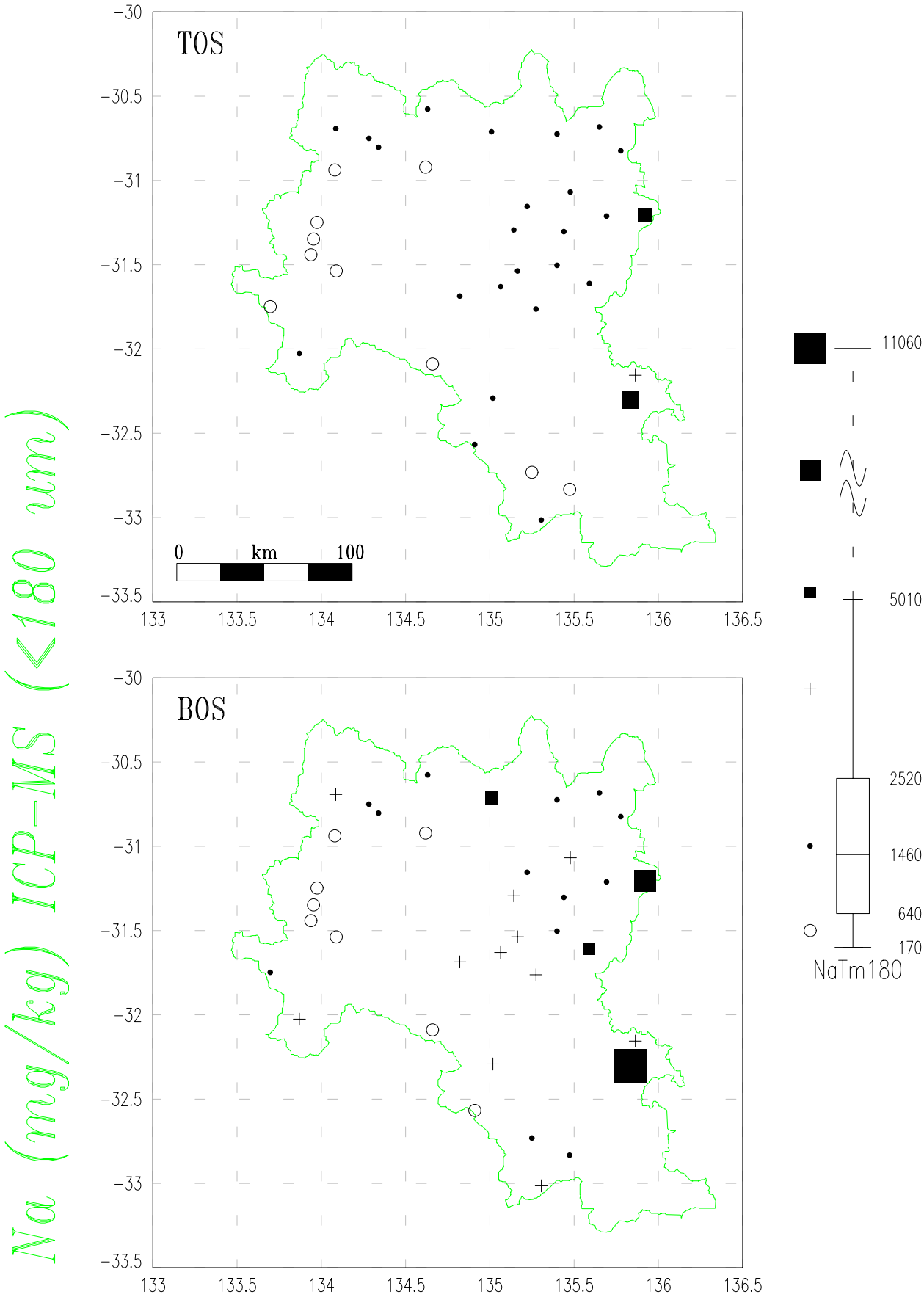




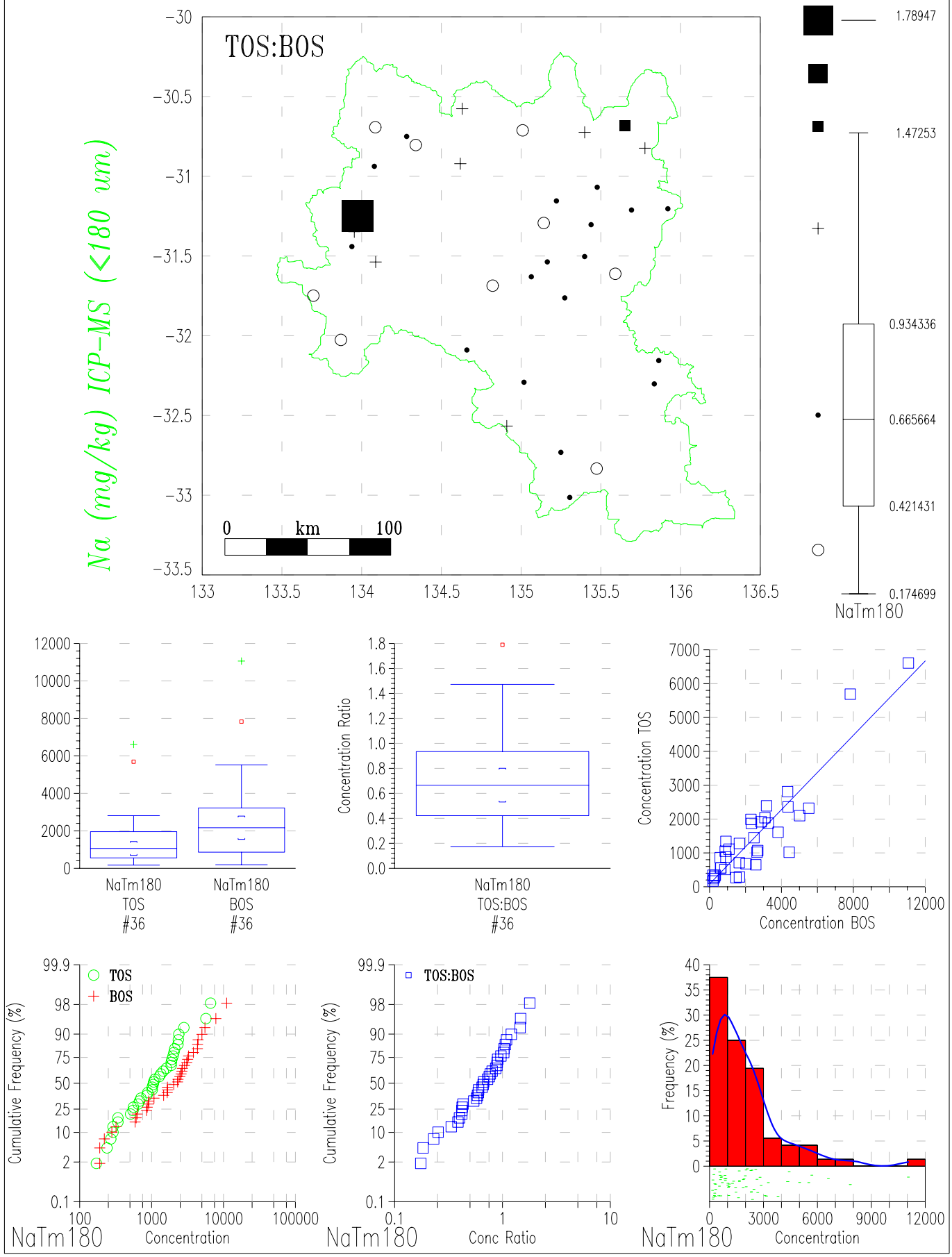


GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

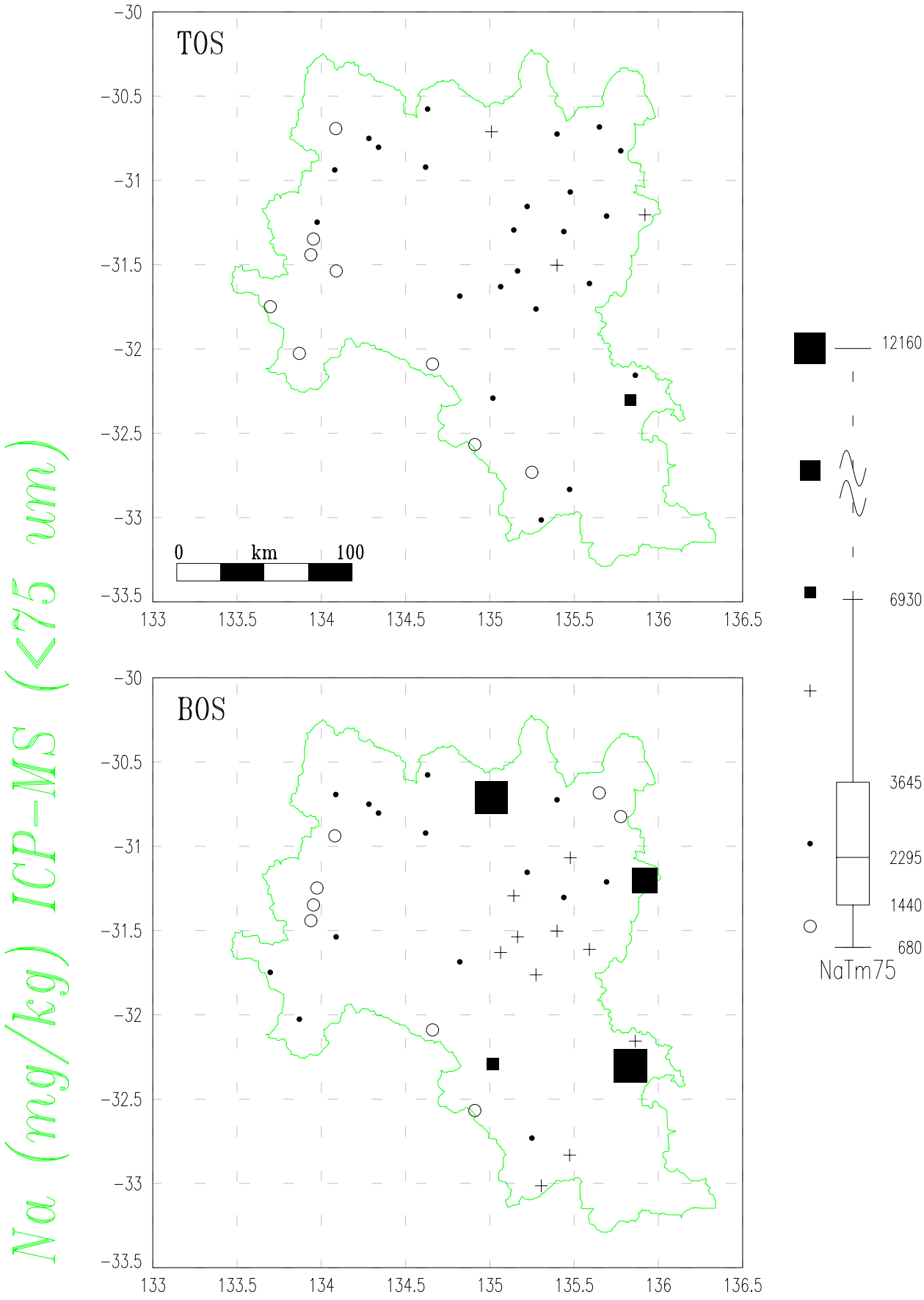


GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

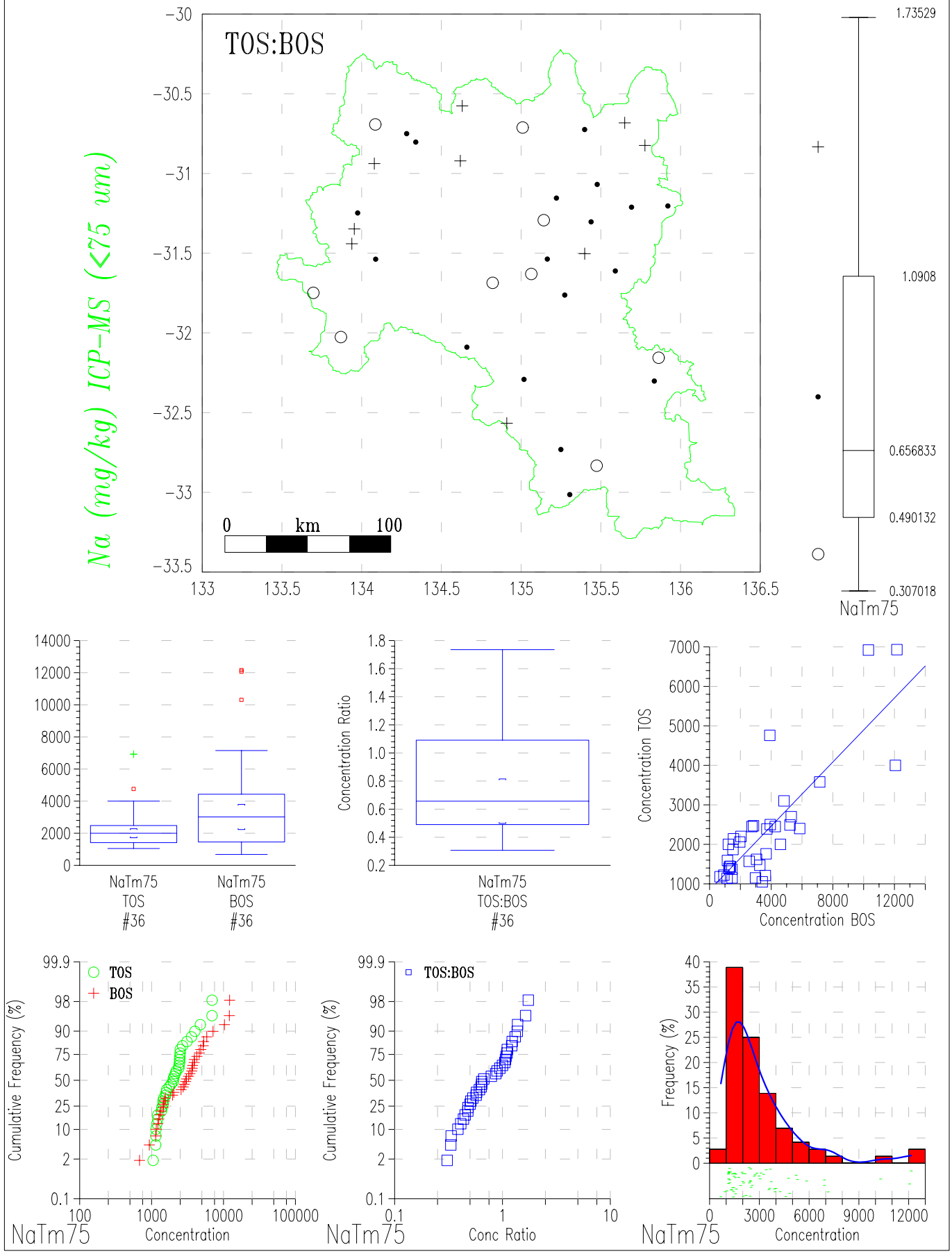


CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

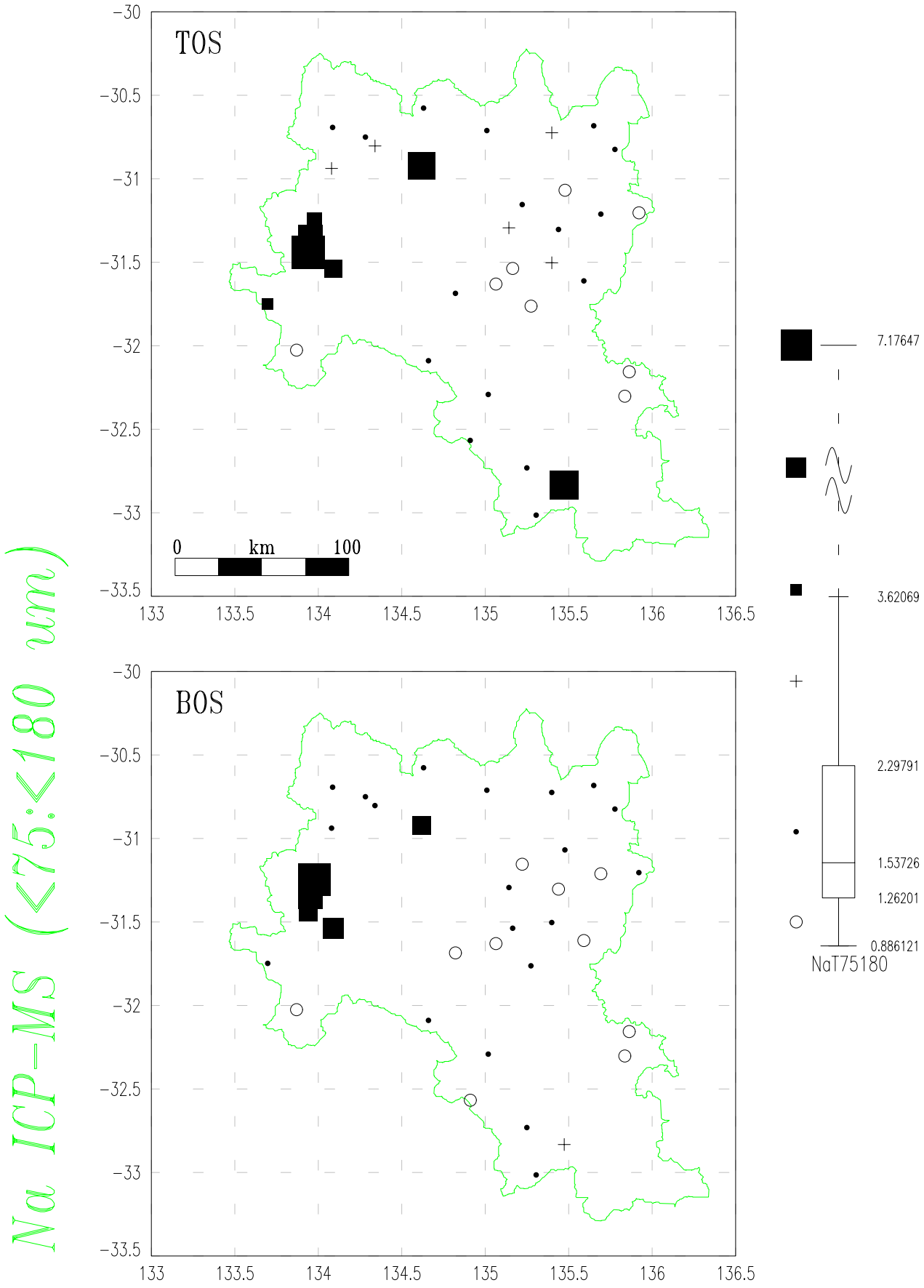


GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

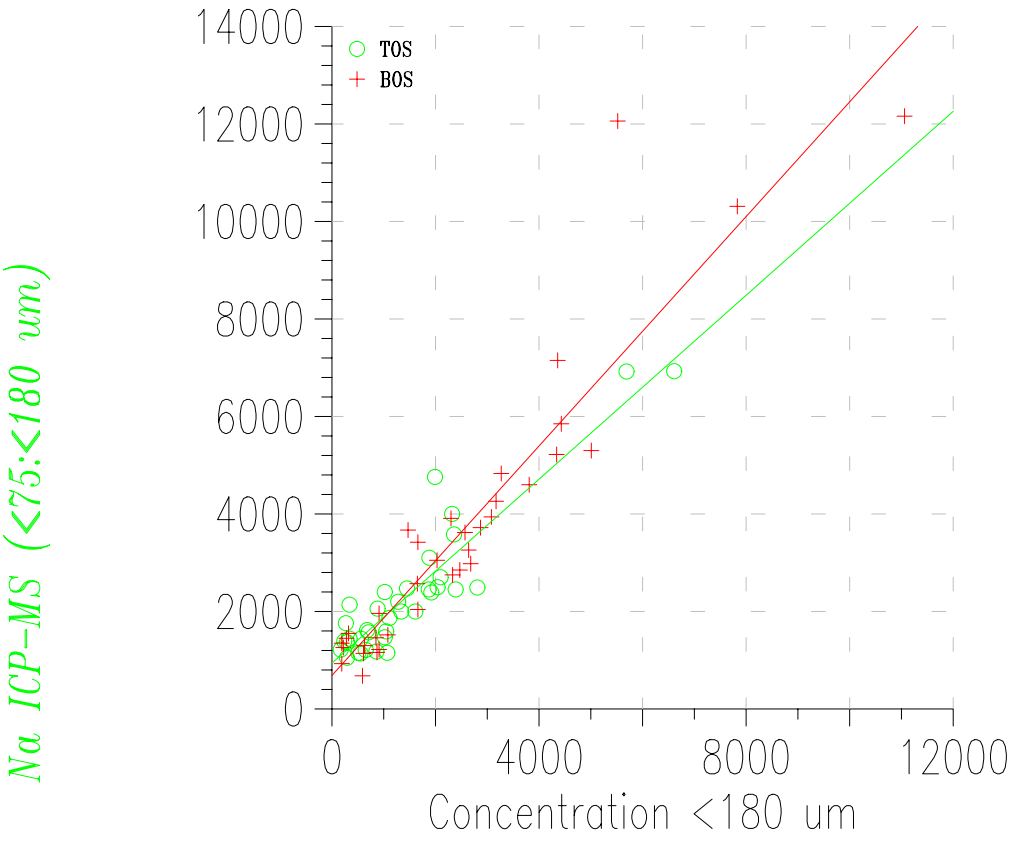


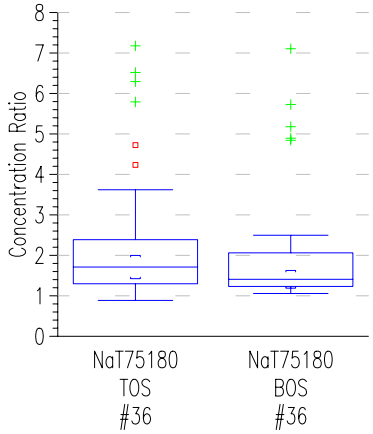
GAWLER GEOCHEMICAL SURVEY

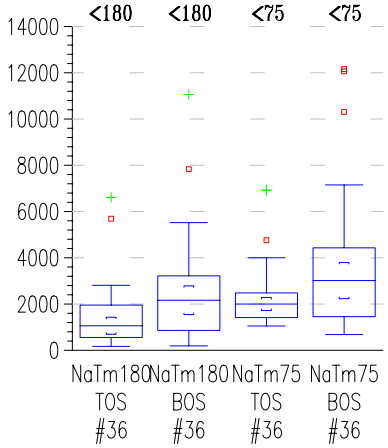
Top & Bottom Outlet Sediments (TOS & BOS)

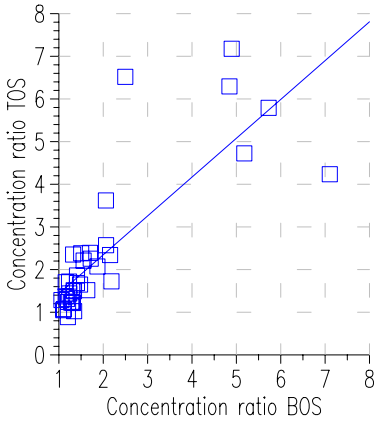


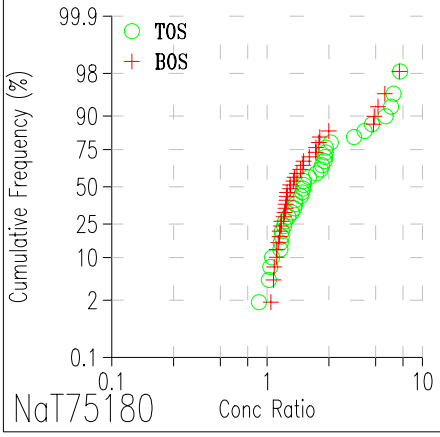
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

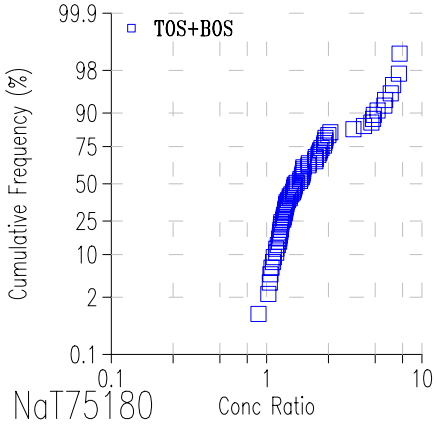


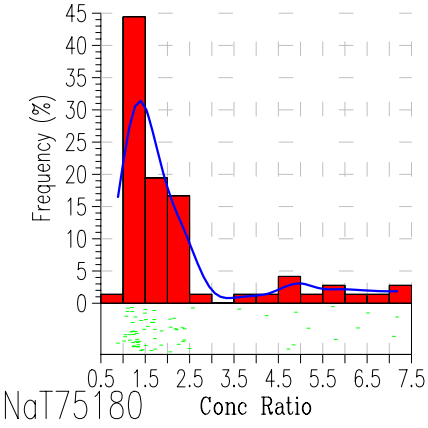




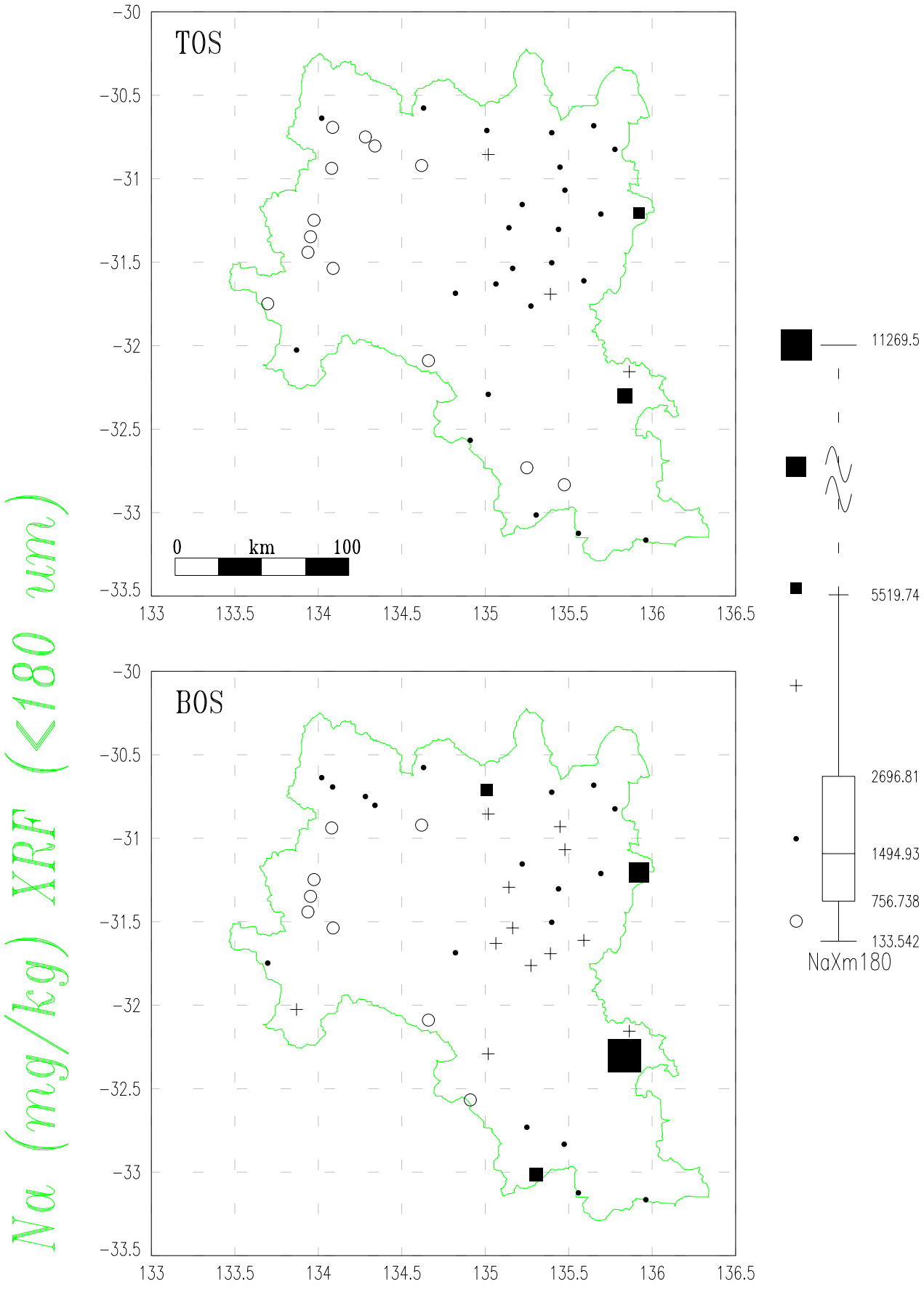




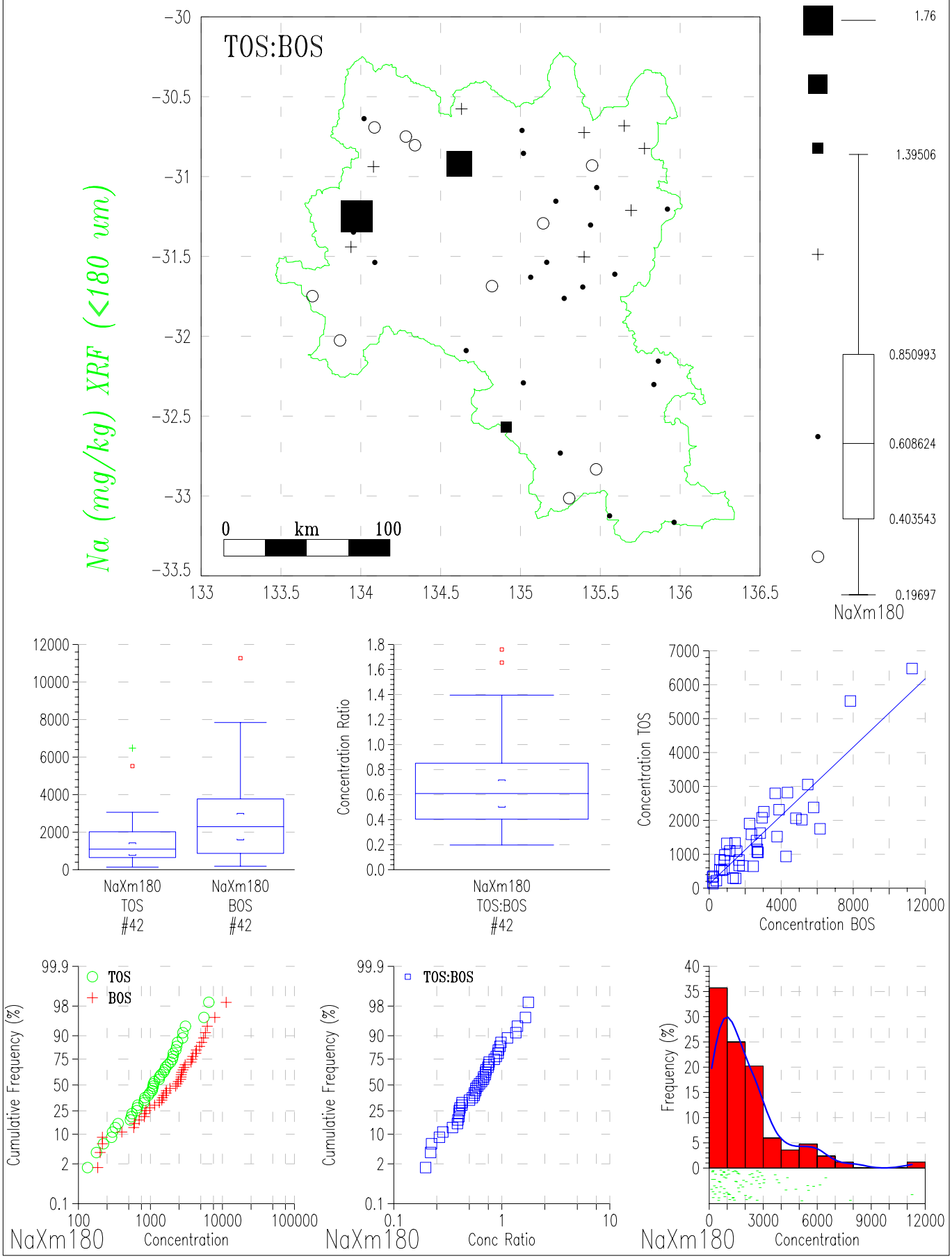




GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

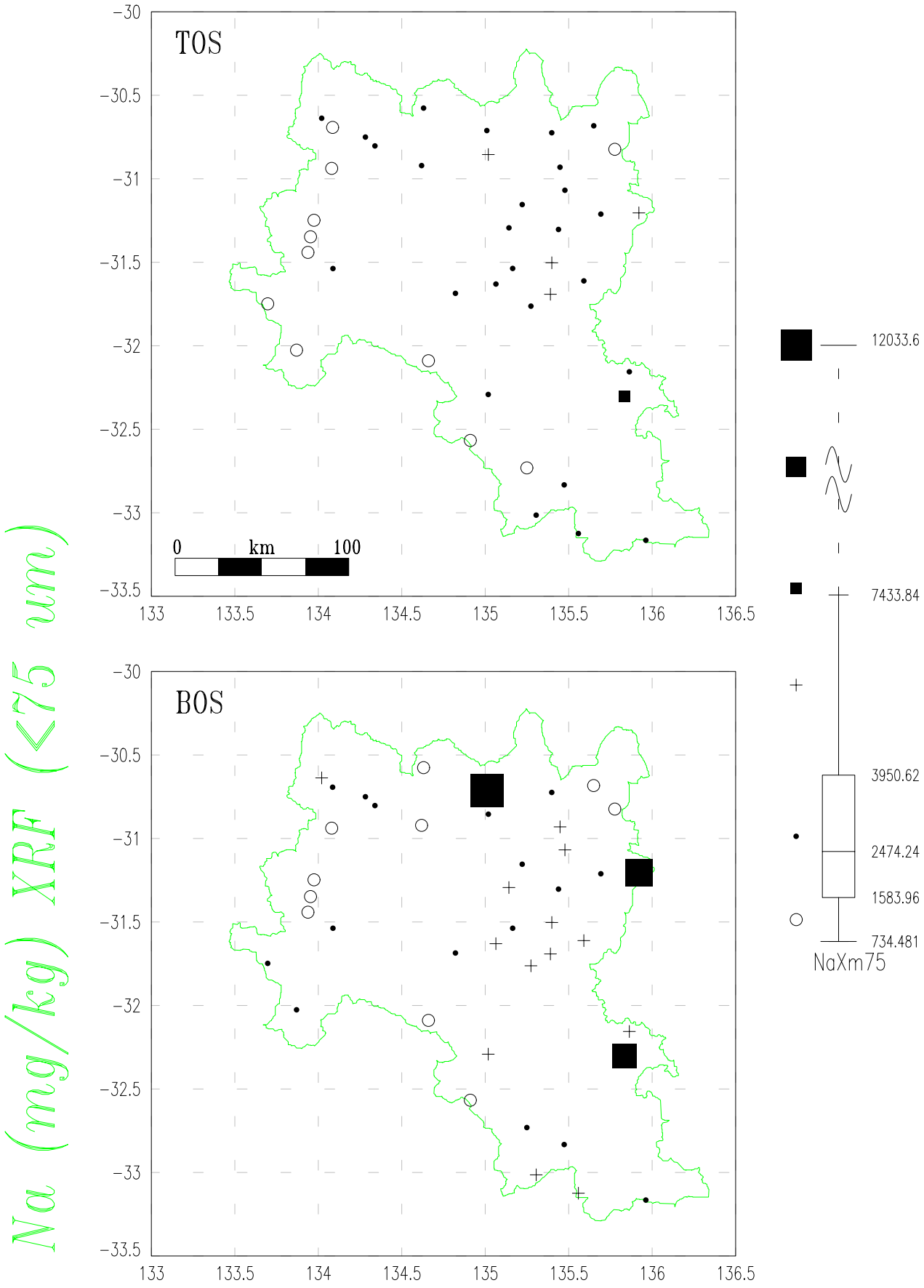


CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

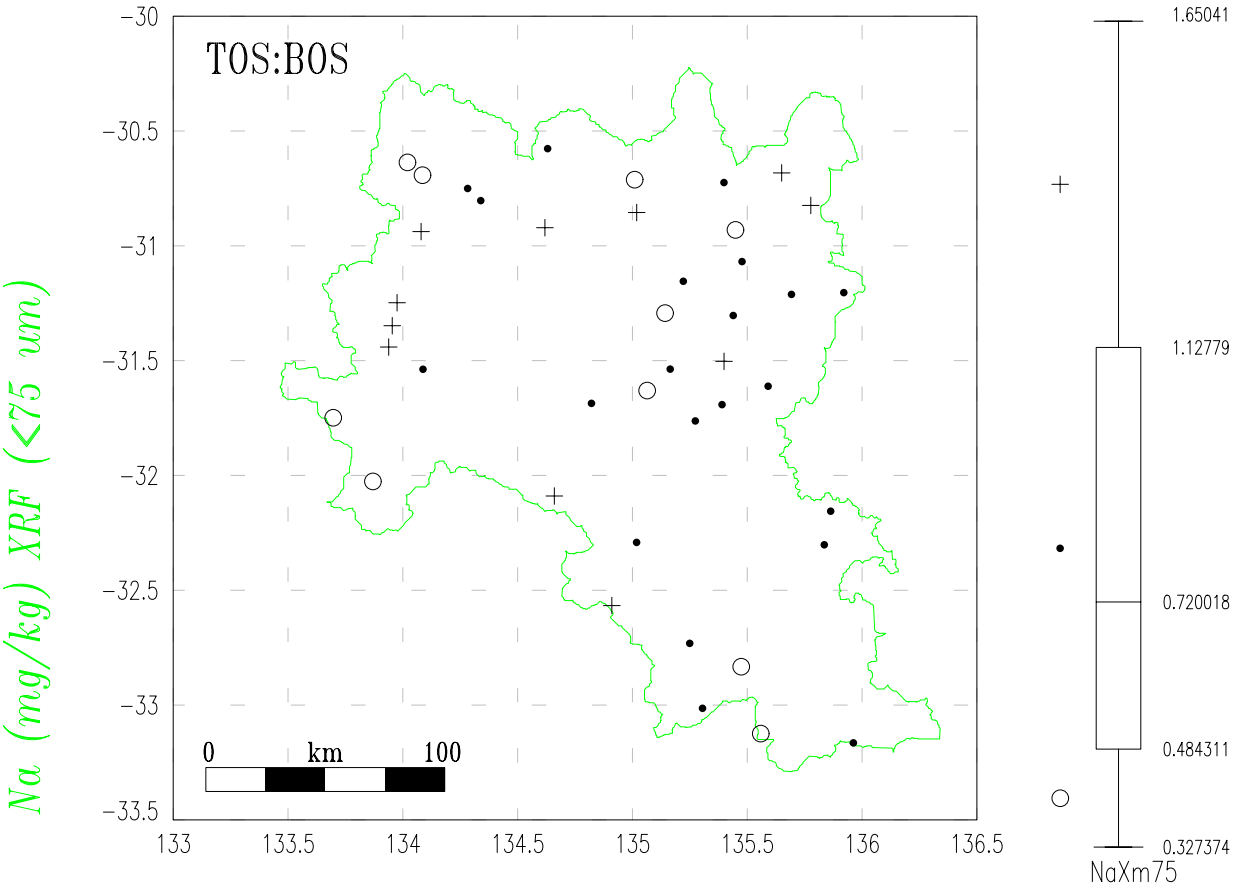


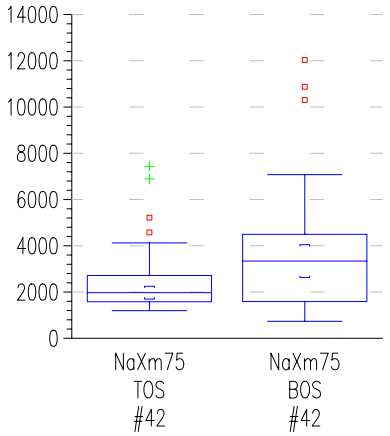
CAWLER GEOCHEMICAL SURVEY

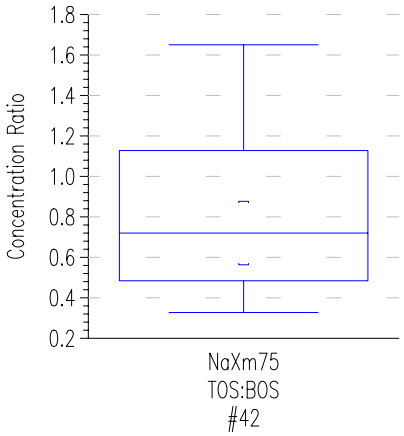
Top & Bottom Outlet Sediments (TOS & BOS)

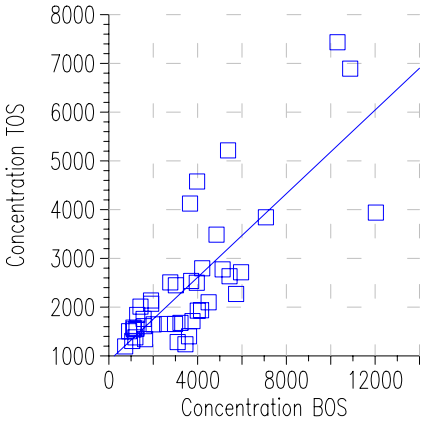


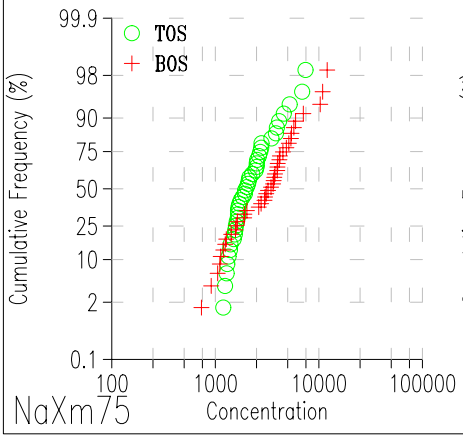
GAWLER GEOCHEMICAL SURVEY — *Top & Bottom Outlet Sediments (TOS & BOS)*

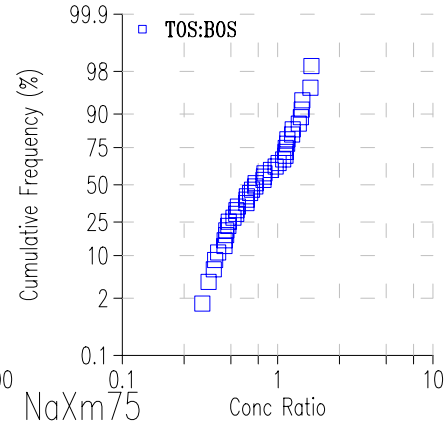


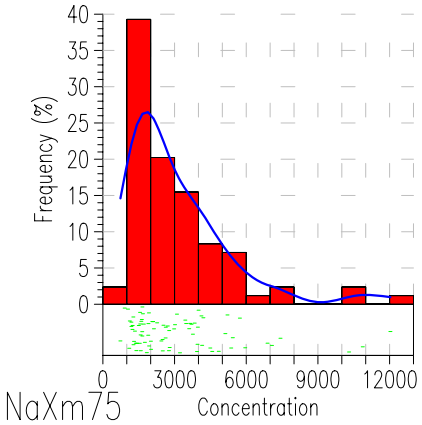






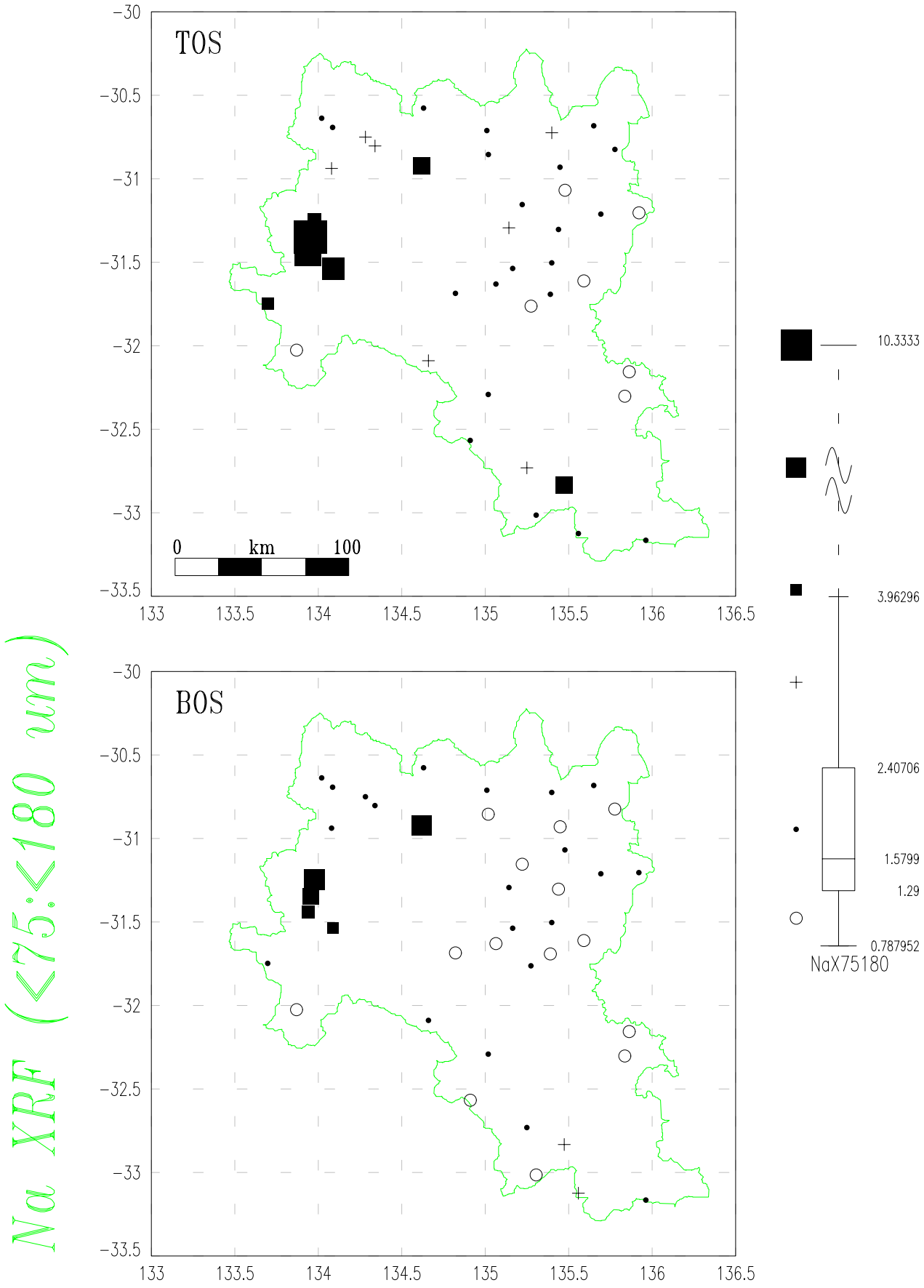






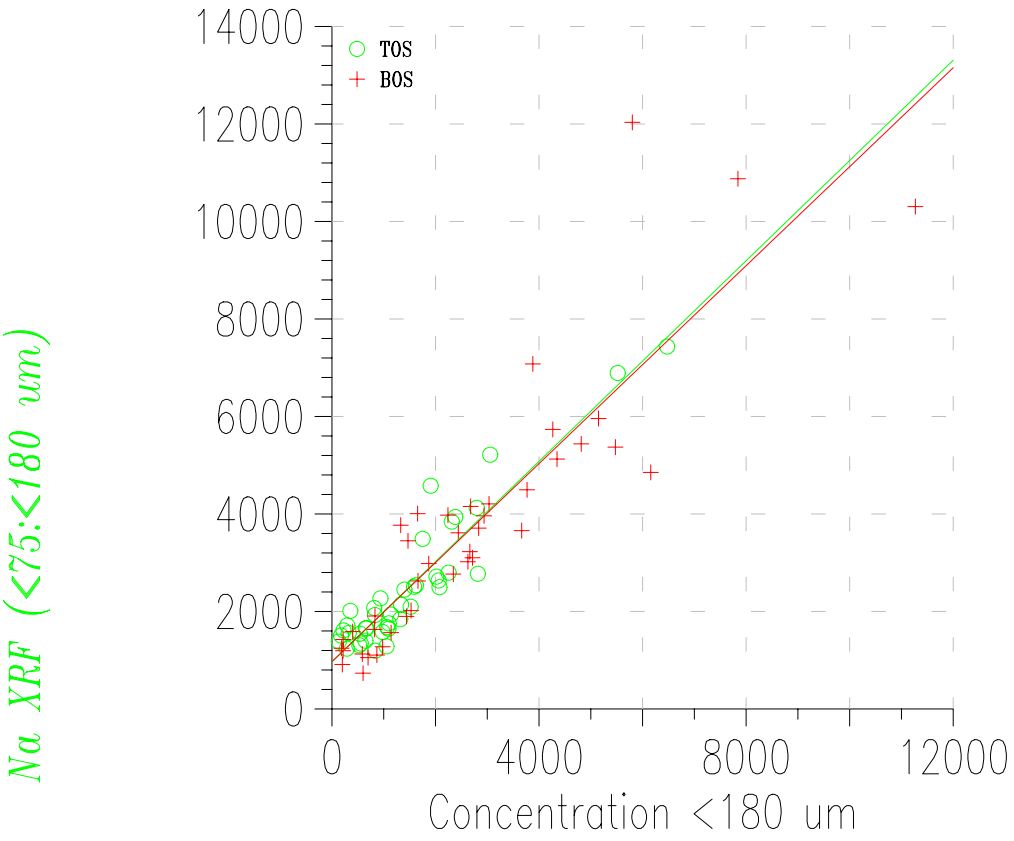
GAWLER GEOCHEMICAL SURVEY

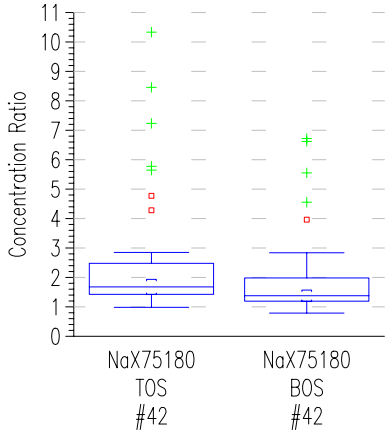
Top & Bottom Outlet Sediments (TOS & BOS)

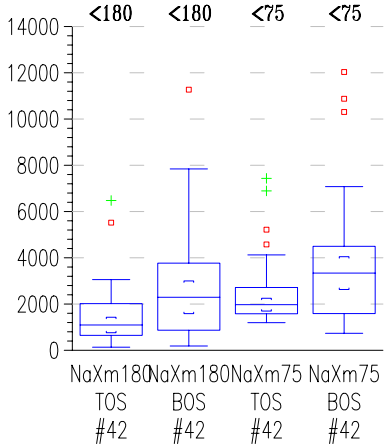


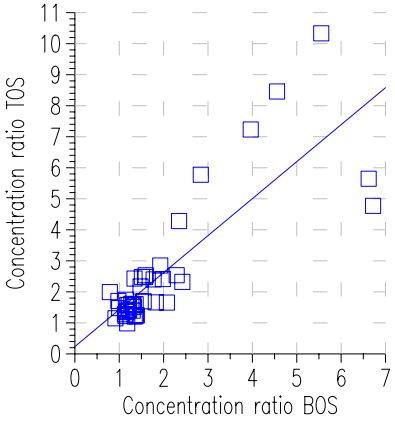
Na XRF (<75:<180 um)

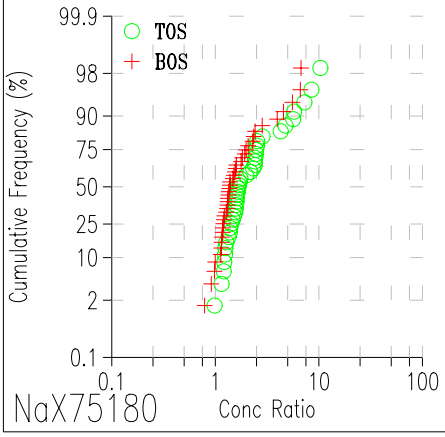
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

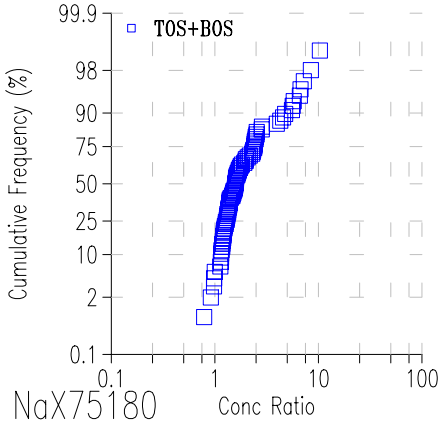


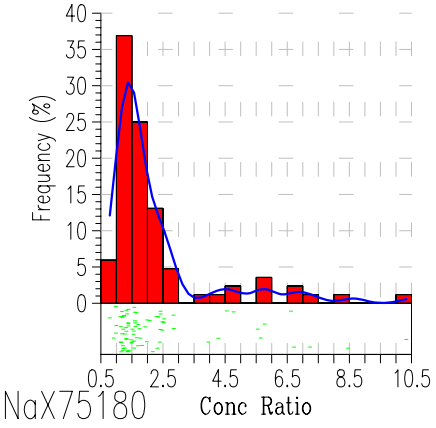






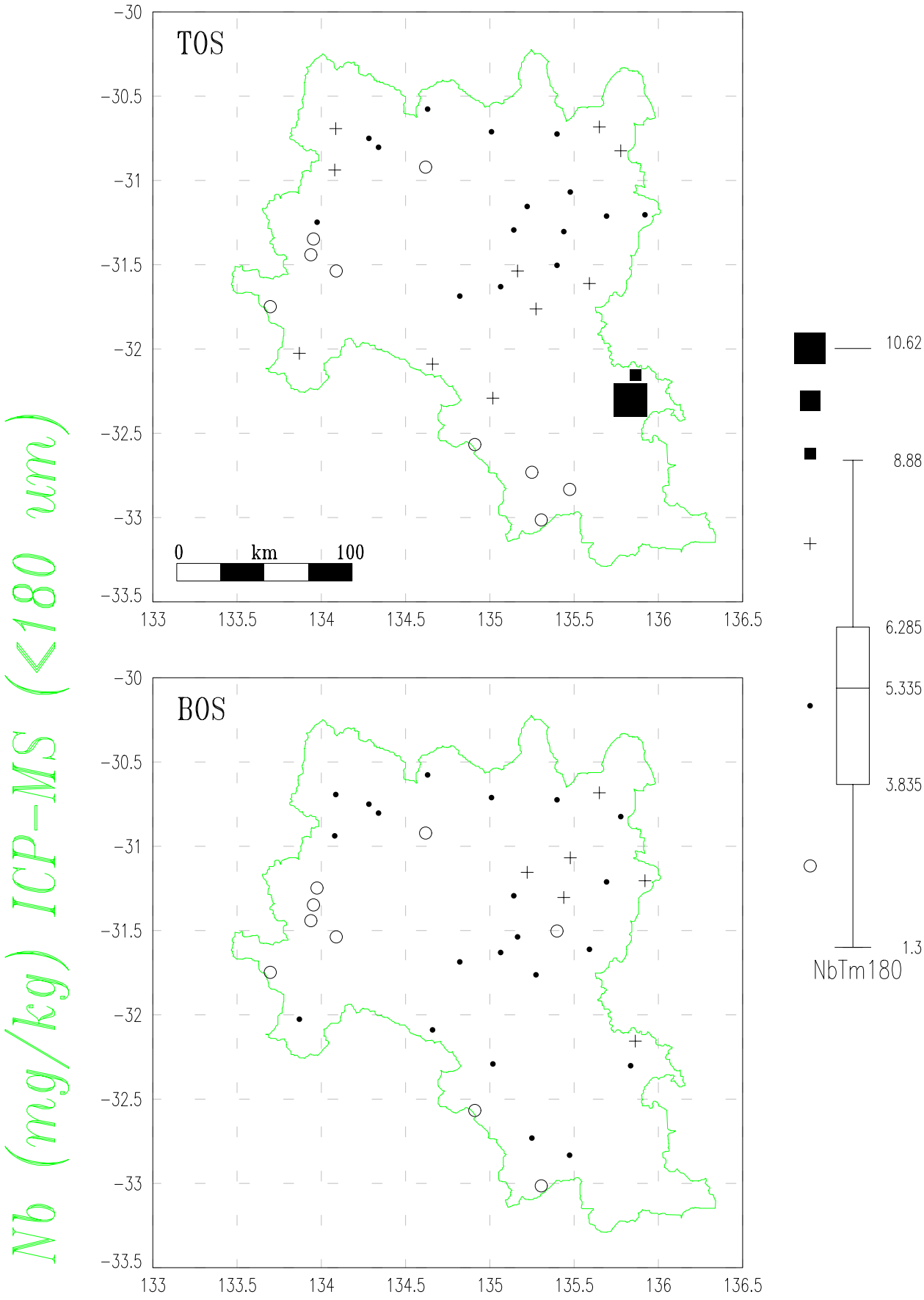






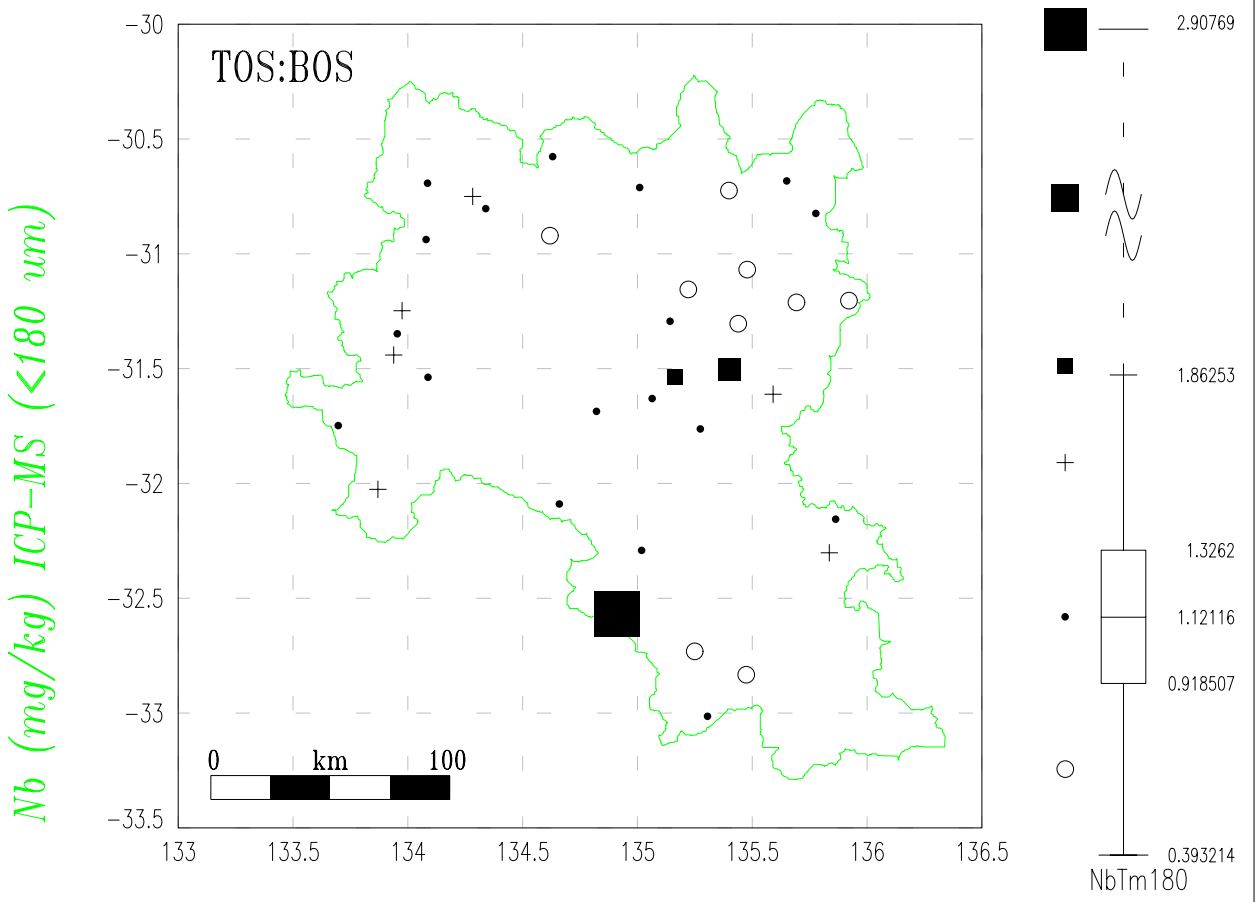
CAWLER GEOCHEMICAL SURVEY

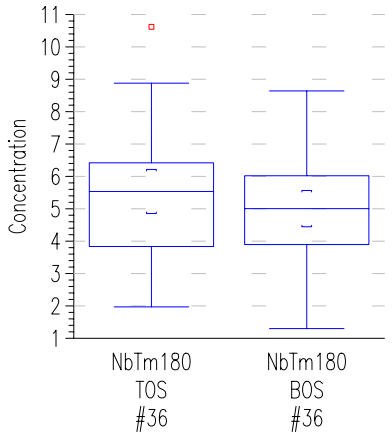
Top & Bottom Outlet Sediments (TOS & BOS)

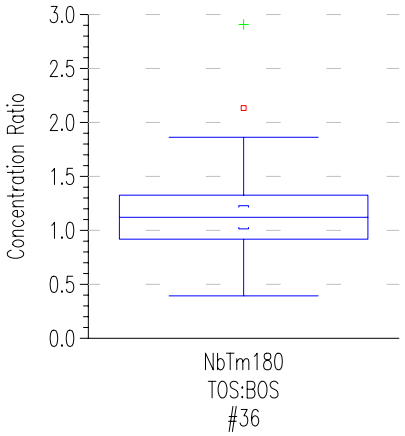


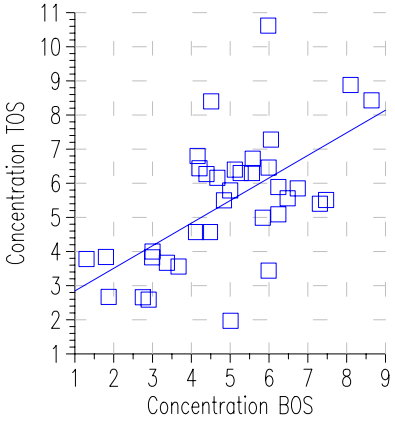
Nb (mg/kg) ICP-MS (<180 um)

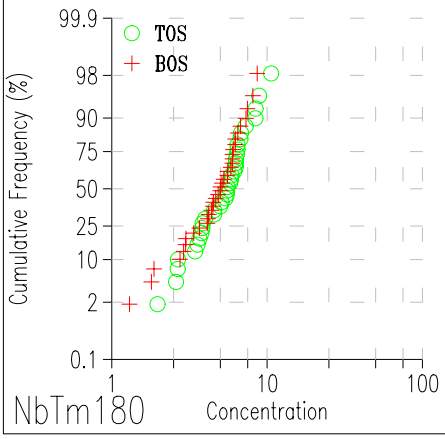
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

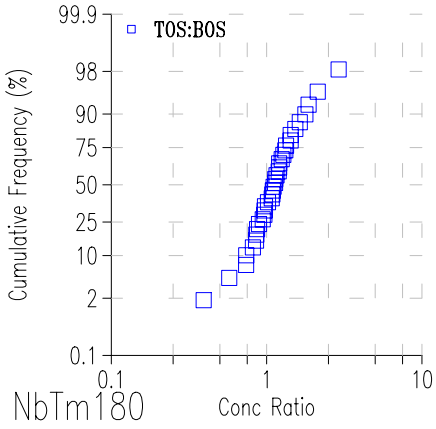


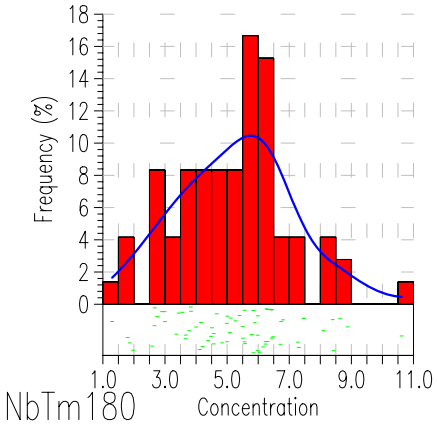




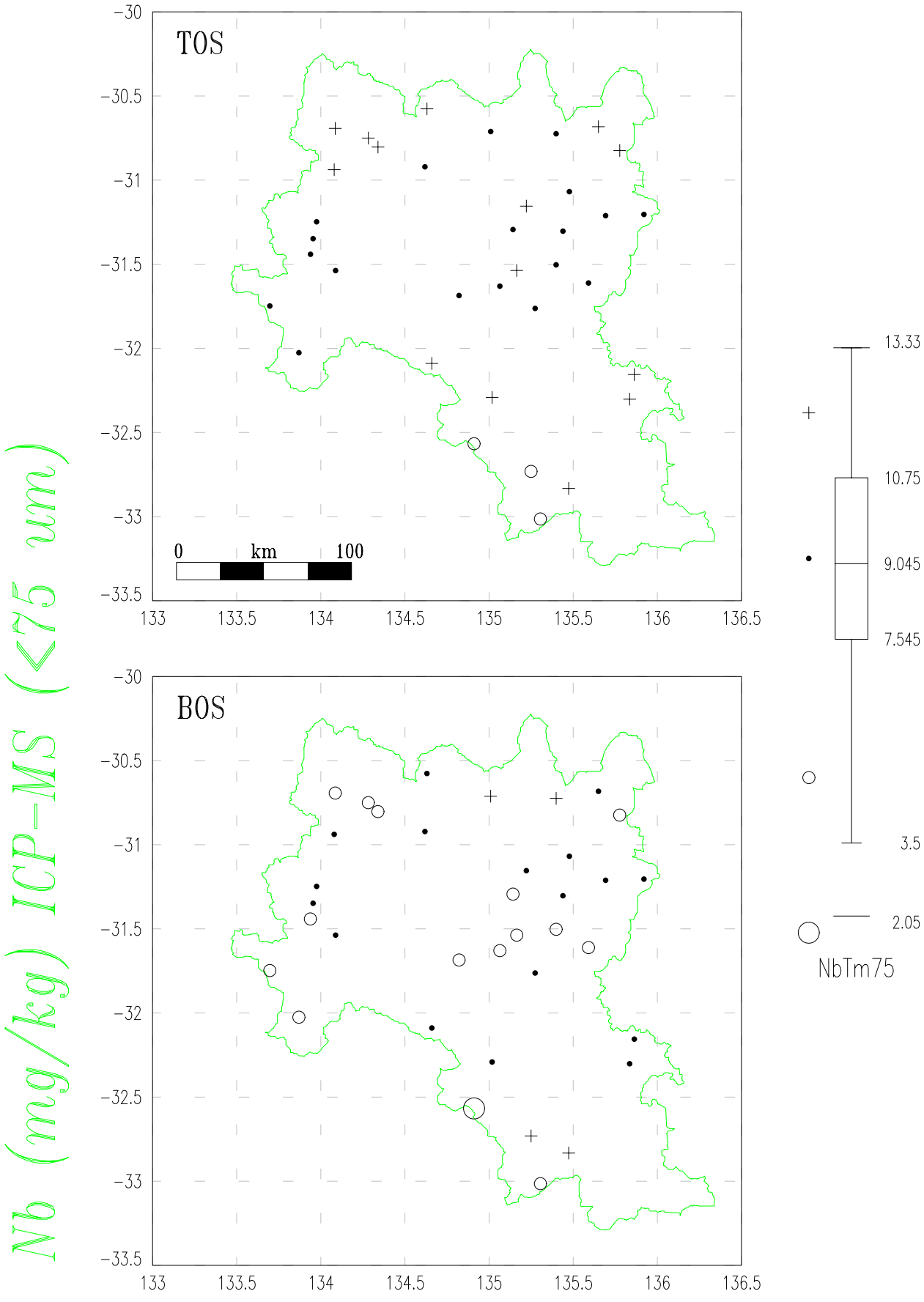




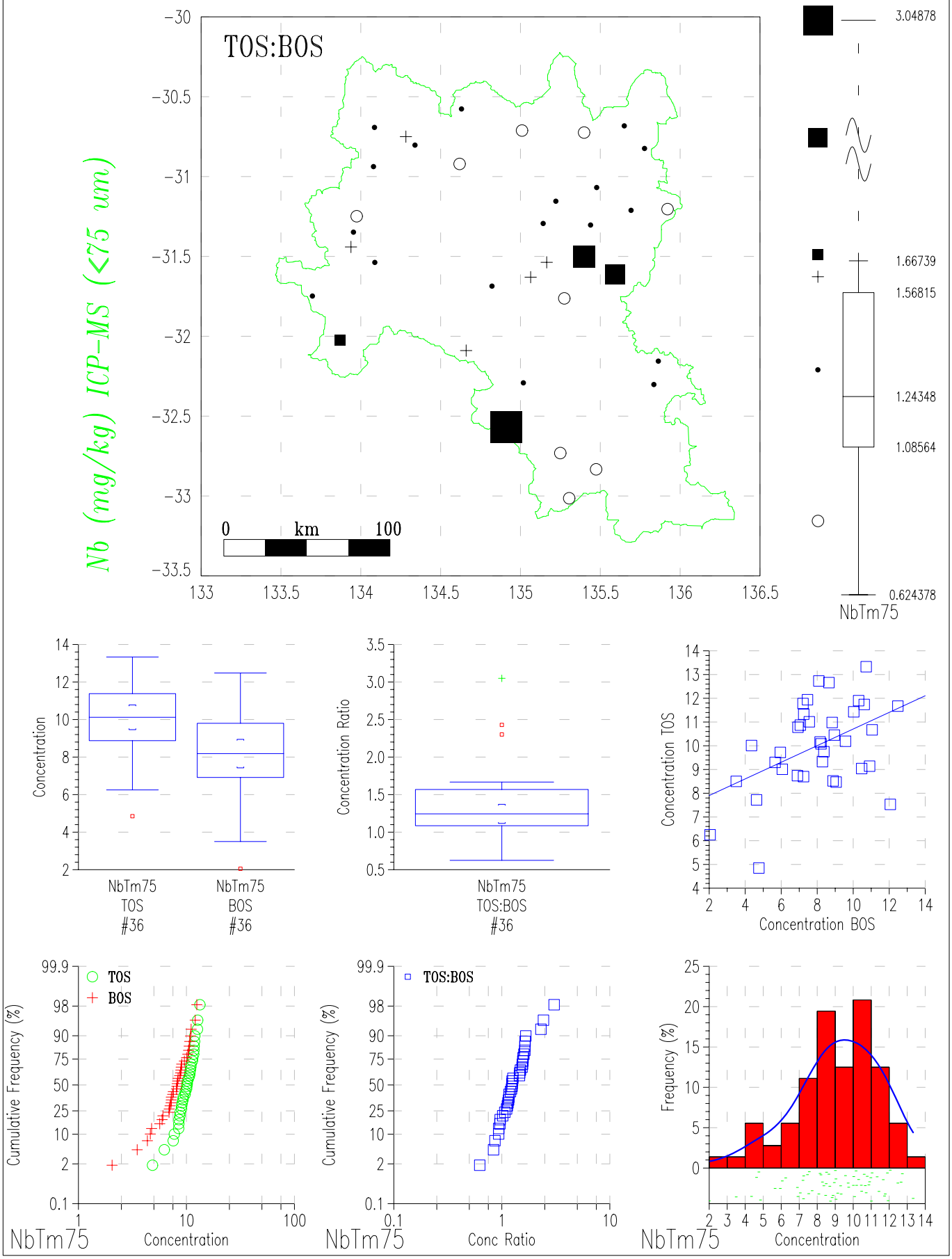




GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

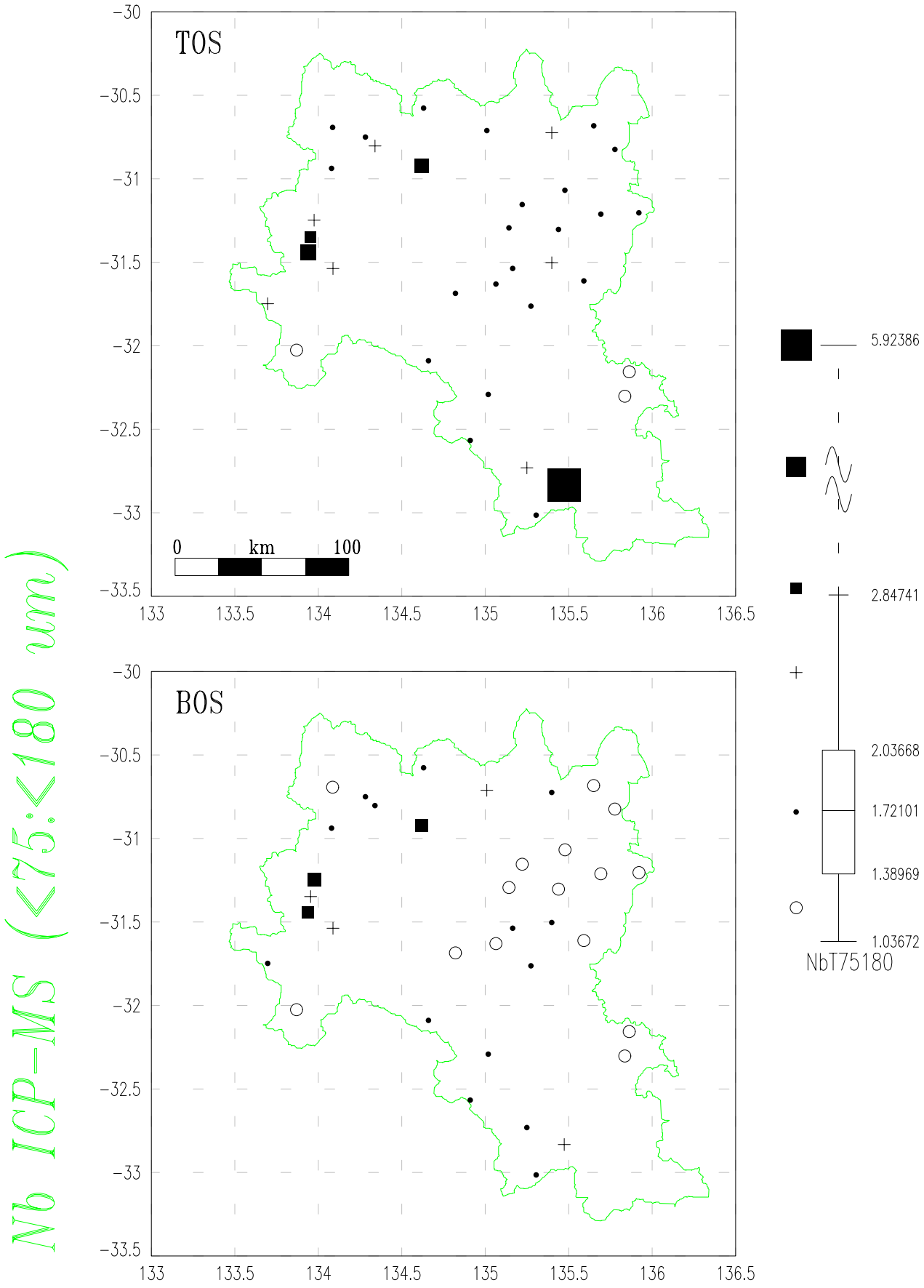


CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)



CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



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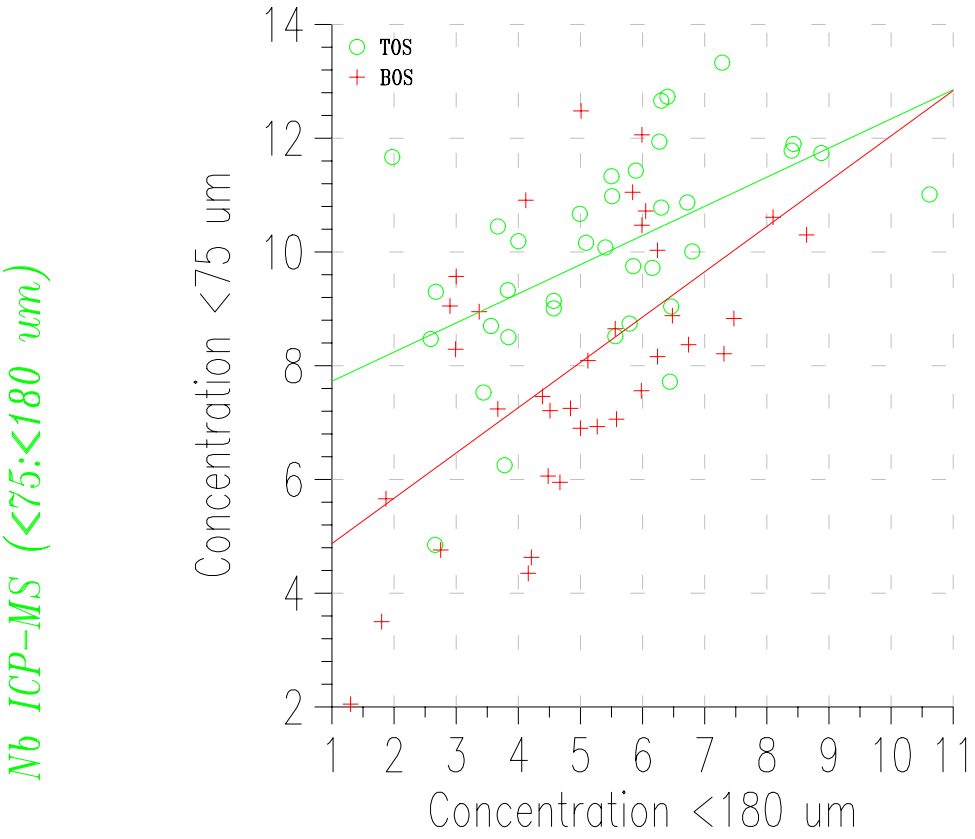
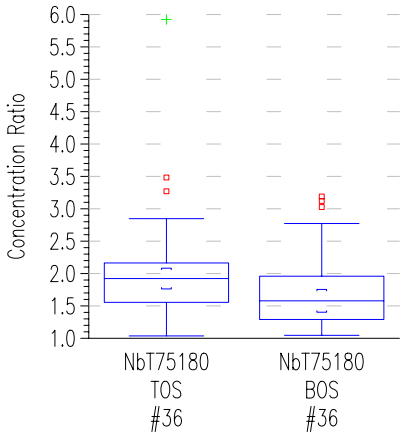
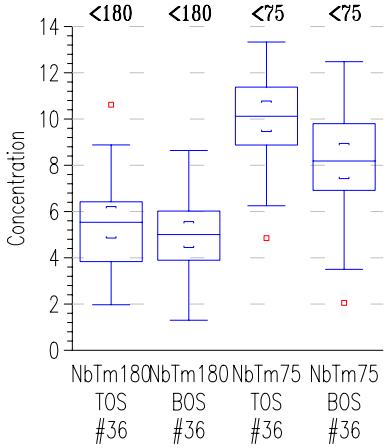
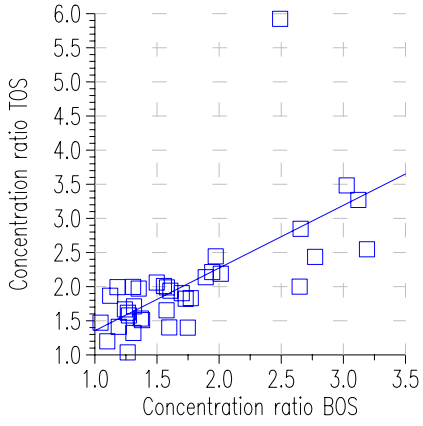
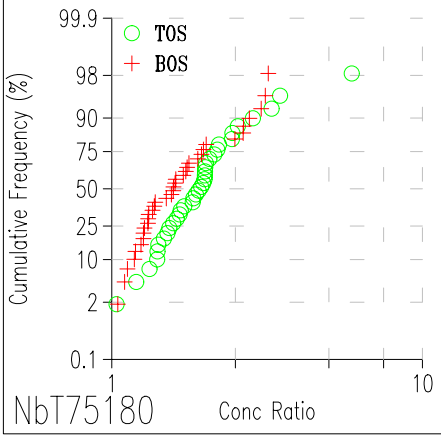
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

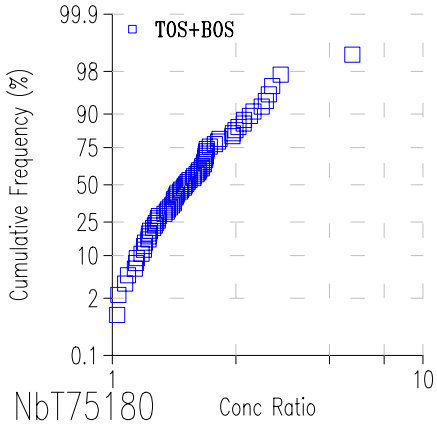


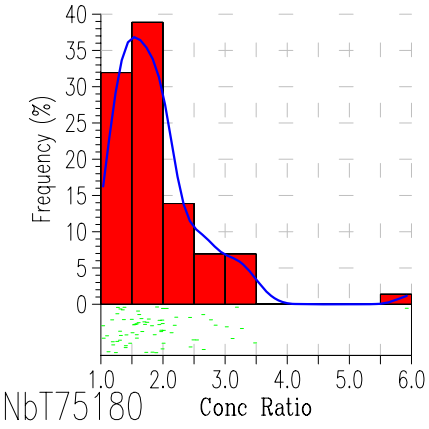






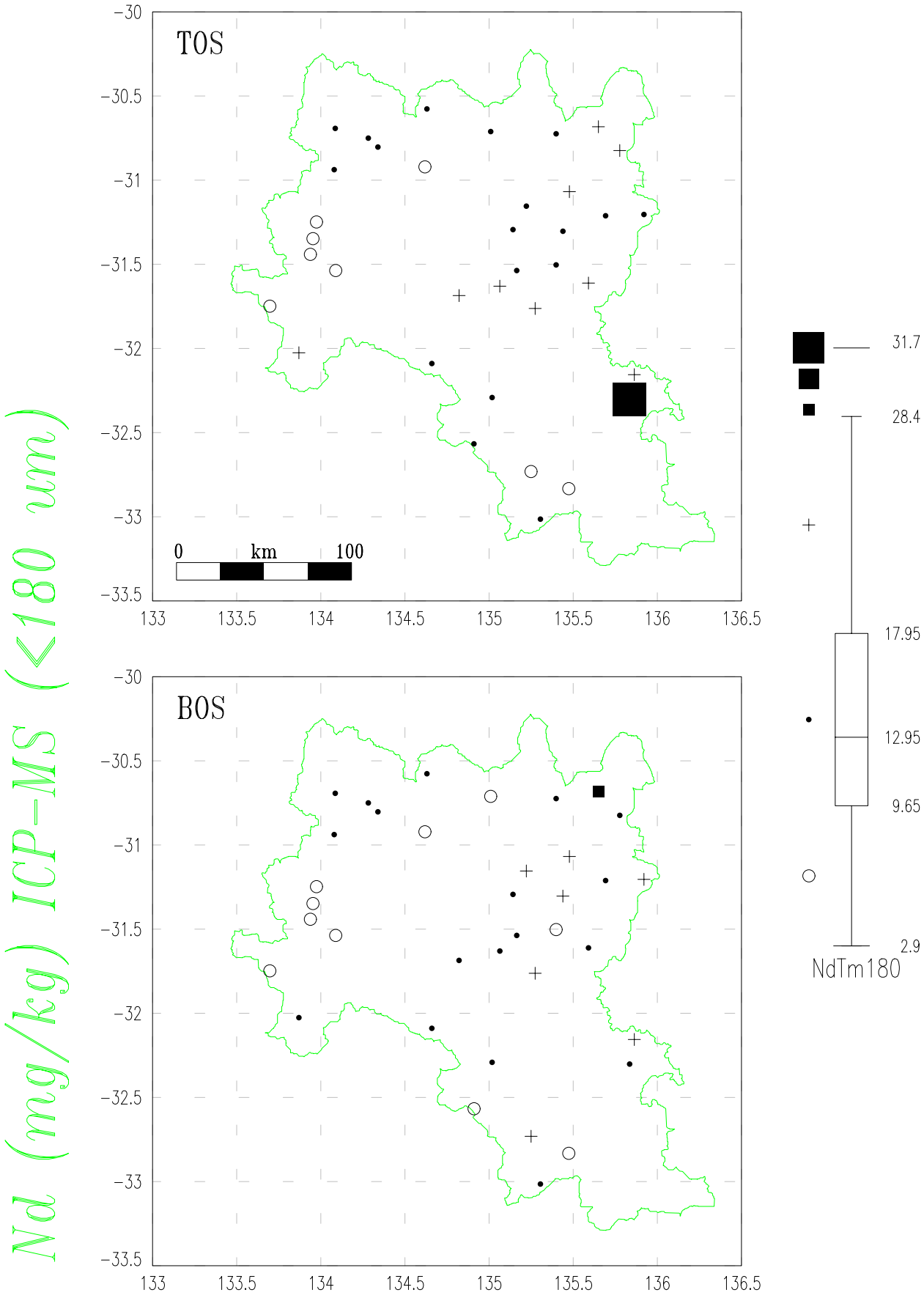




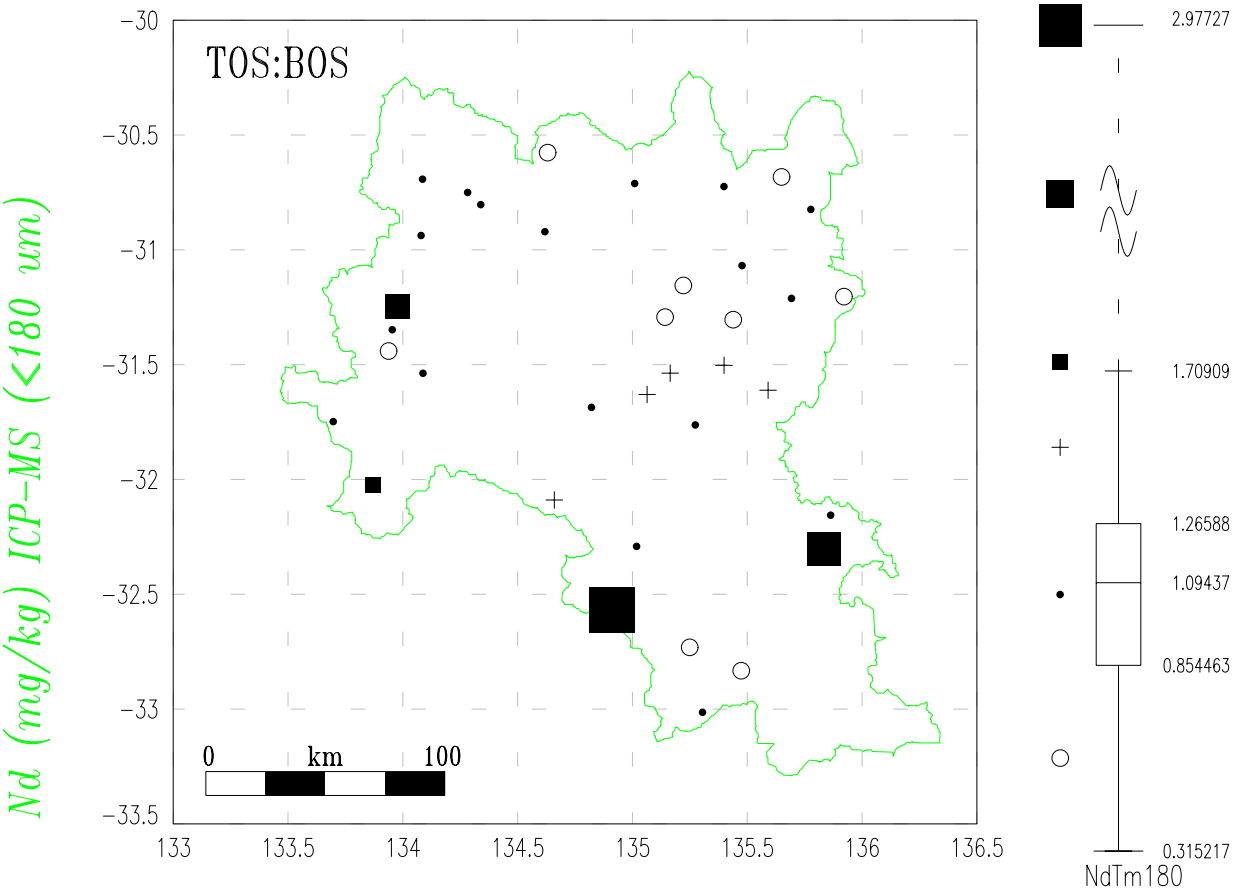


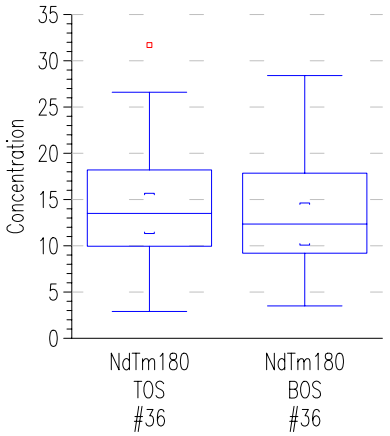
CAWLER GEOCHEMICAL SURVEY

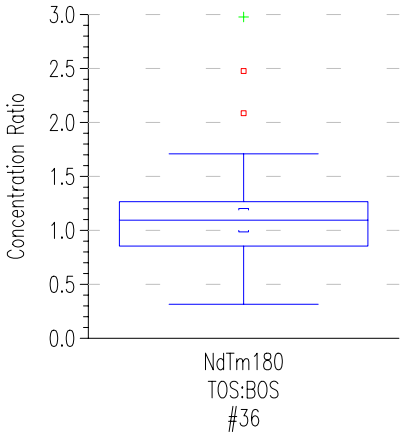
Top & Bottom Outlet Sediments (TOS & BOS)

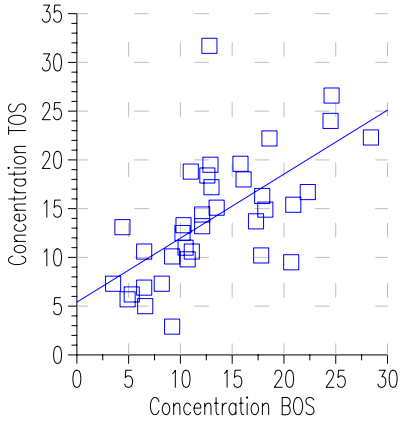


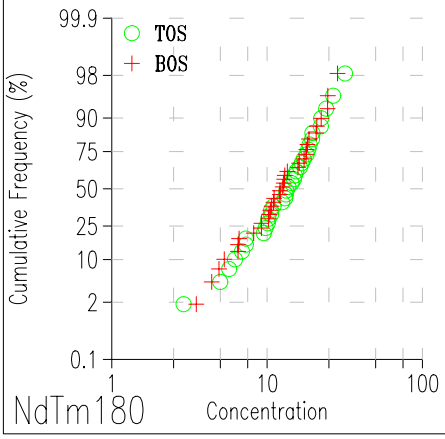
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

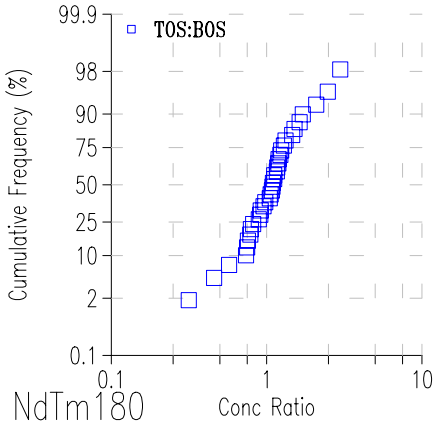


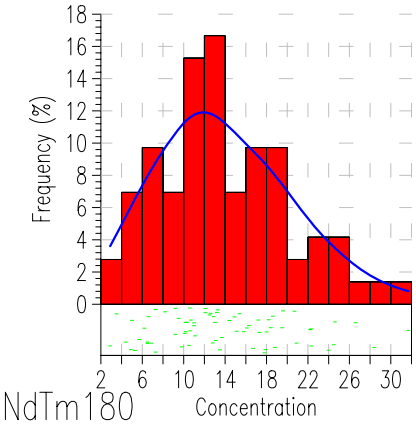






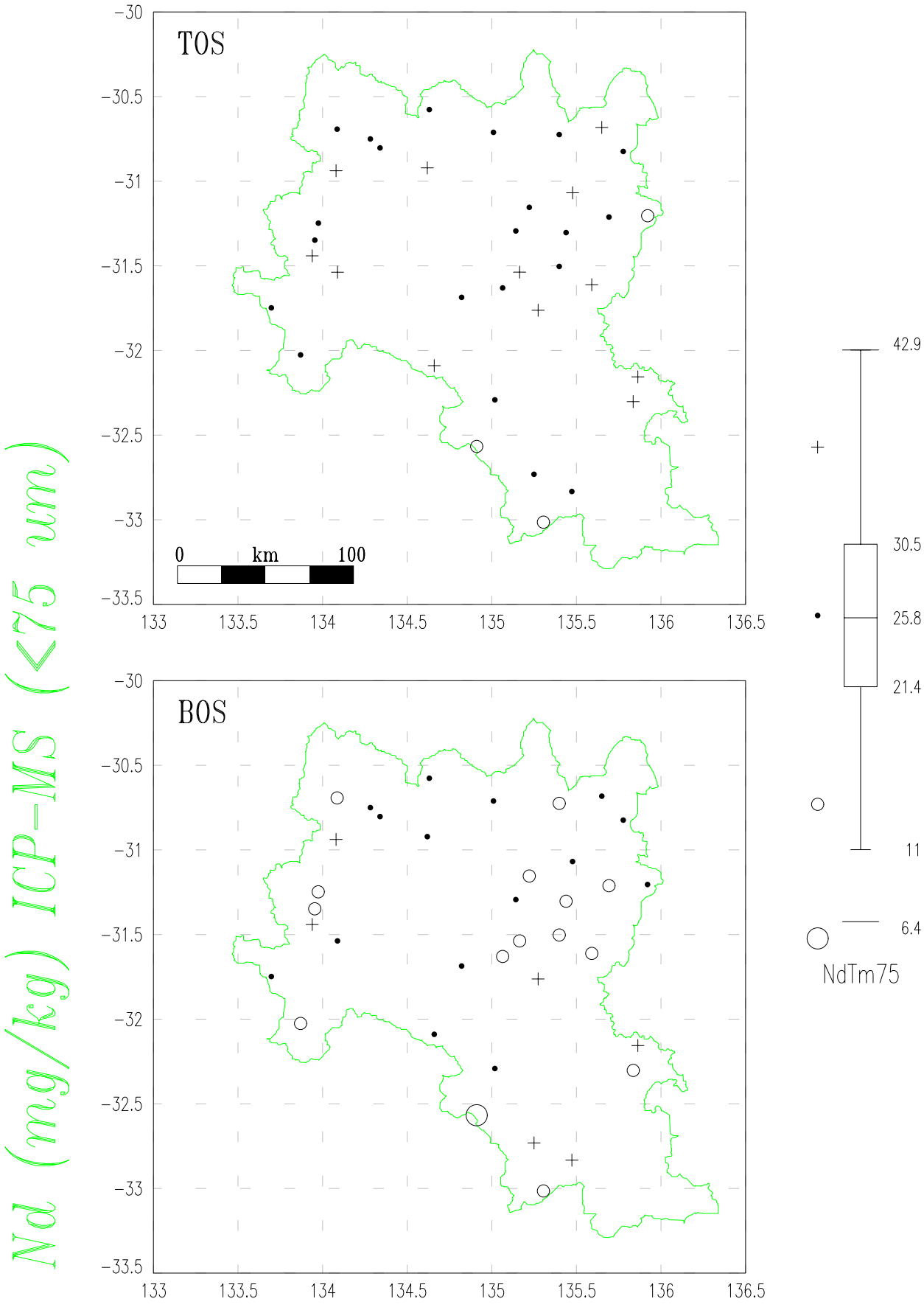




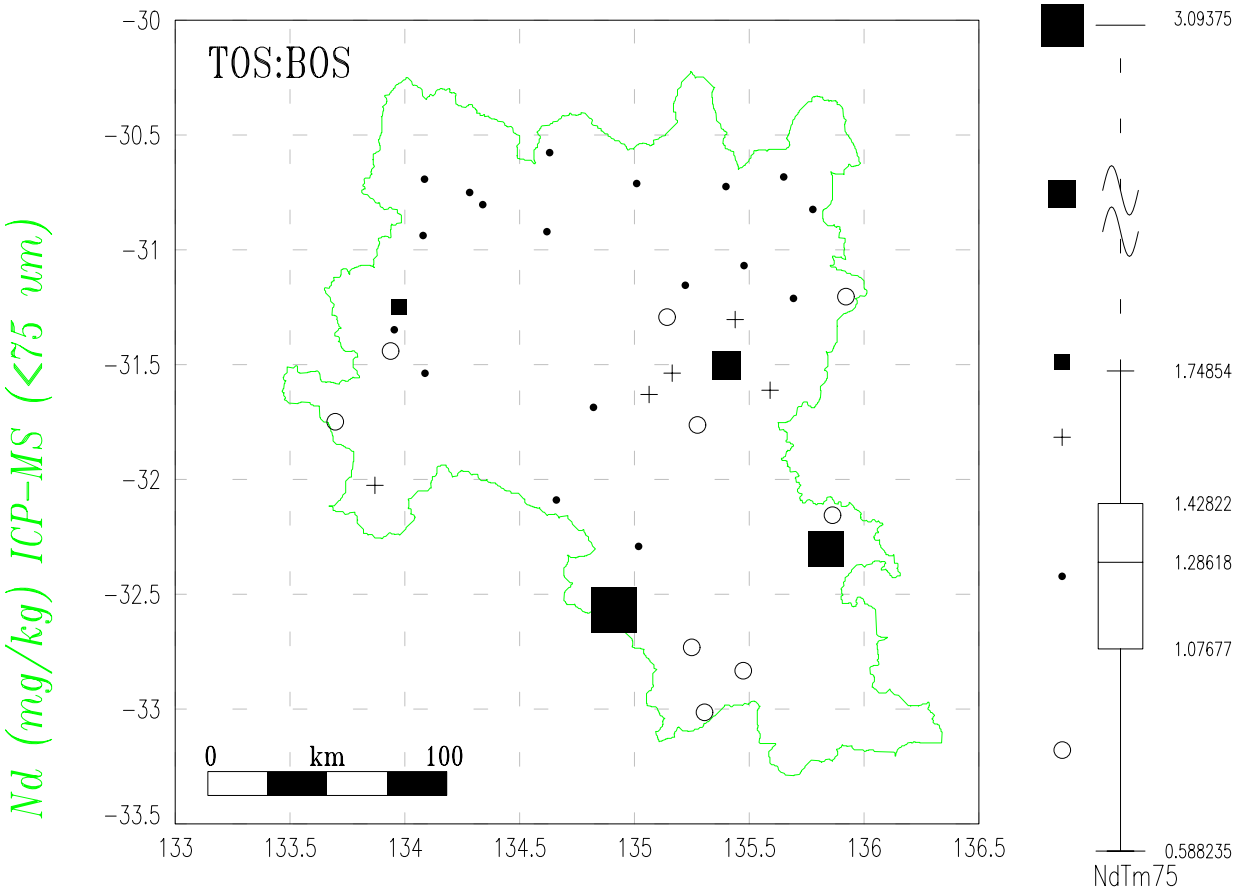


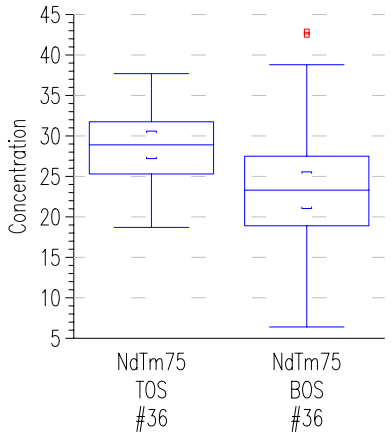
CAWLER GEOCHEMICAL SURVEY

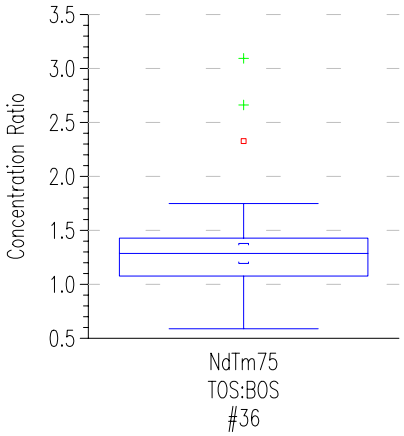
Top & Bottom Outlet Sediments (TOS & BOS)

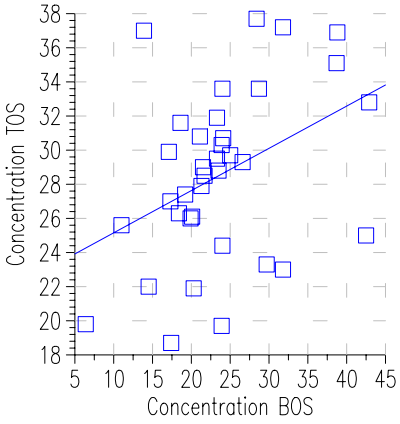


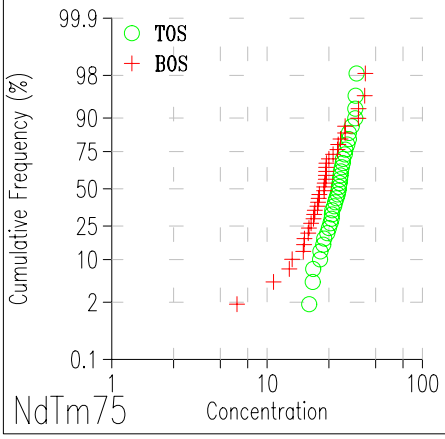
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

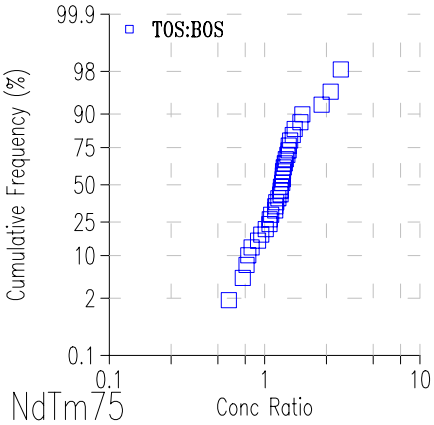


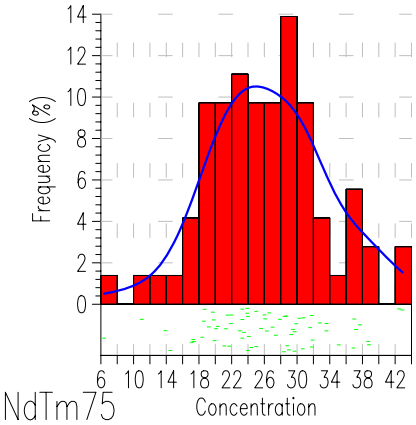




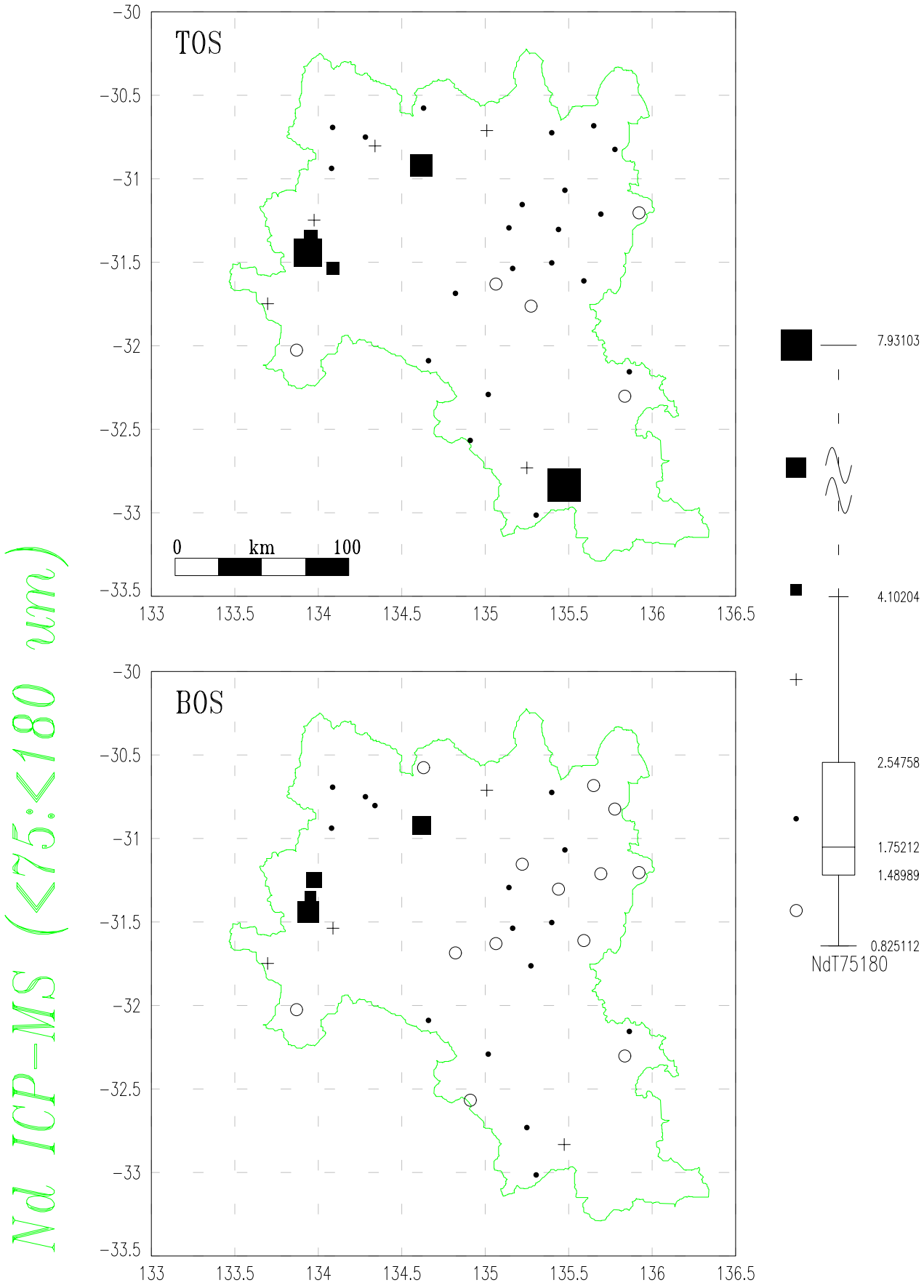




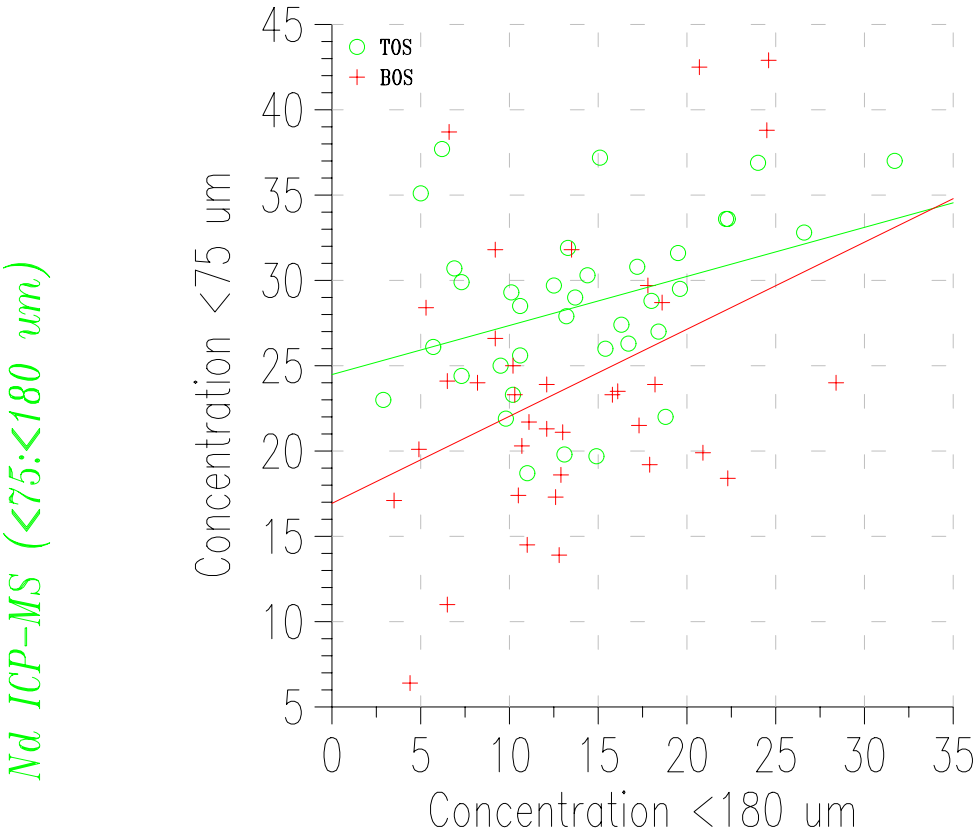


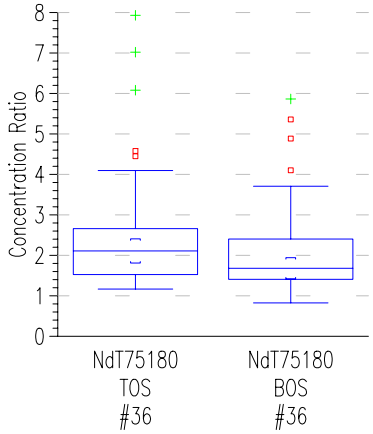


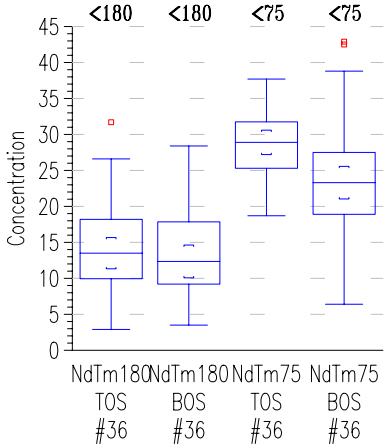
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

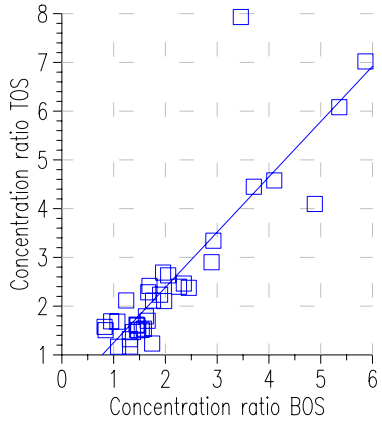


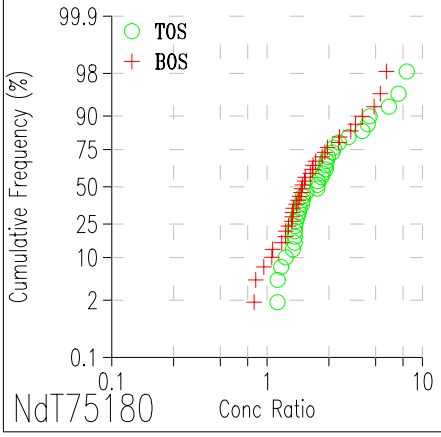
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

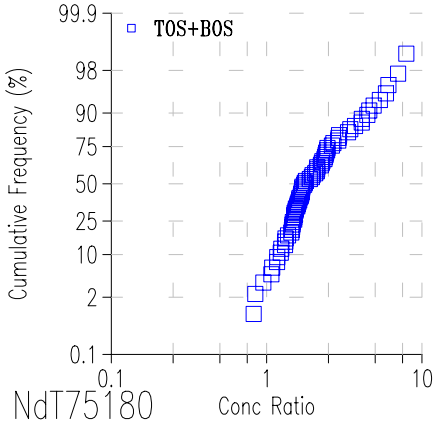


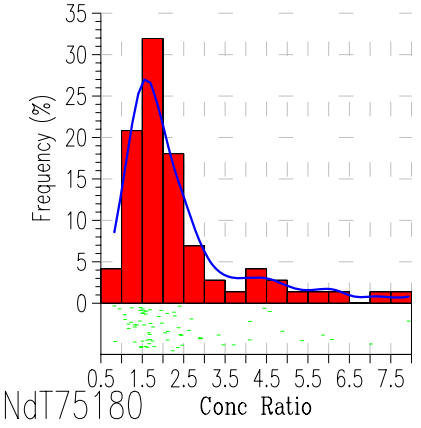






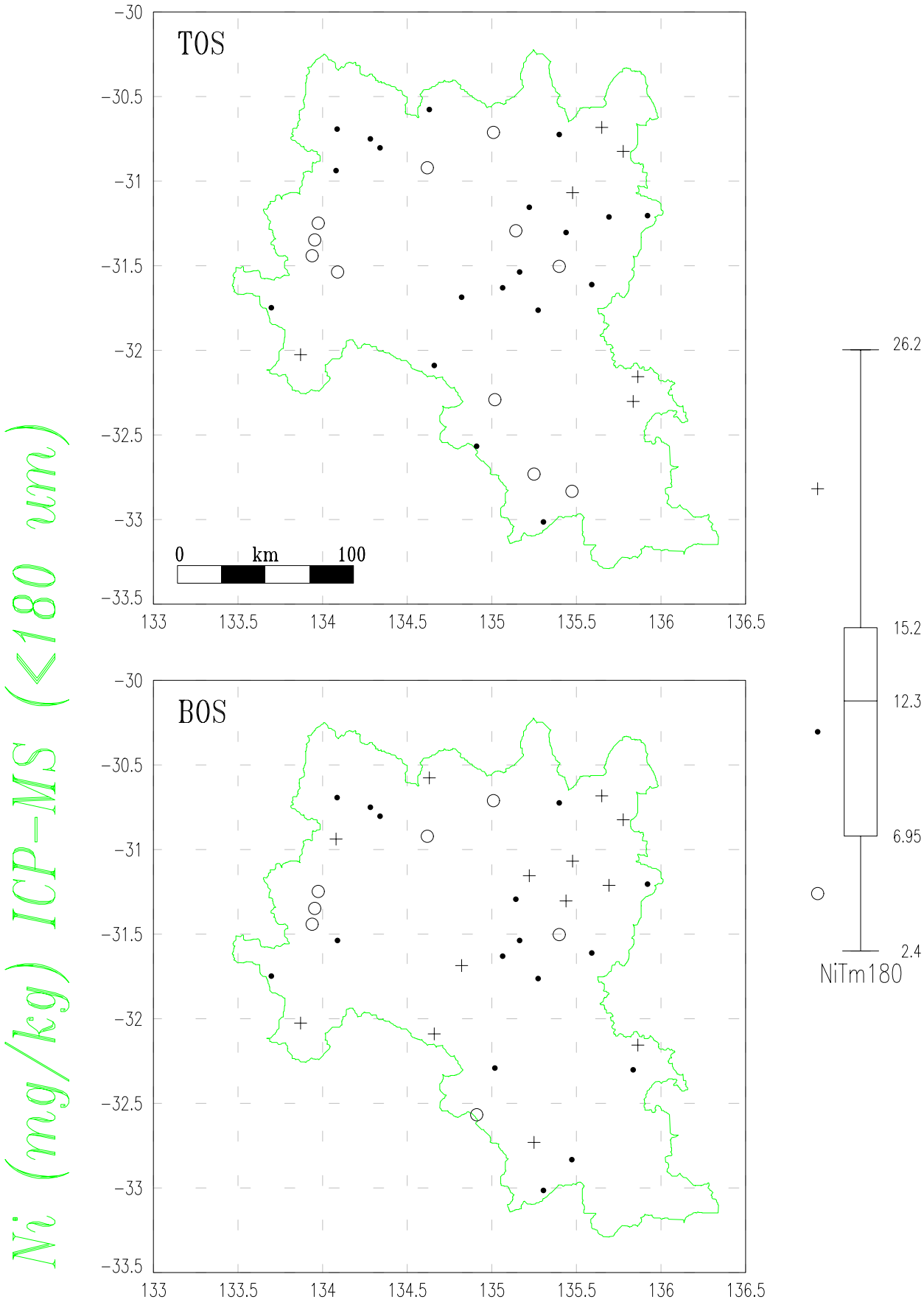




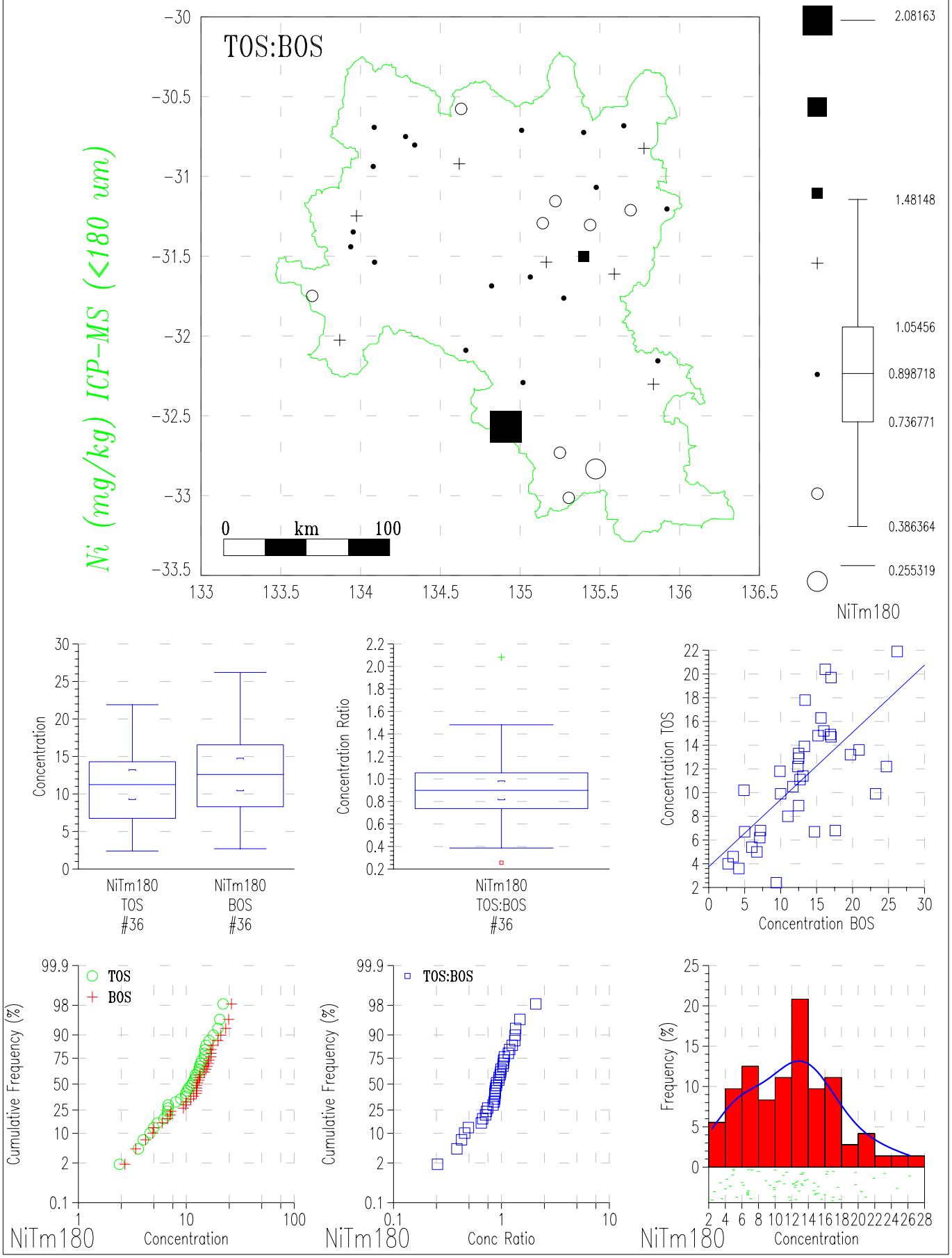


CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

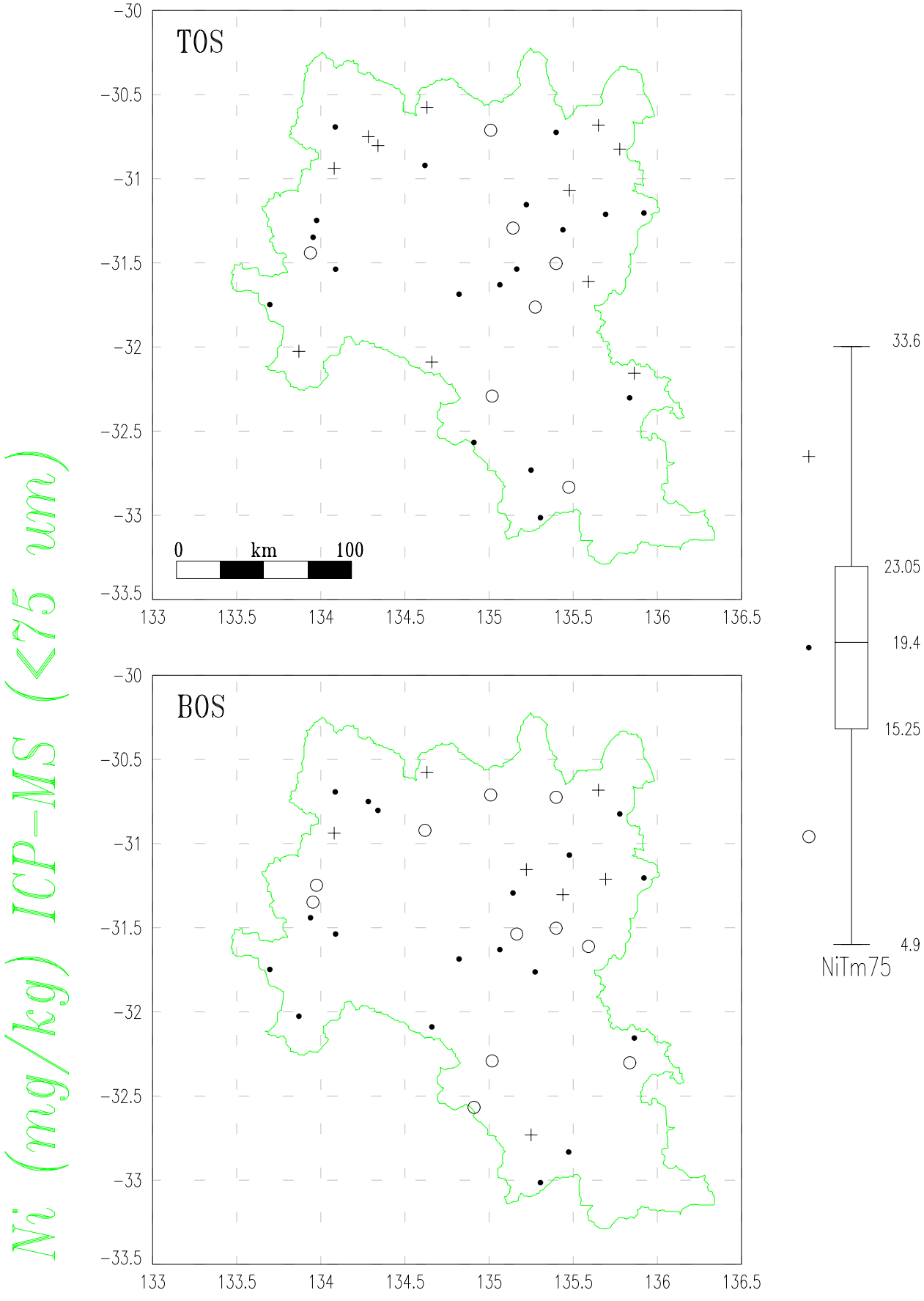


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

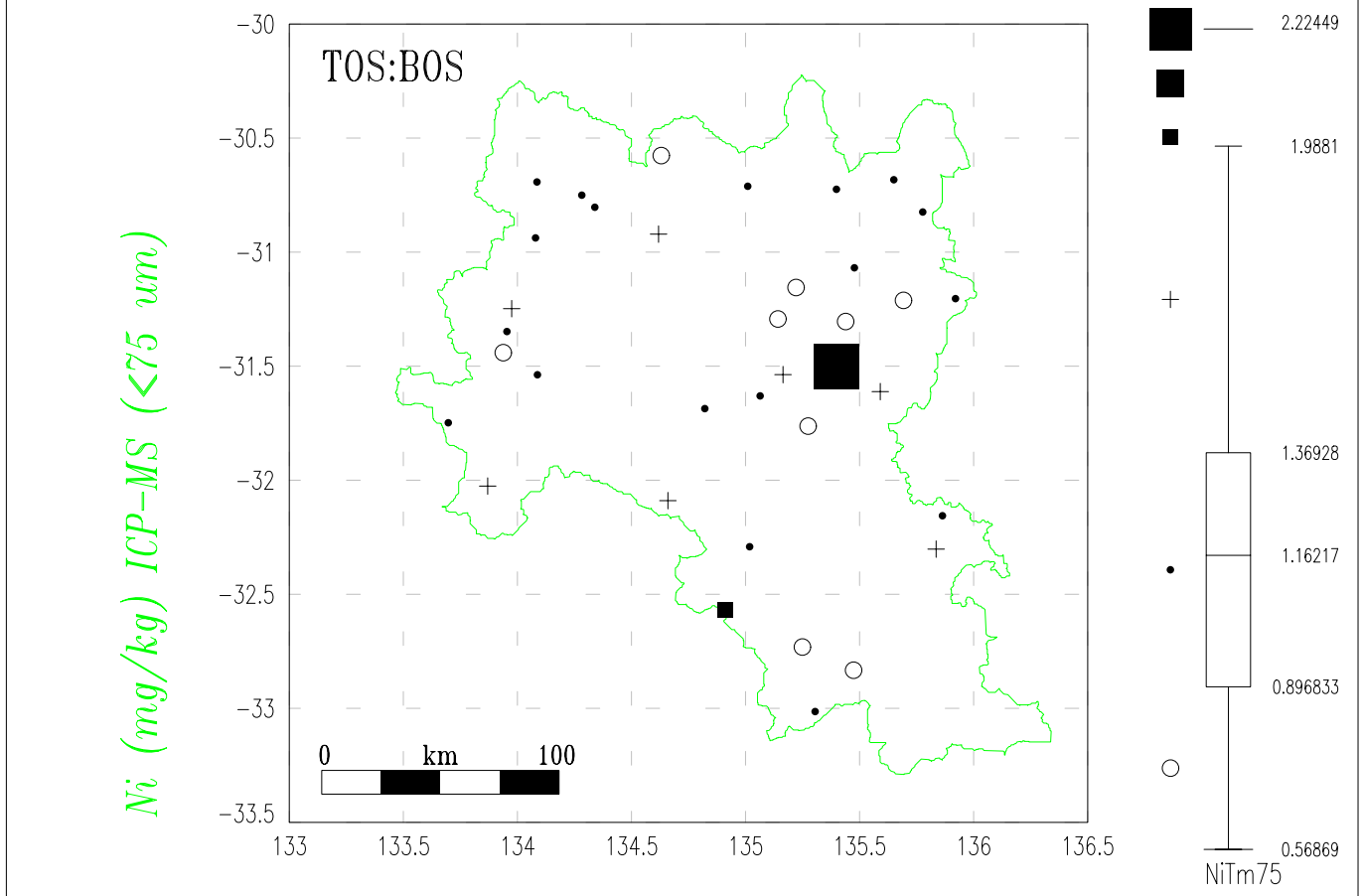


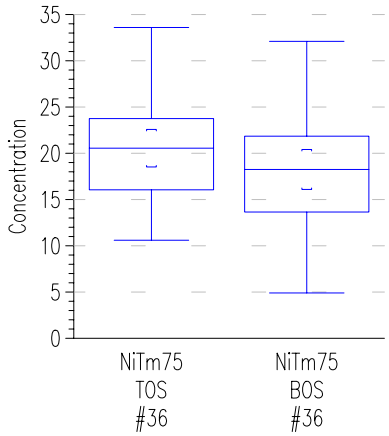
GAWLER GEOCHEMICAL SURVEY

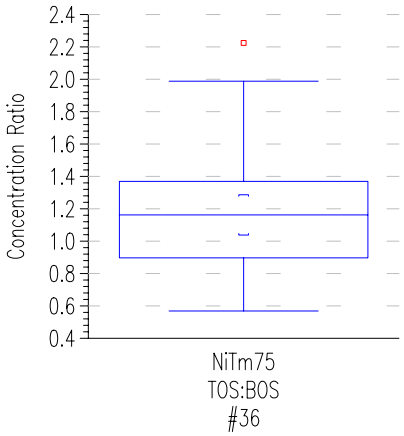
Top & Bottom Outlet Sediments (TOS & BOS)

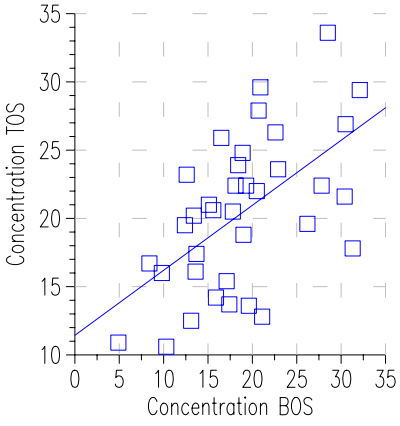


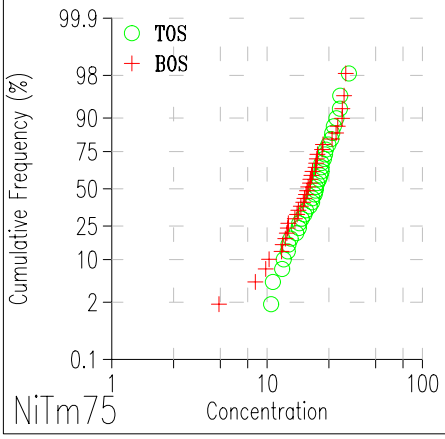
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

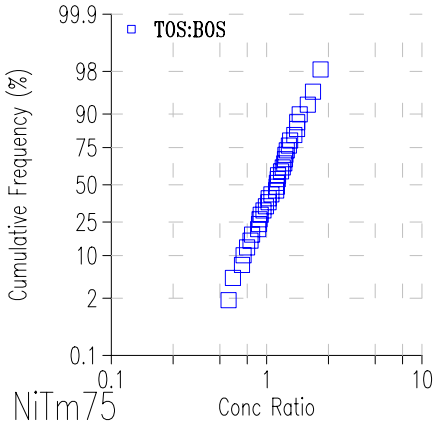


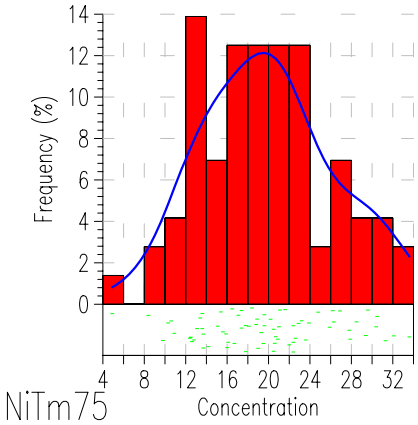




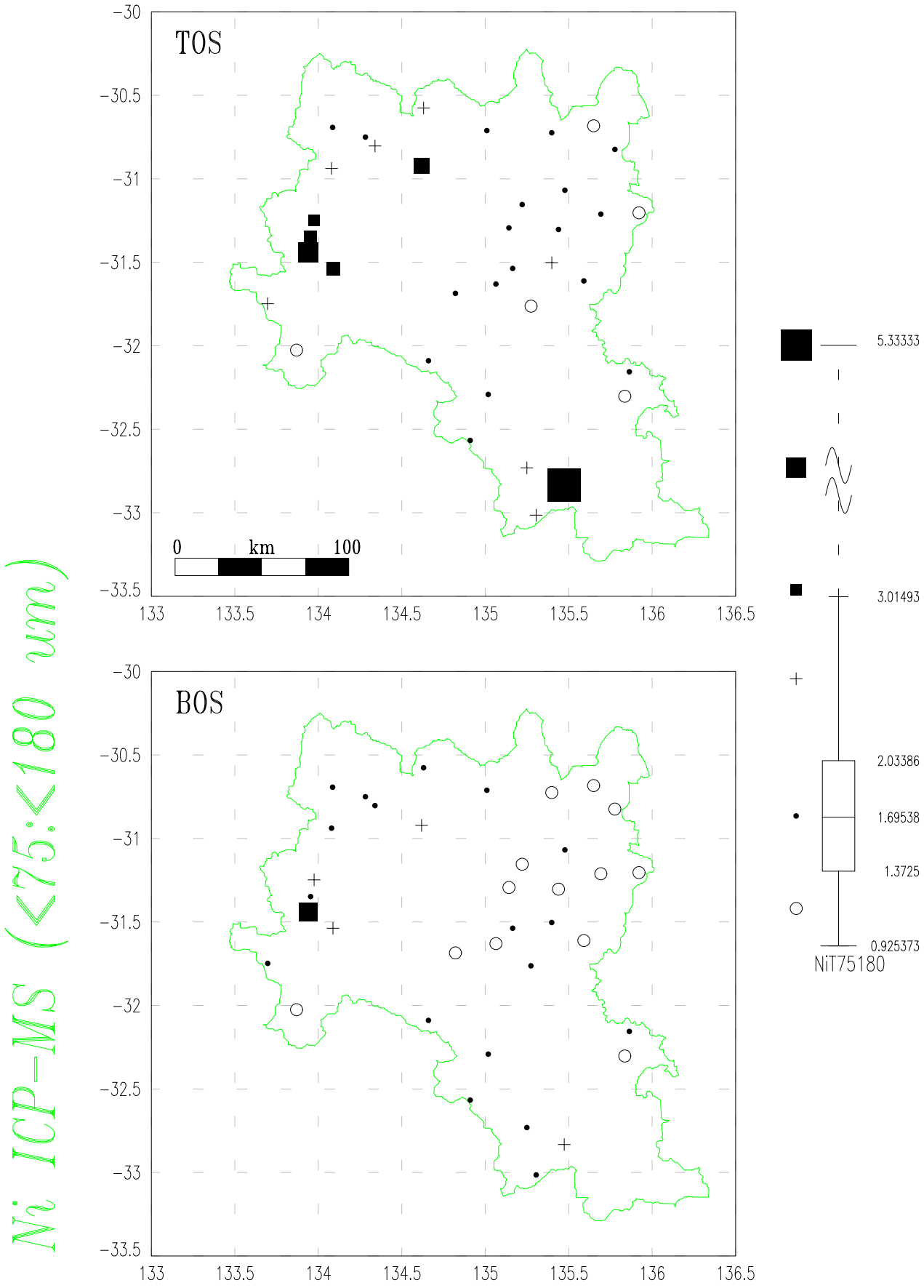




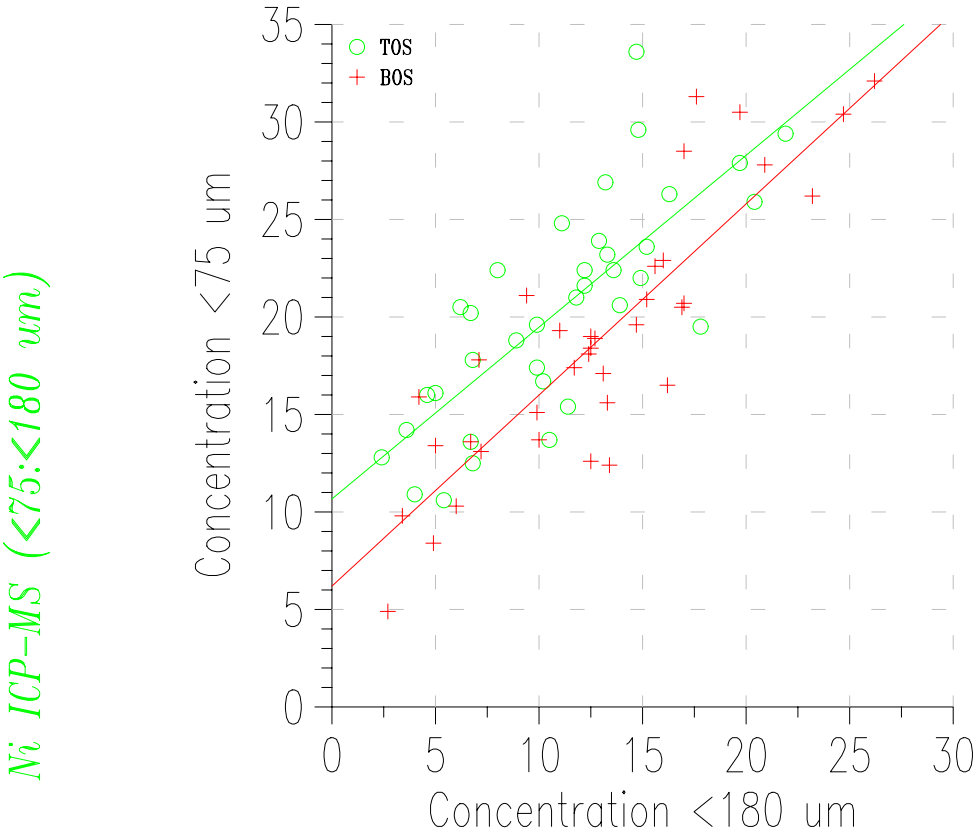


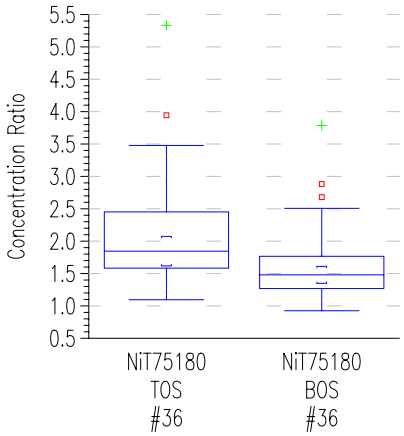


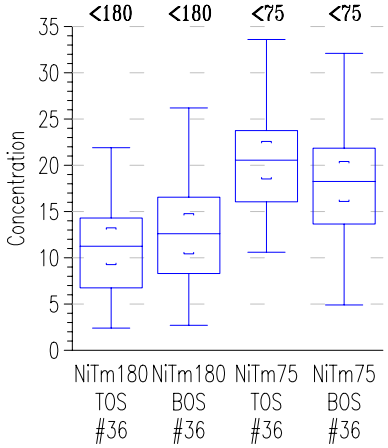
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

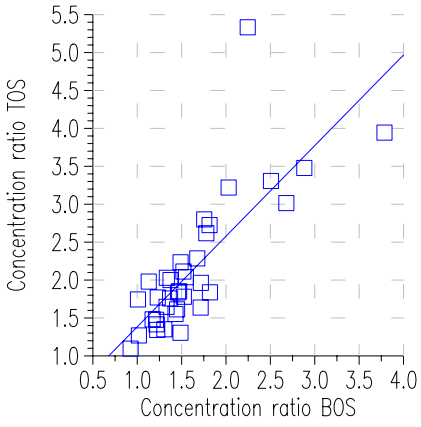


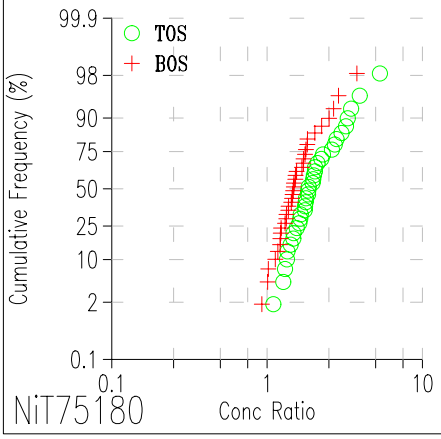
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

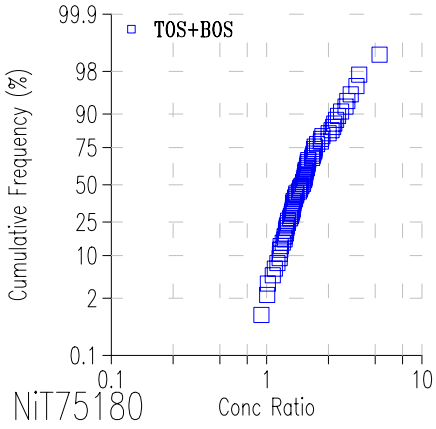


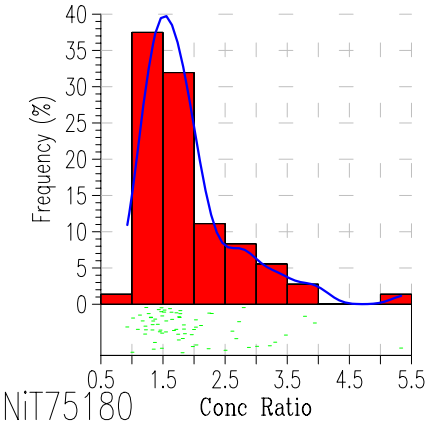






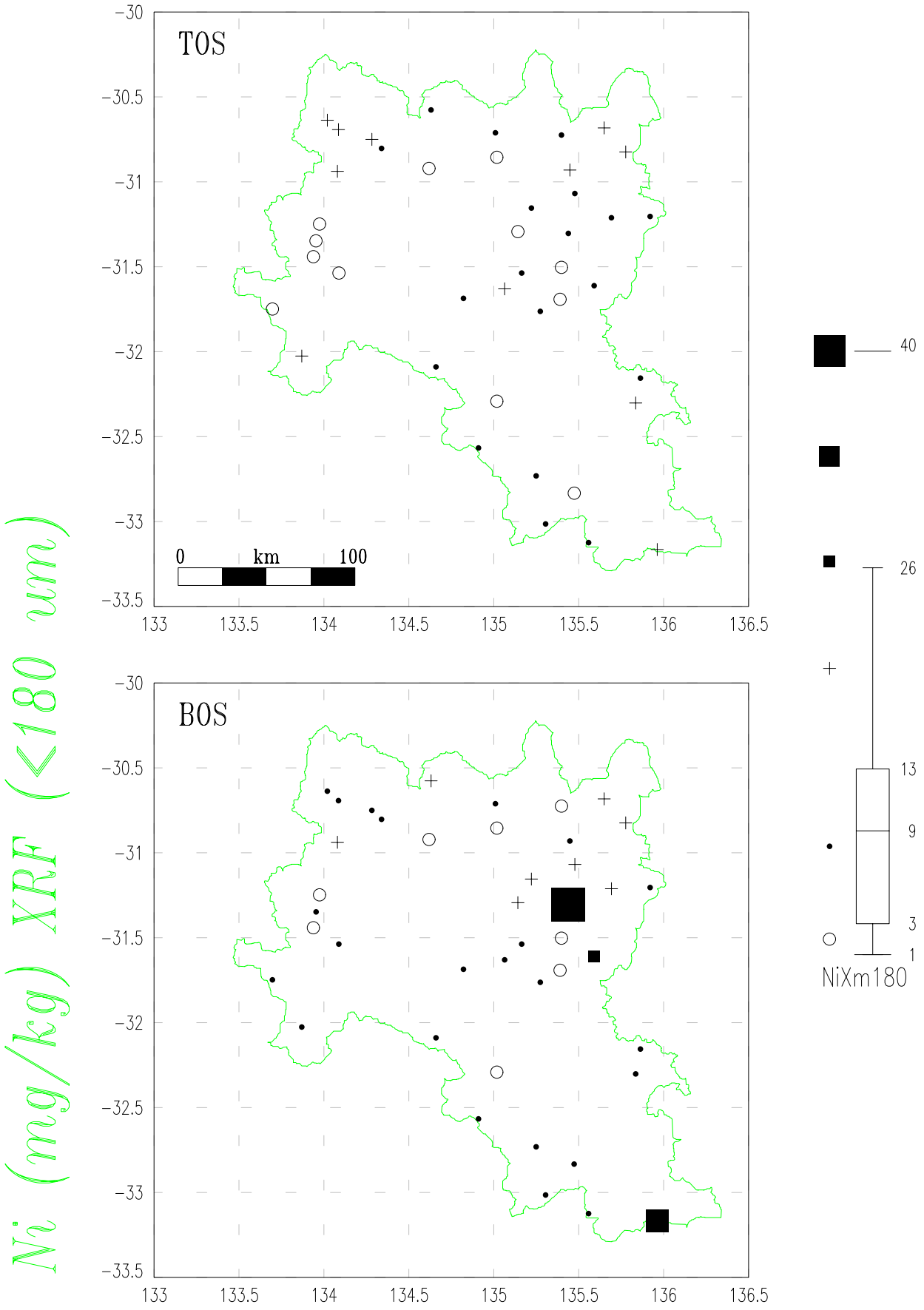






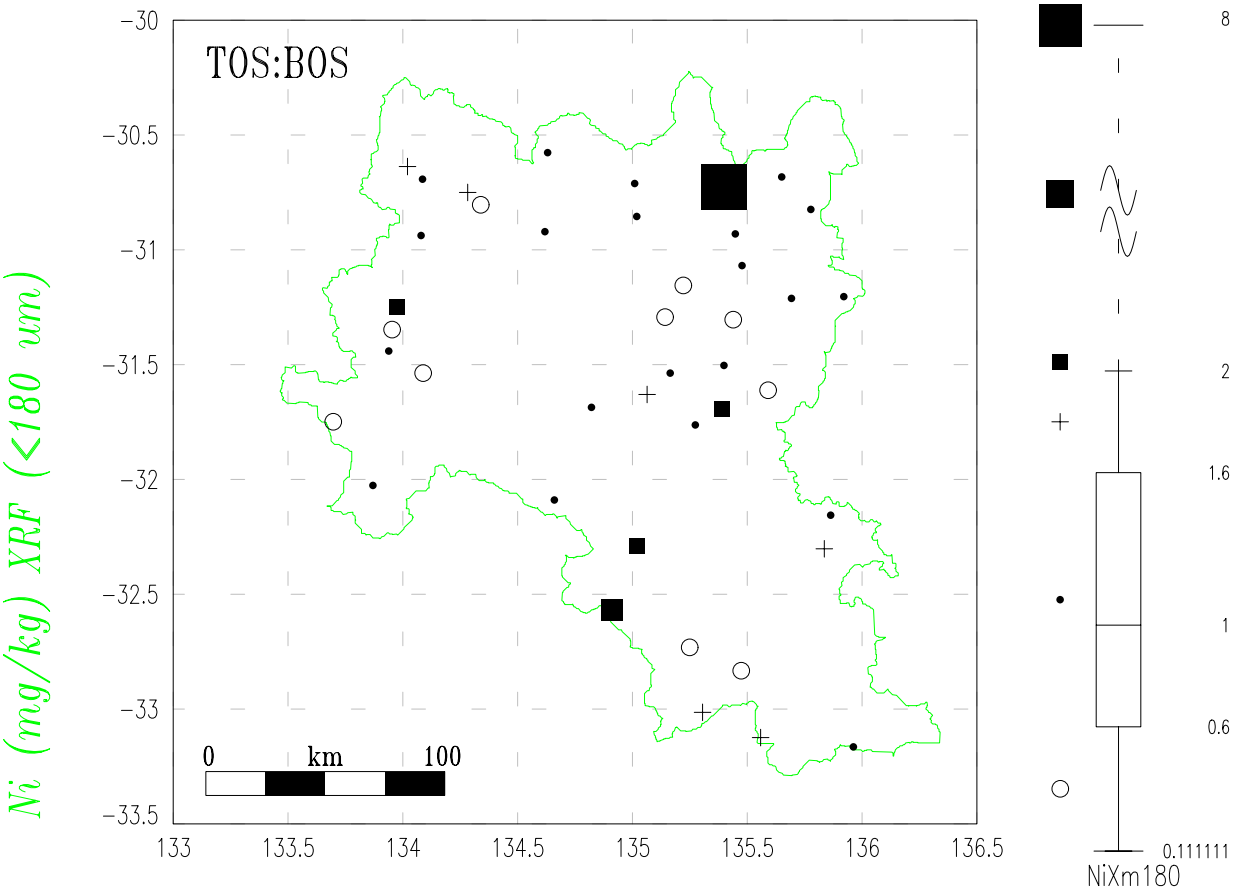
GAWLER GEOCHEMICAL SURVEY

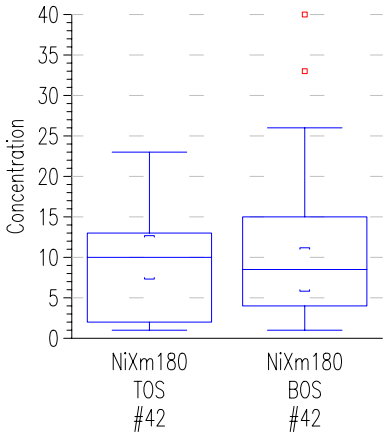
Top & Bottom Outlet Sediments (TOS & BOS)

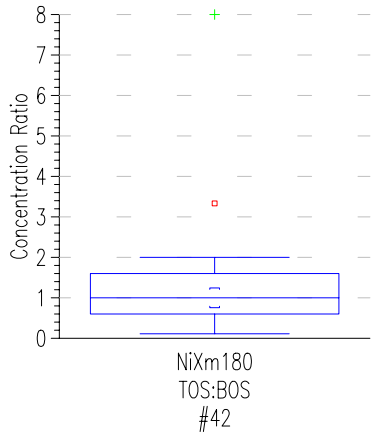


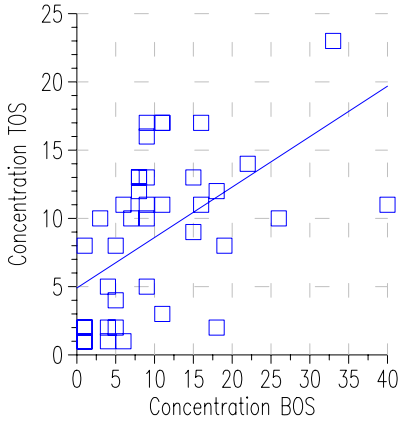
CAWLER GEOCHEMICAL SURVEY

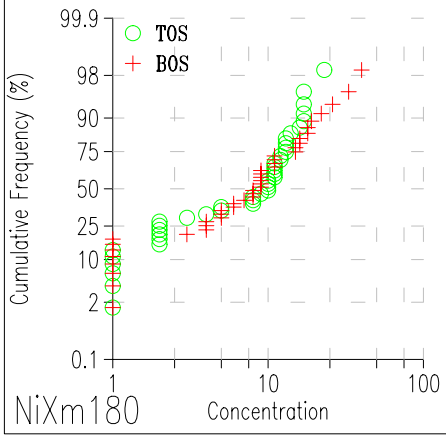
Top & Bottom Outlet Sediments (TOS & BOS)

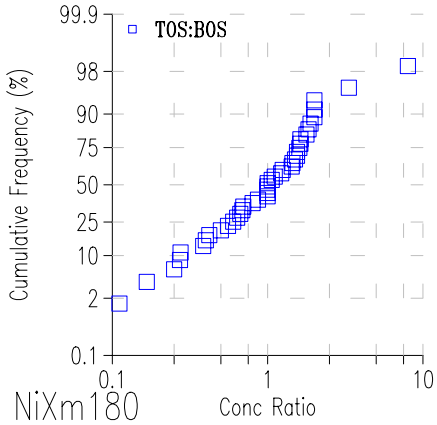


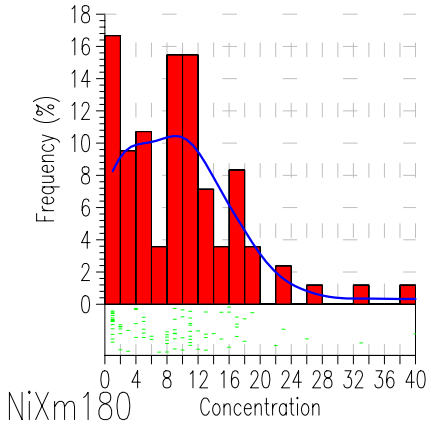






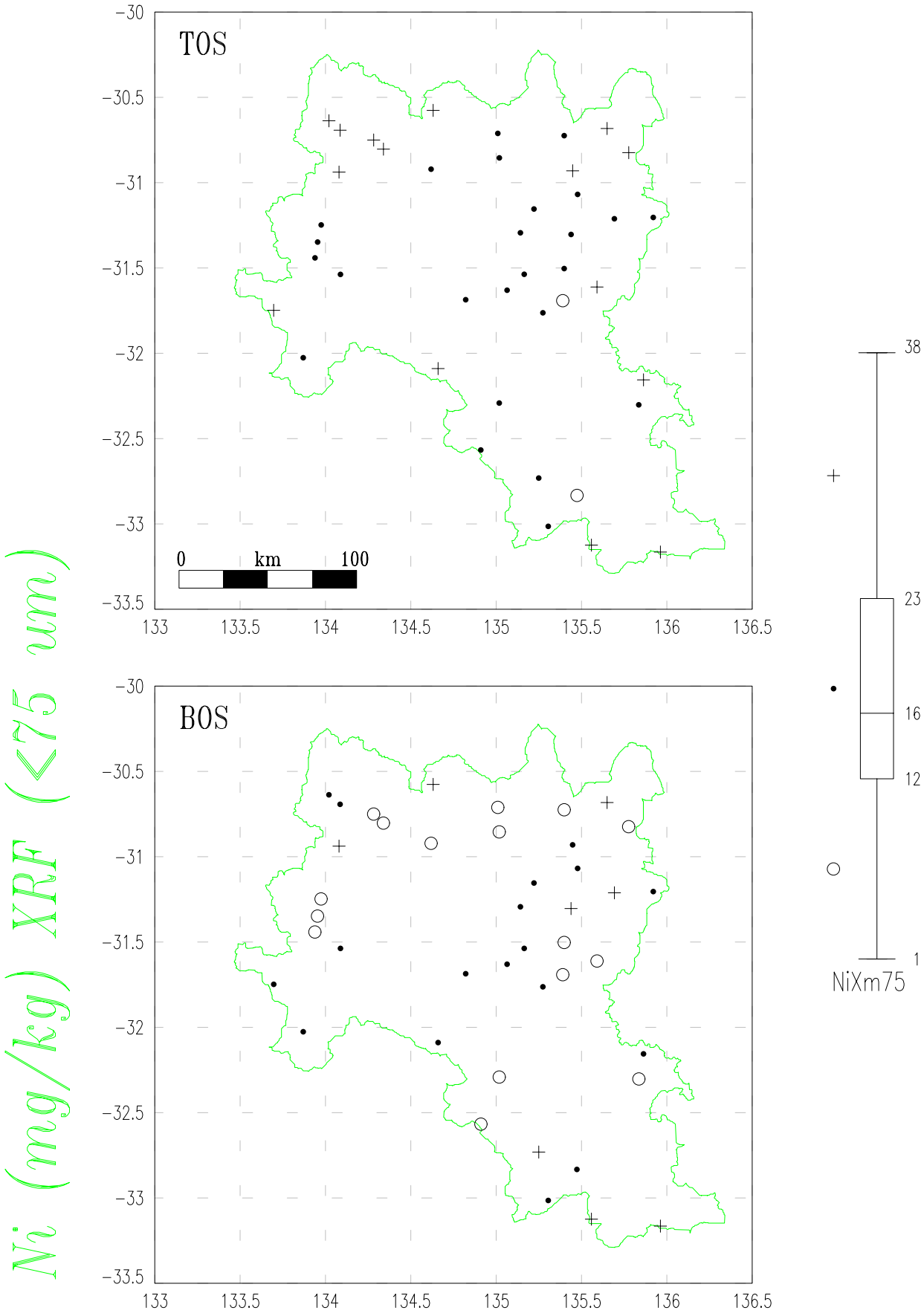




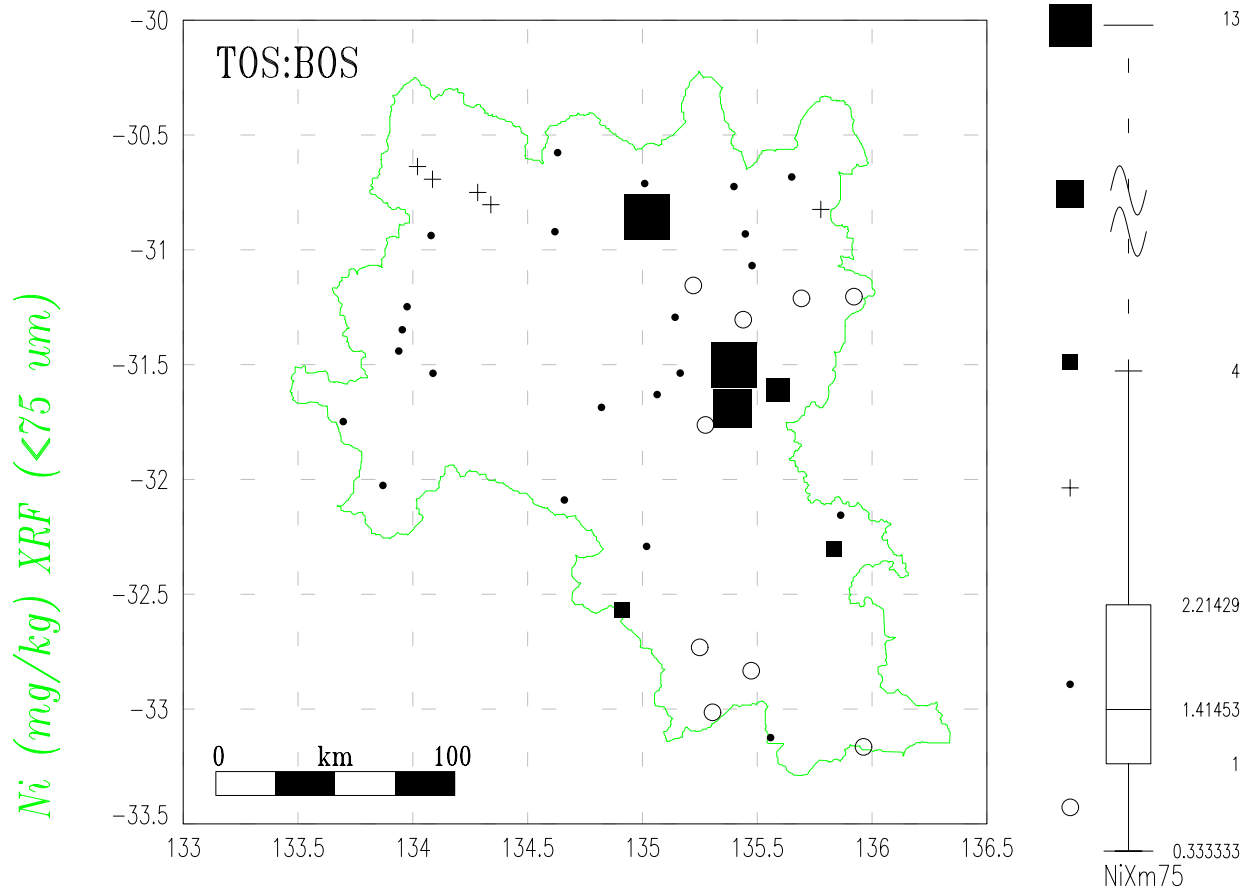


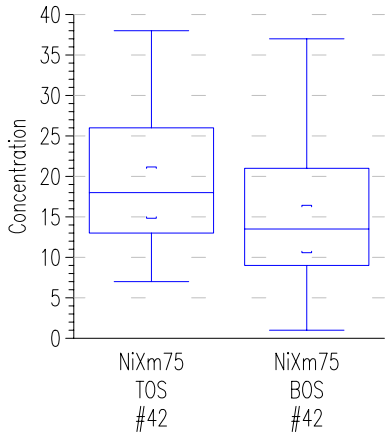
GAWLER GEOCHEMICAL SURVEY

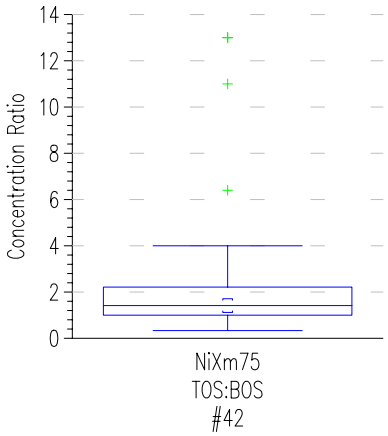
Top & Bottom Outlet Sediments (TOS & BOS)

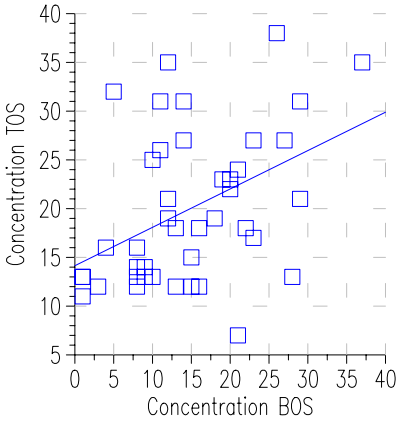


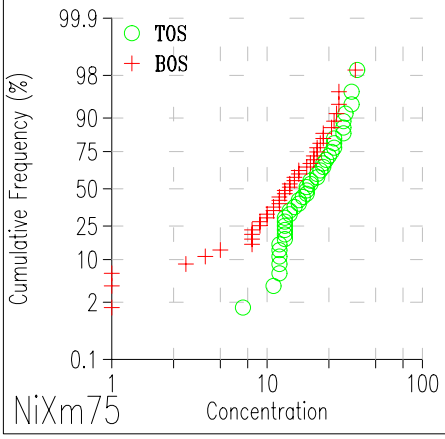
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

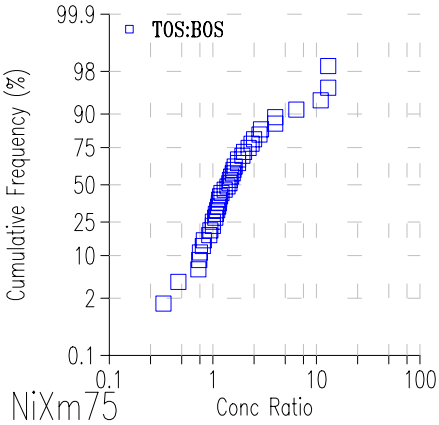


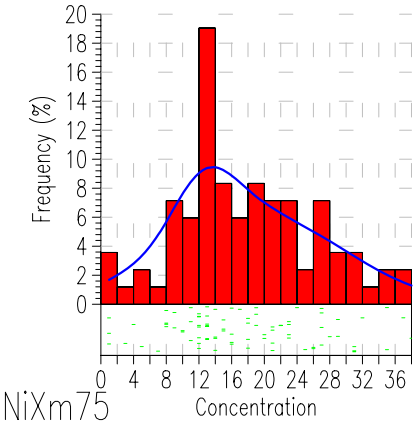






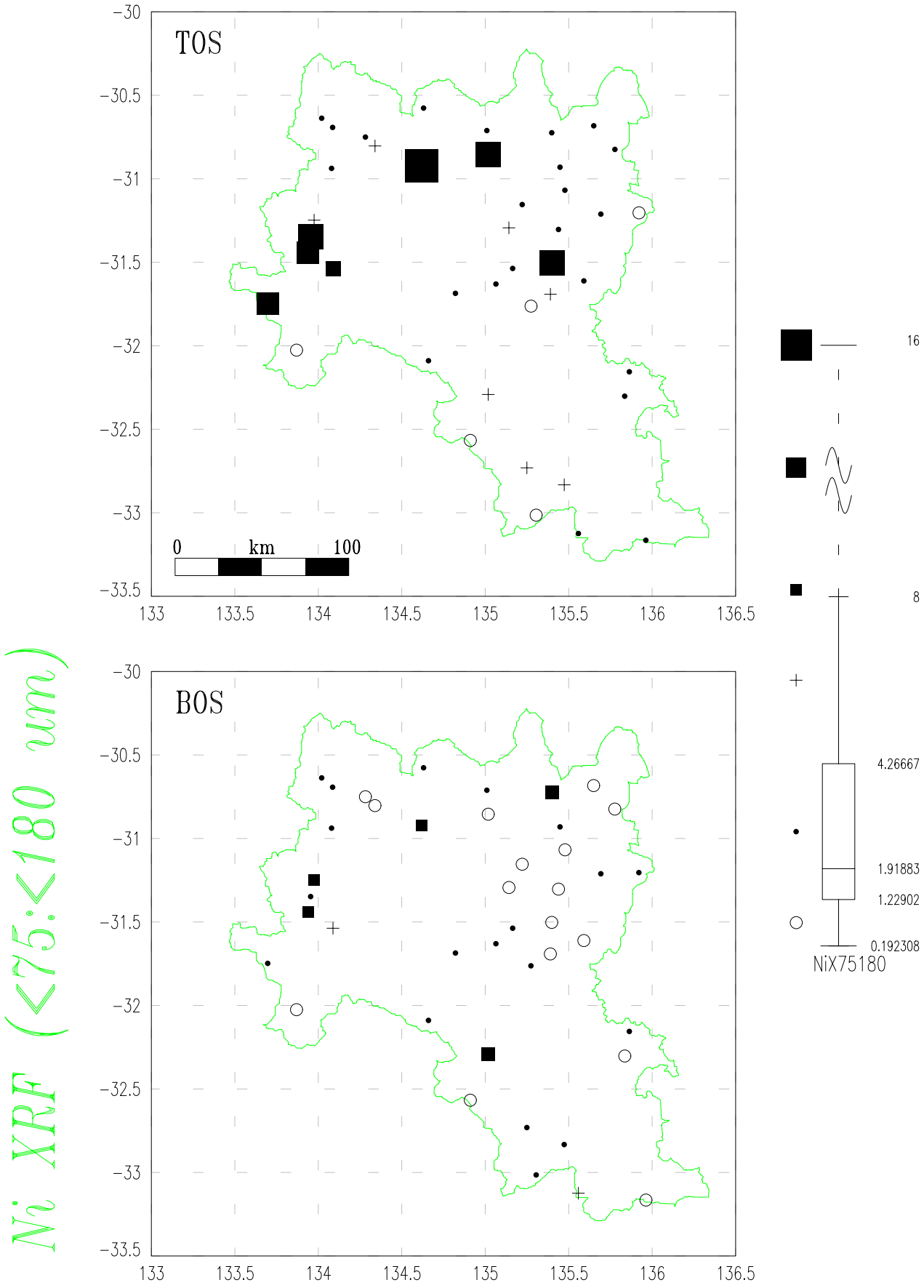






GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

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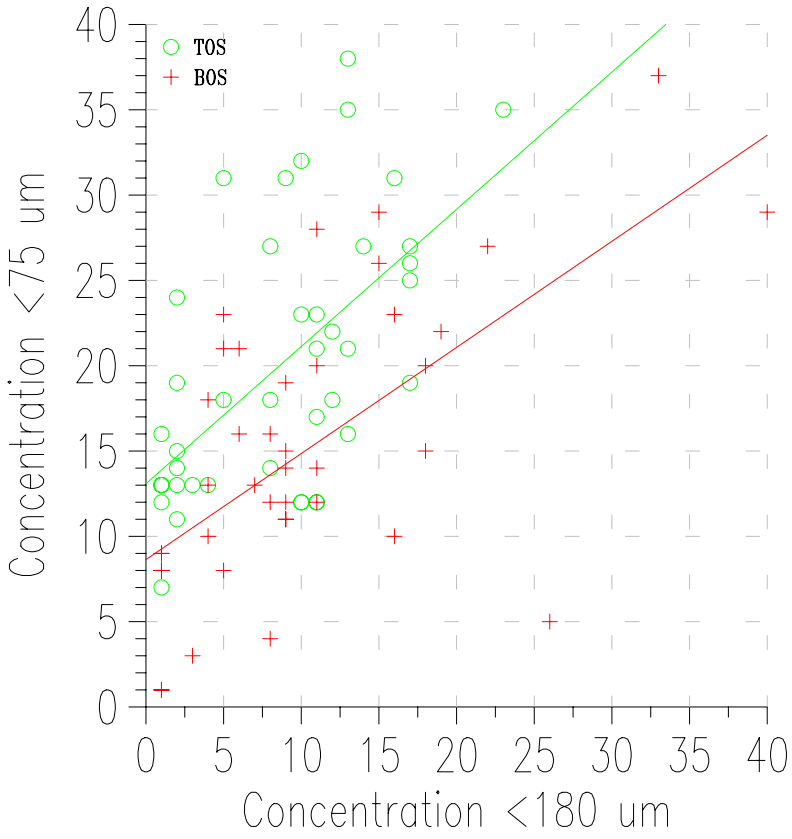
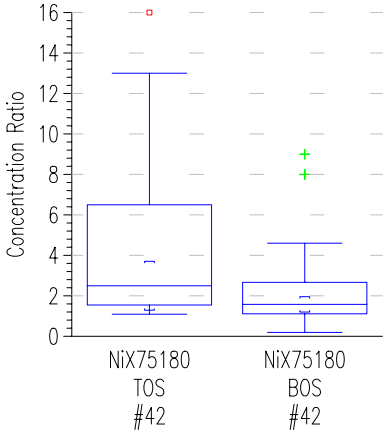
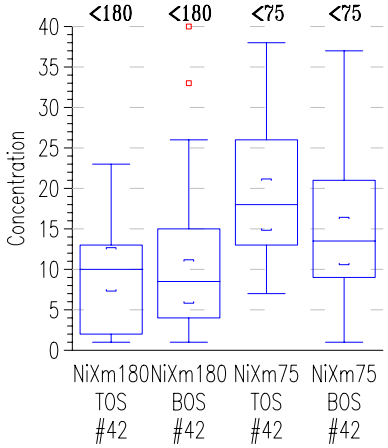
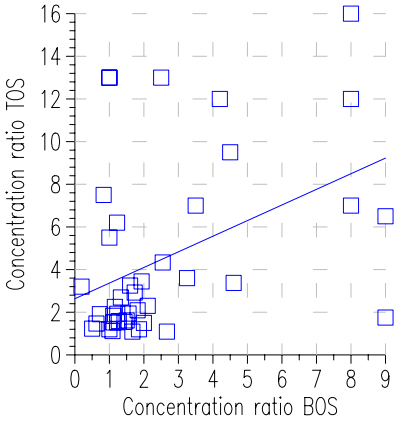
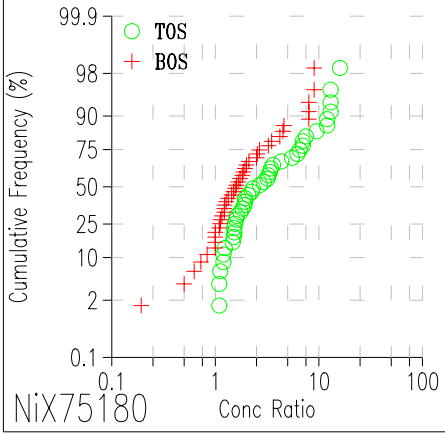
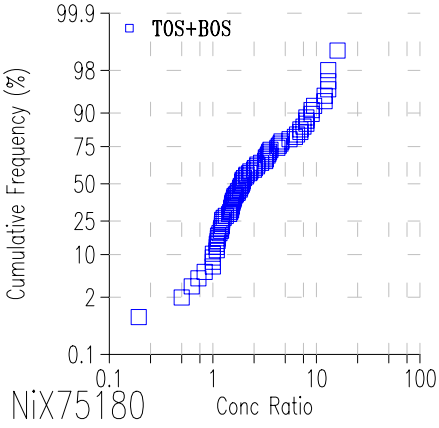


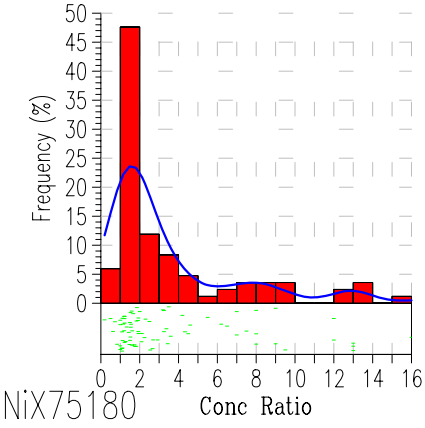






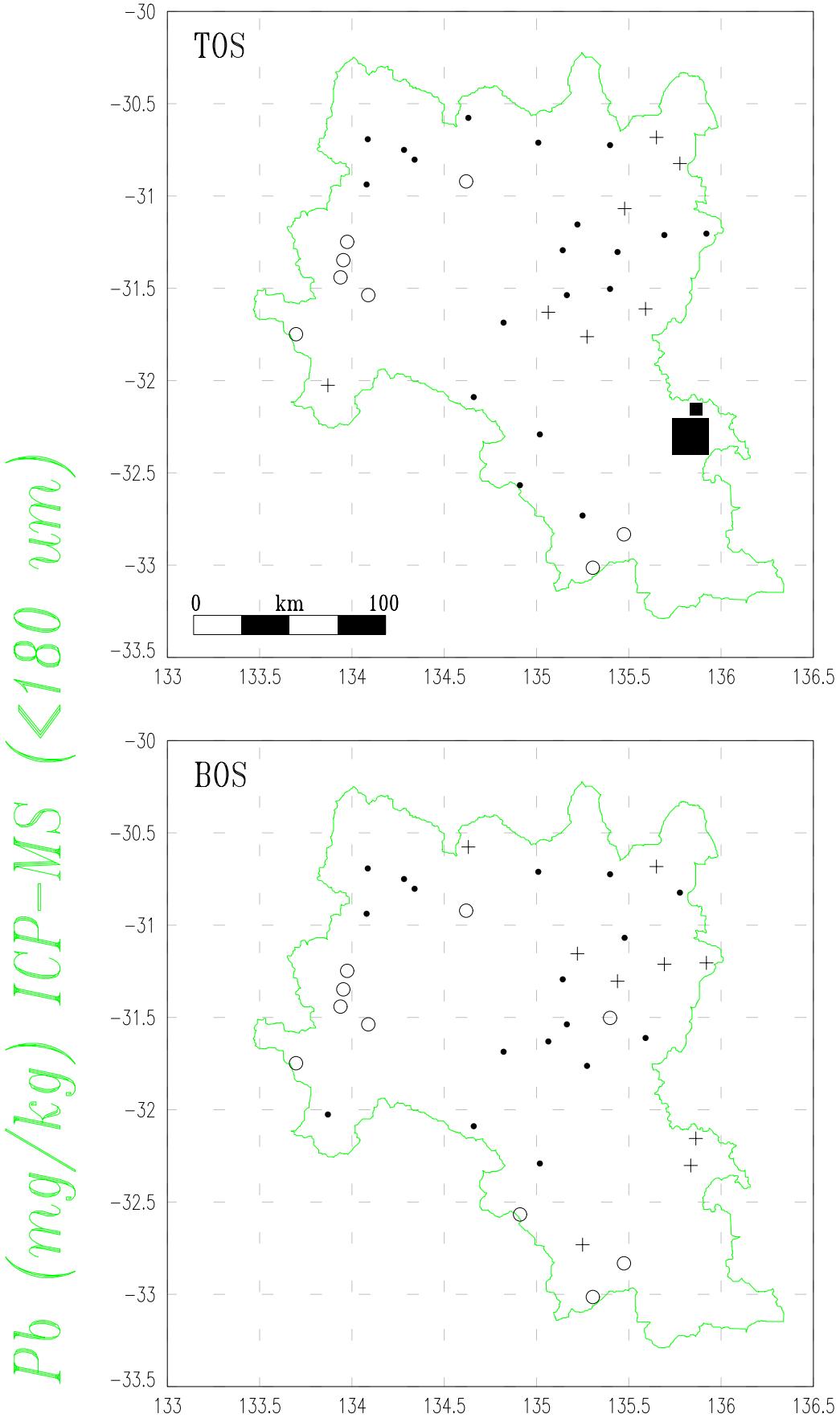




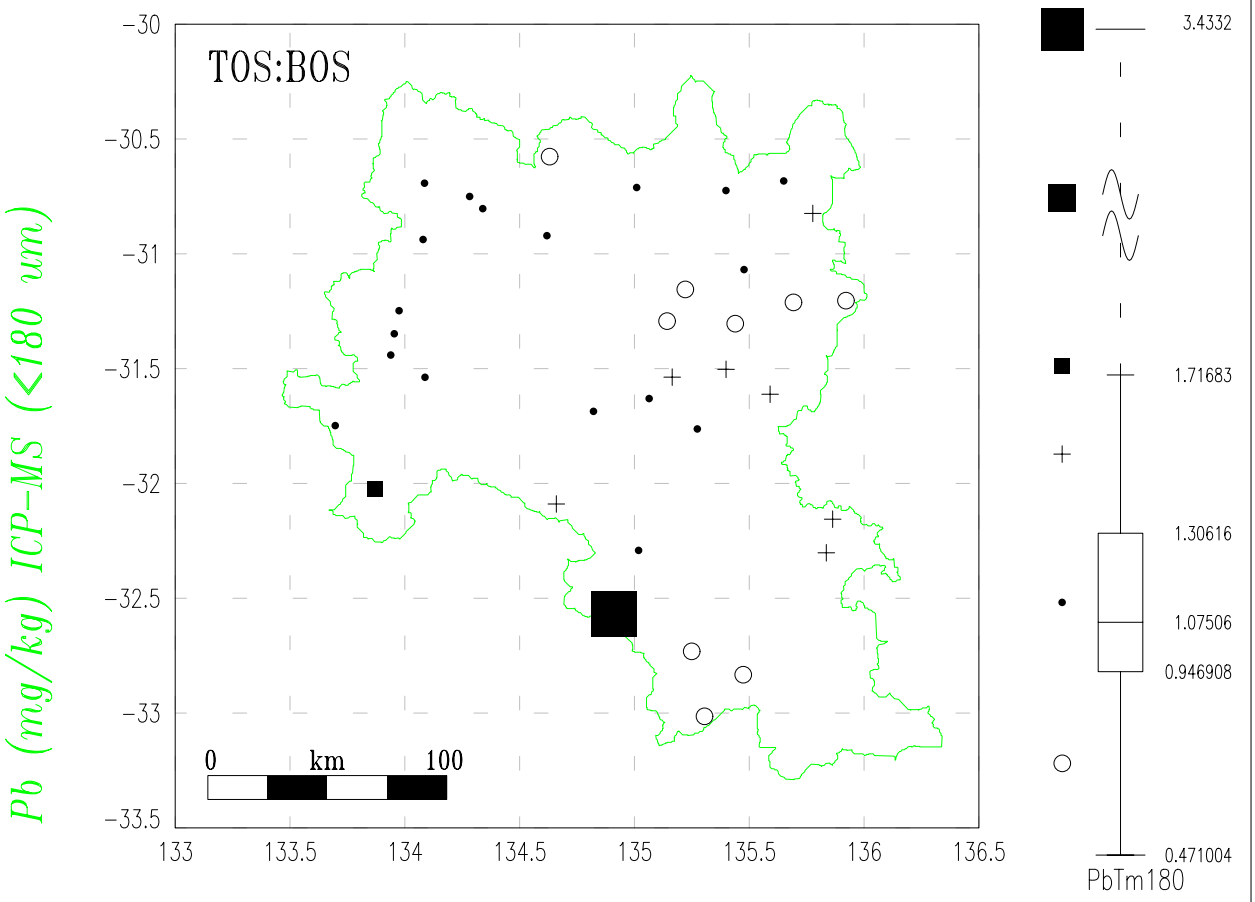


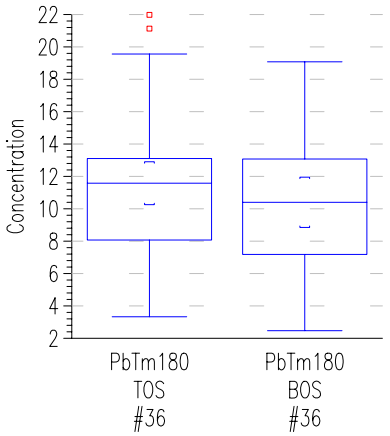
GAWLER GEOCHEMICAL SURVEY

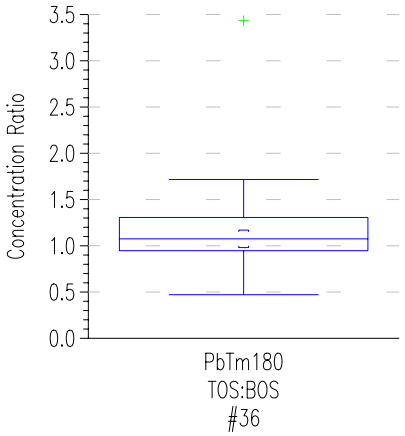
Top & Bottom Outlet Sediments (TOS & BOS)

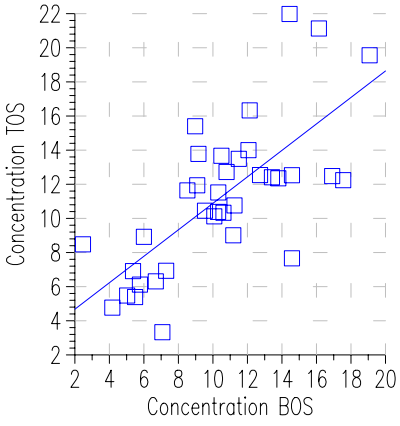


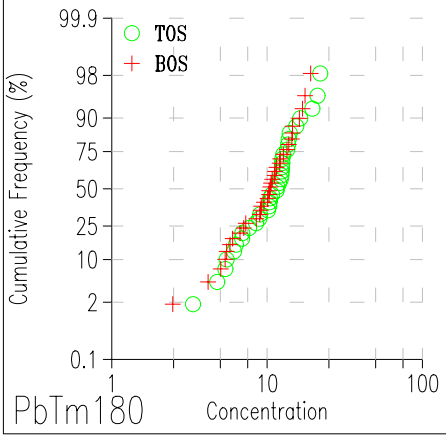
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

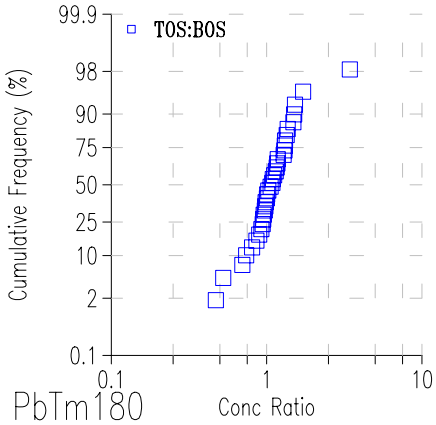


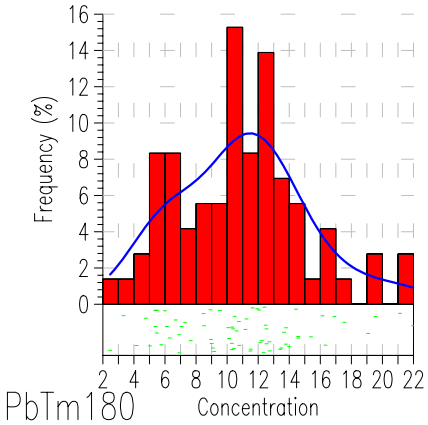






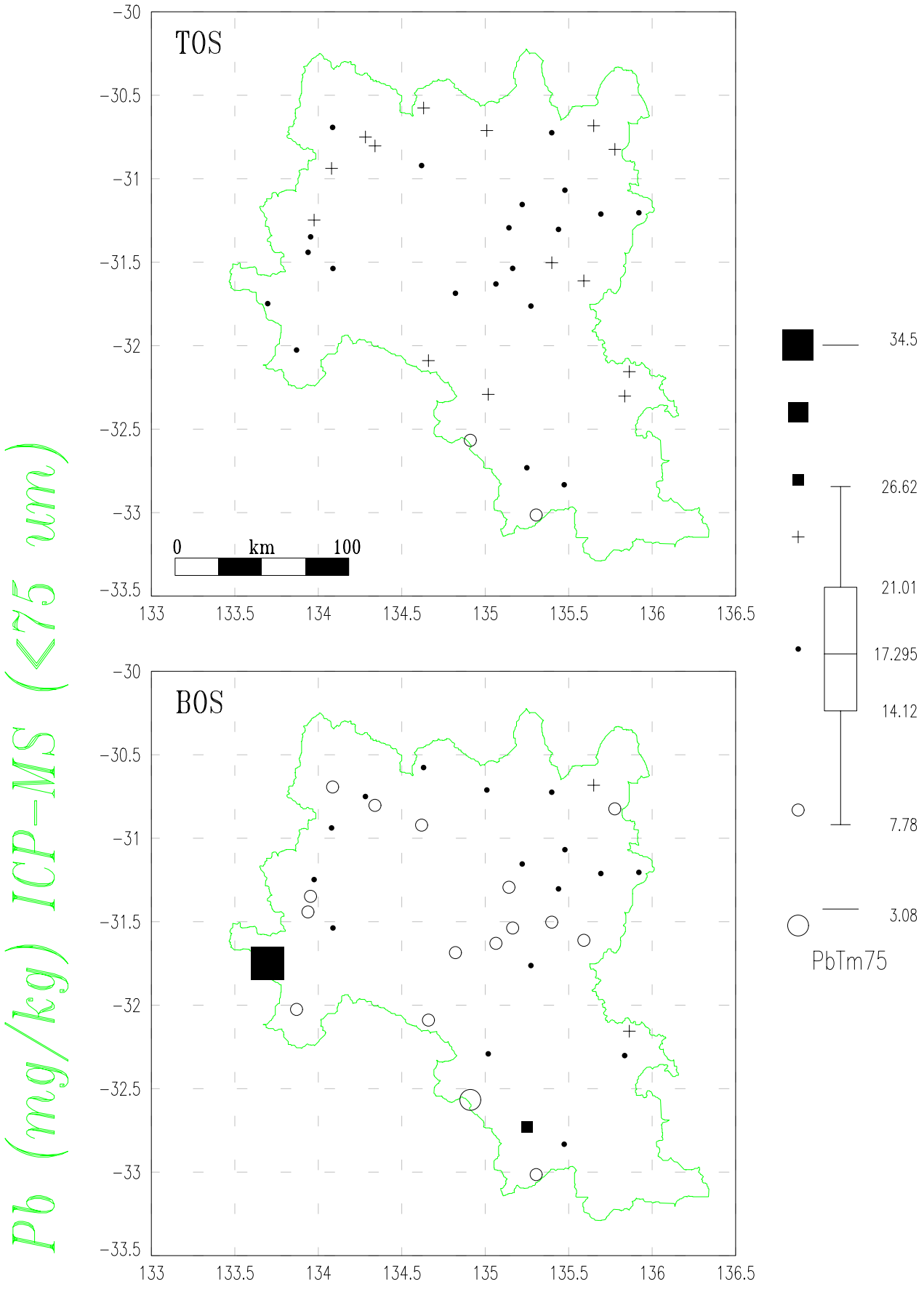




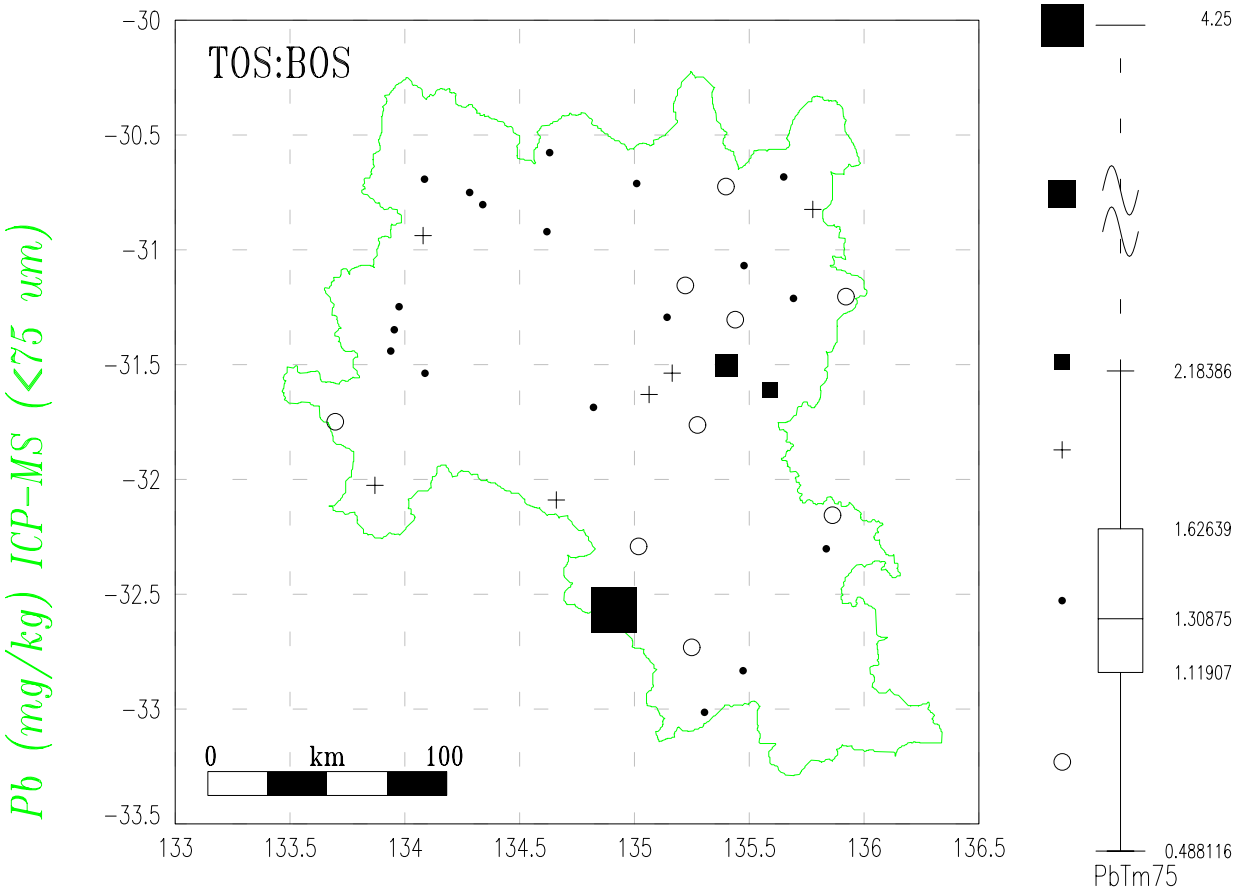


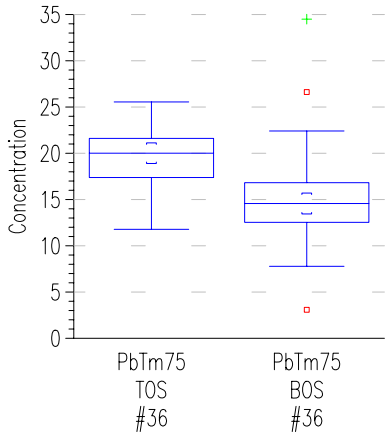
GAWLER GEOCHEMICAL SURVEY

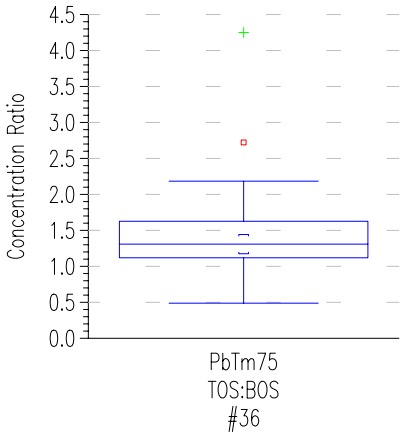
Top & Bottom Outlet Sediments (TOS & BOS)

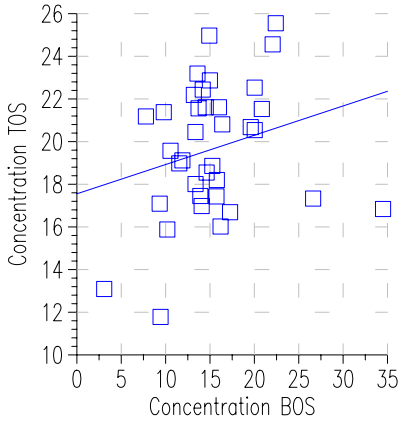


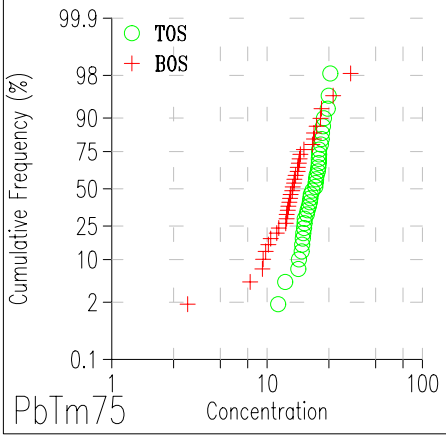
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

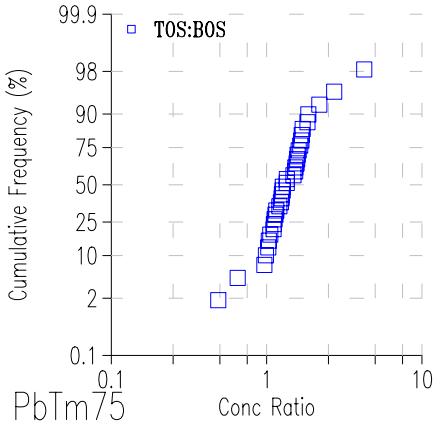


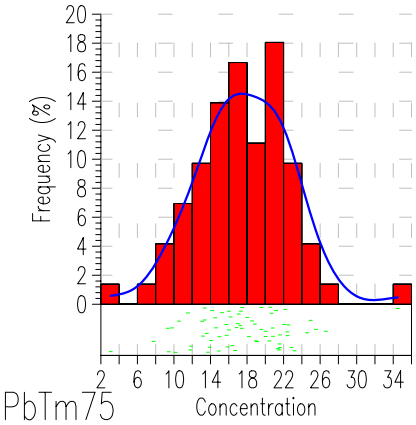






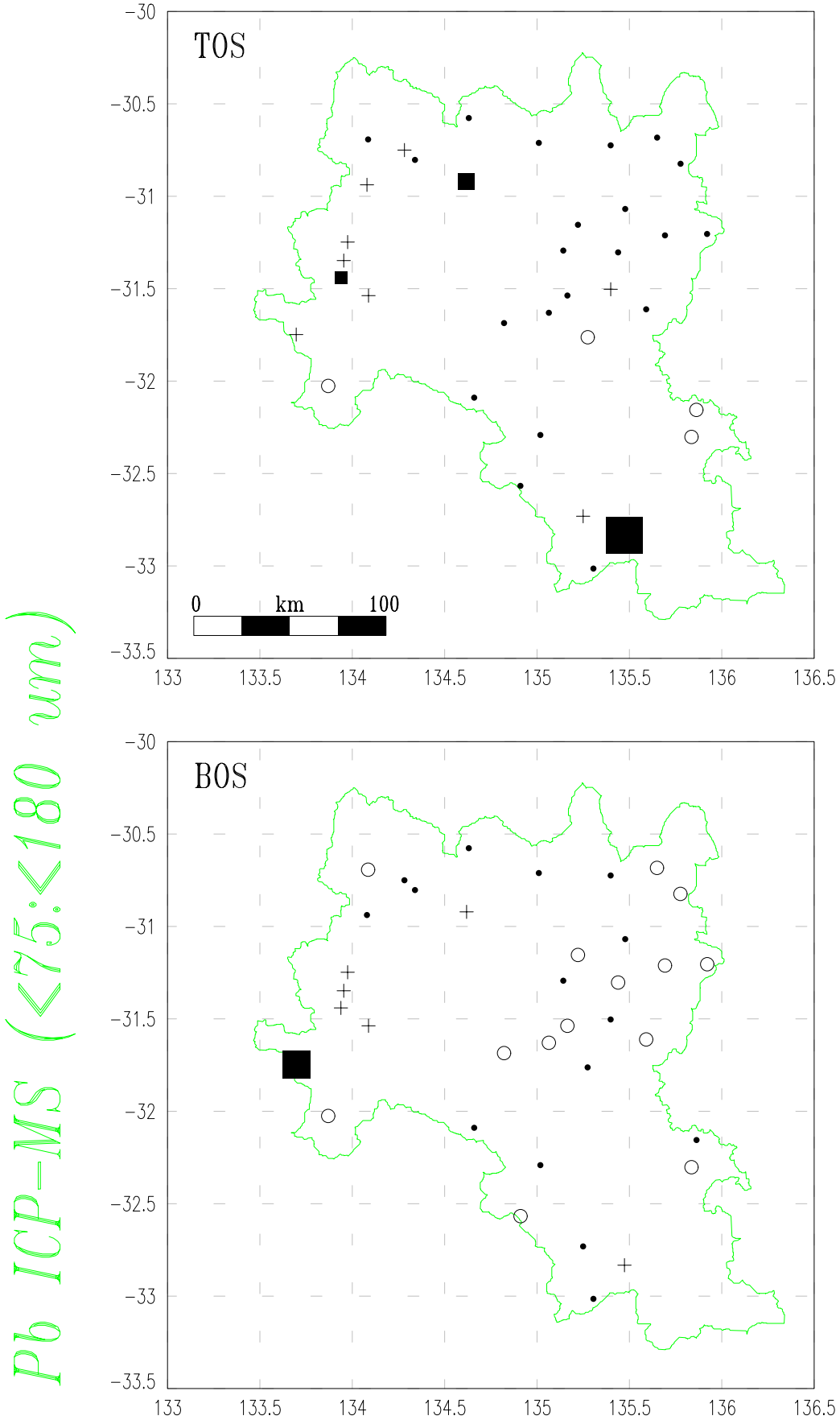






GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



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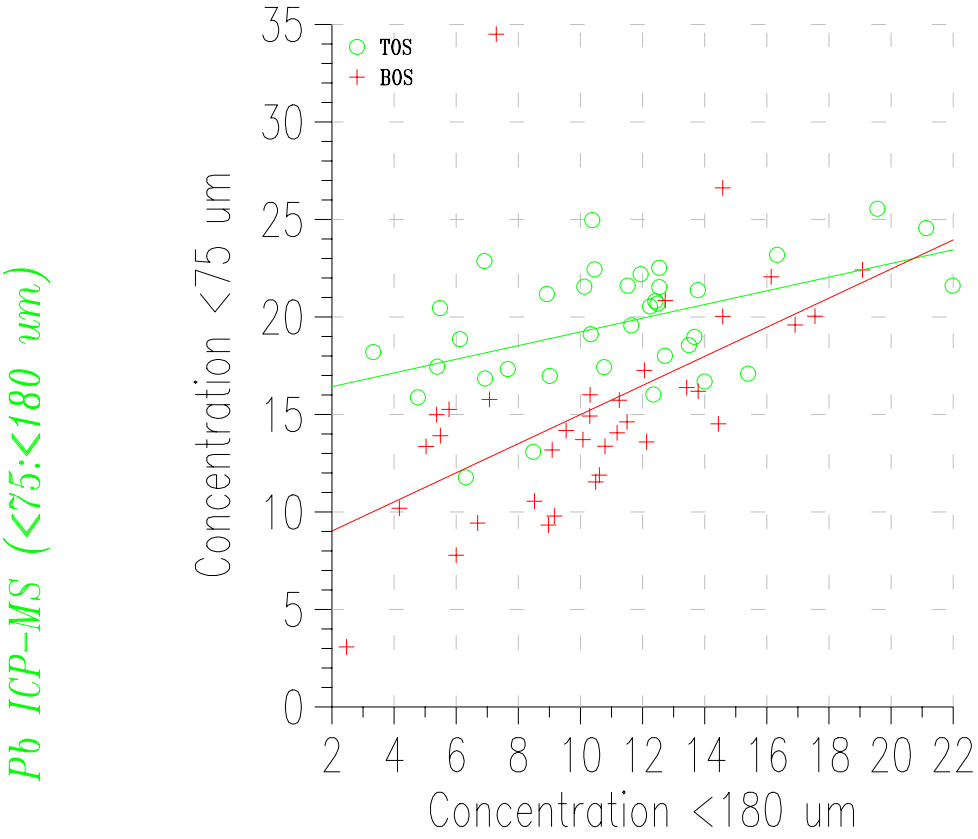
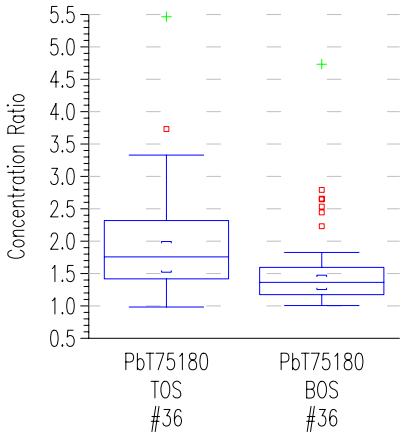
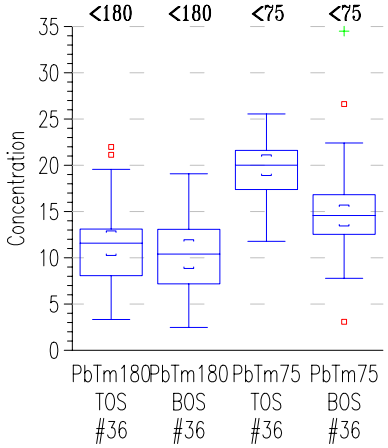
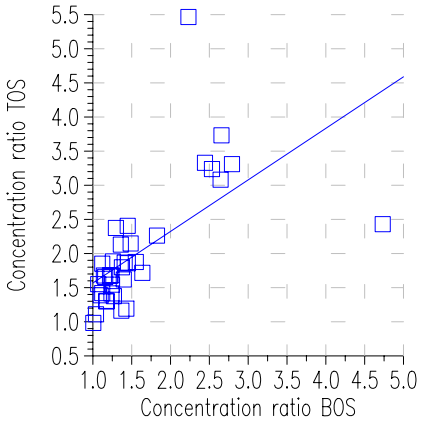
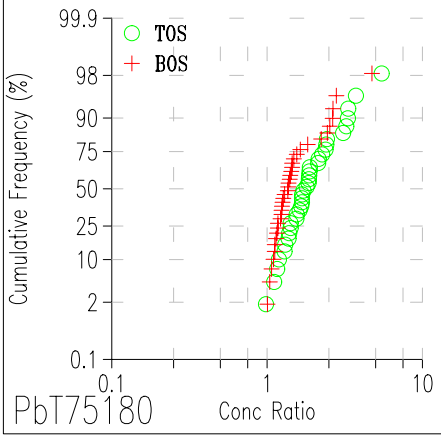
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

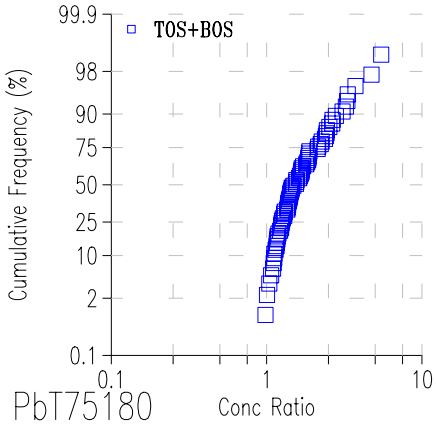


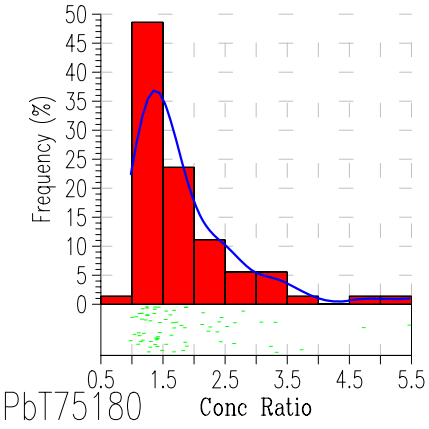






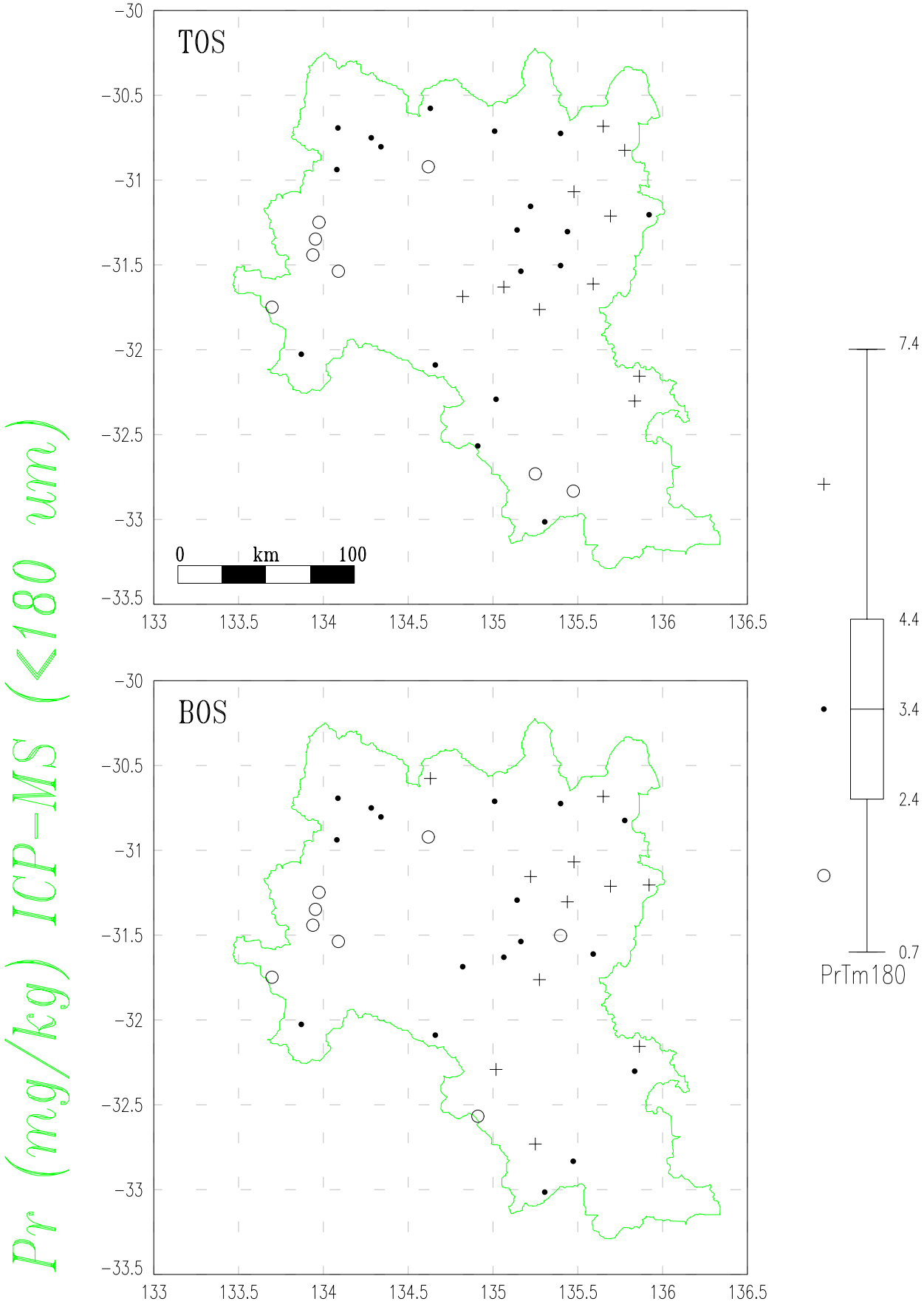




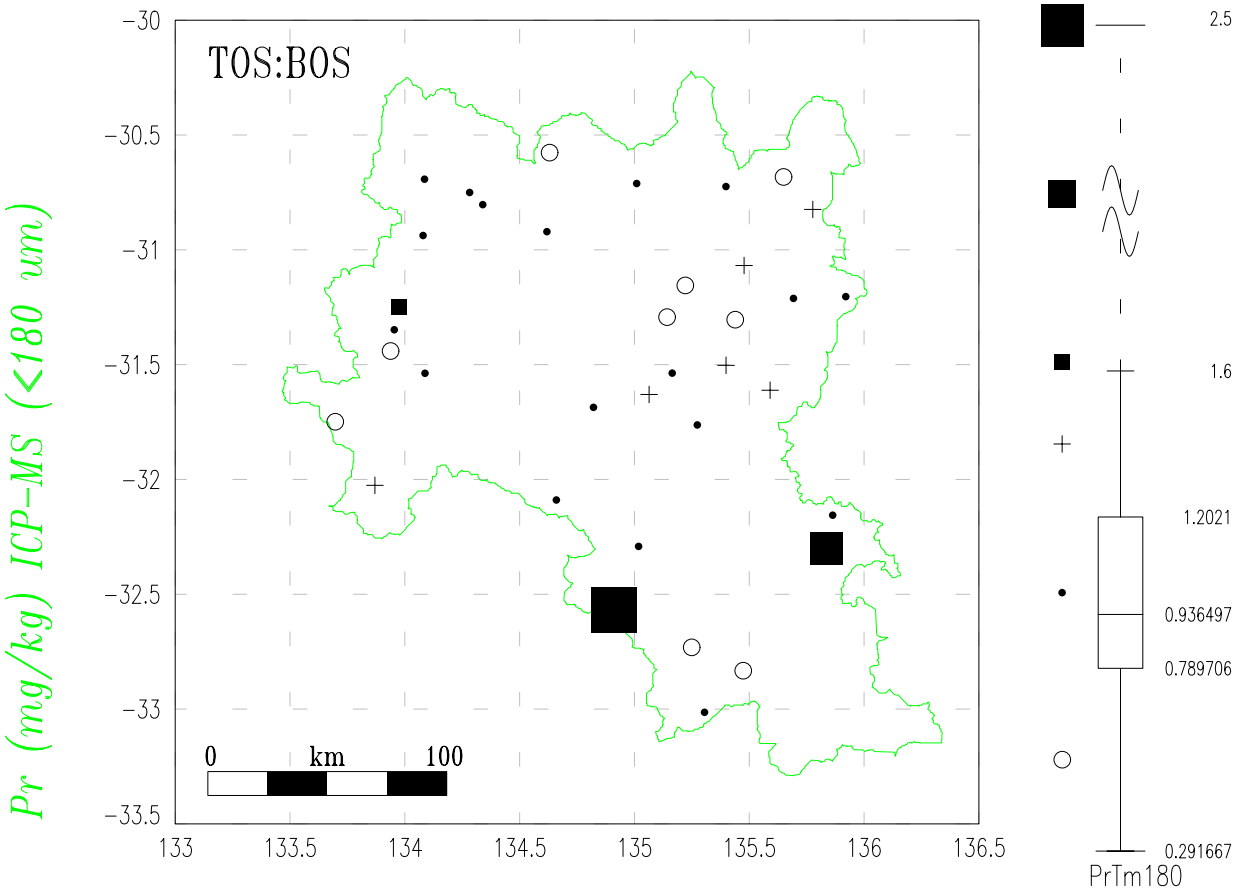


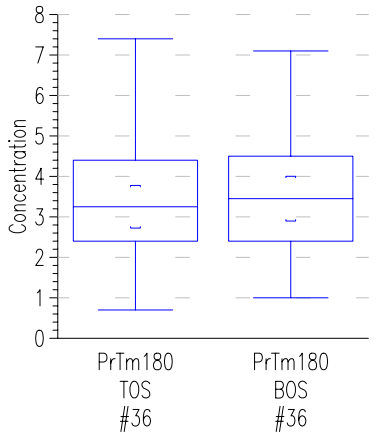
CAWLER GEOCHEMICAL SURVEY

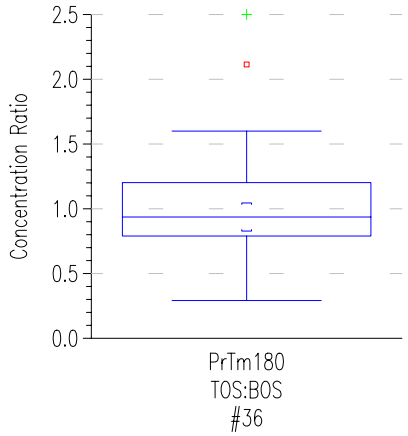
Top & Bottom Outlet Sediments (TOS & BOS)

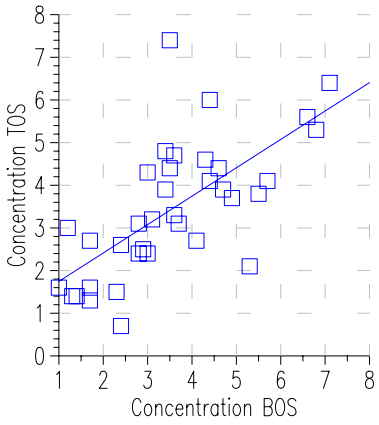


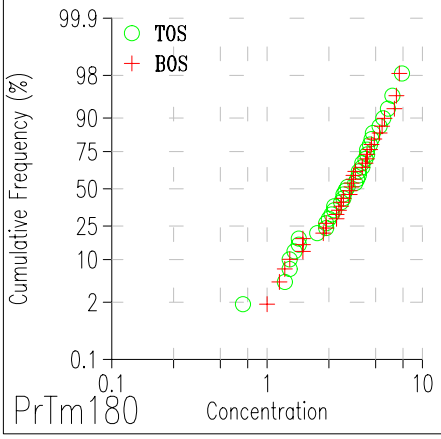
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

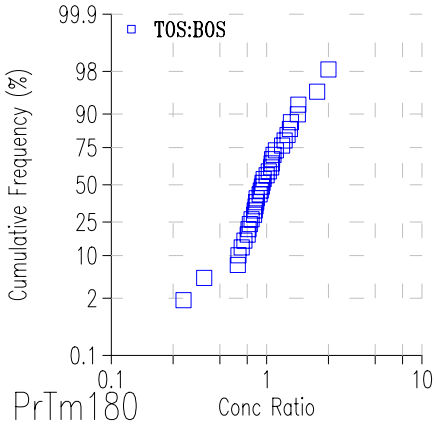


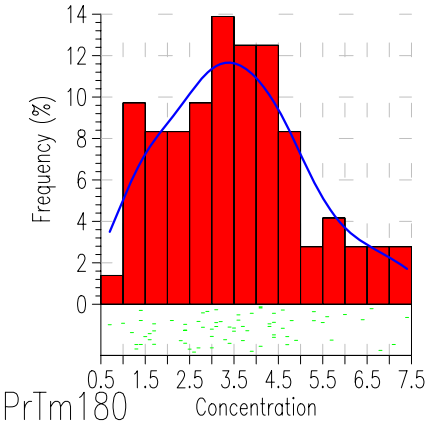






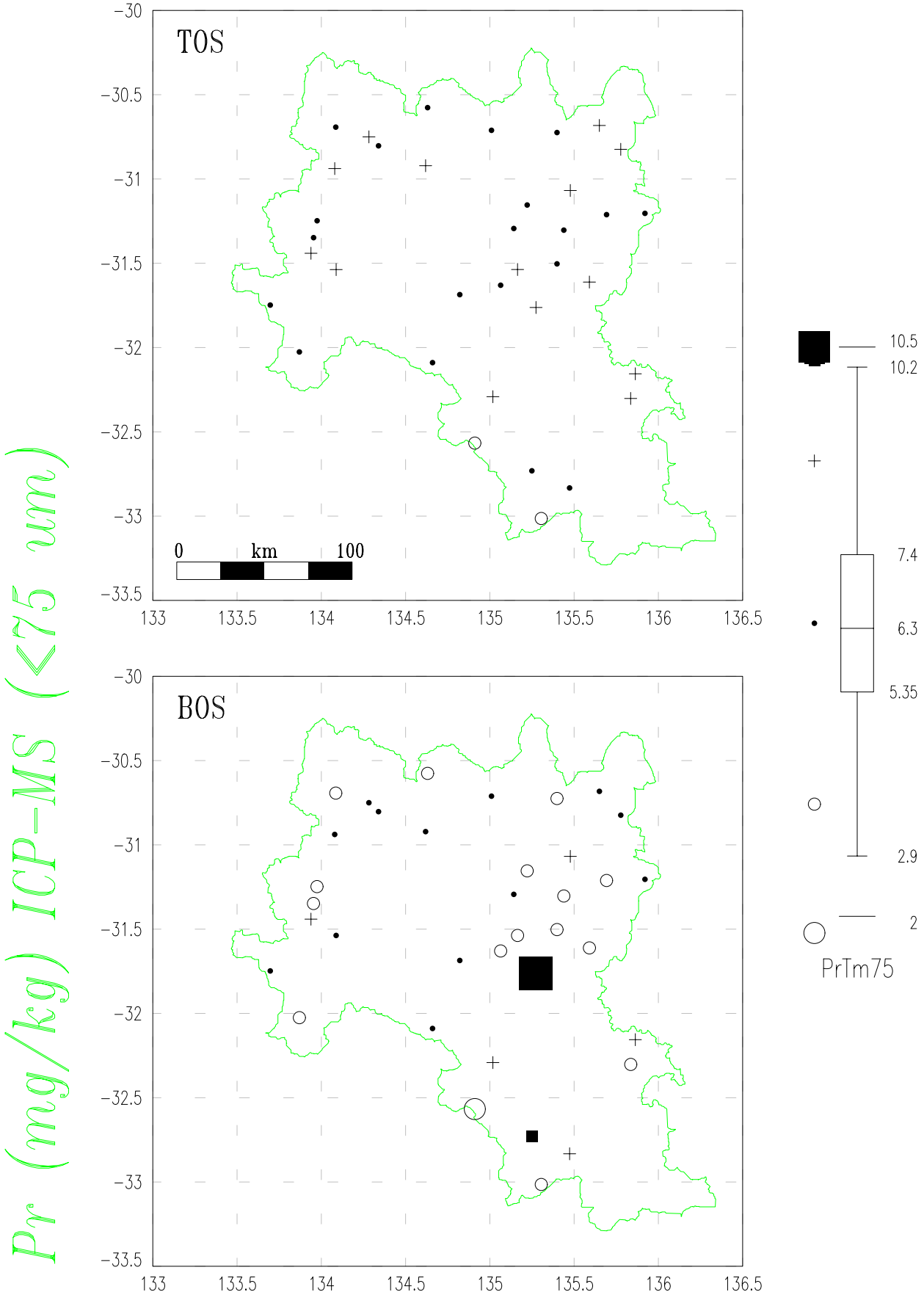




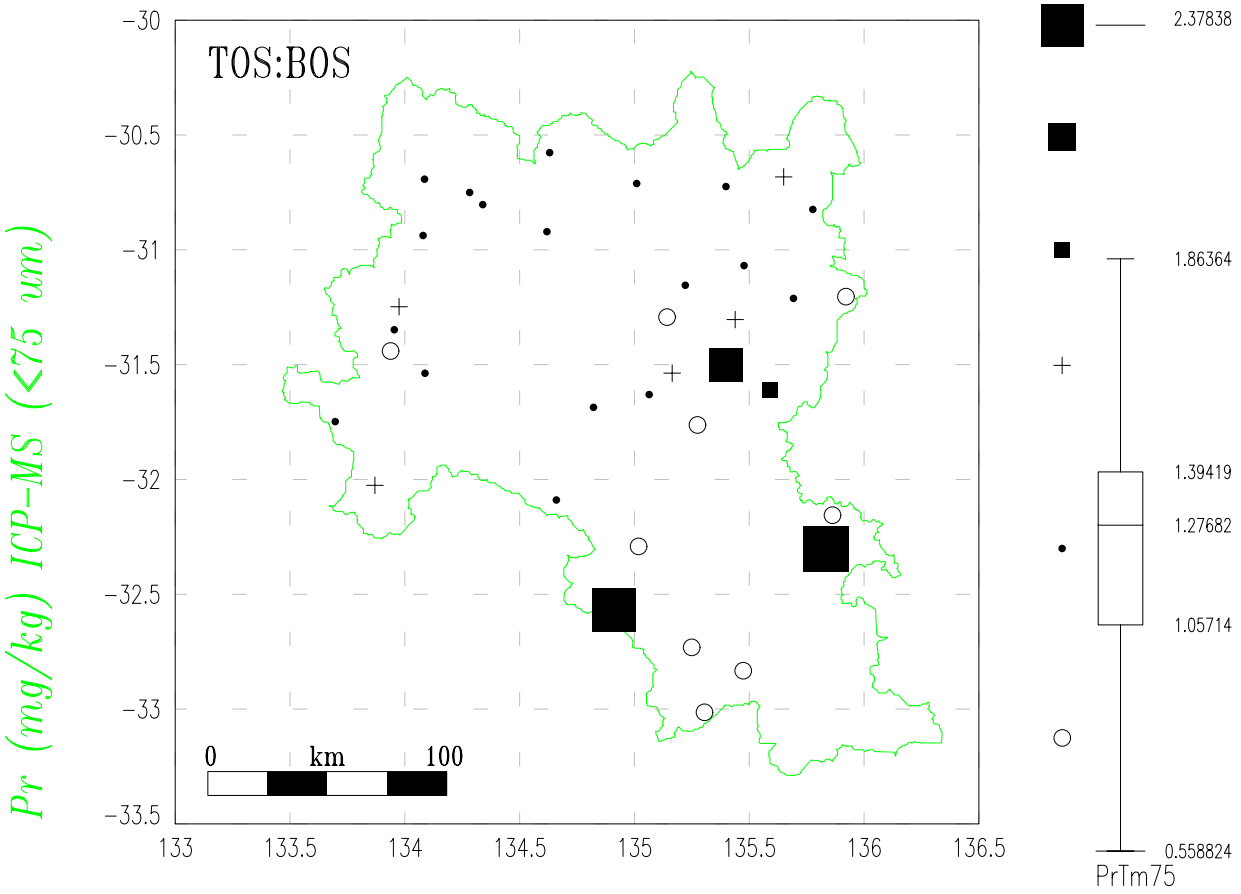


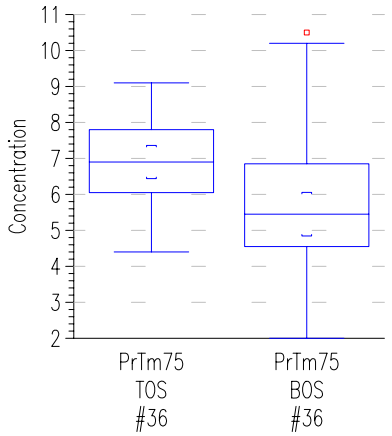
GAWLER GEOCHEMICAL SURVEY

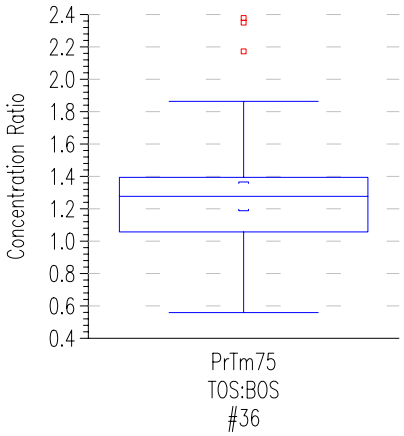
Top & Bottom Outlet Sediments (TOS & BOS)

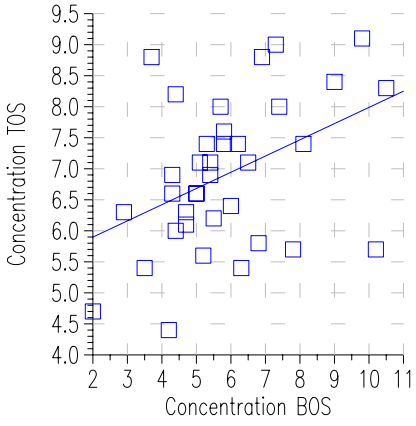


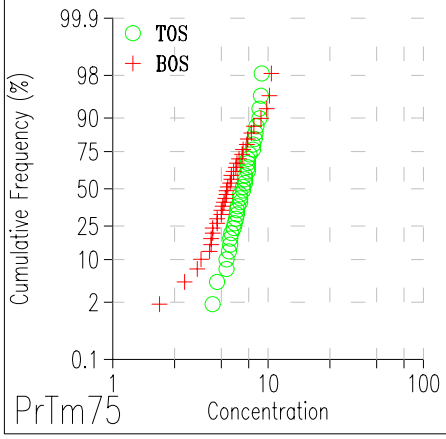
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

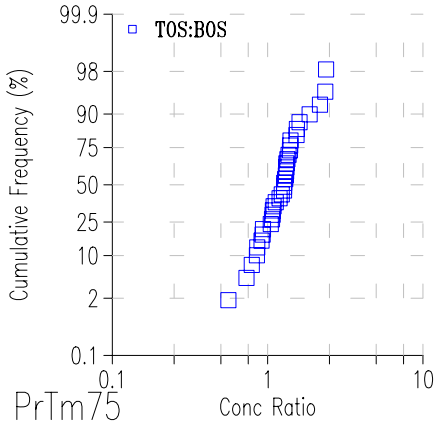


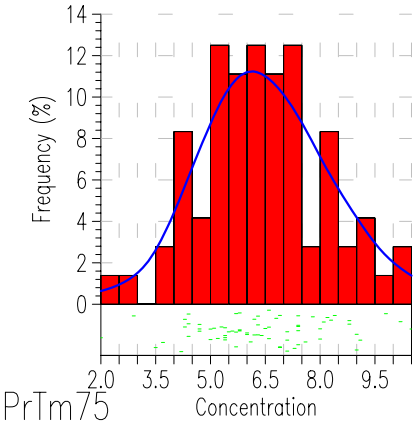






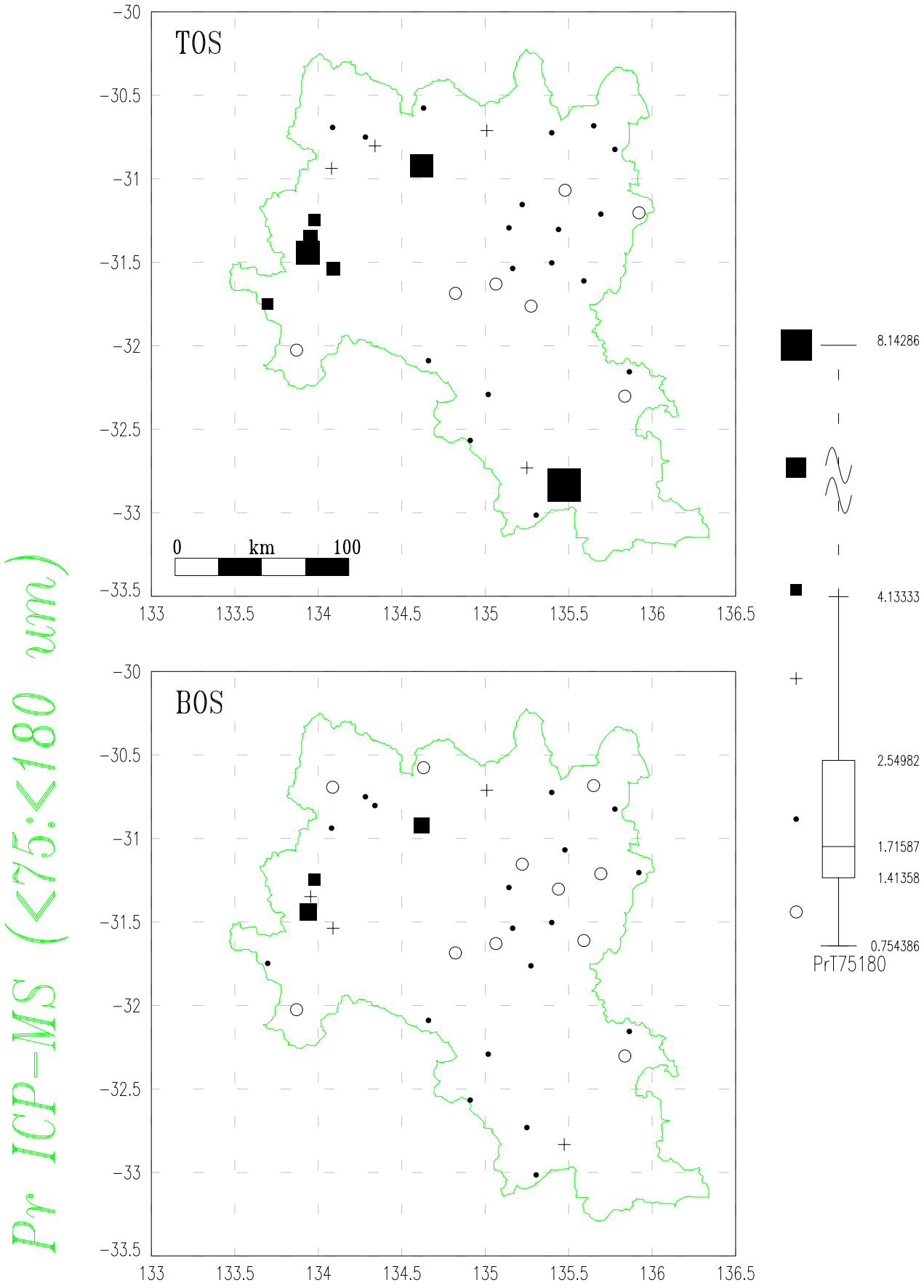






GAWLER GEOCHEMICAL SURVEY

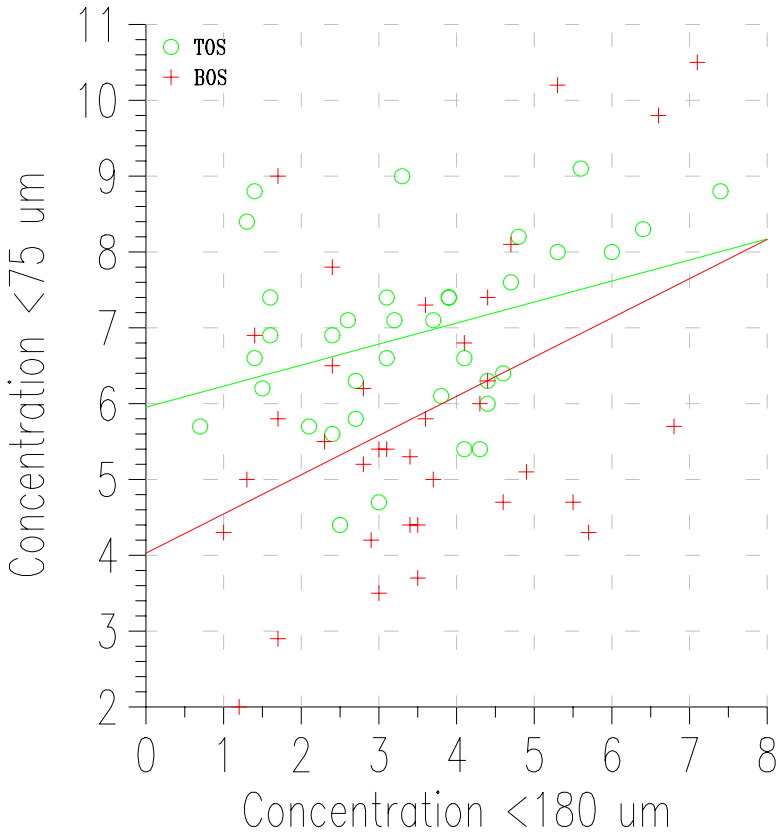
Top & Bottom Outlet Sediments (TOS & BOS)

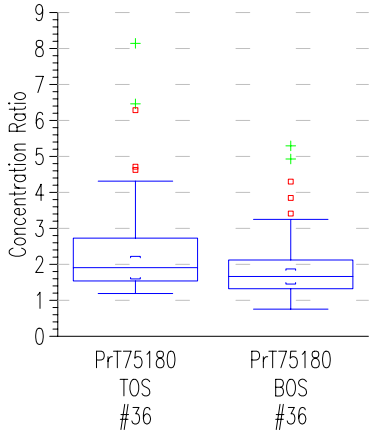


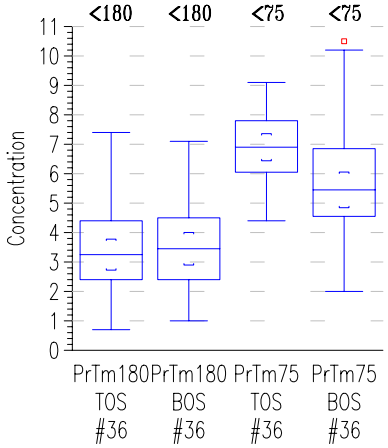
Pr ICP-MS (<75:<180 um)

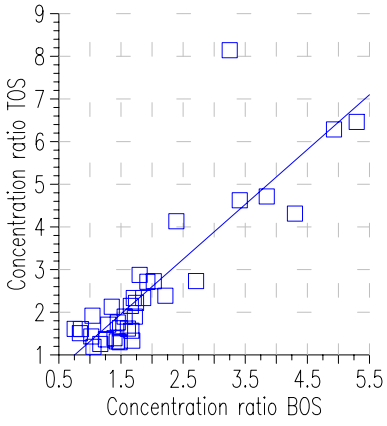
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

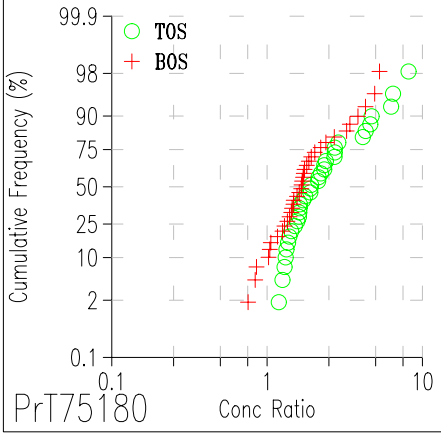
Pr ICP-MS (<75:<180 um)

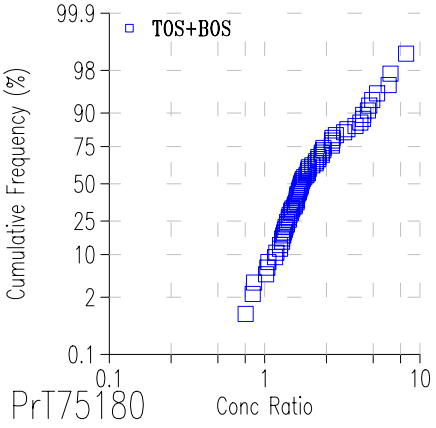


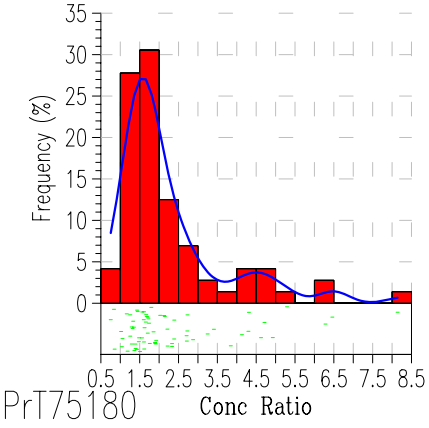






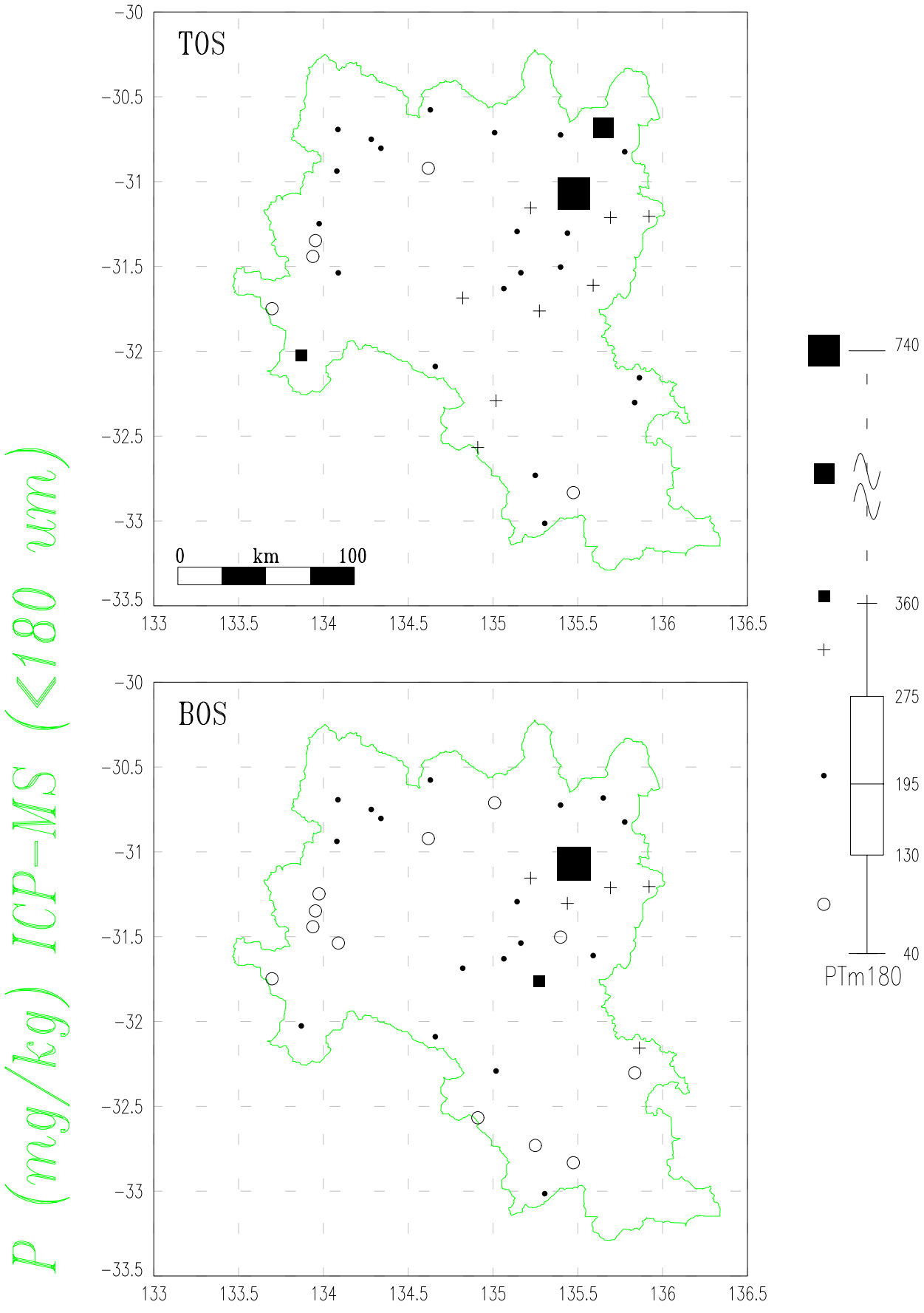




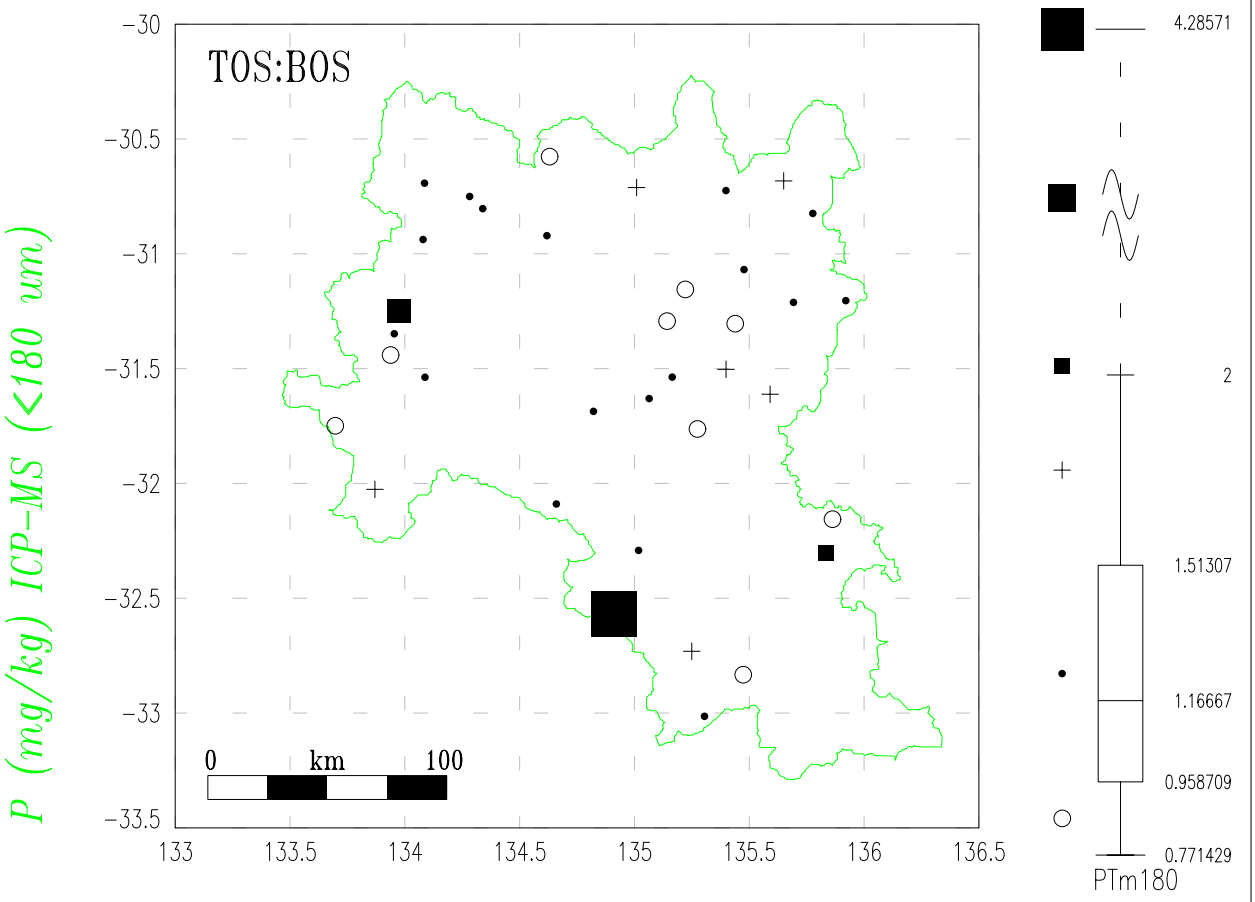


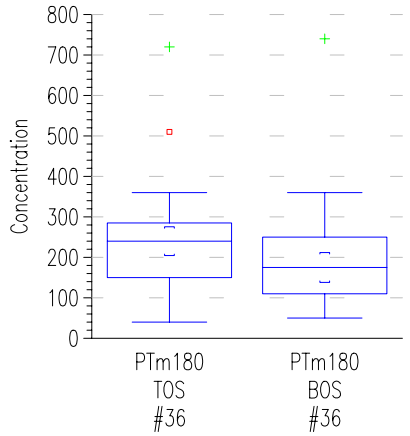
CAWLER GEOCHEMICAL SURVEY

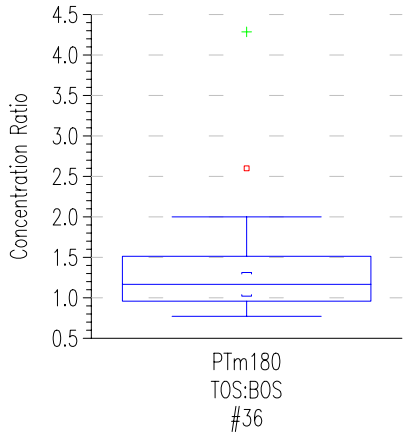
Top & Bottom Outlet Sediments (TOS & BOS)

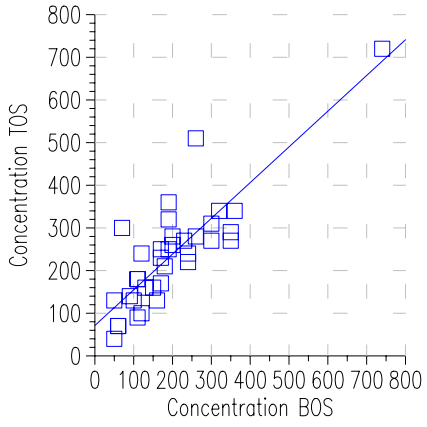


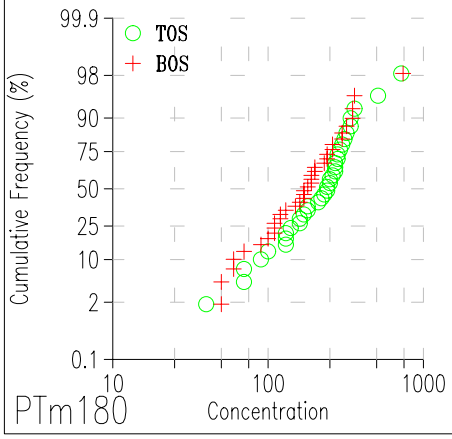
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

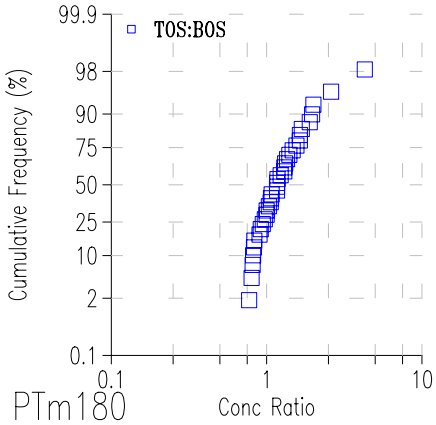


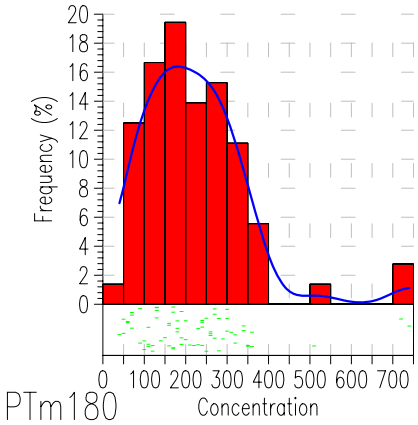






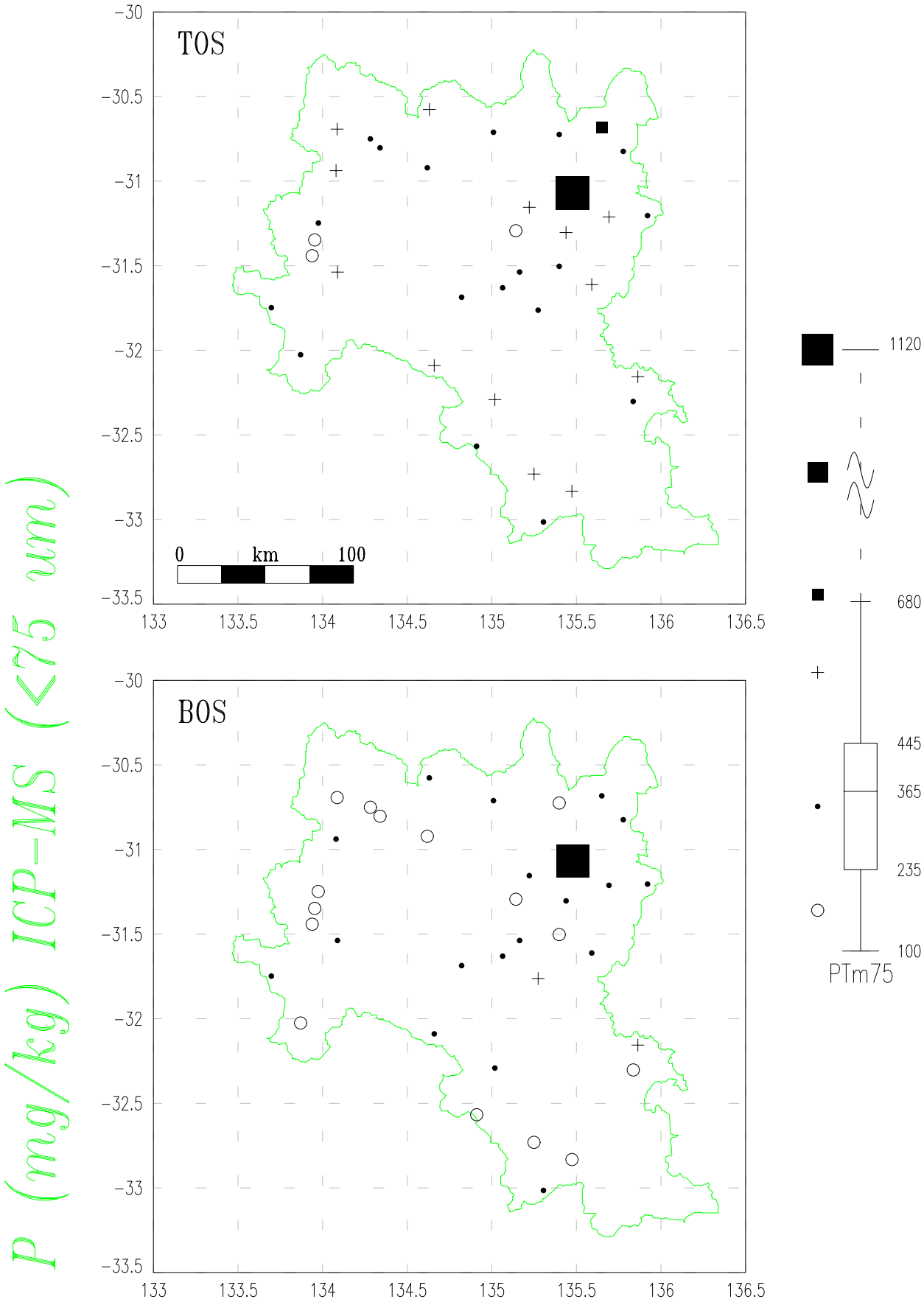






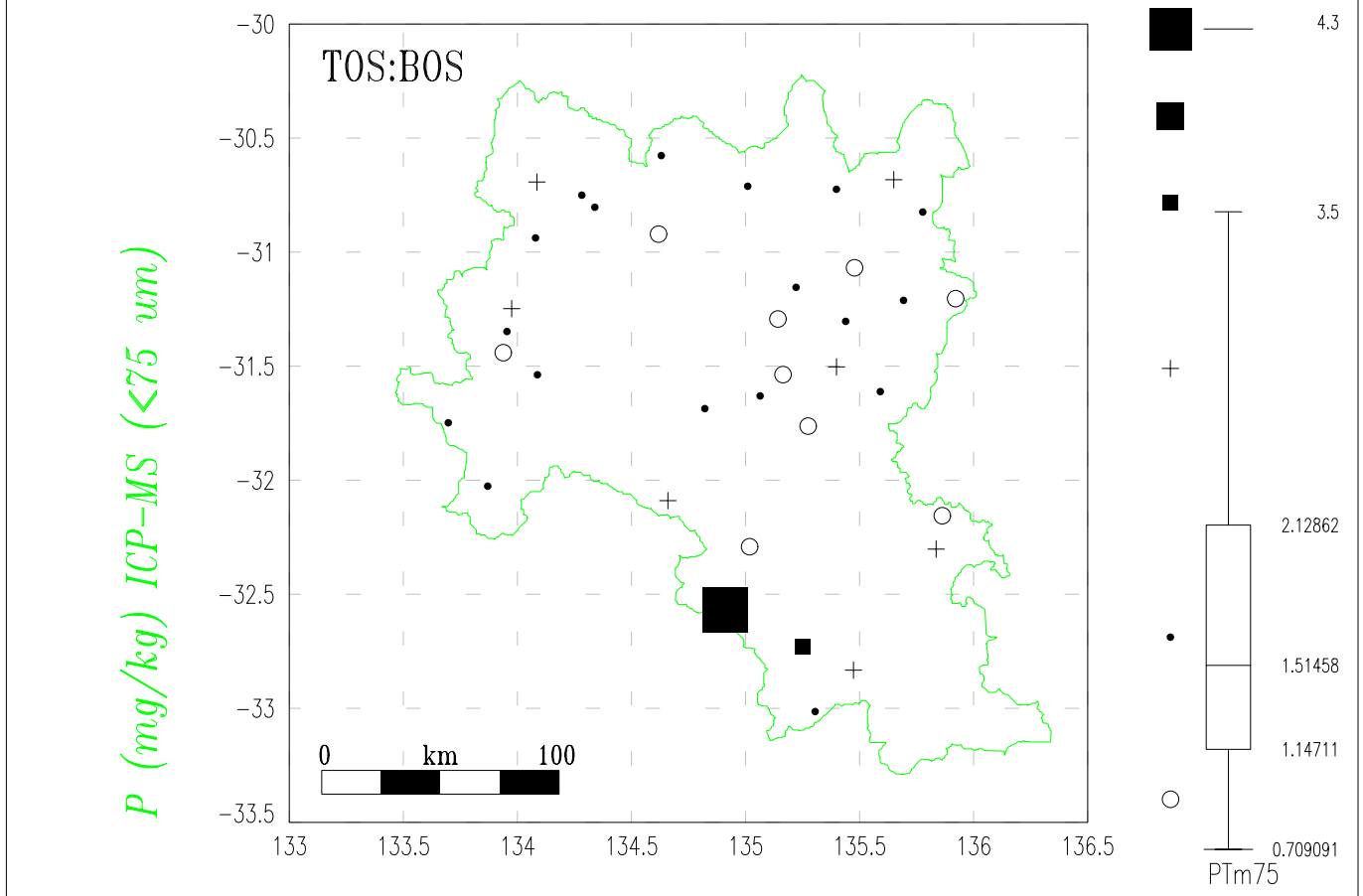
GAWLER GEOCHEMICAL SURVEY

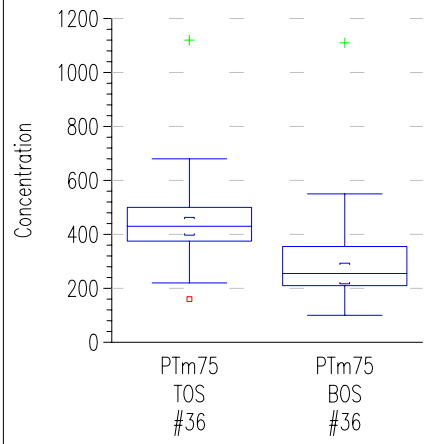
Top & Bottom Outlet Sediments (TOS & BOS)

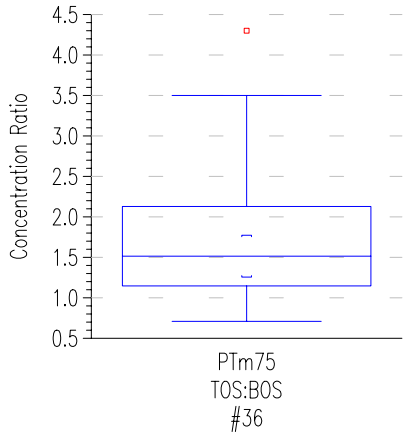


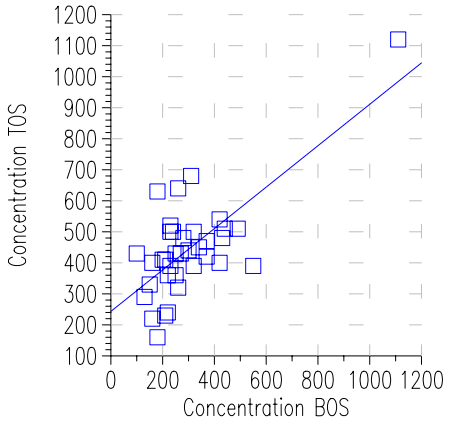
P (mg/kg) ICP-MS (<75 um)

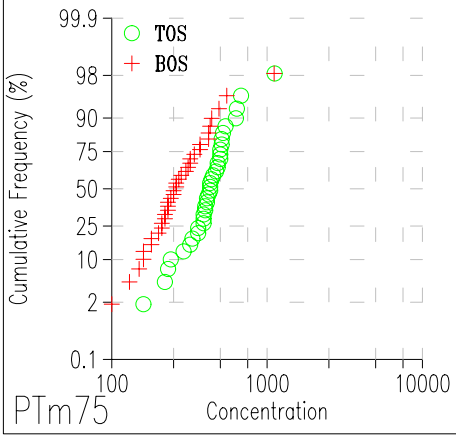
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

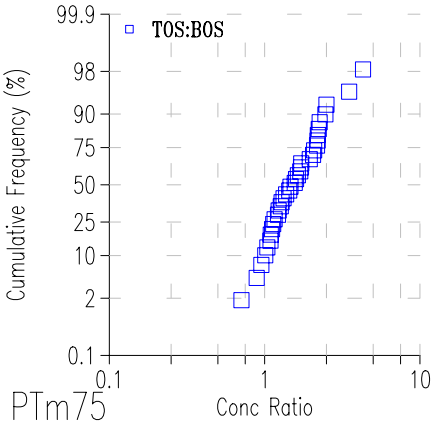


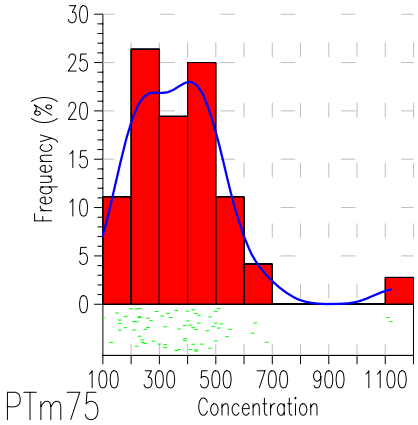






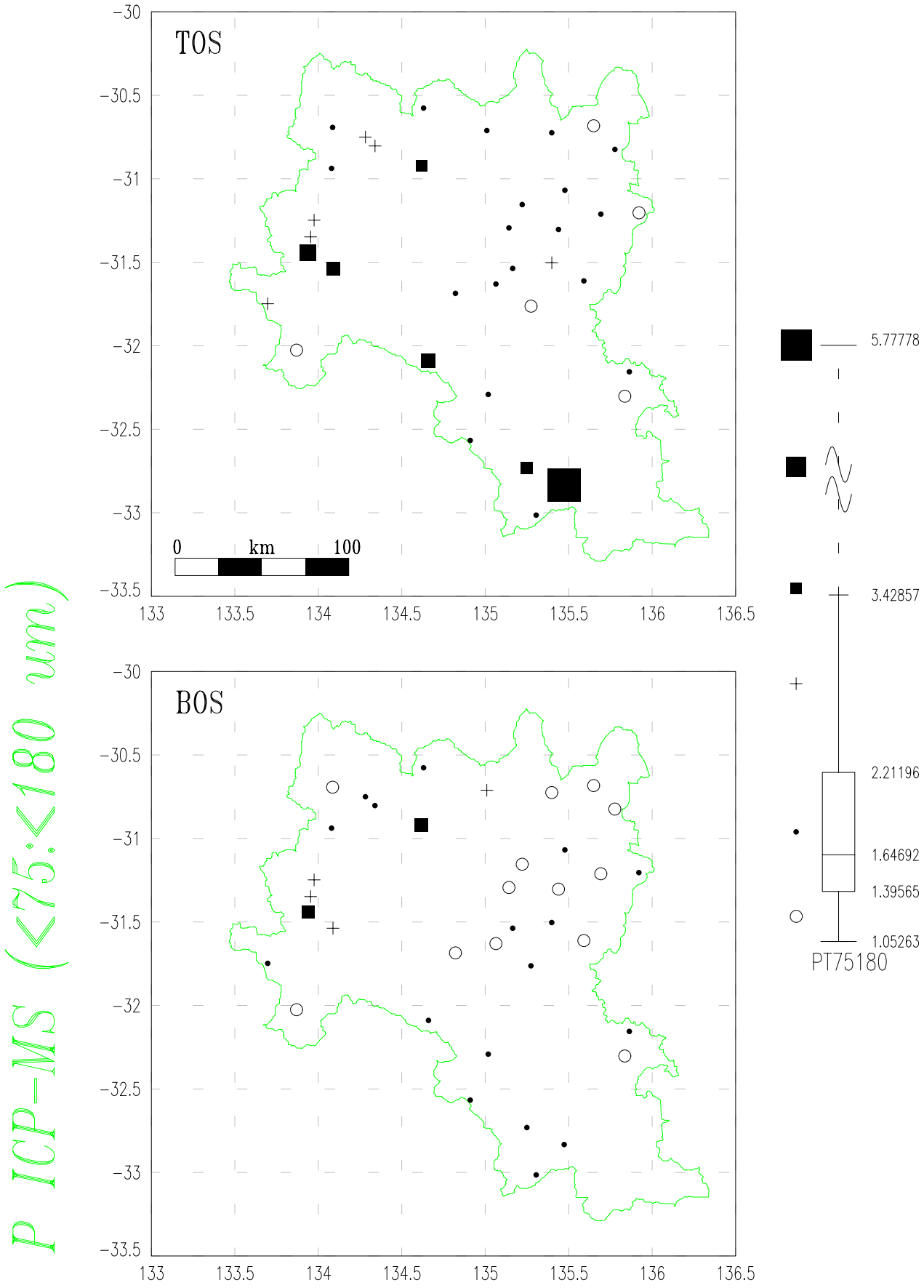






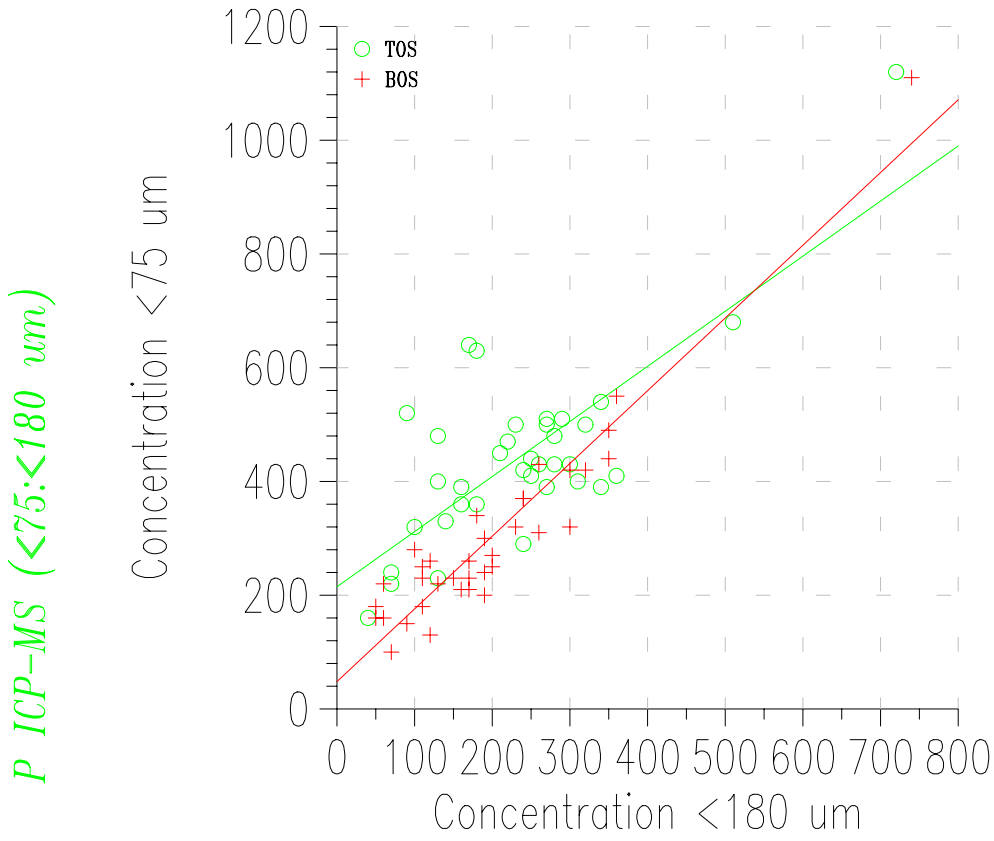
GAWLER GEOCHEMICAL SURVEY

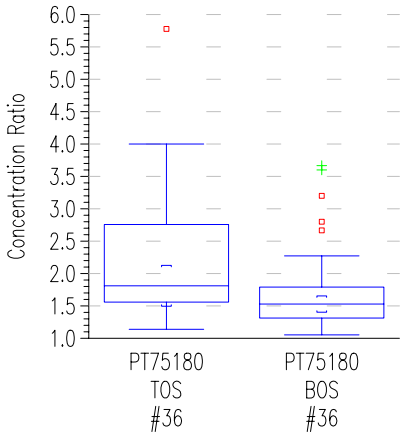
Top & Bottom Outlet Sediments (TOS & BOS)

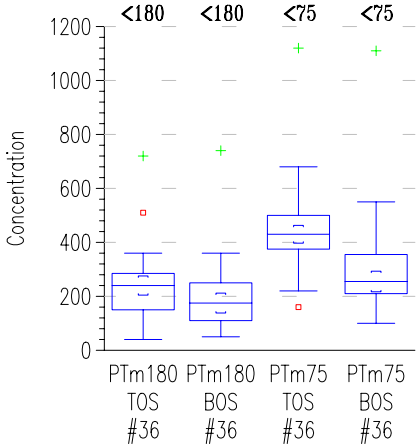


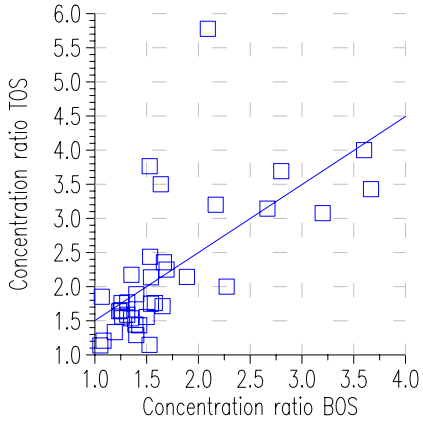
P ICP-MS (<75:<180 um)

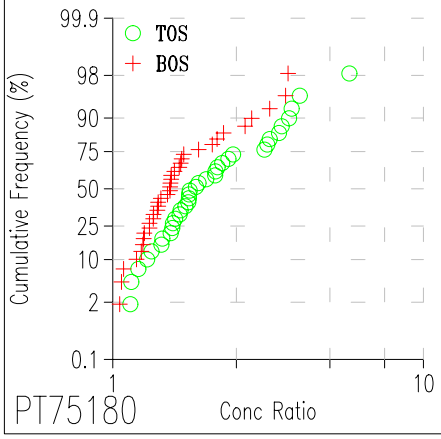
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

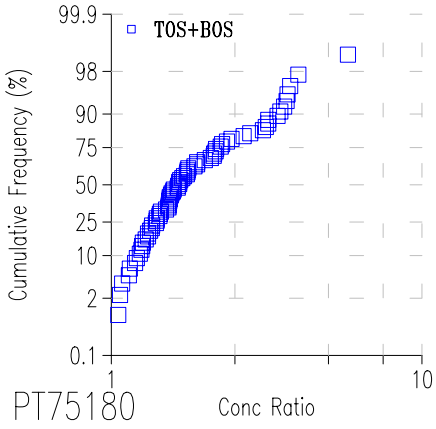


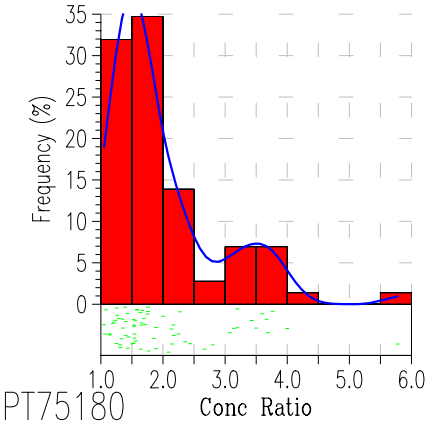






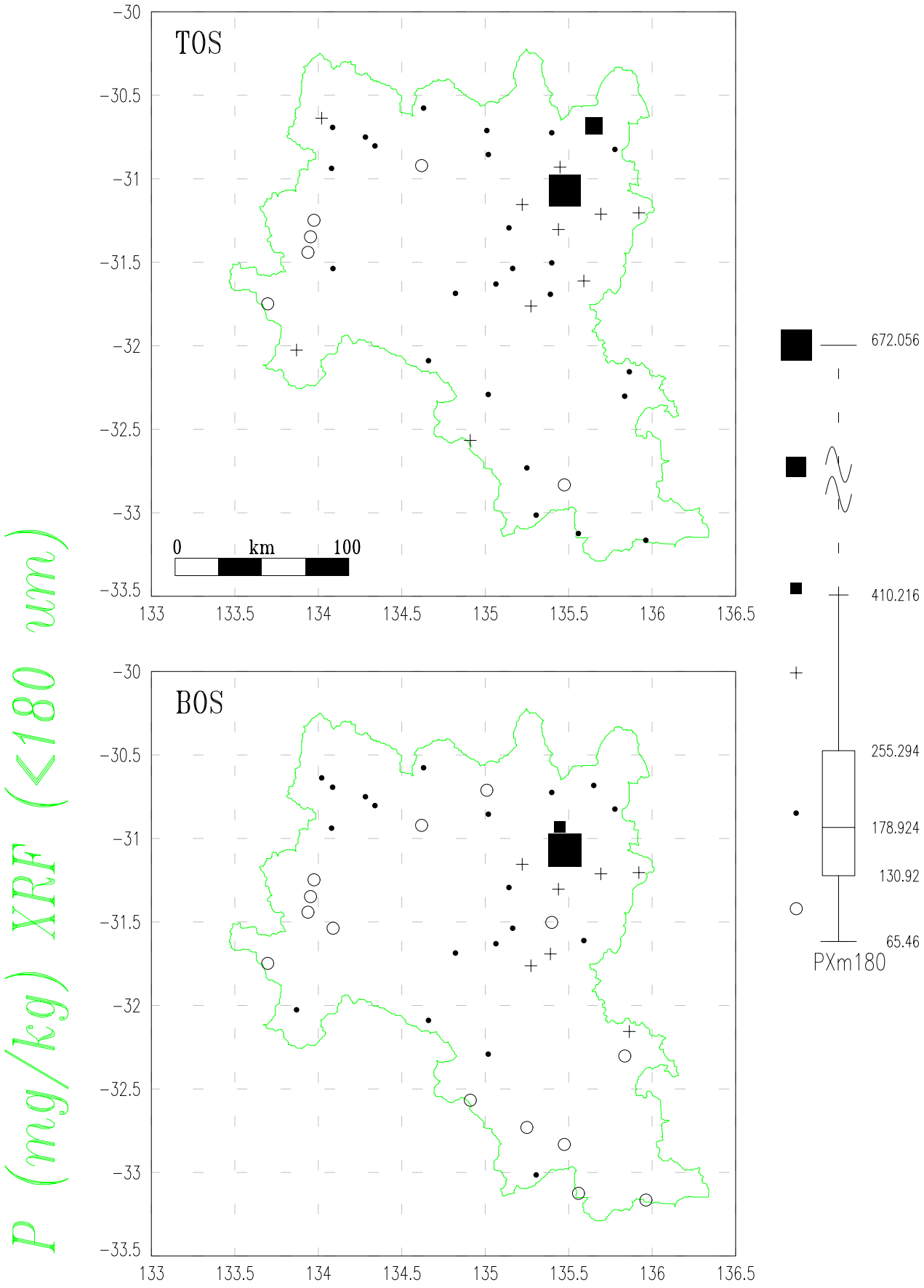






GAWLER GEOCHEMICAL SURVEY

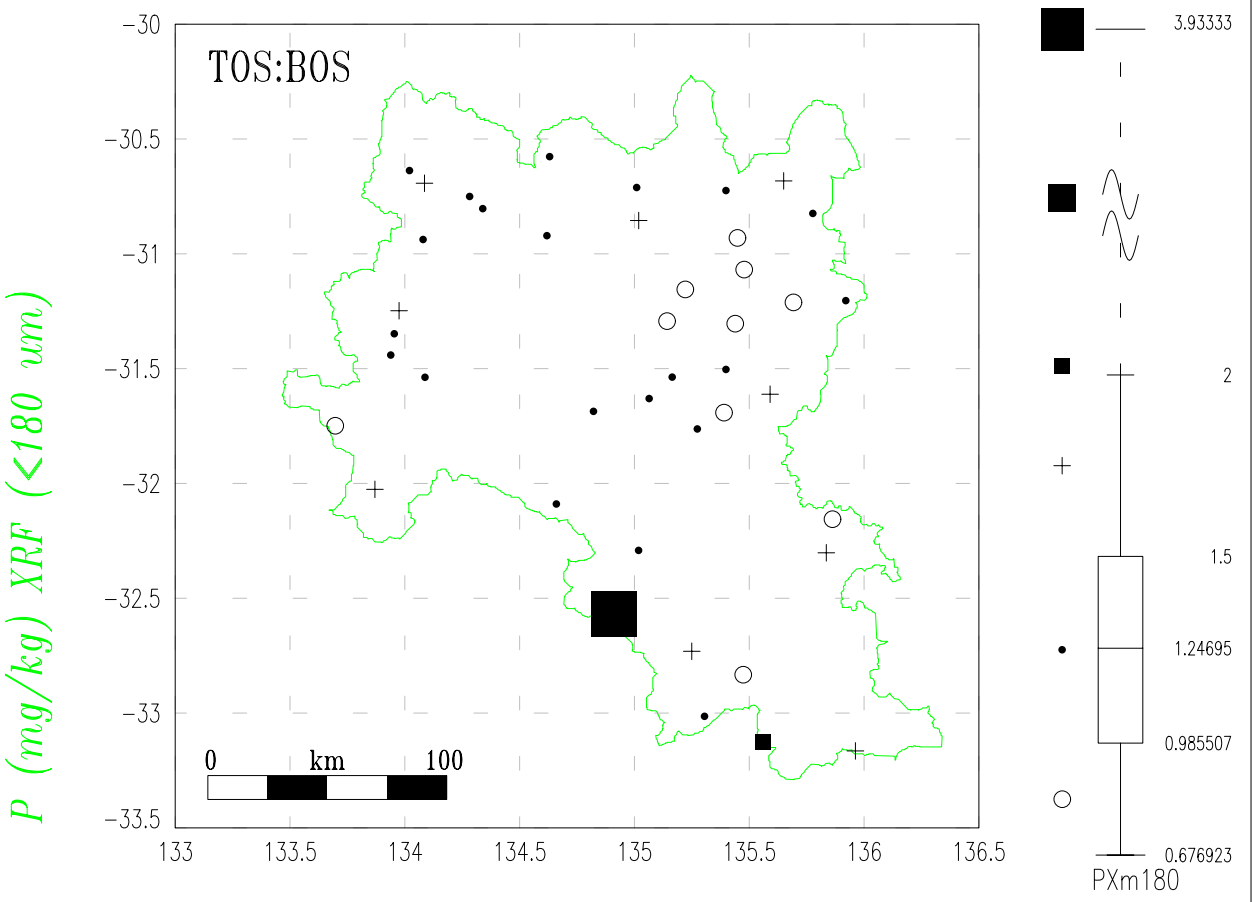
Top & Bottom Outlet Sediments (TOS & BOS)

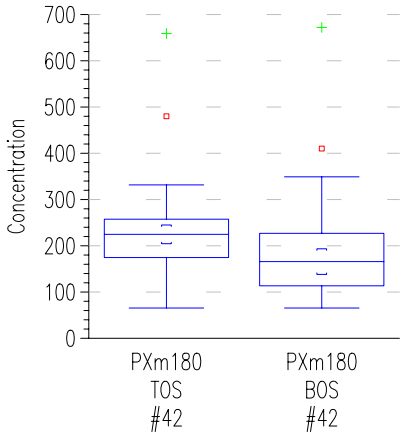


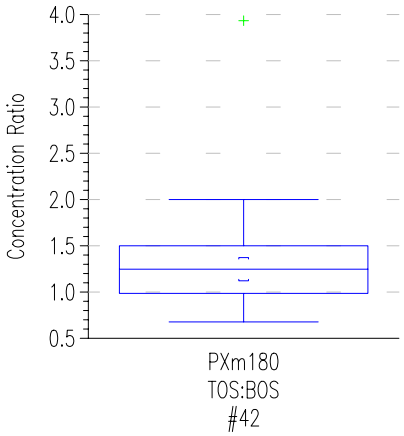
P (mg/kg) XRF (<180 um)

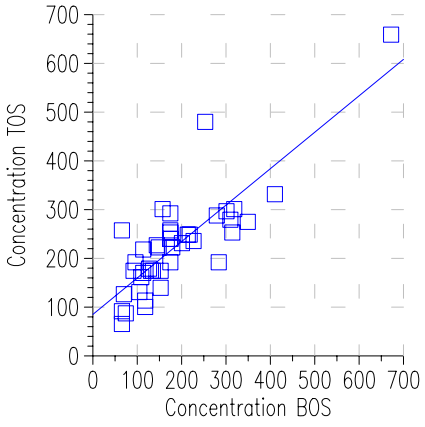
CAWLER GEOCHEMICAL SURVEY

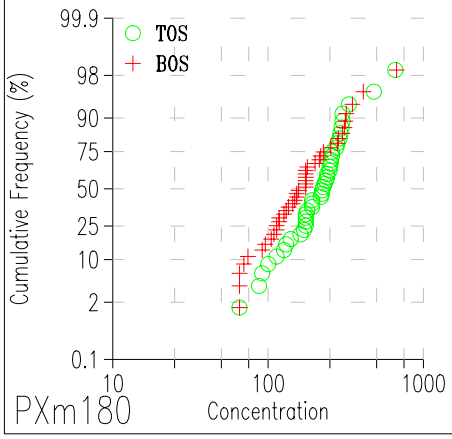
Top & Bottom Outlet Sediments (TOS & BOS)

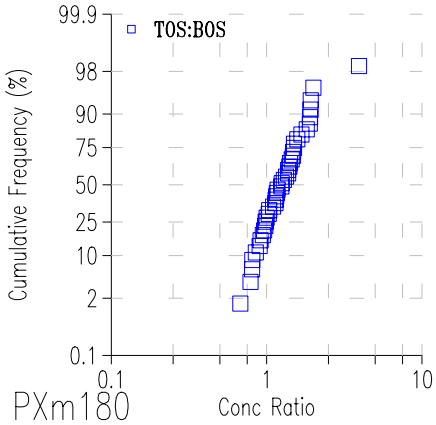


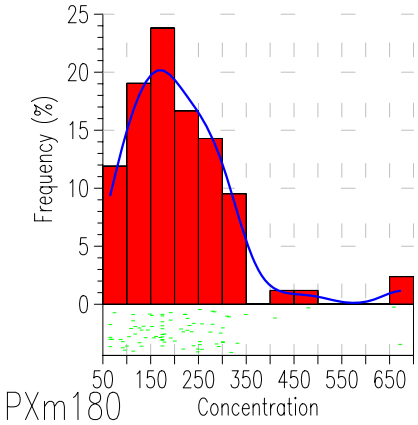






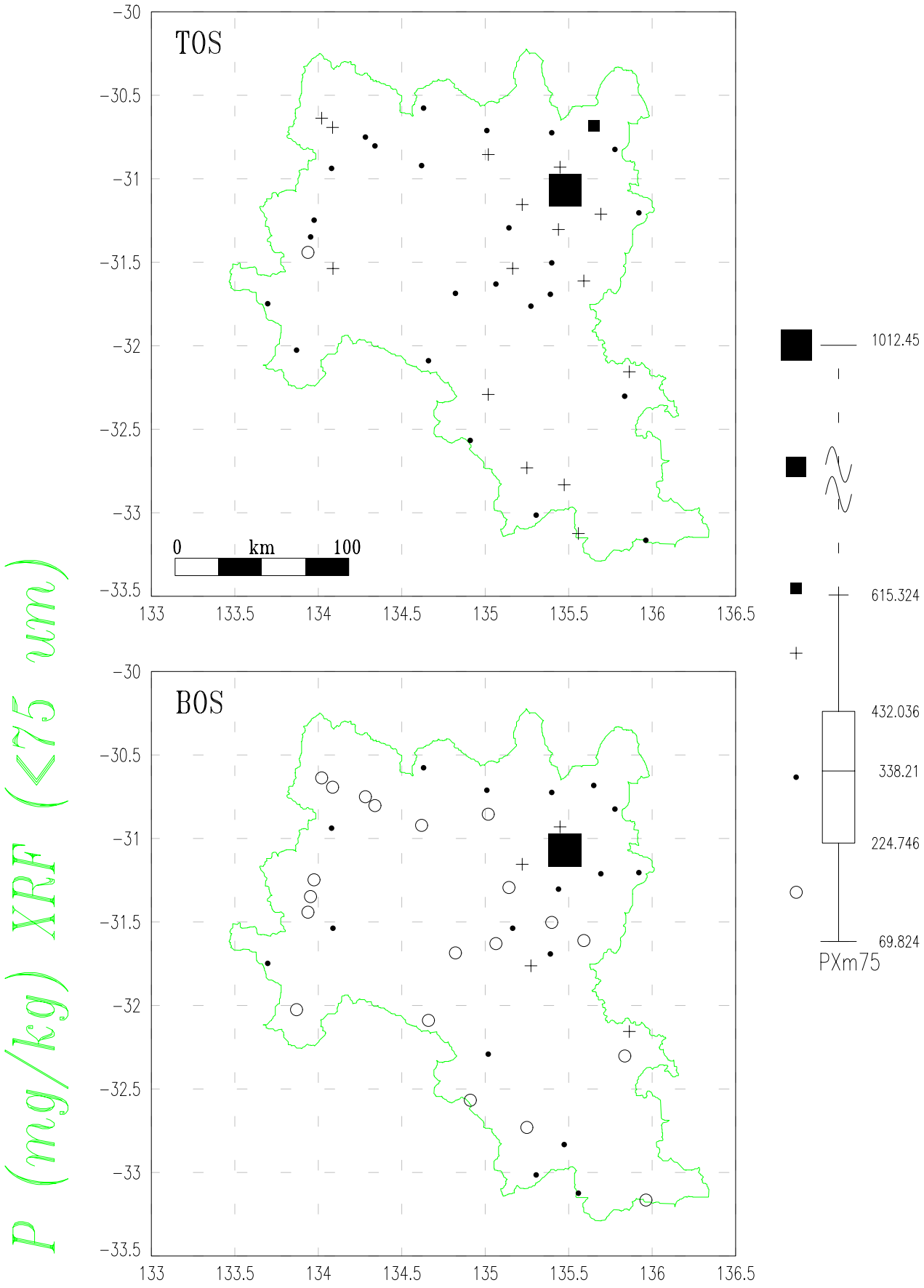






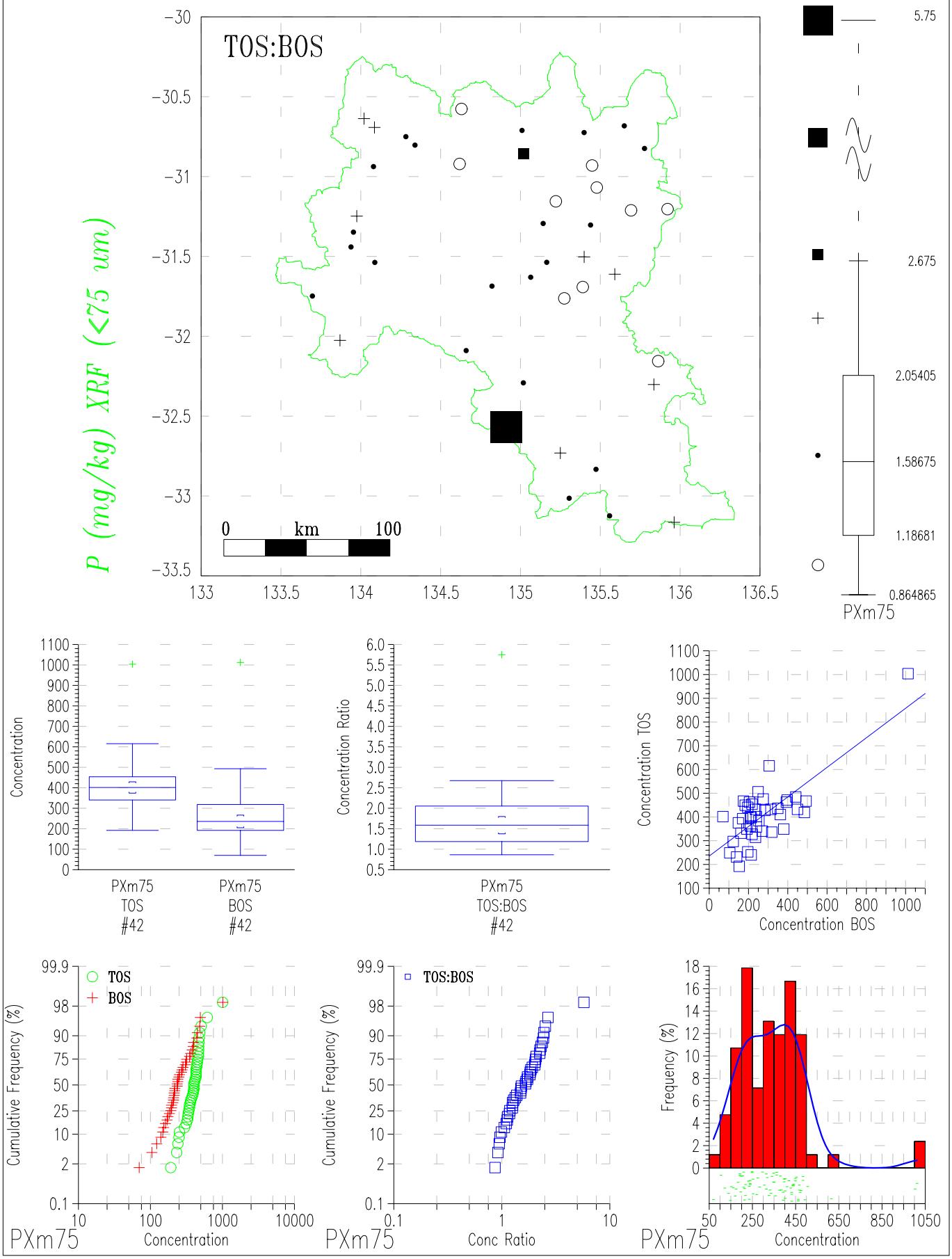
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

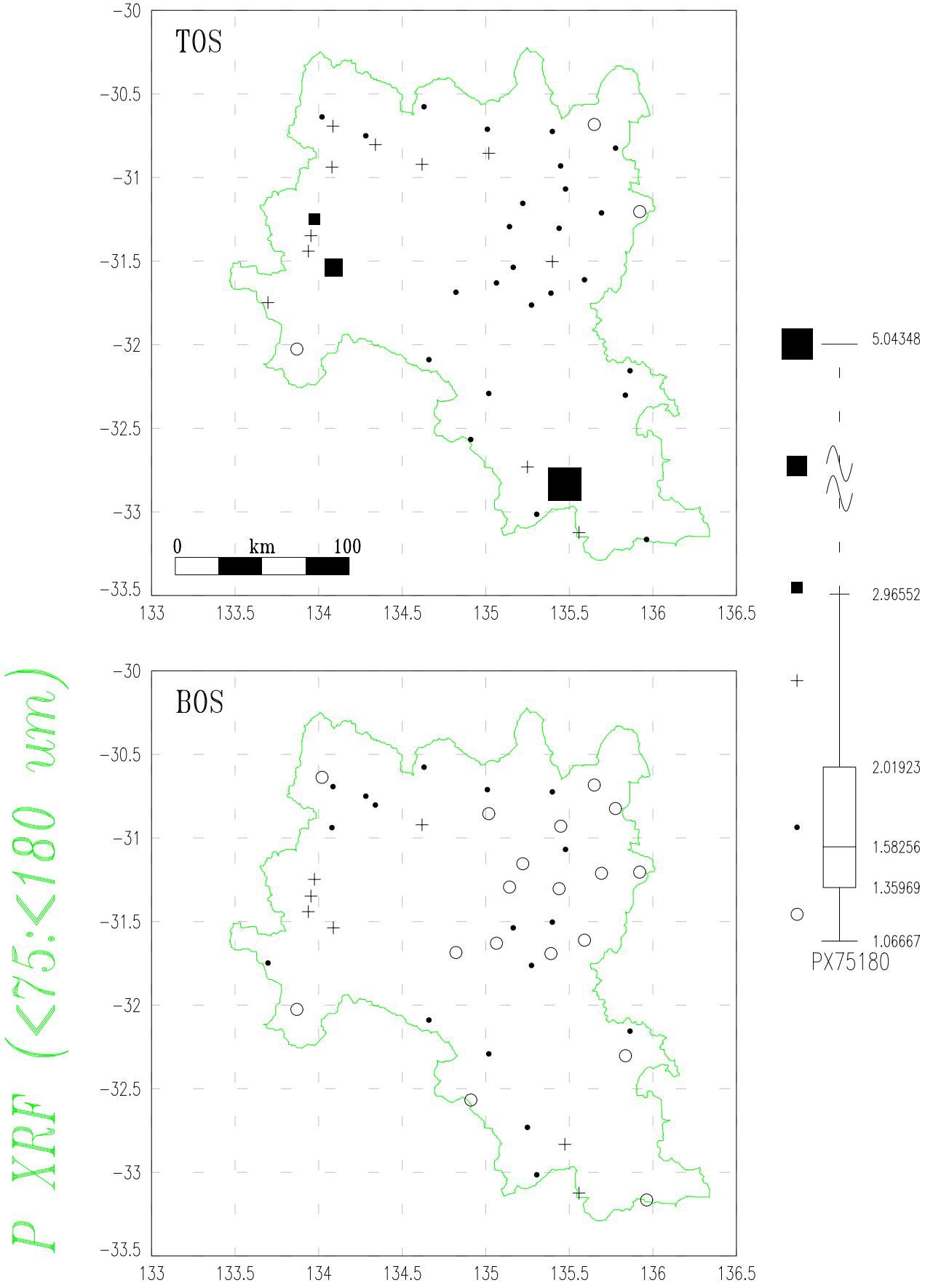


P (mg/kg) XRF (<75 um)

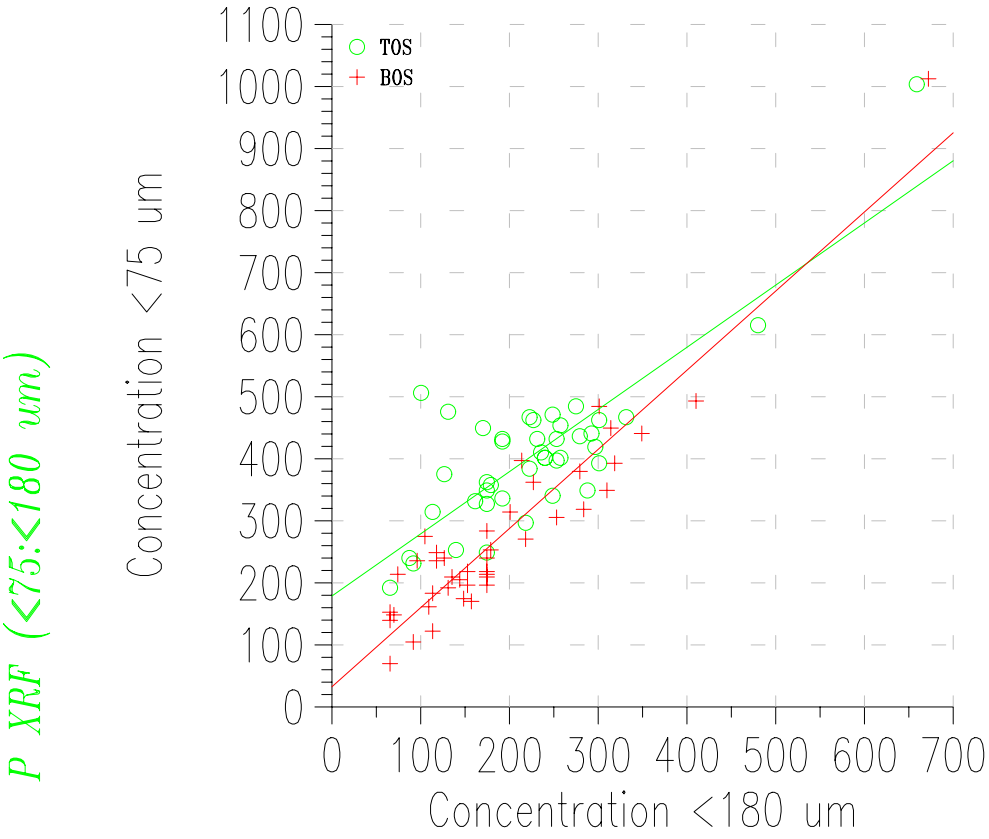
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

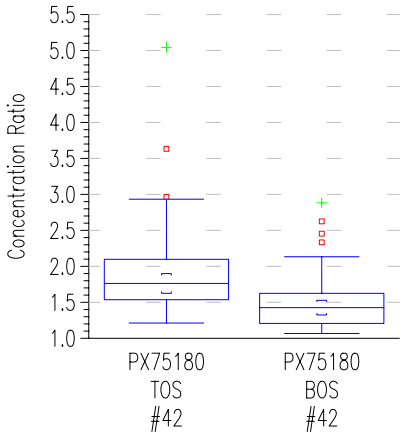


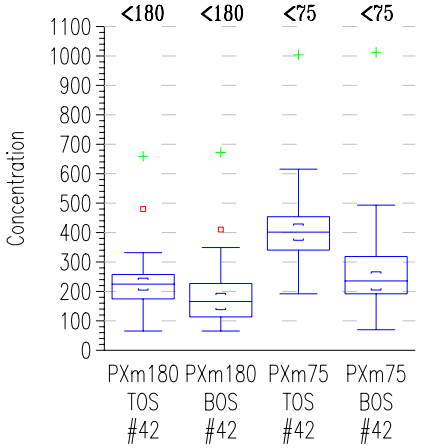
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

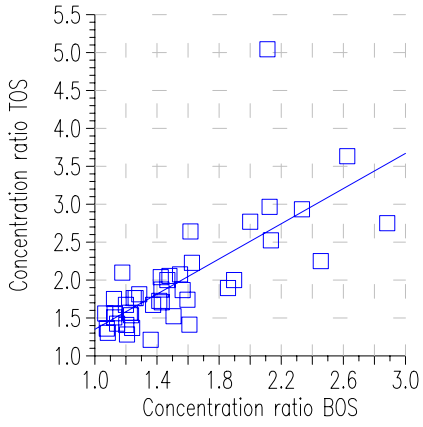


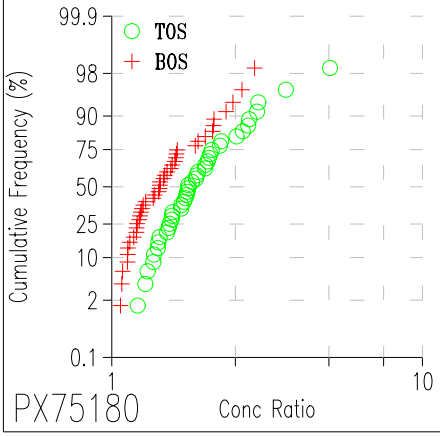
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

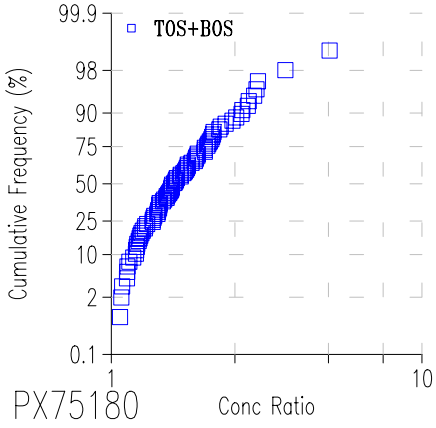


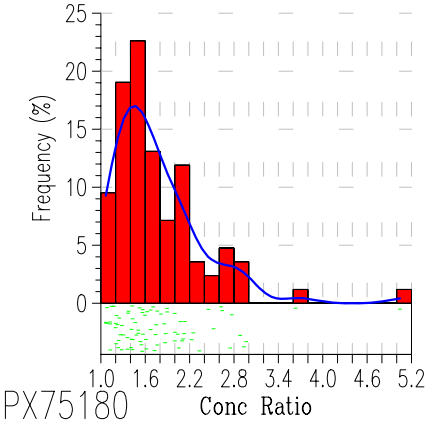




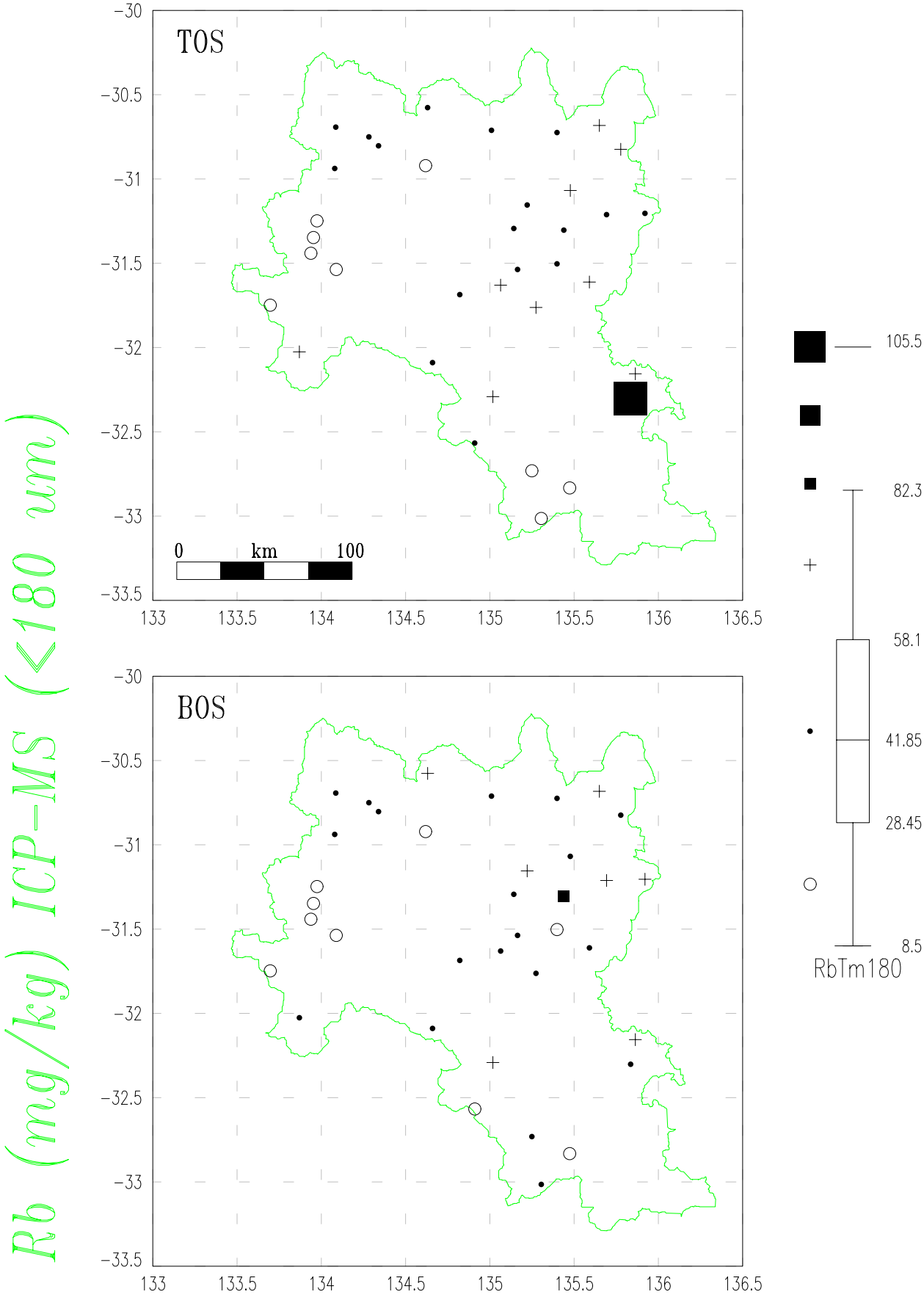




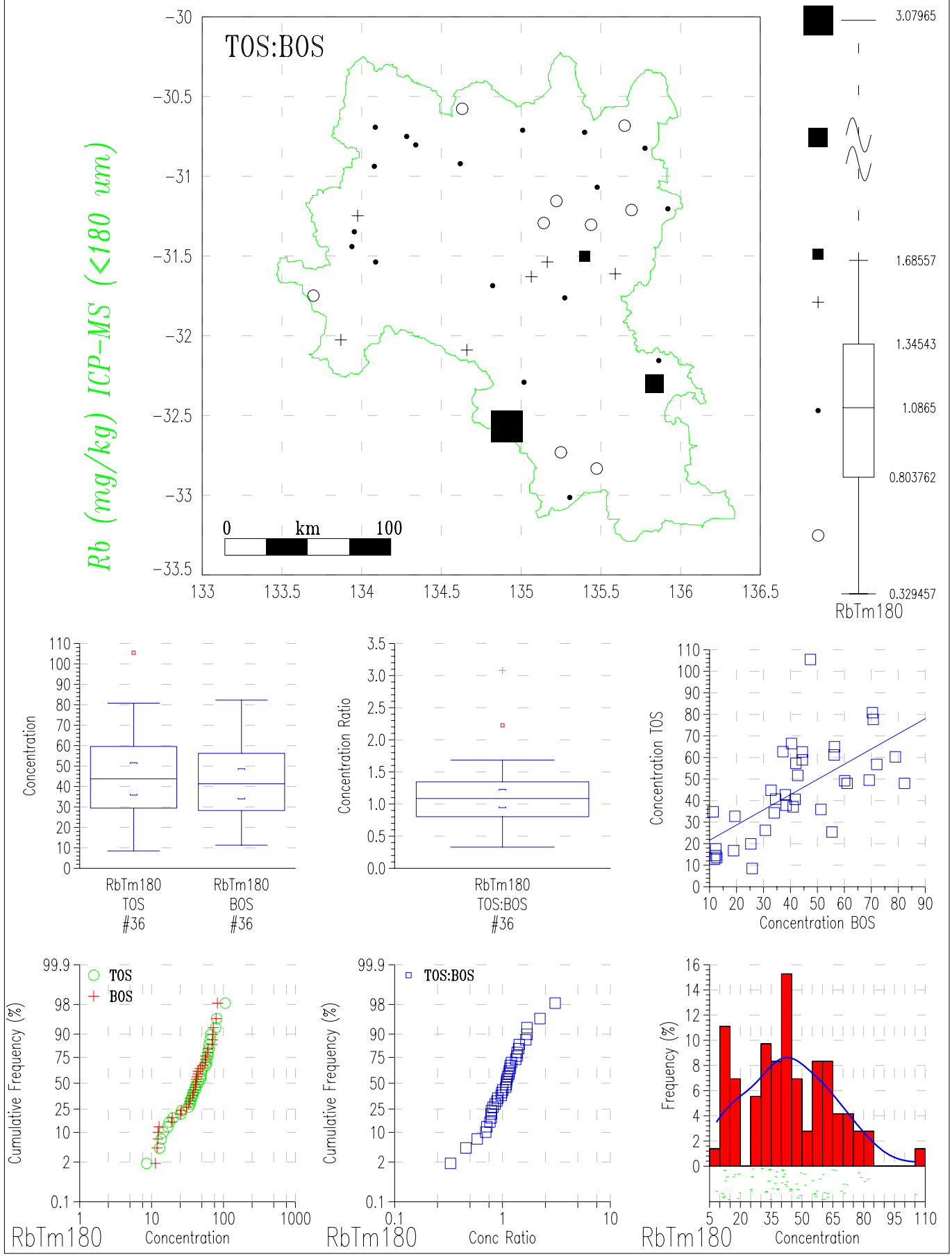




CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

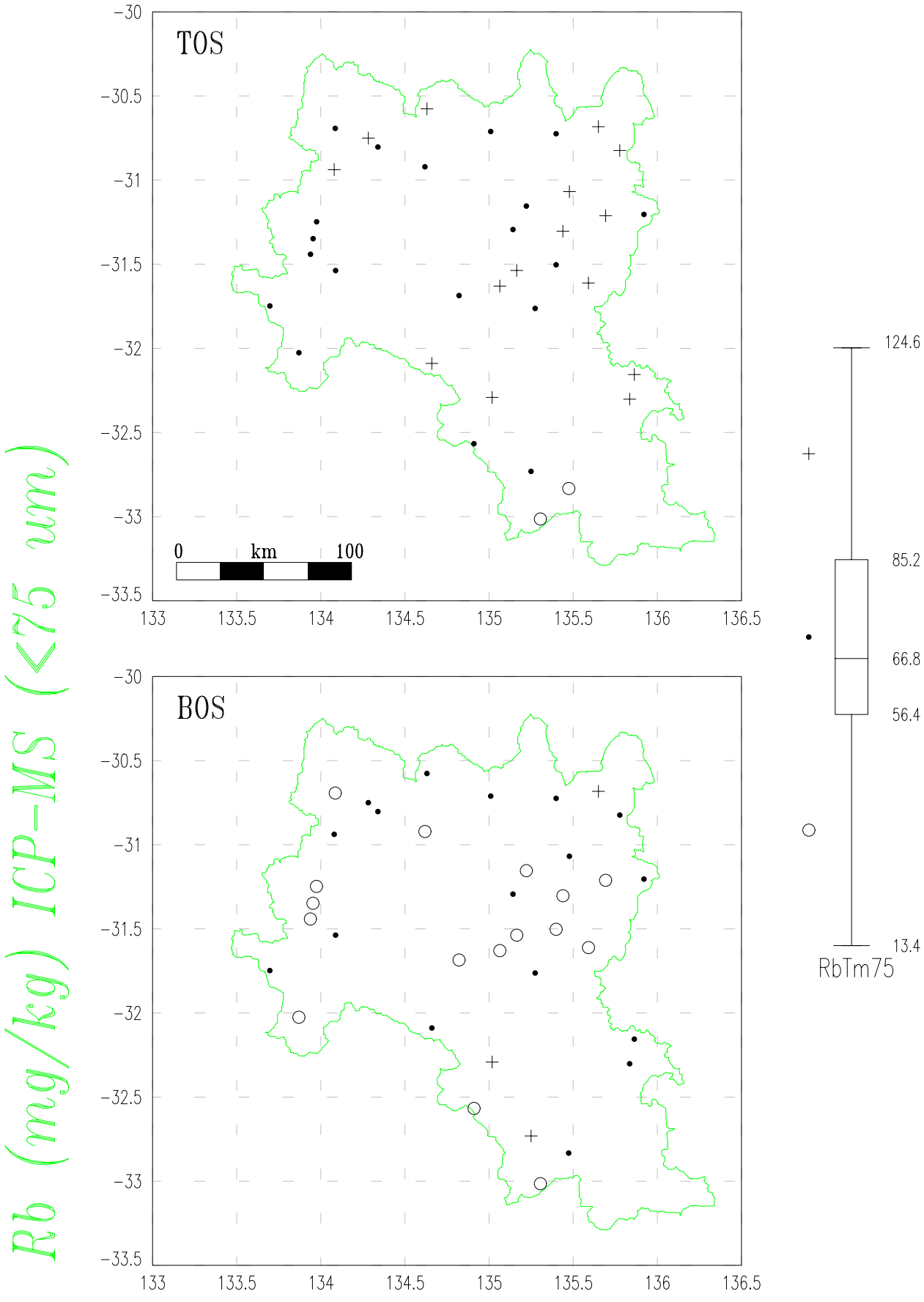


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

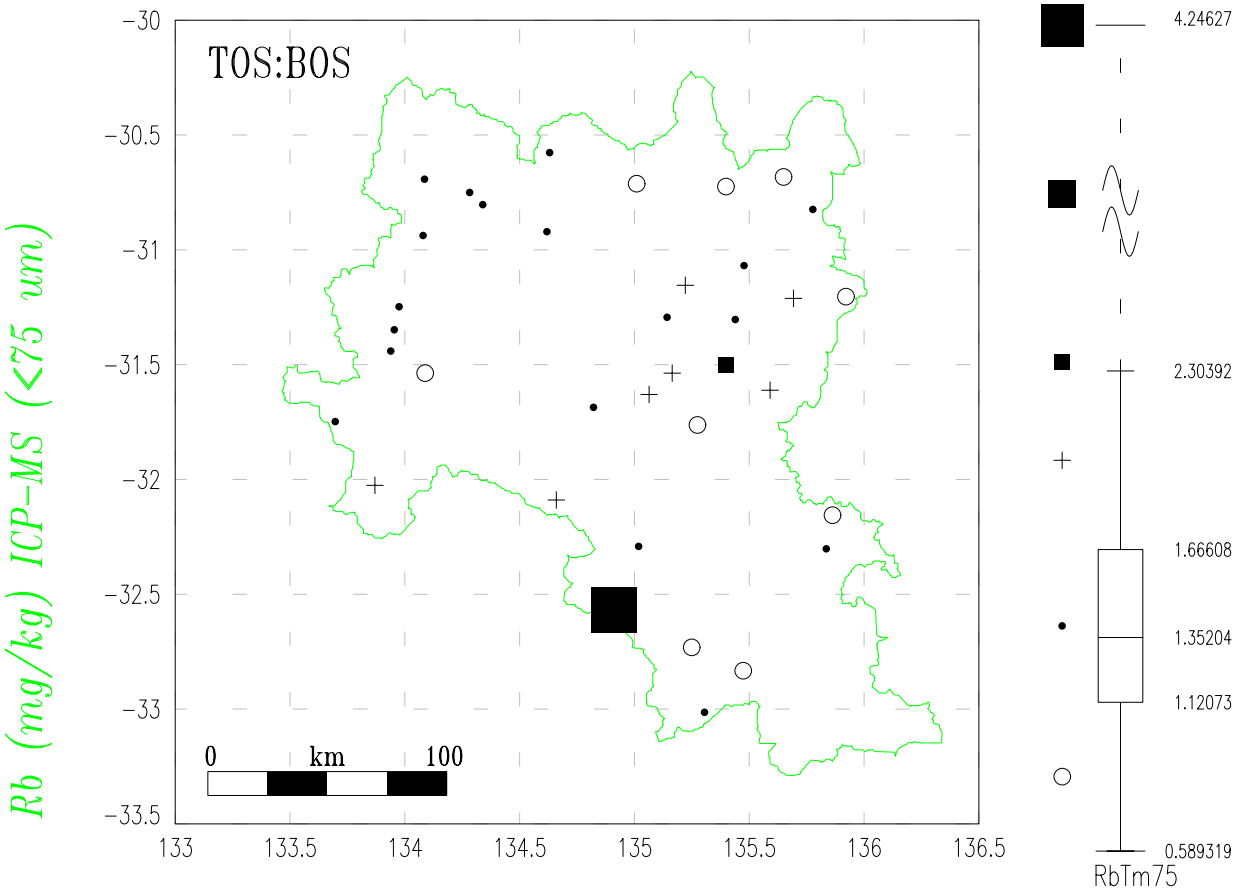


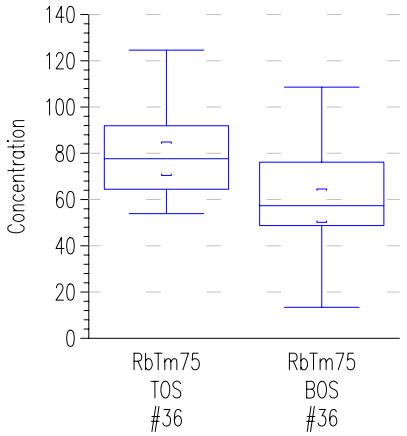
GAWLER GEOCHEMICAL SURVEY

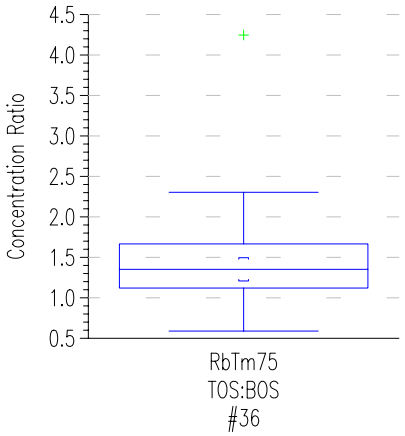
Top & Bottom Outlet Sediments (TOS & BOS)

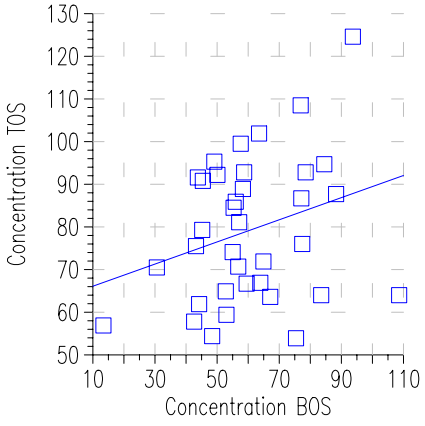


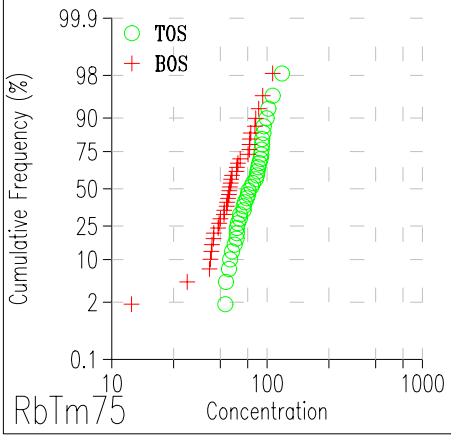
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

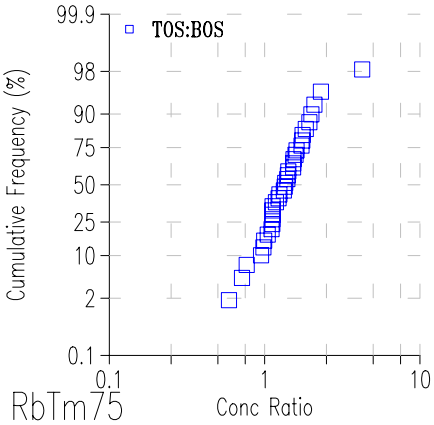


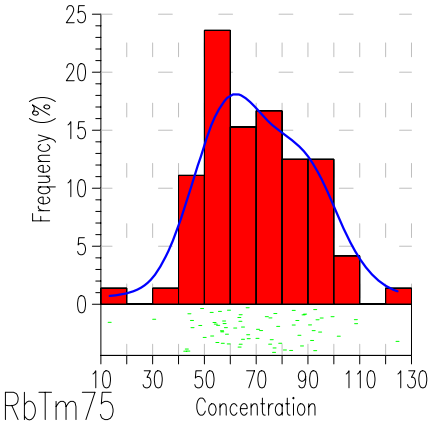






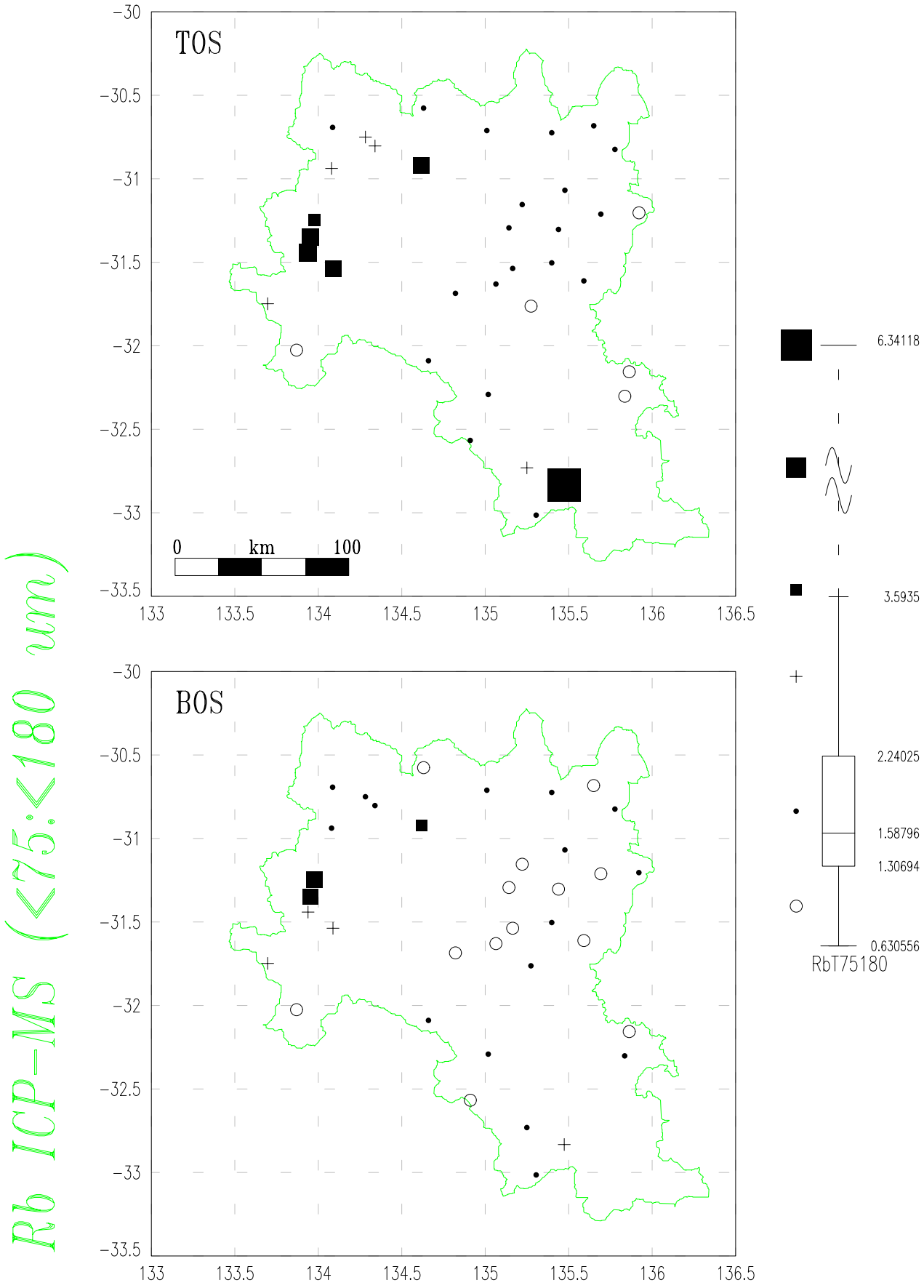






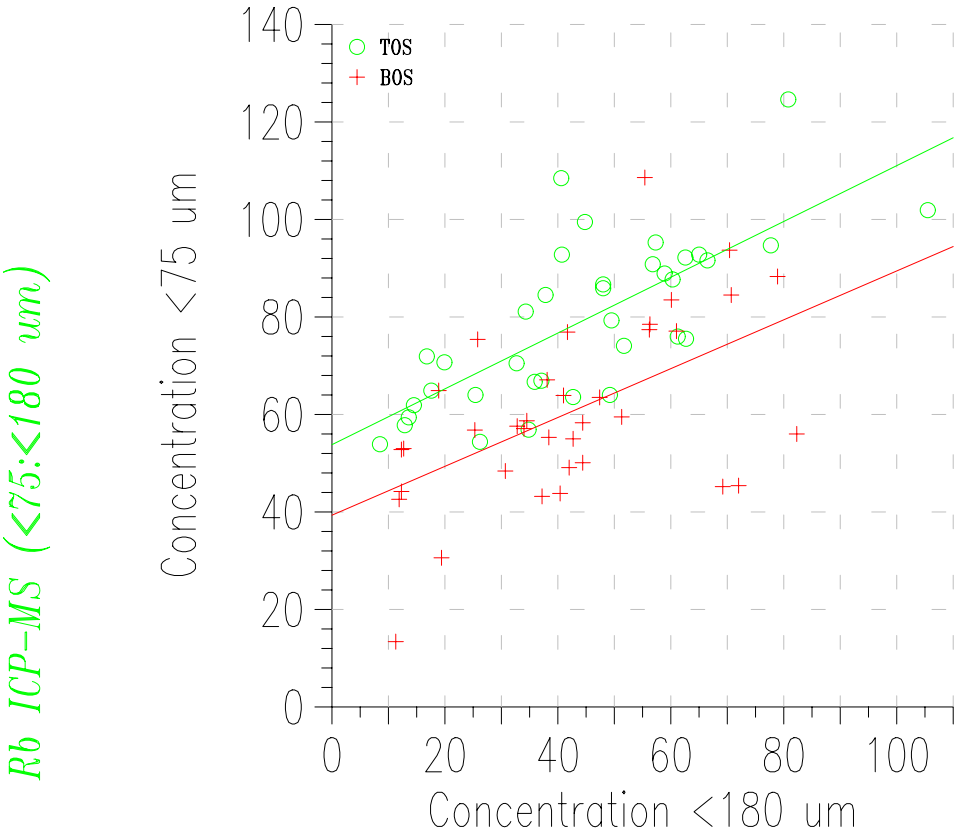
GAWLER GEOCHEMICAL SURVEY

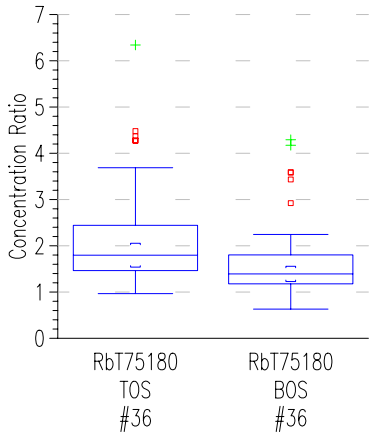
Top & Bottom Outlet Sediments (TOS & BOS)

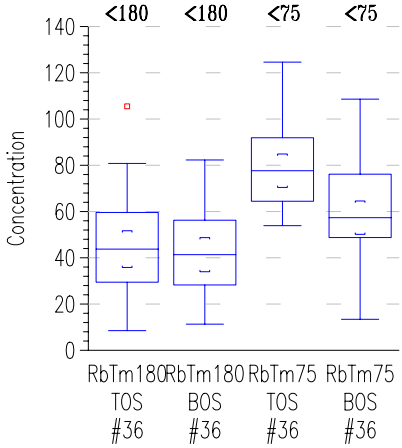


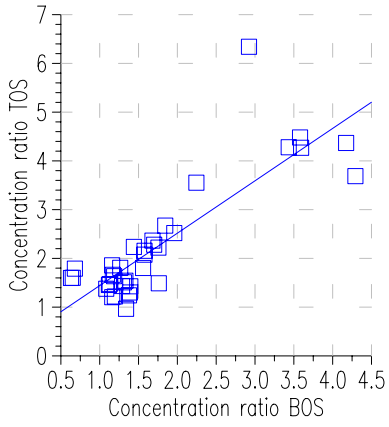
Rb ICP-MS (<75:<180 um)

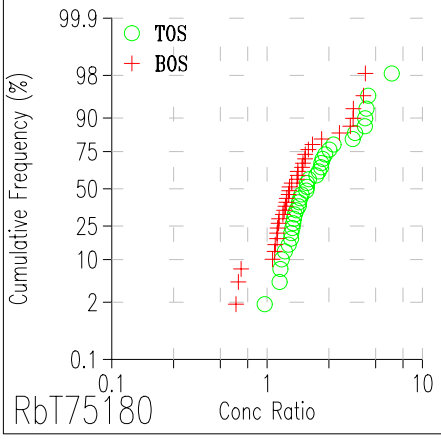
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

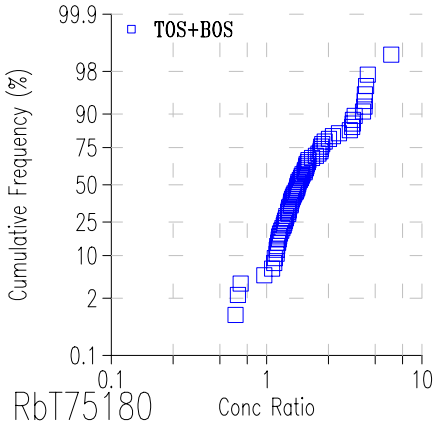


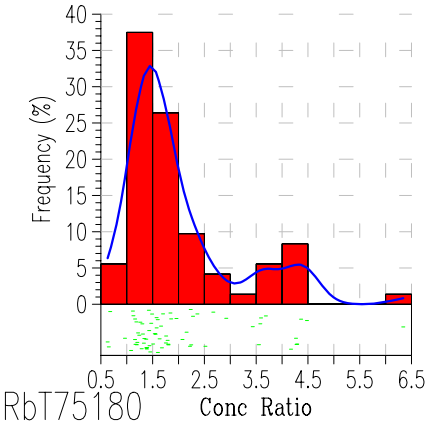






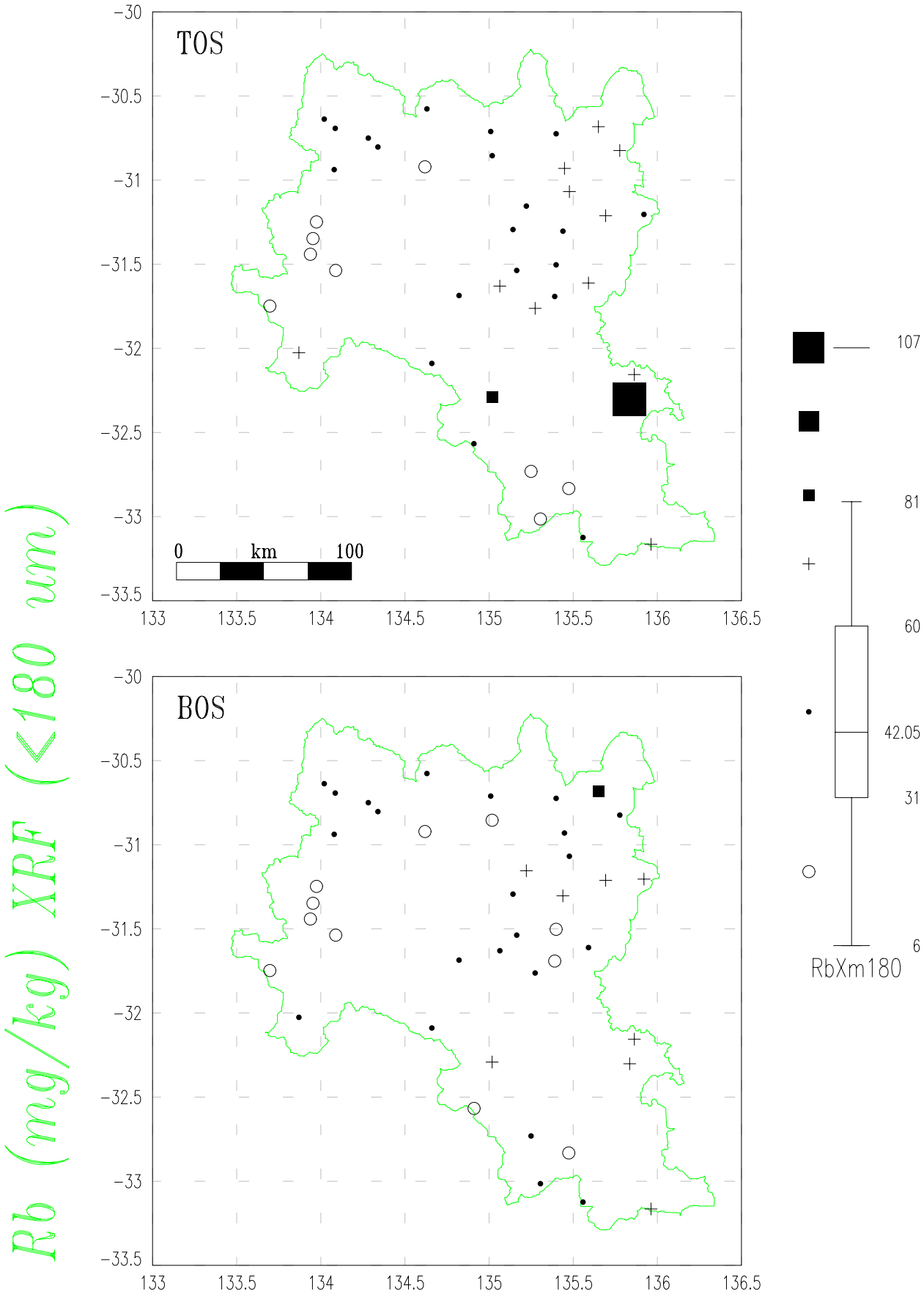




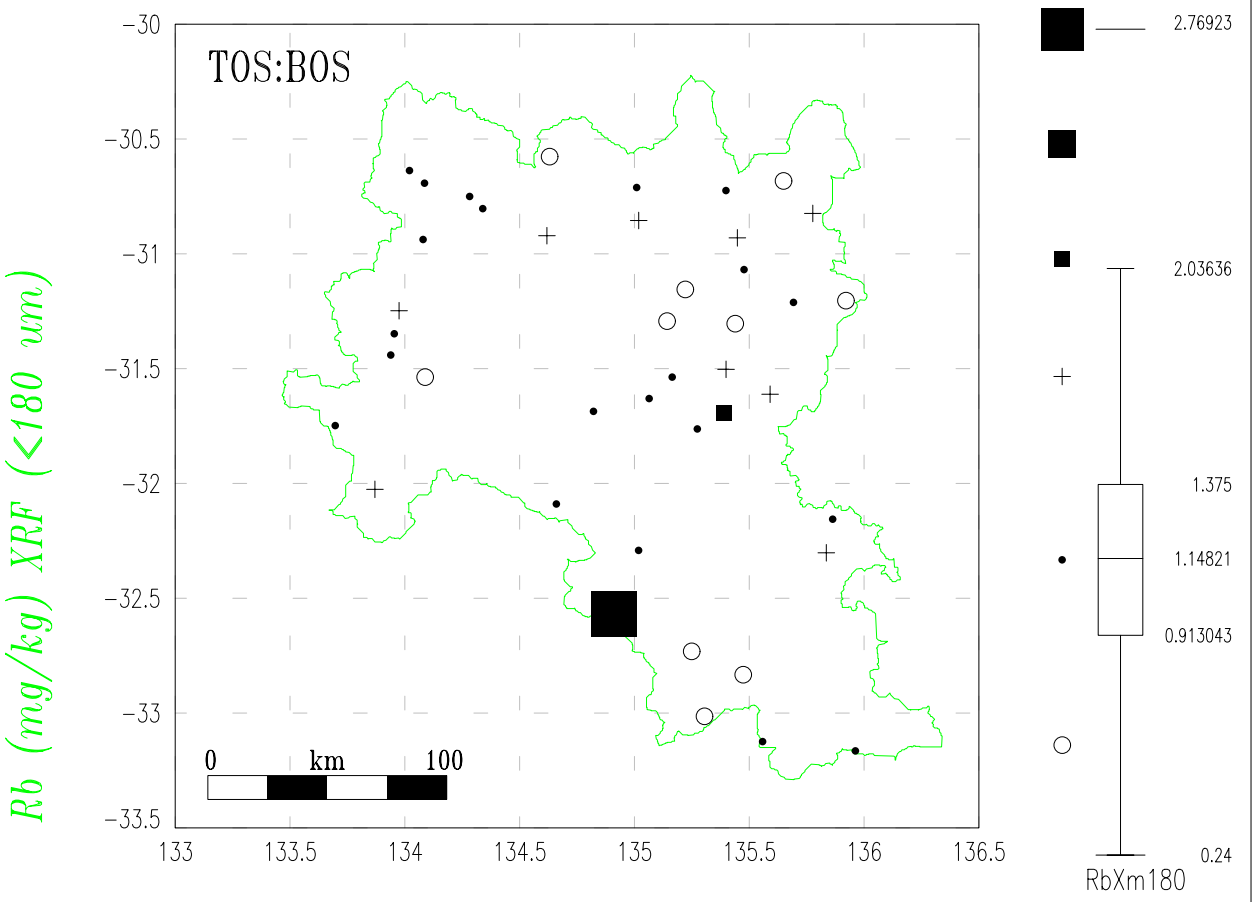


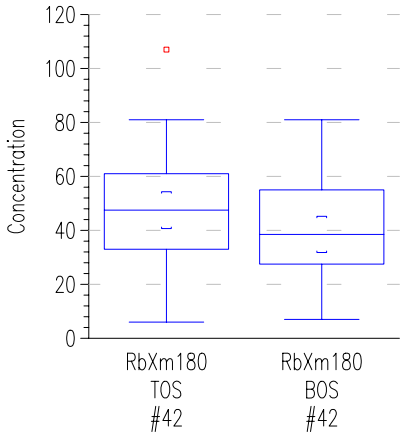
CAWLER GEOCHEMICAL SURVEY

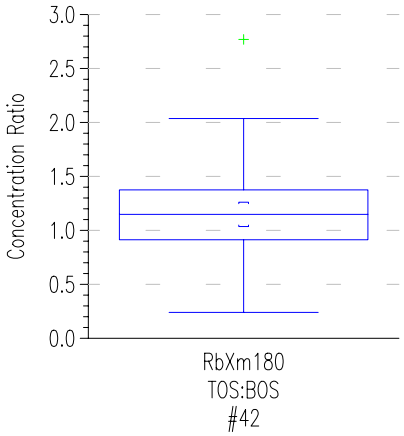
Top & Bottom Outlet Sediments (TOS & BOS)

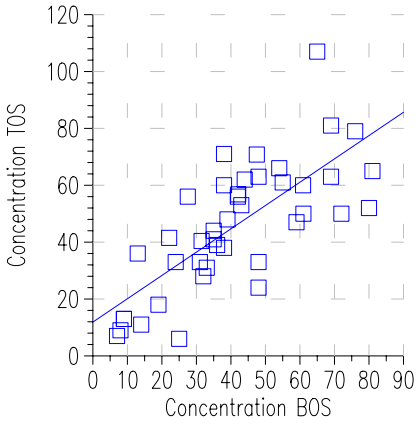


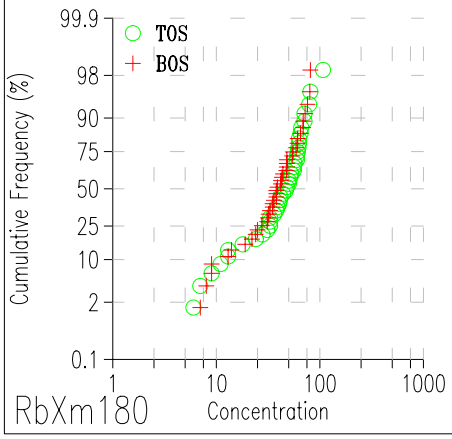
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

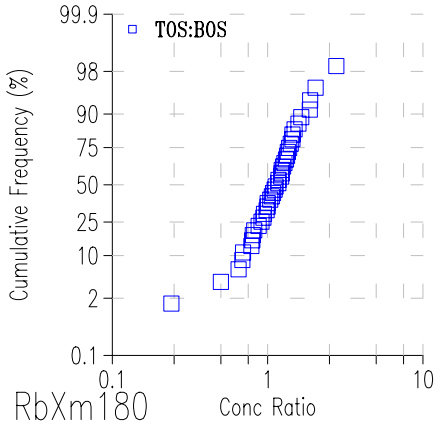


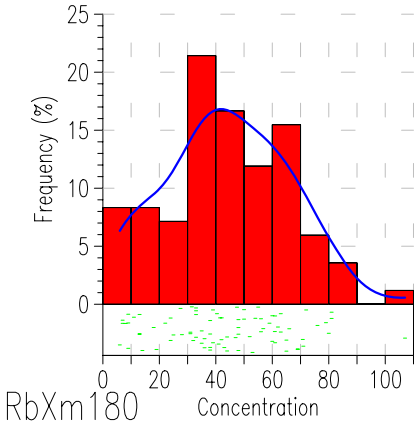






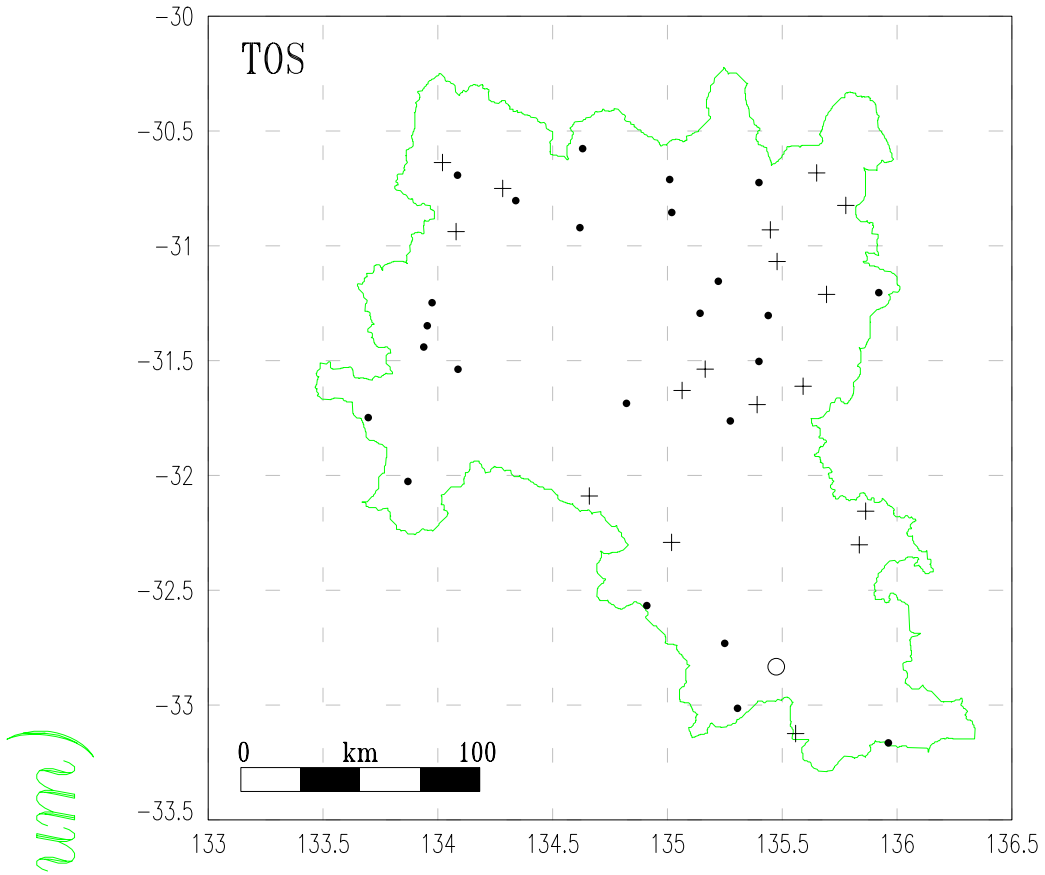


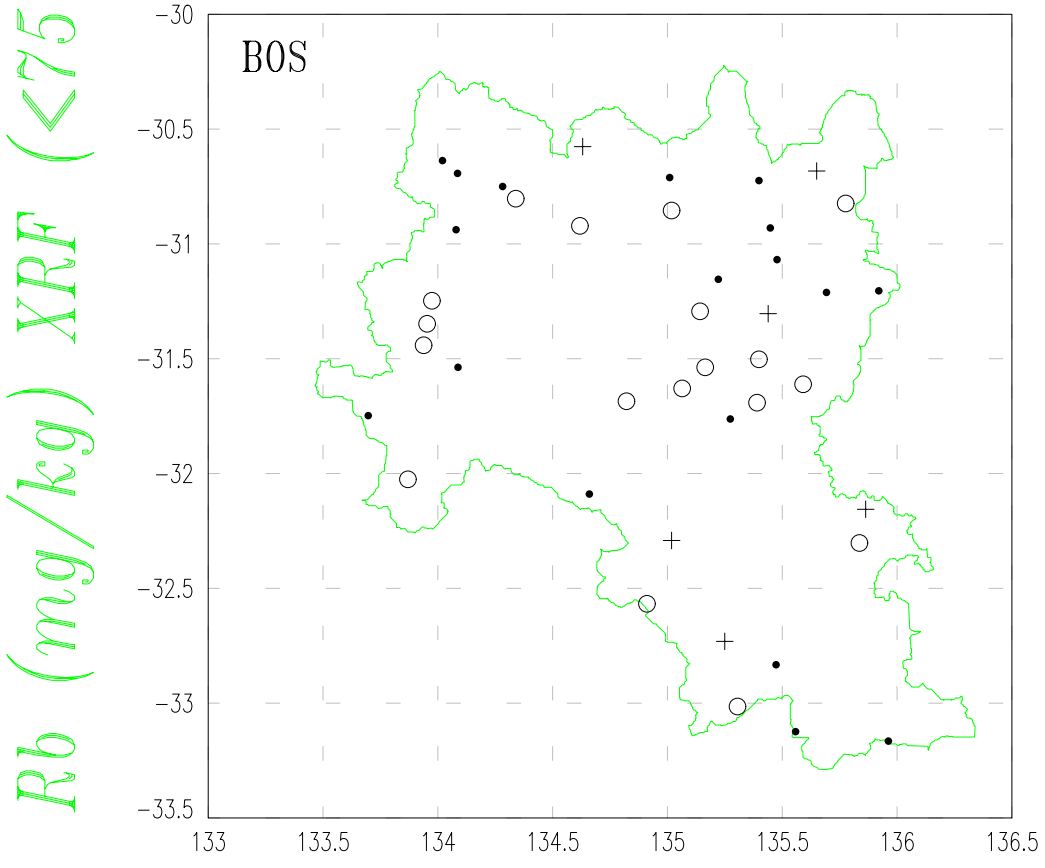




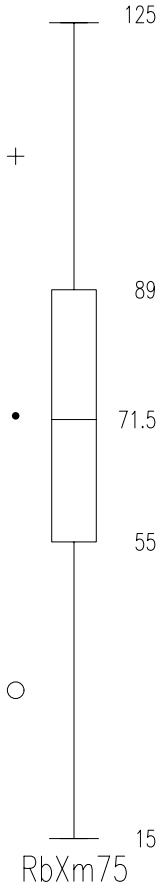
GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



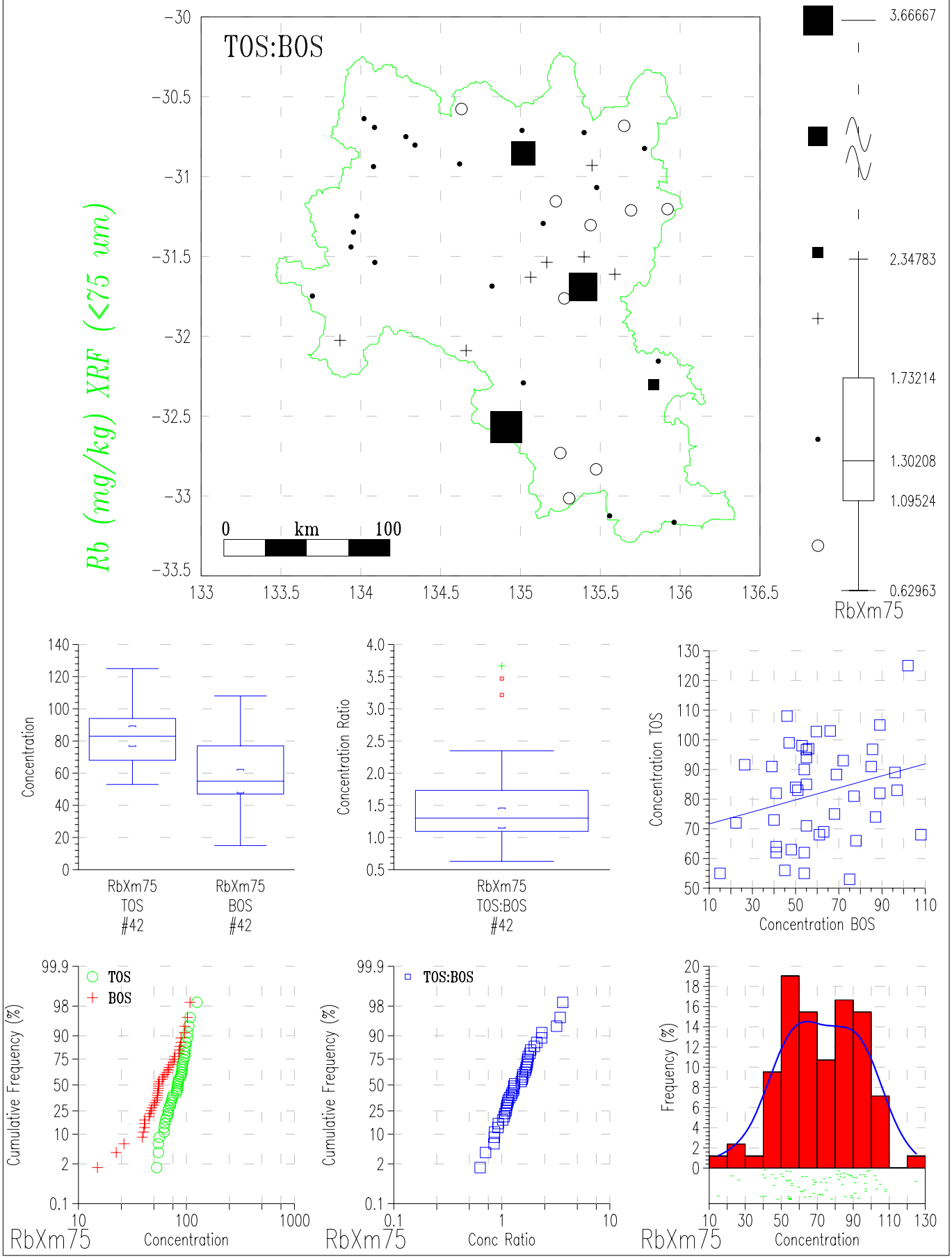


Rb (mg/kg) XRF (<75 um)



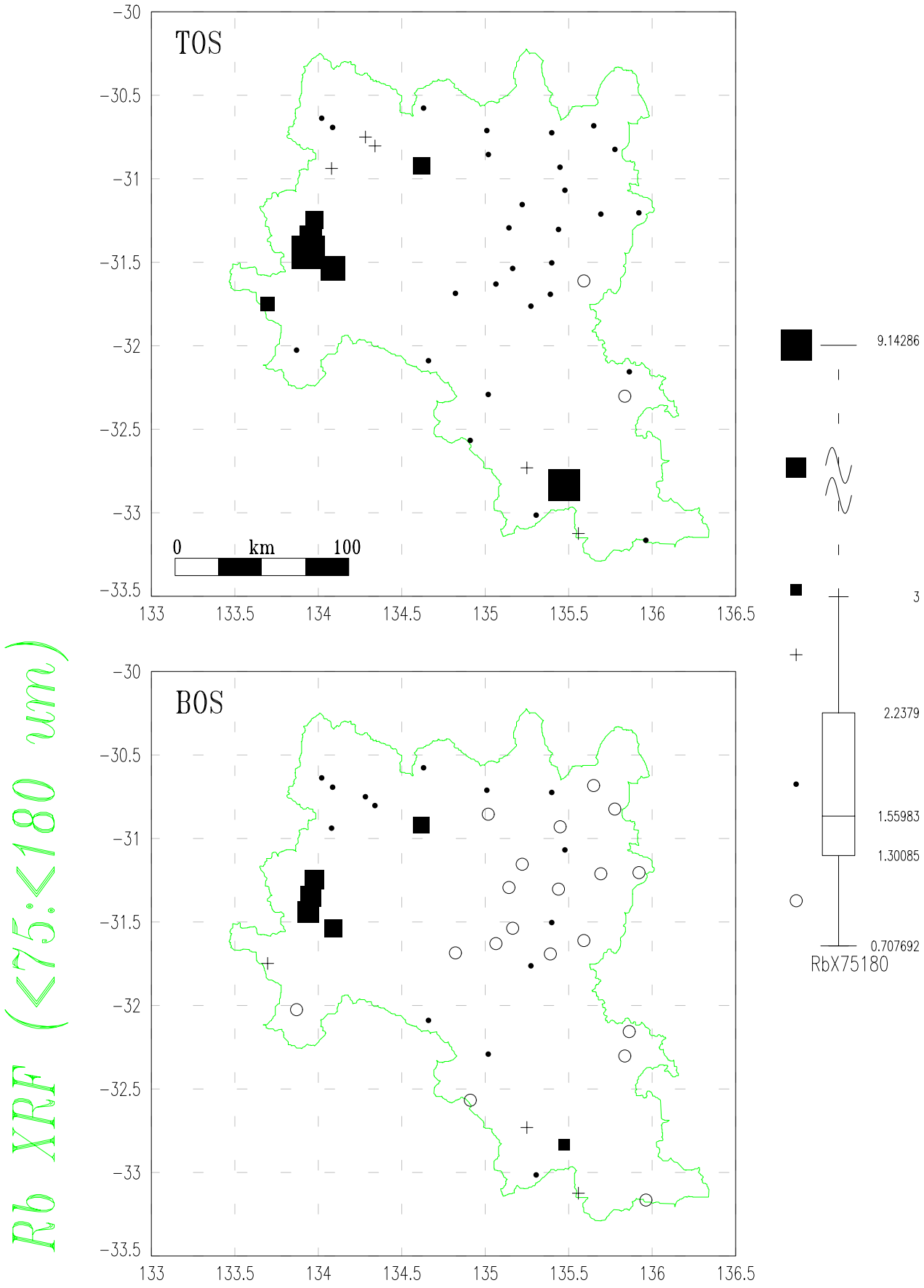
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



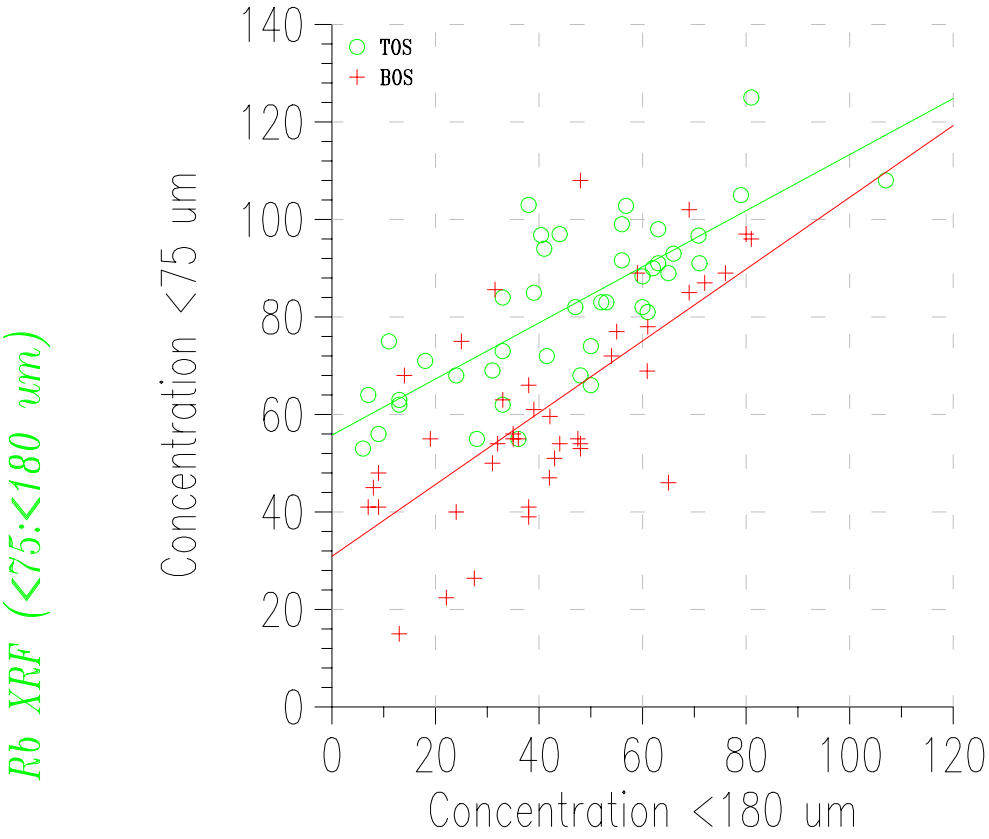
CAWLER GEOCHEMICAL SURVEY

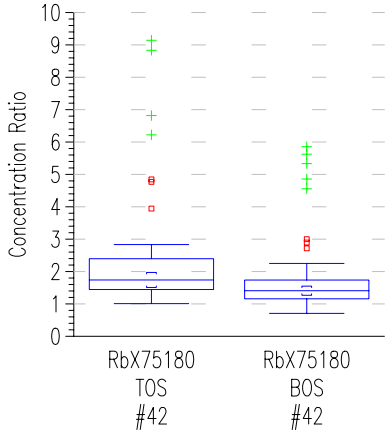
Top & Bottom Outlet Sediments (TOS & BOS)

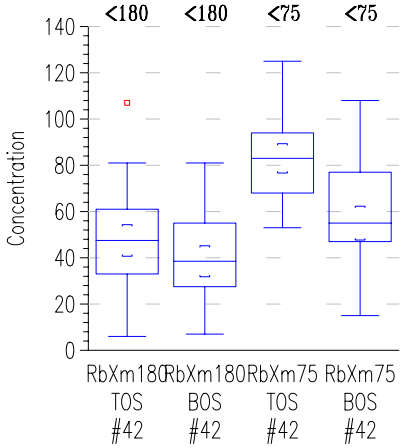


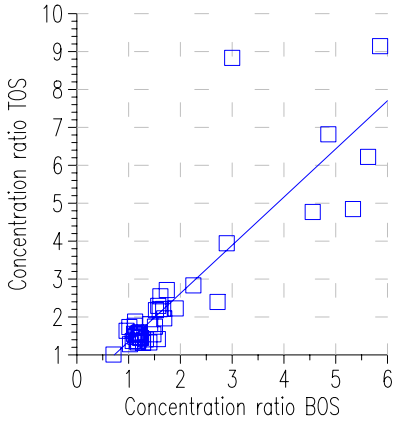
Rb XRF (<75:<180 um)

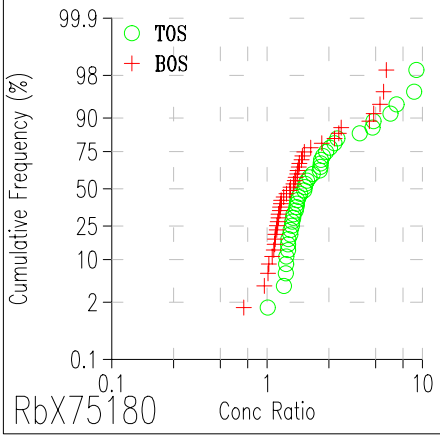
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

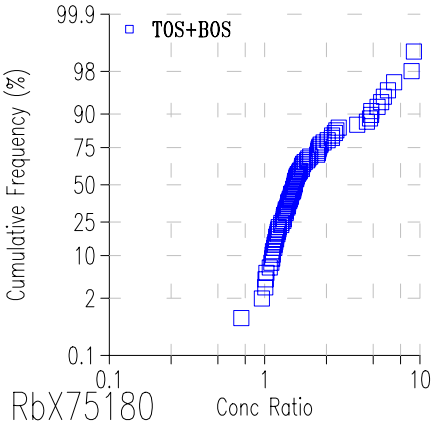


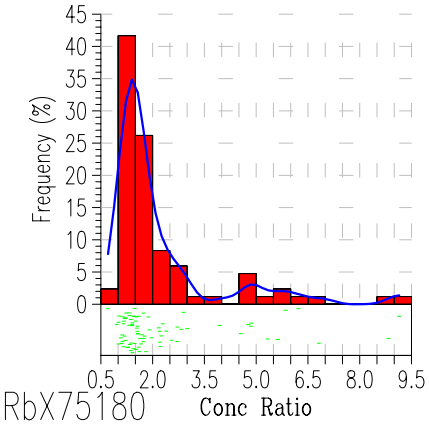






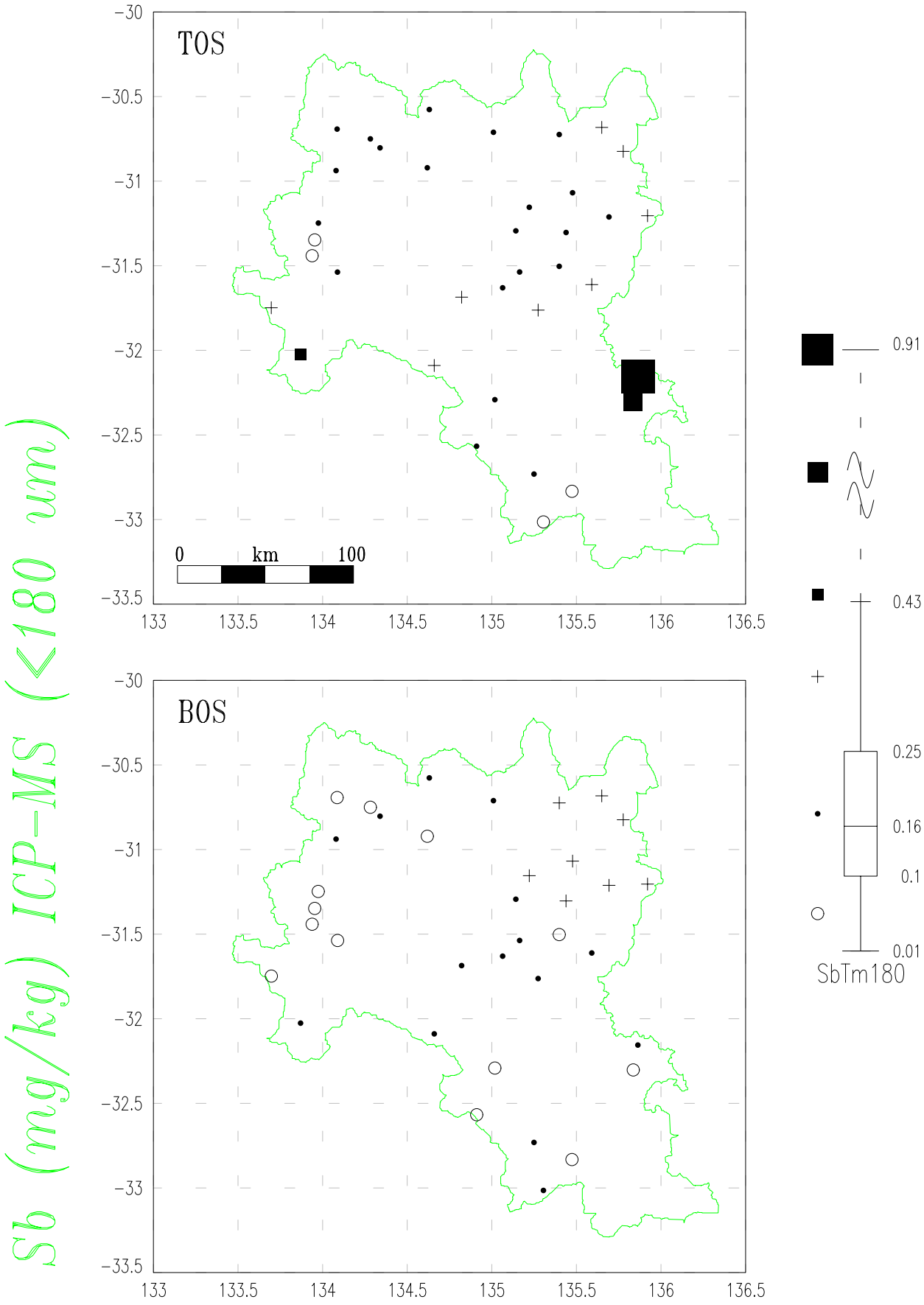






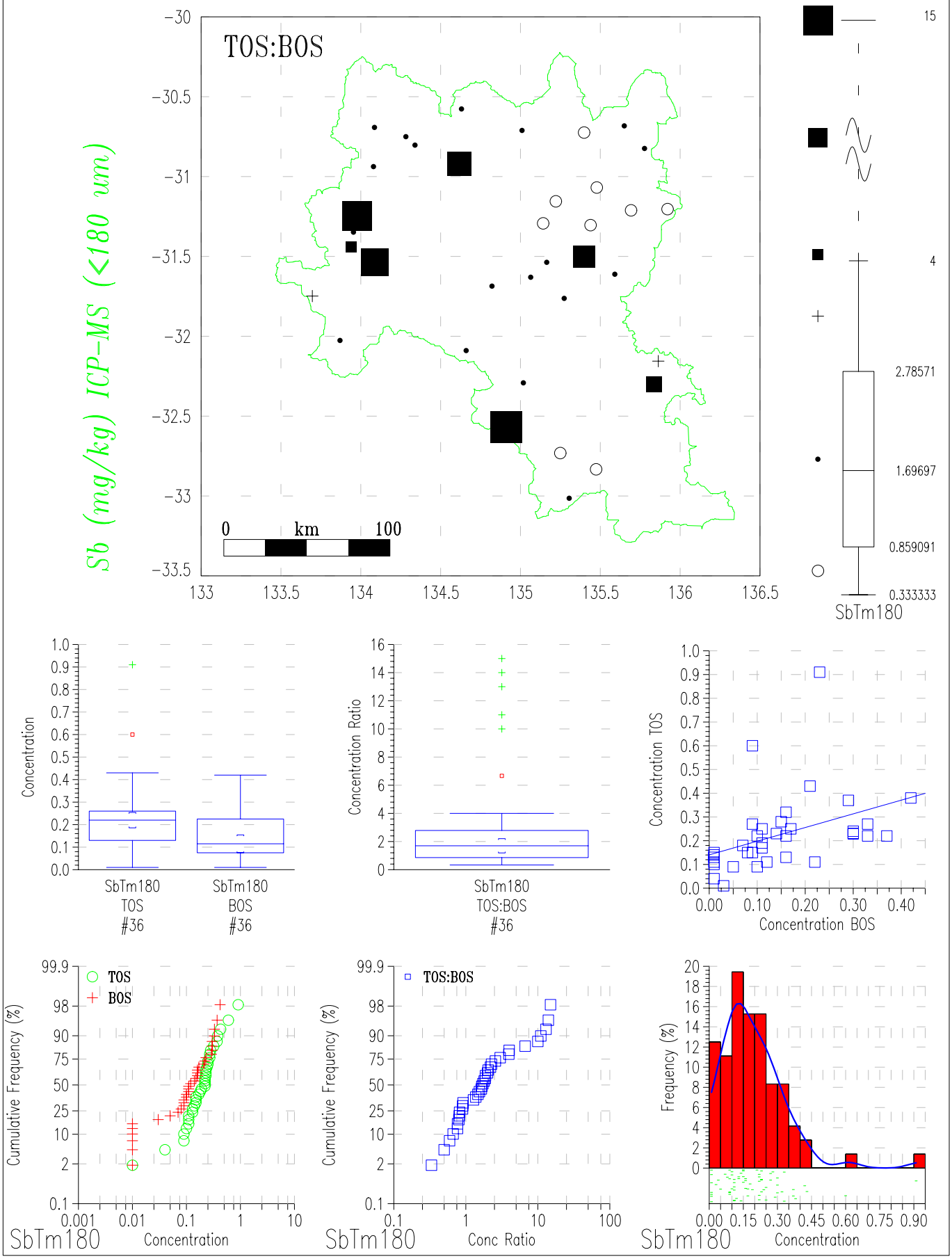
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



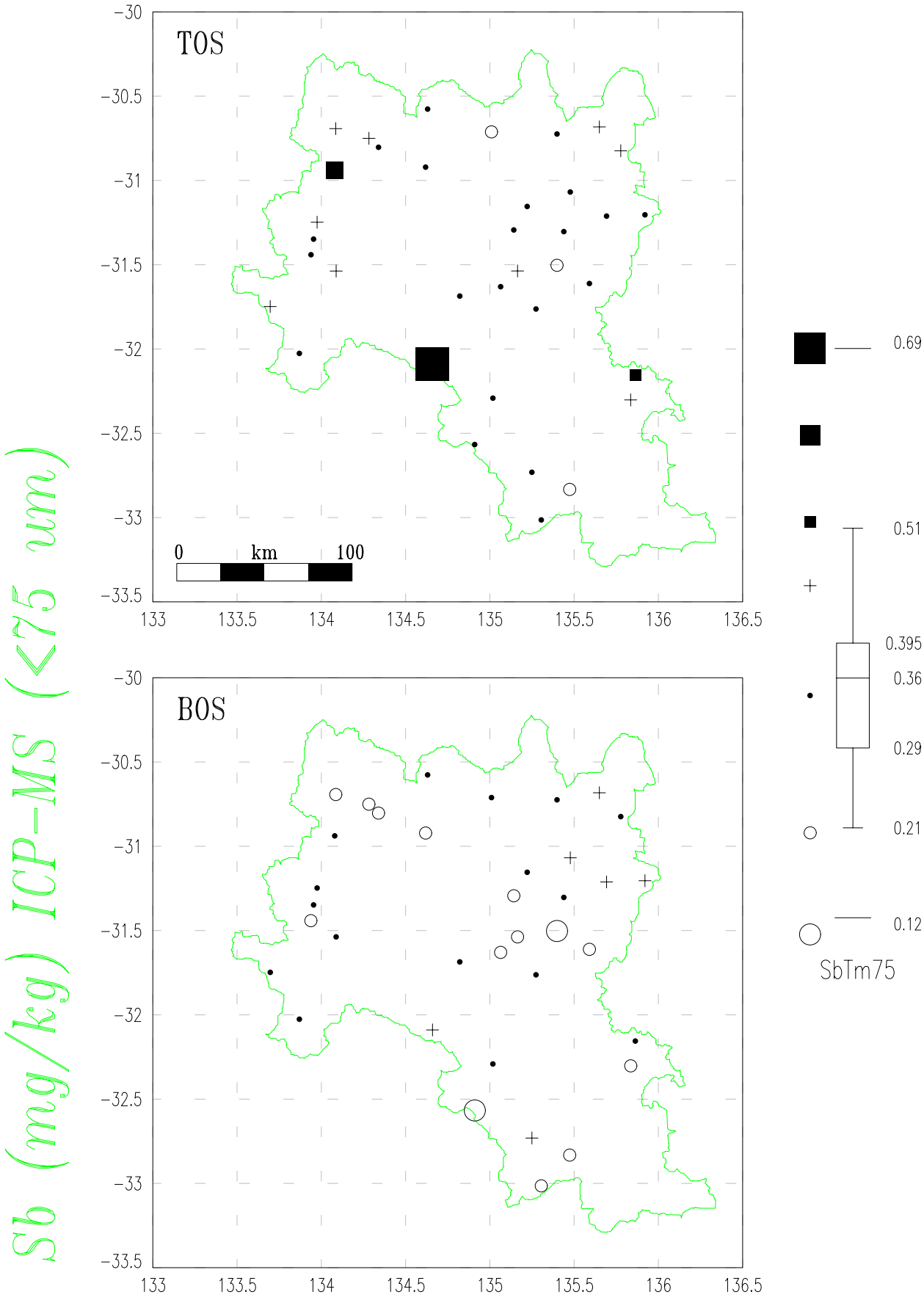
Sb (mg/kg) ICP-MS (<180 um)

CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

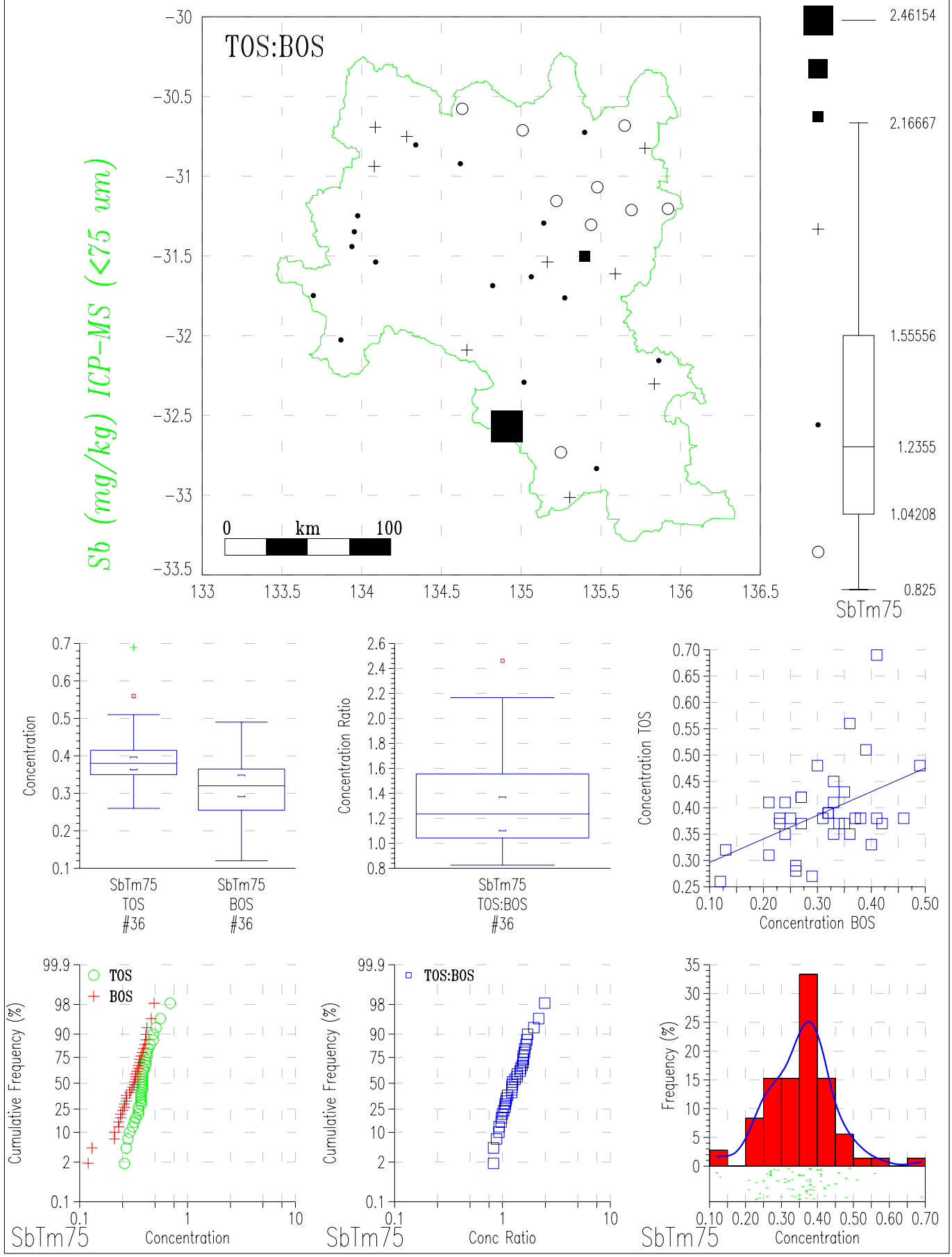


GAWLER GEOCHEMICAL SURVEY

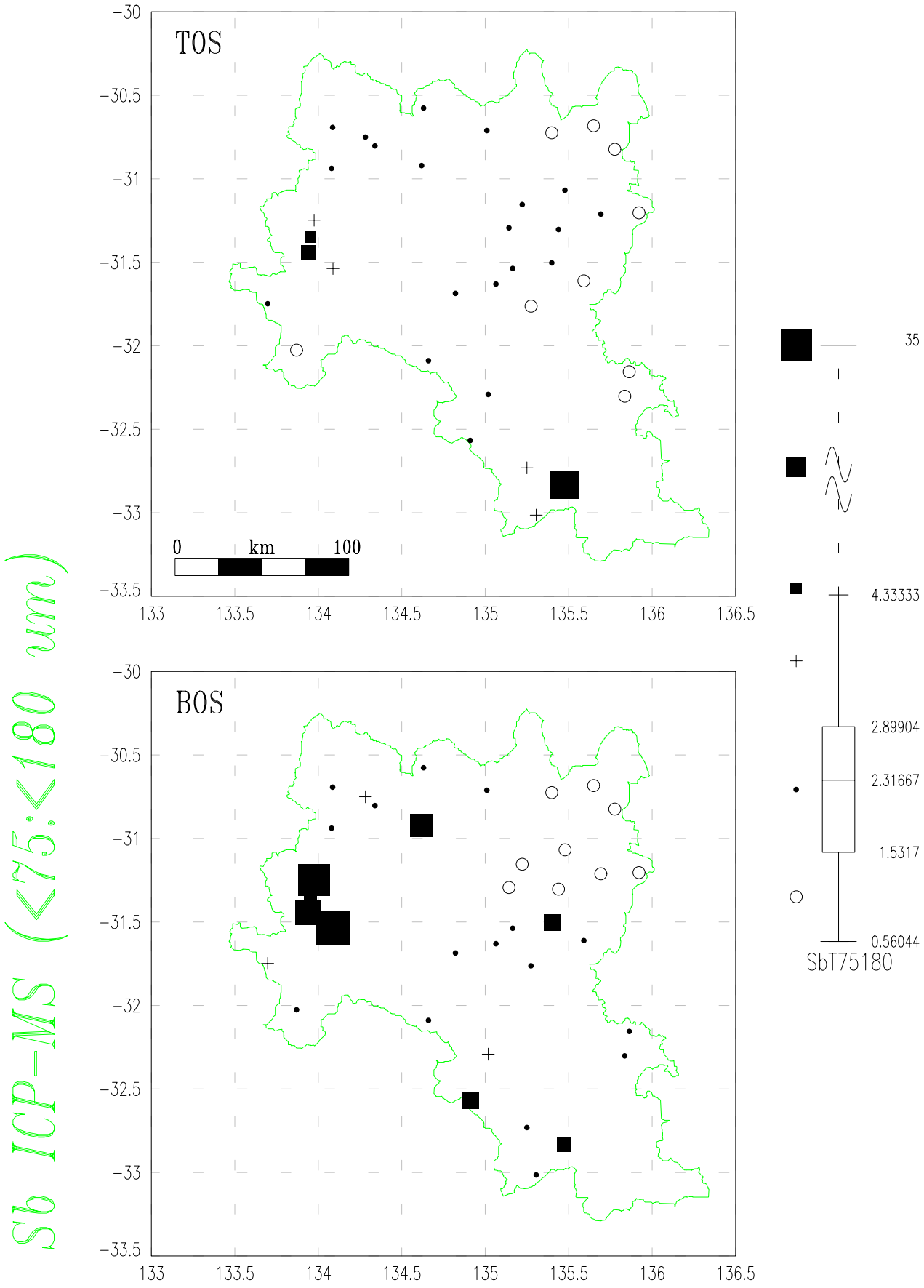
Top & Bottom Outlet Sediments (TOS & BOS)



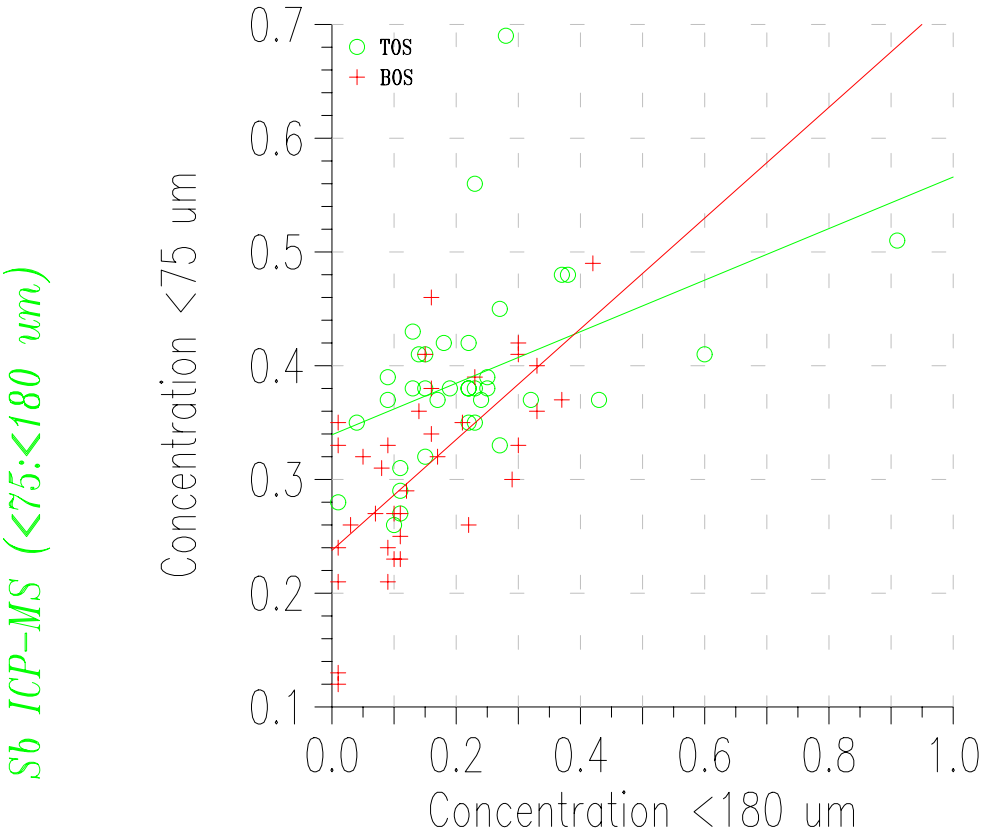
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

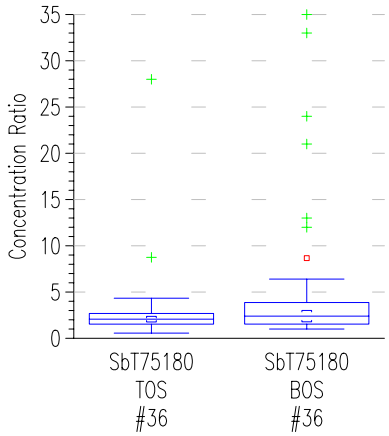


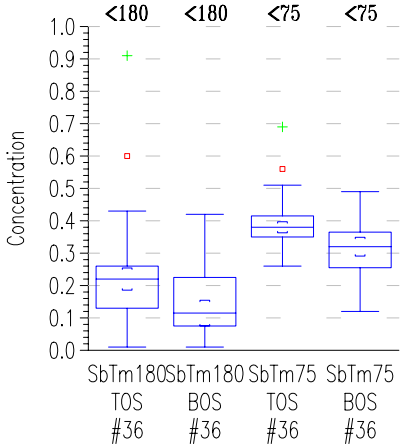
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

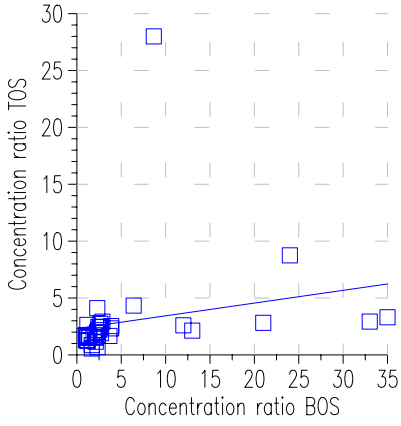


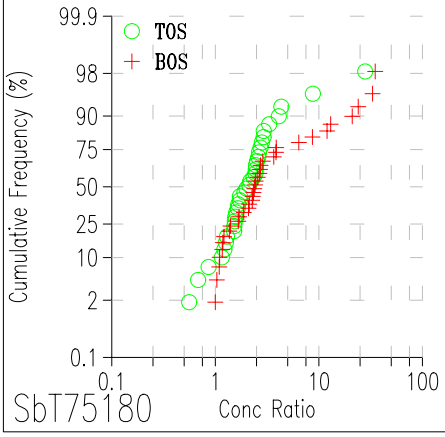
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

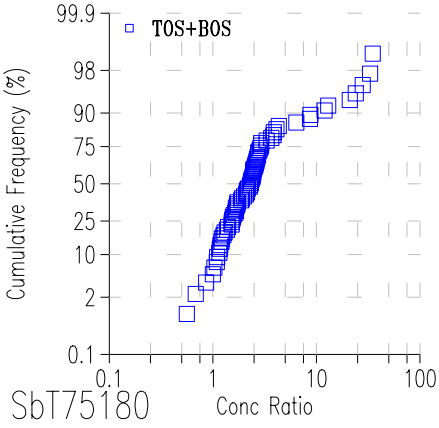


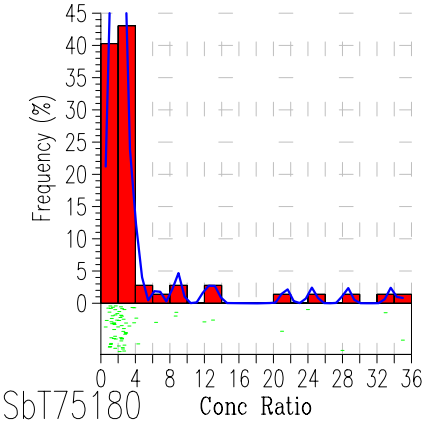






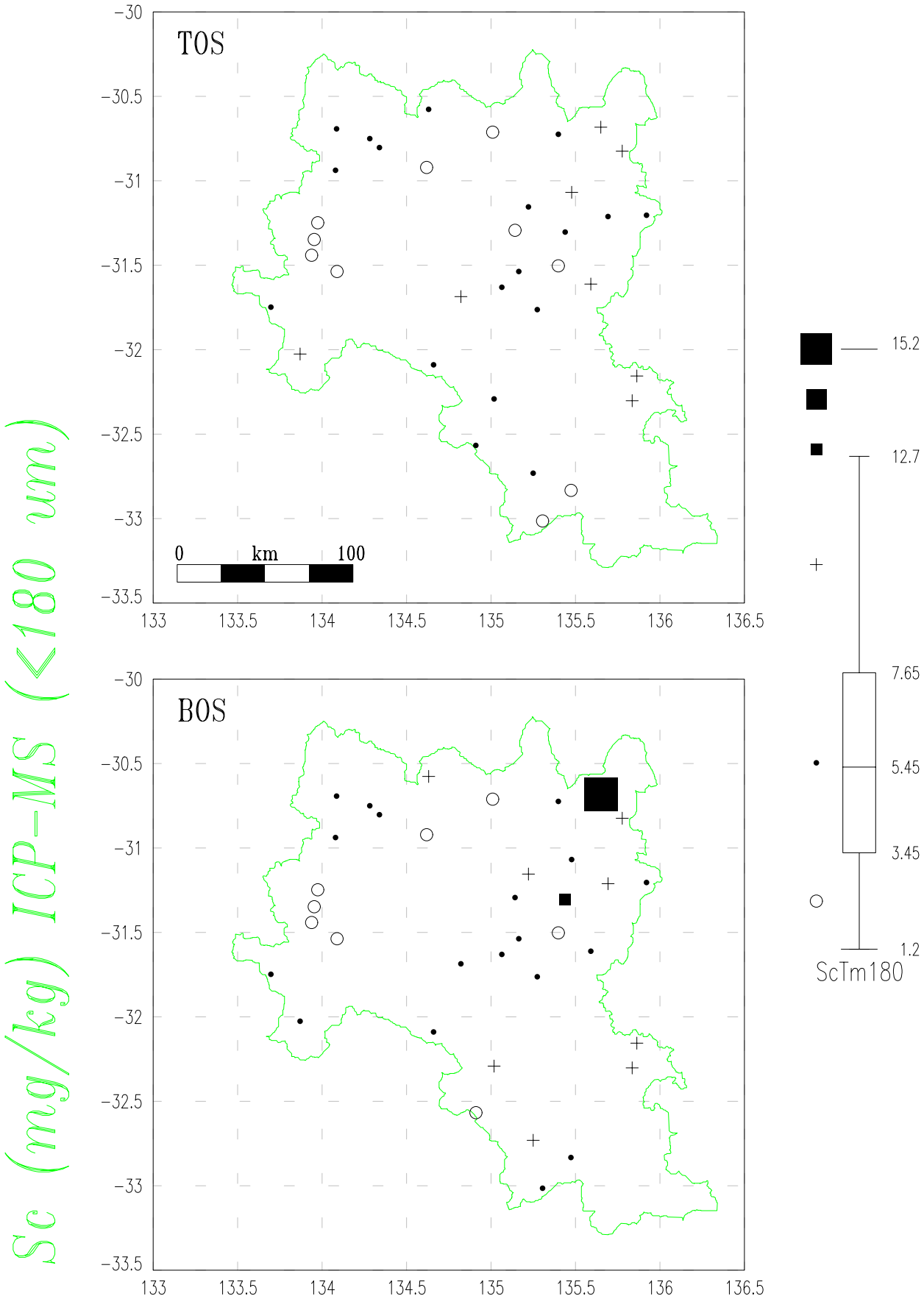




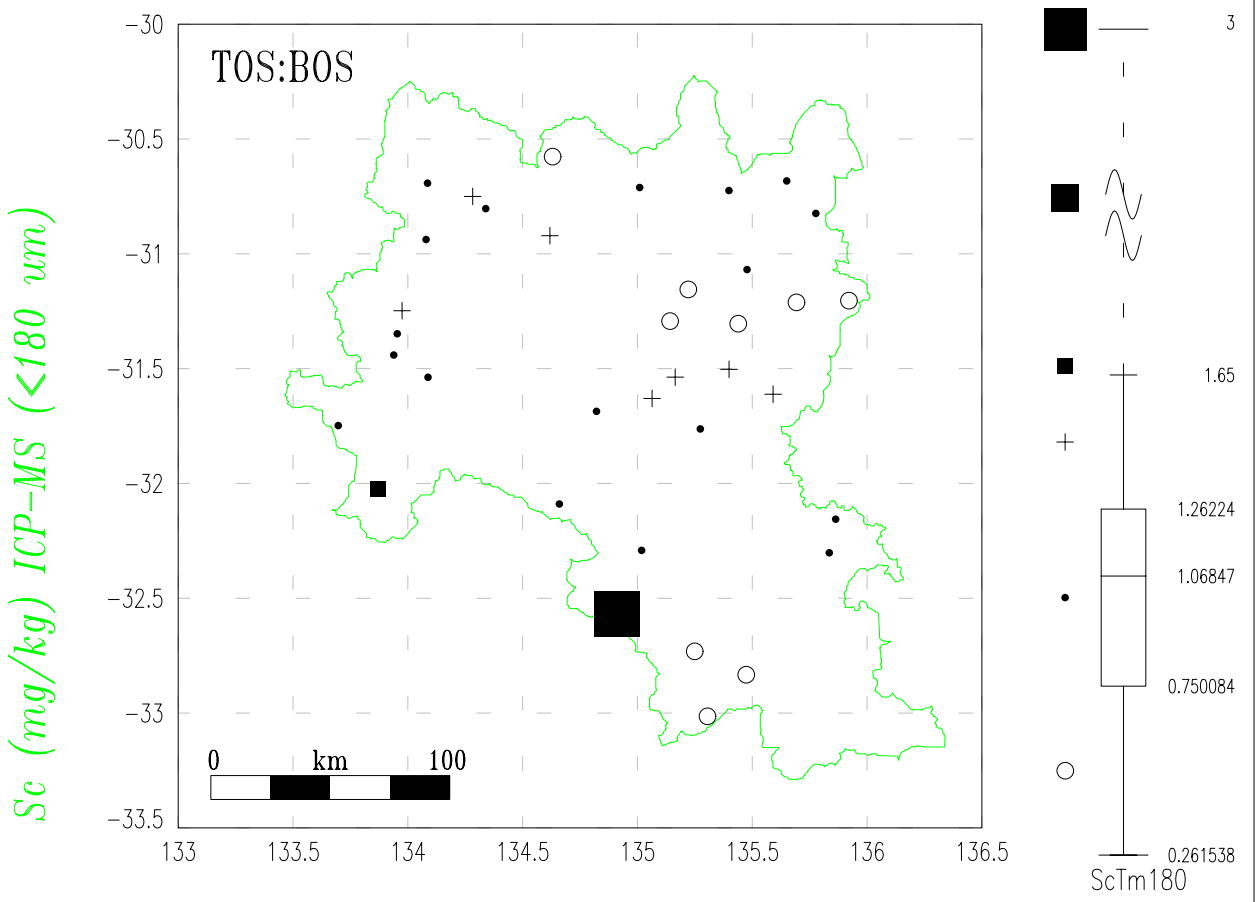


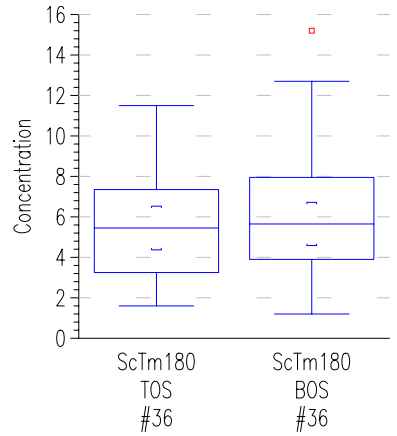
GAWLER GEOCHEMICAL SURVEY

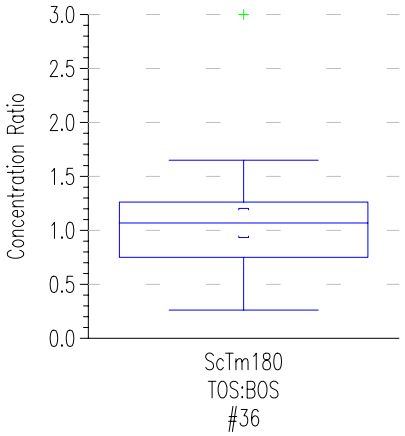
Top & Bottom Outlet Sediments (TOS & BOS)

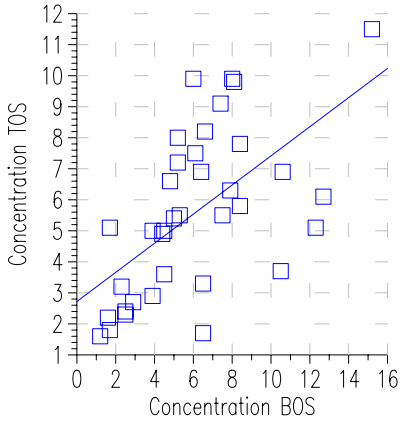


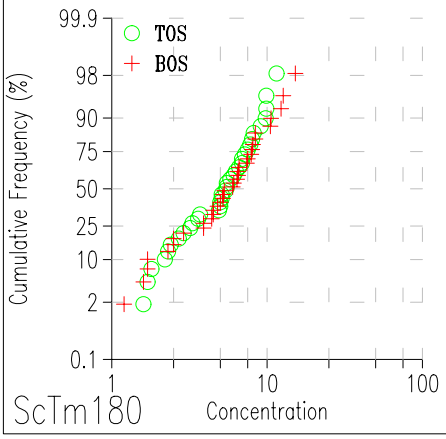
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

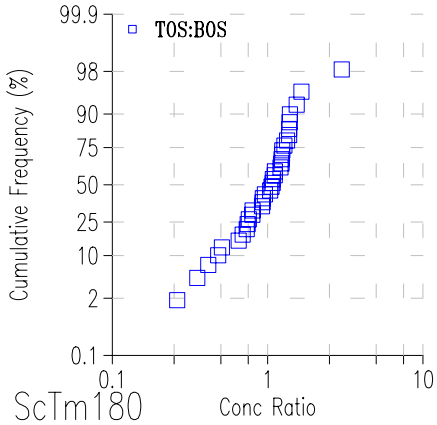


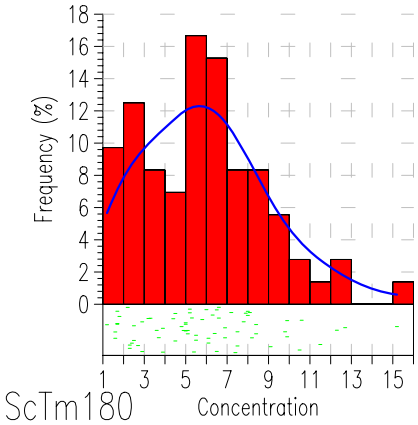






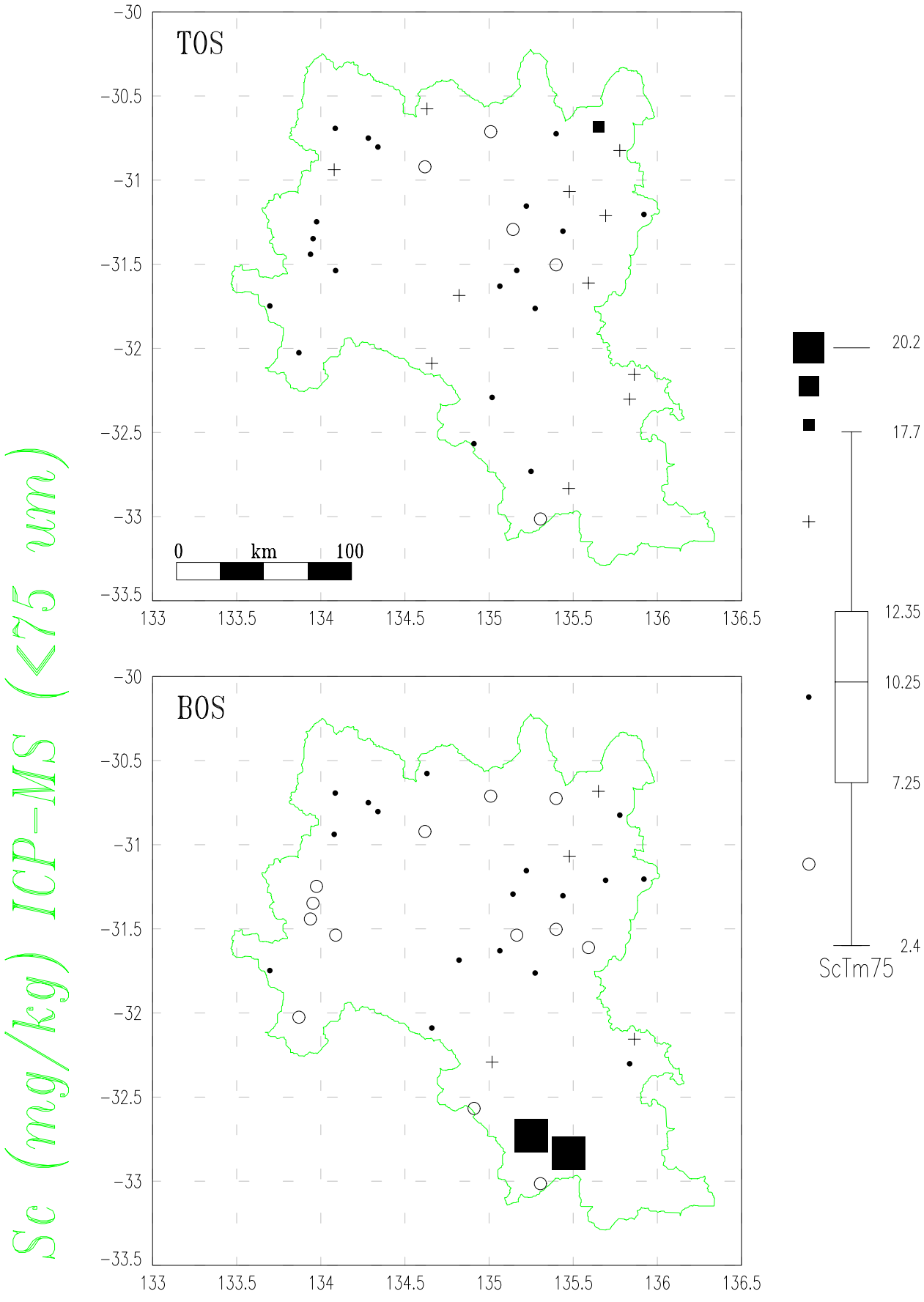






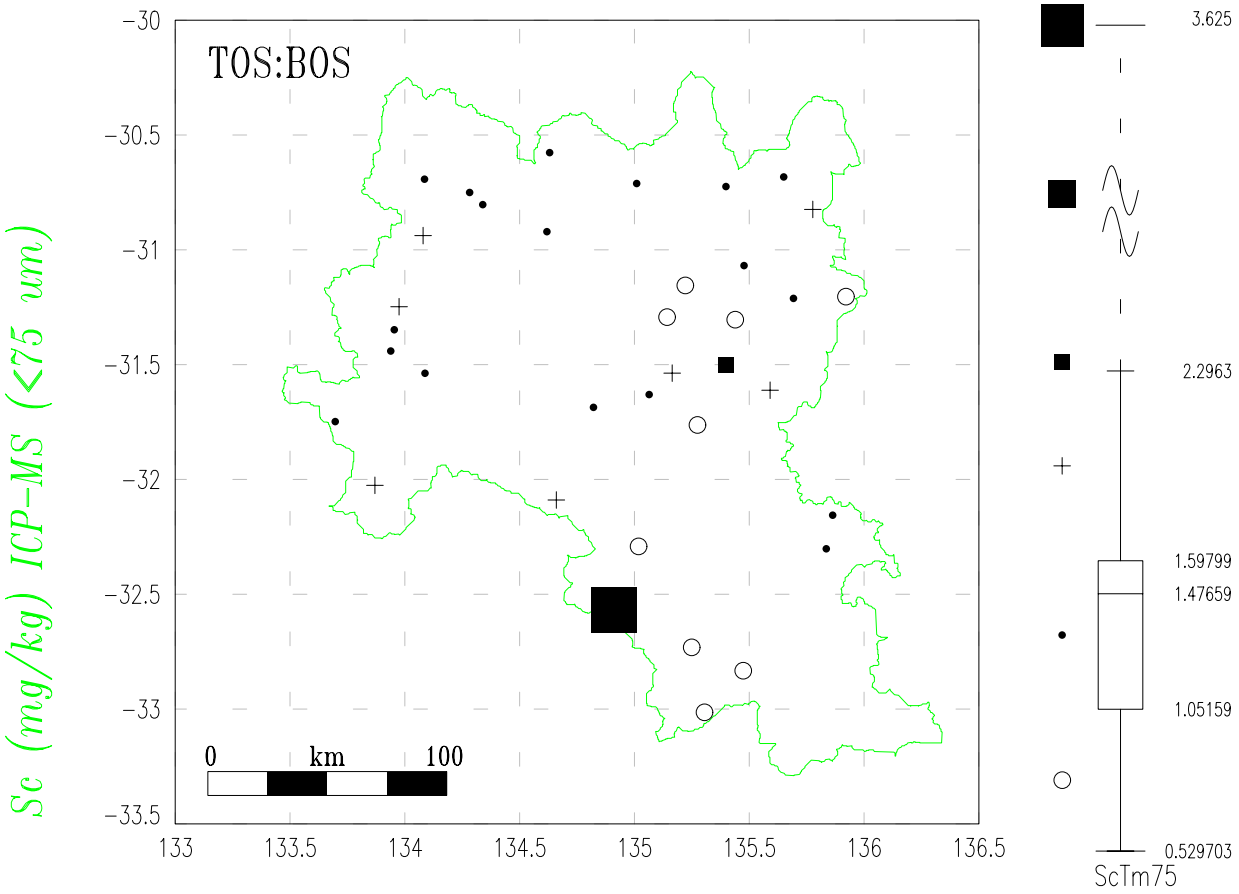
CAWLER GEOCHEMICAL SURVEY

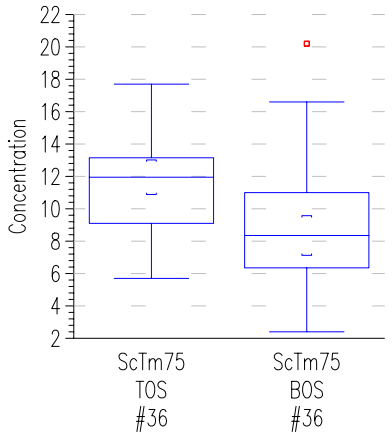
Top & Bottom Outlet Sediments (TOS & BOS)

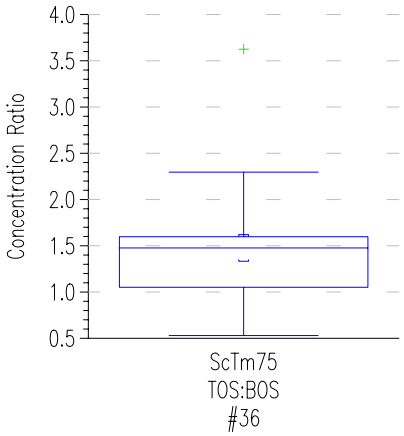


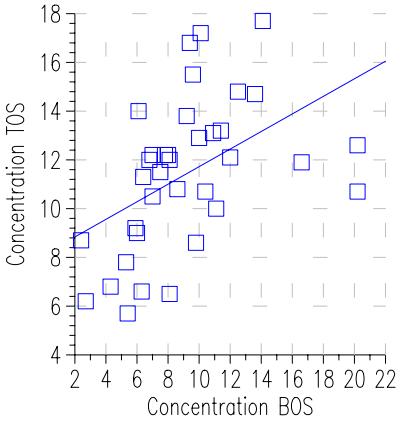
Sc (mg/kg) ICP-MS (<75 um)

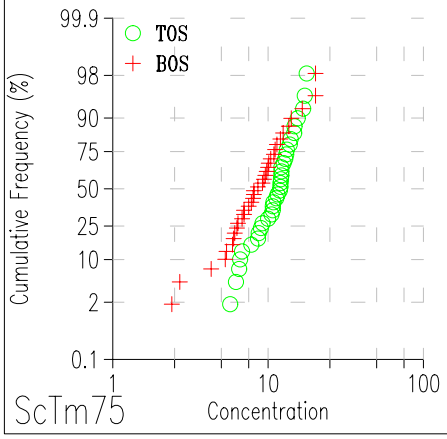
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

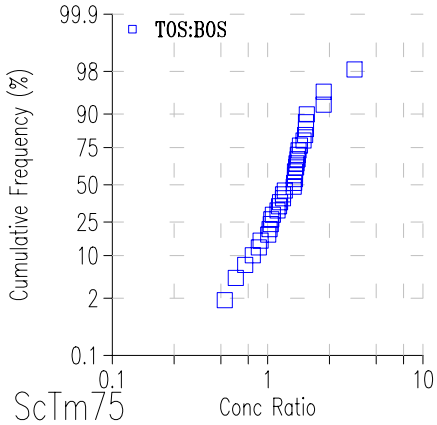


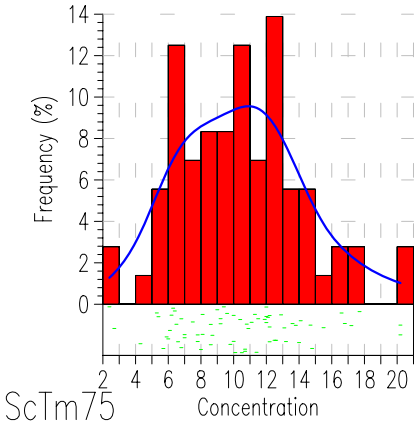






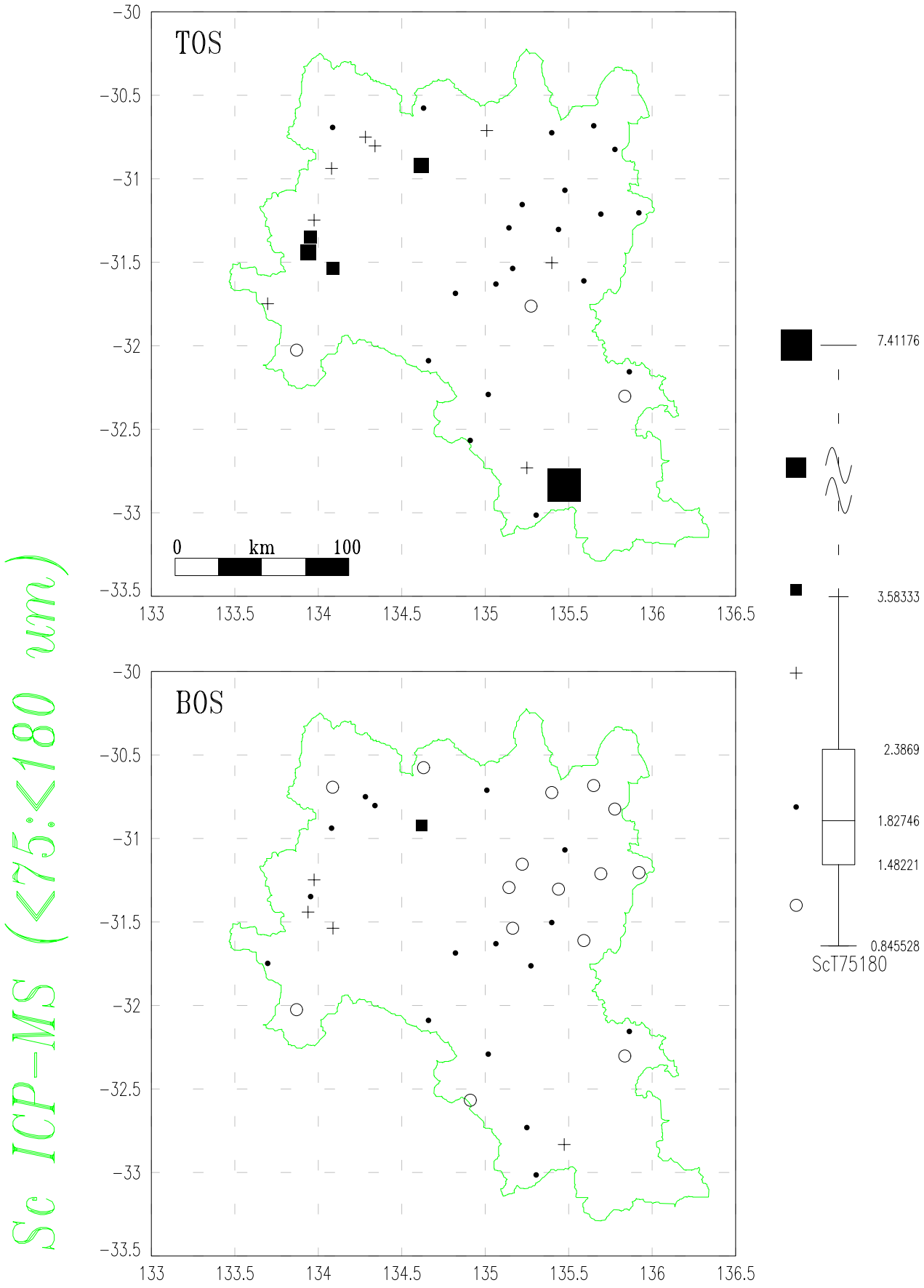






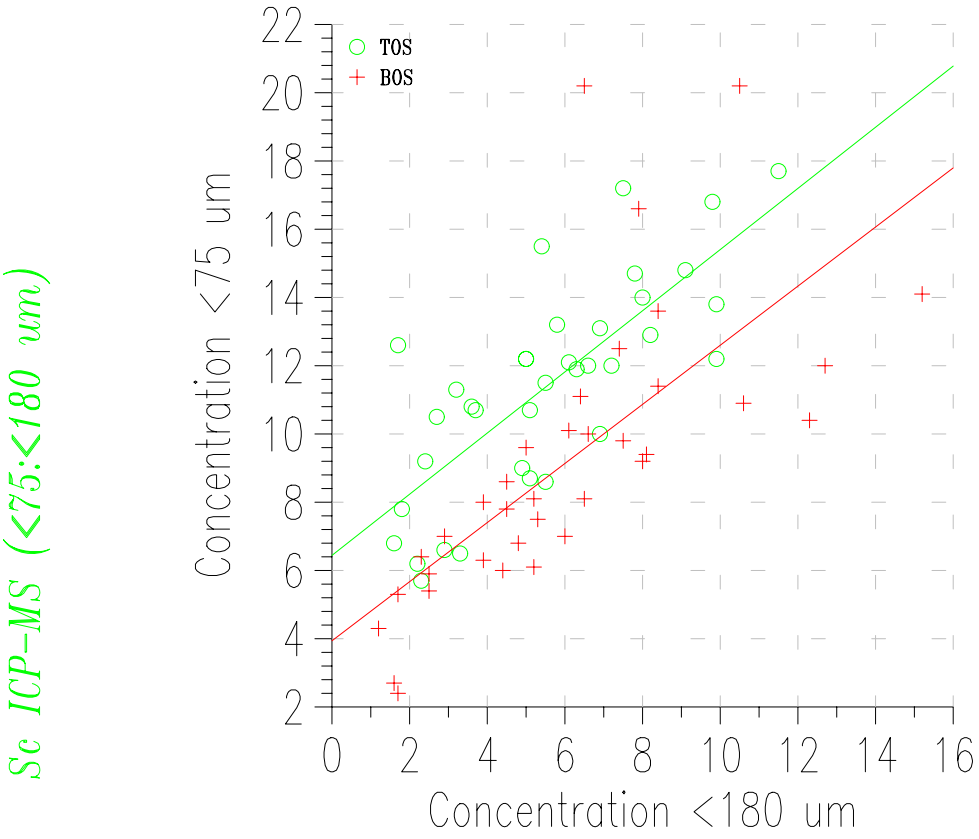
CAWLER GEOCHEMICAL SURVEY

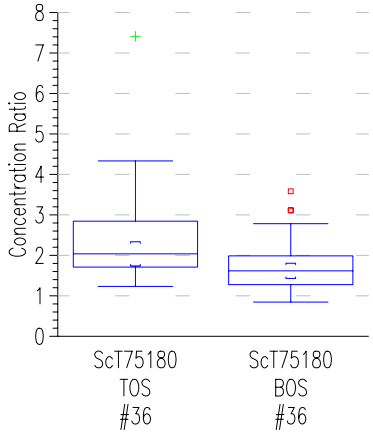
Top & Bottom Outlet Sediments (TOS & BOS)

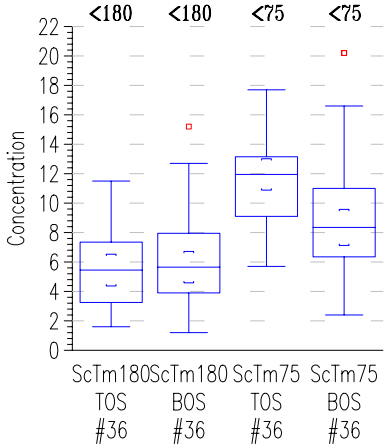


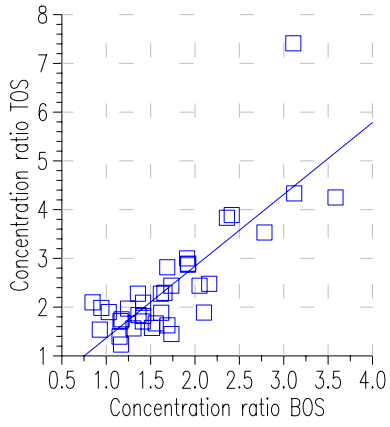
Sc ICP-MS (<75:<180 um)

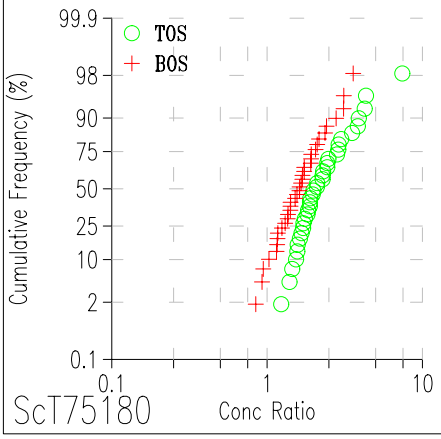
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

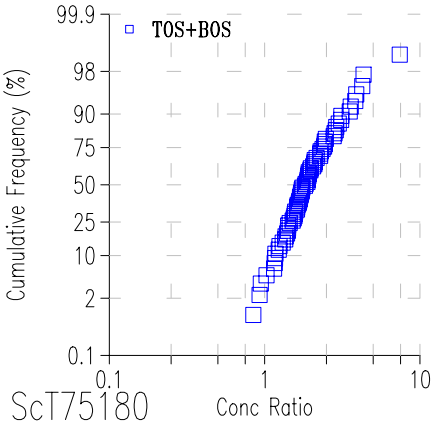


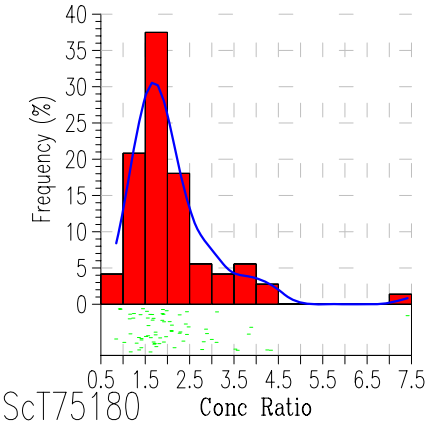




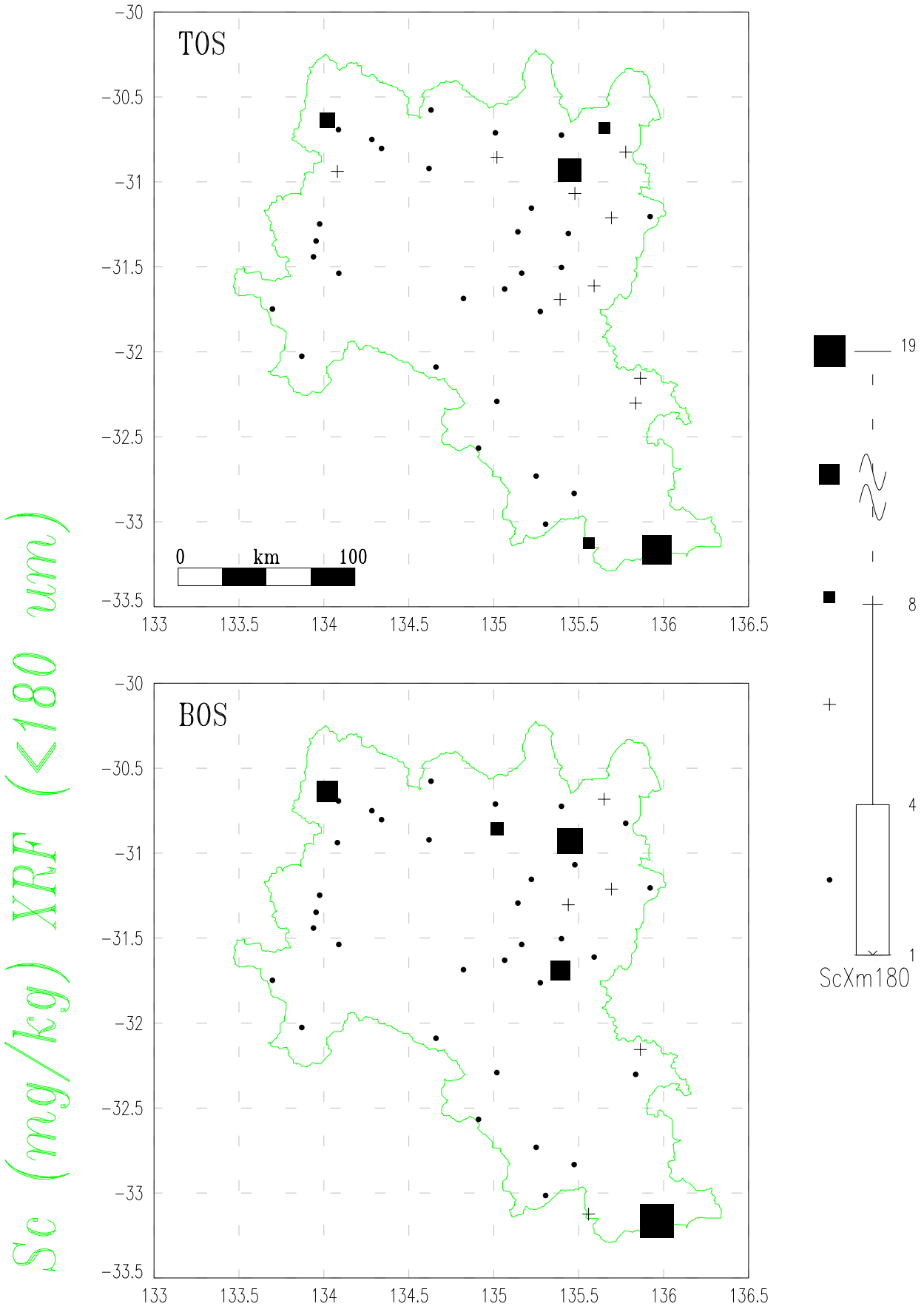




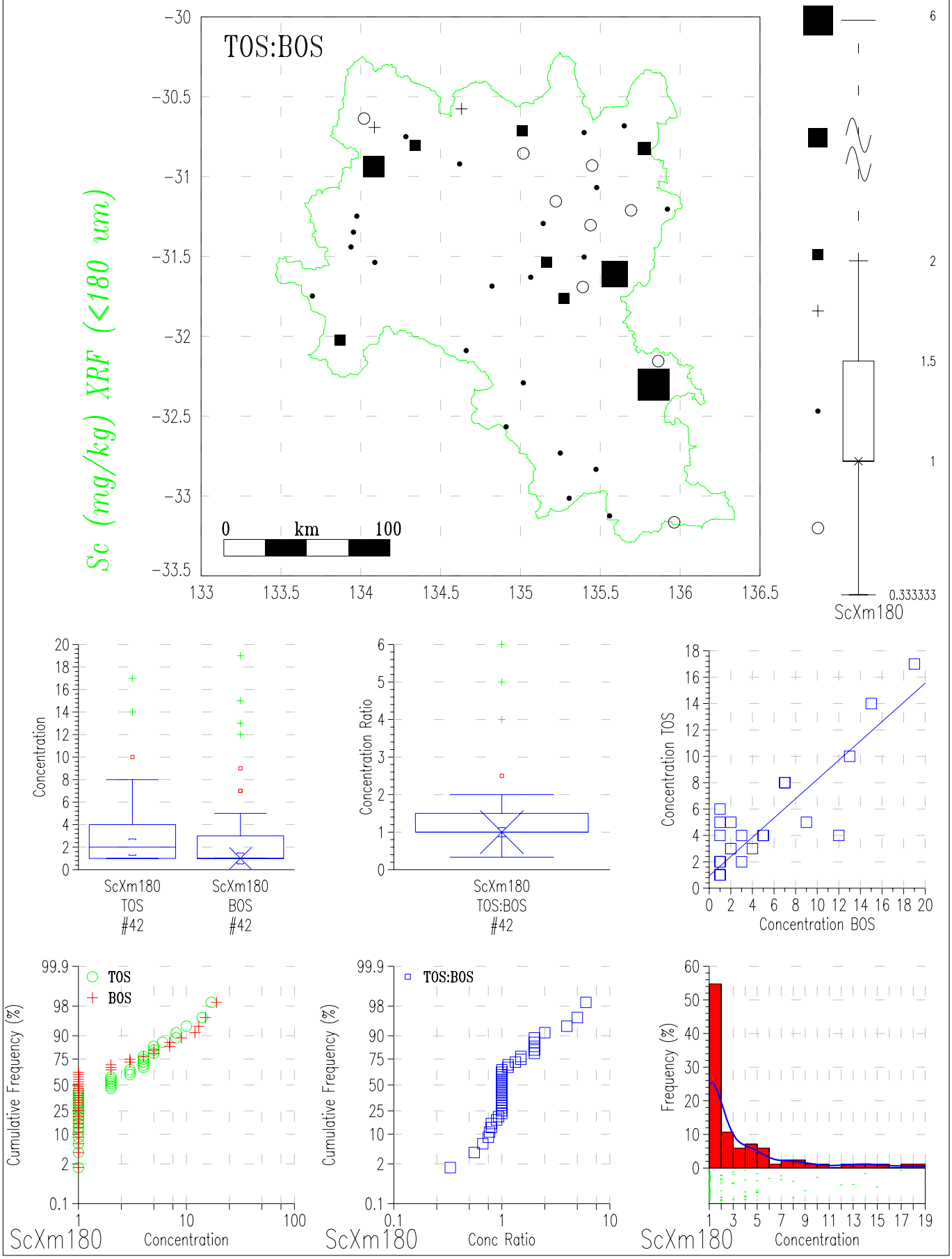




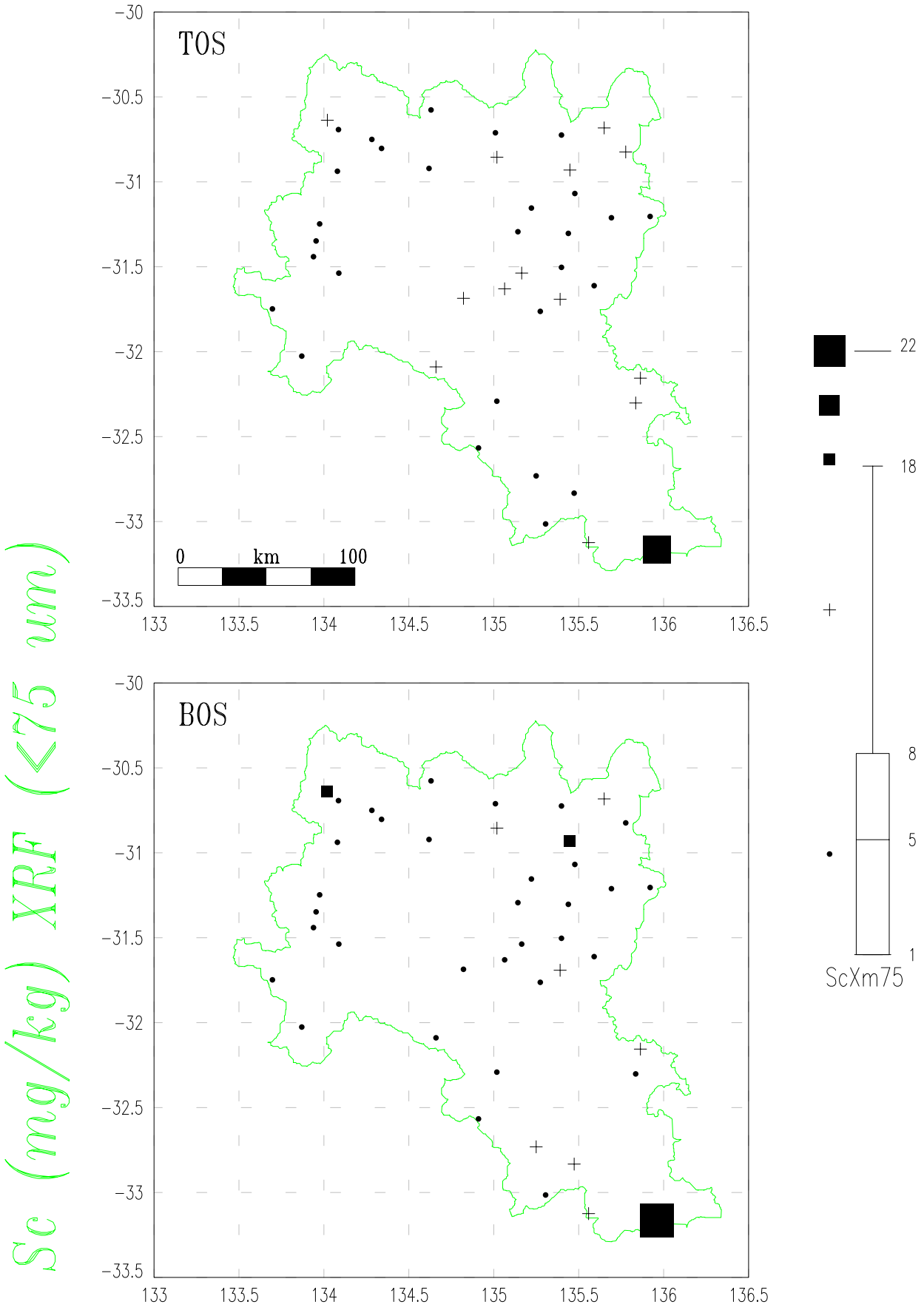
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*



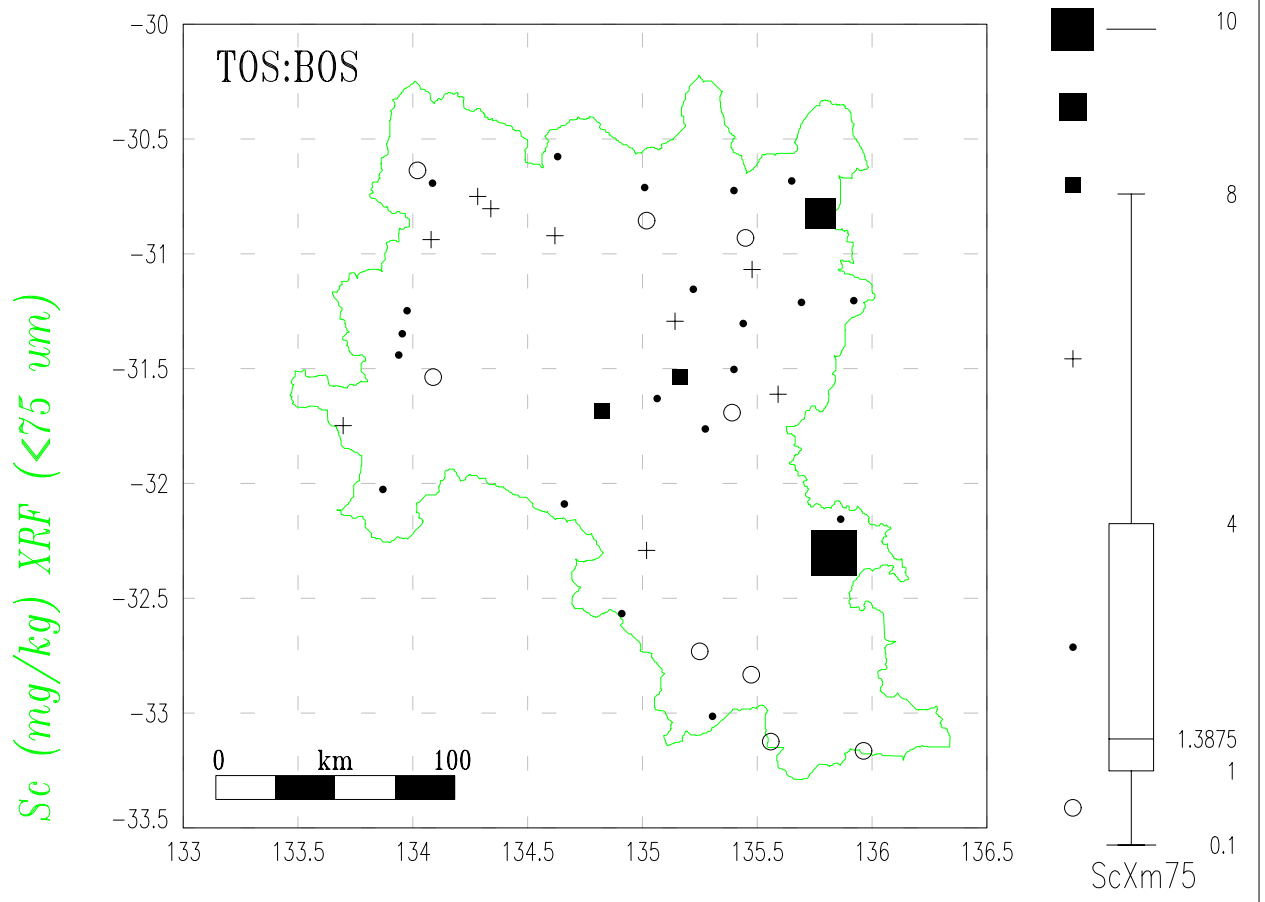
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

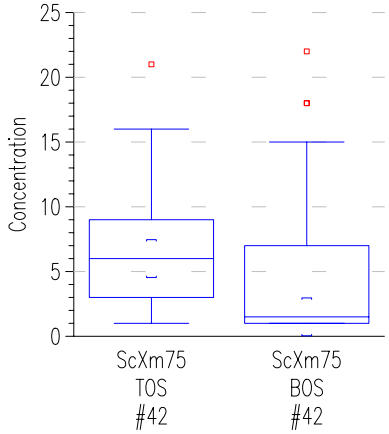


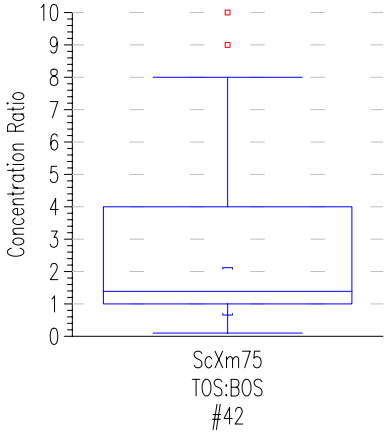
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

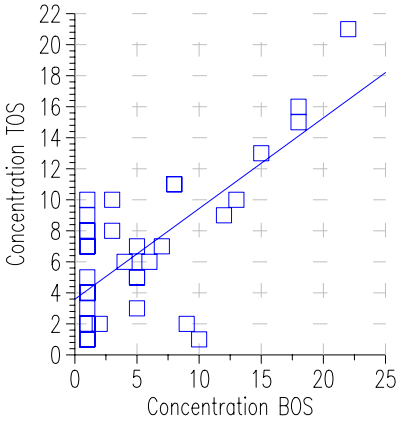


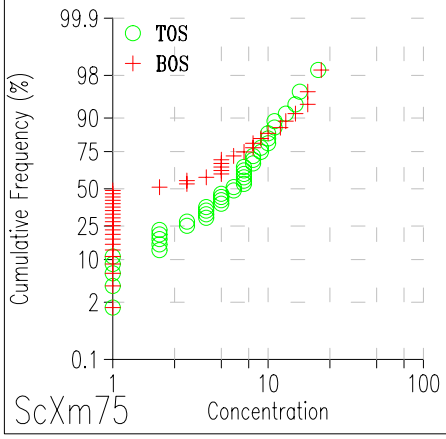
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

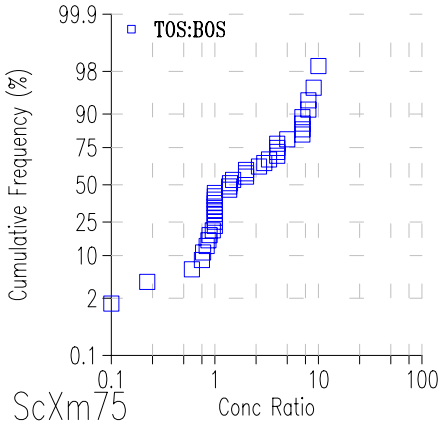


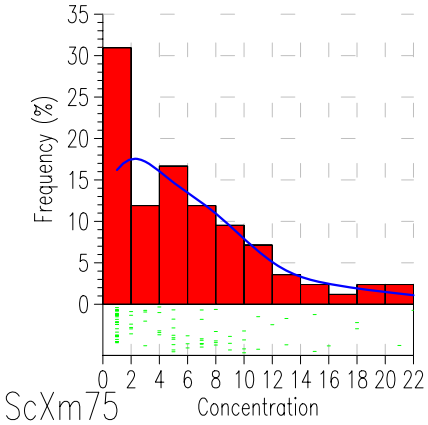






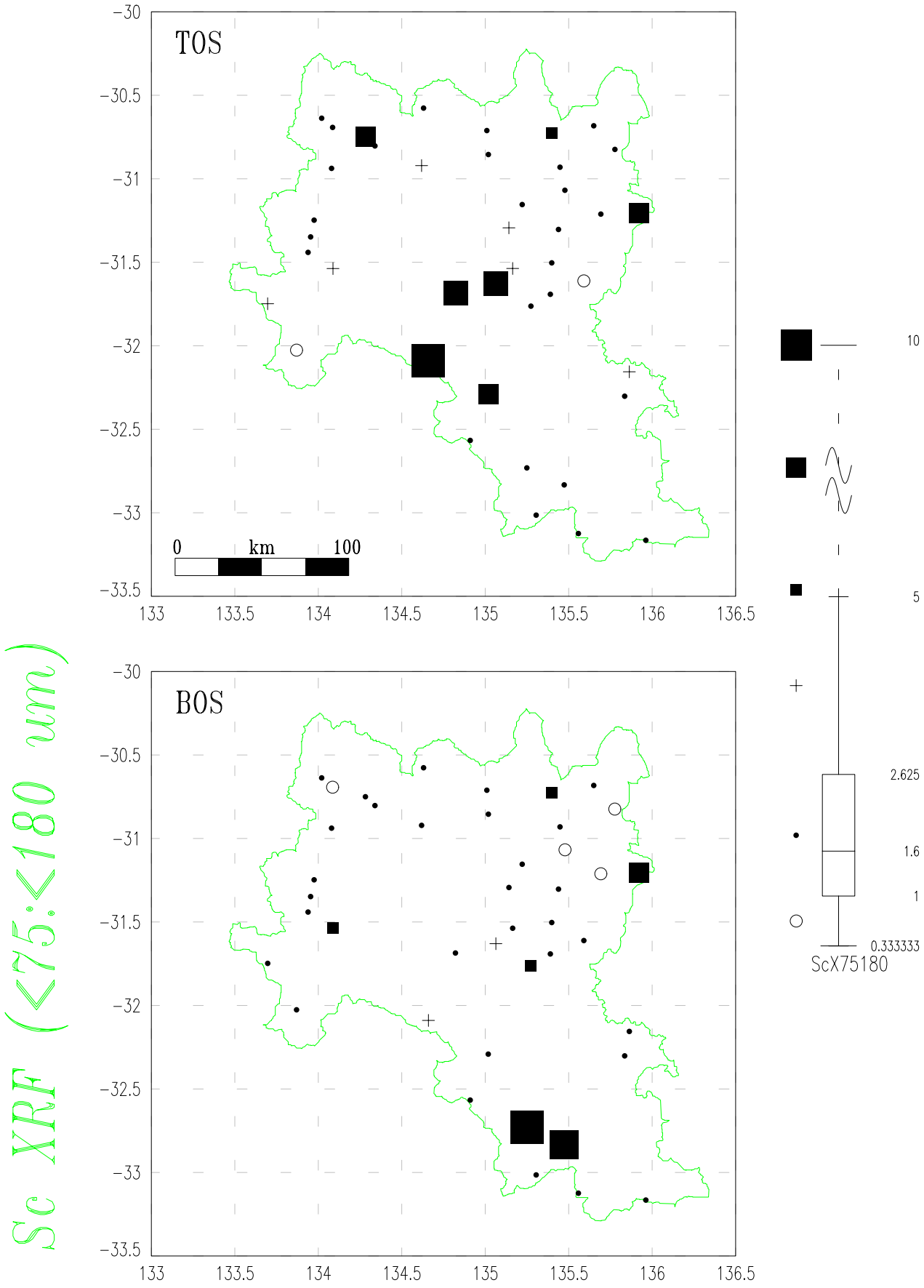






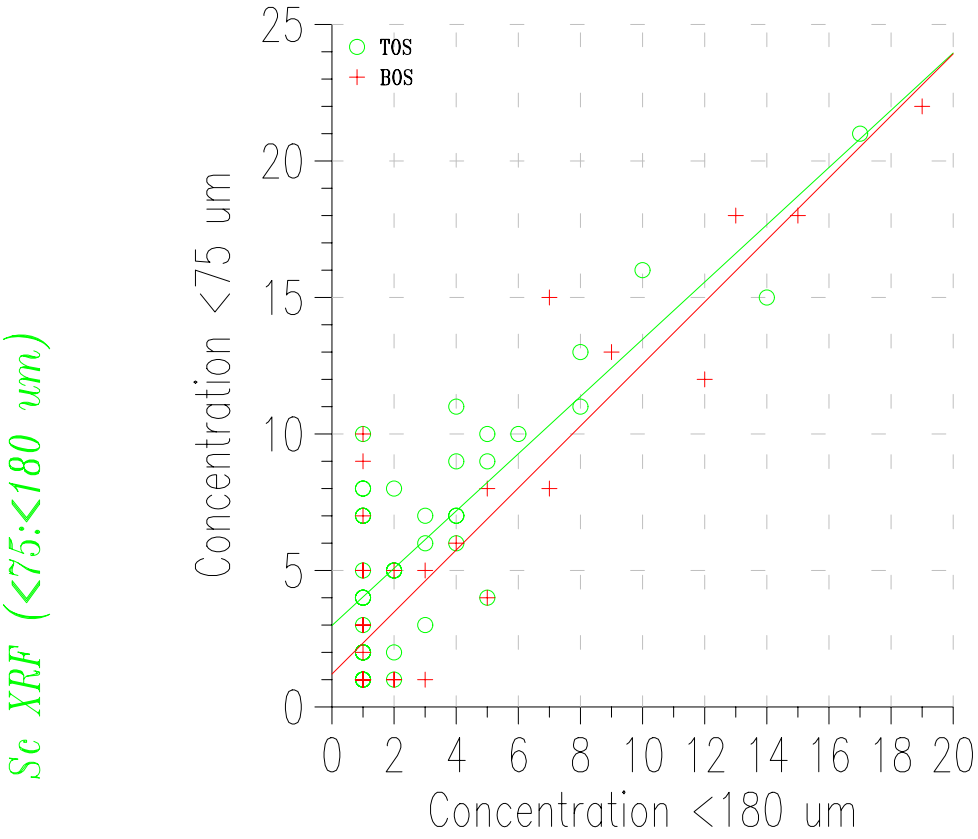
GAWLER GEOCHEMICAL SURVEY

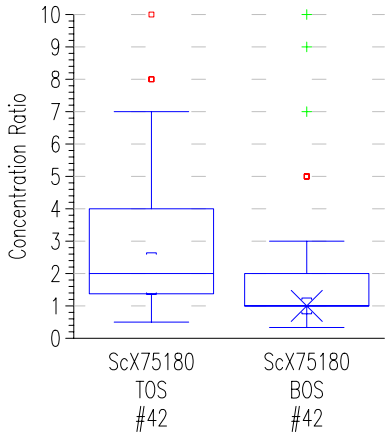
Top & Bottom Outlet Sediments (TOS & BOS)

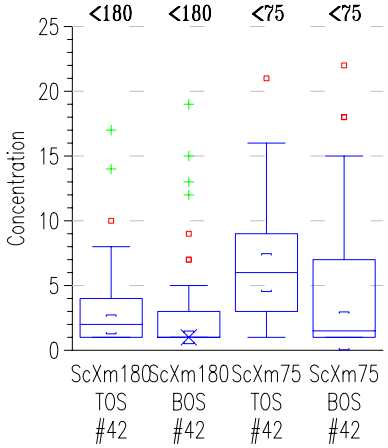


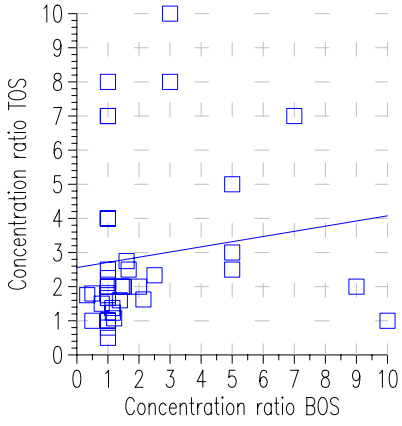
Sc XRF (<75:<180 um)

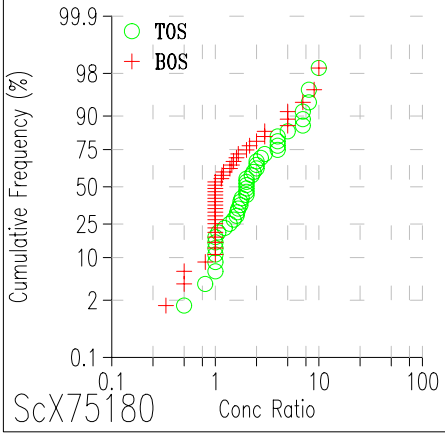
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

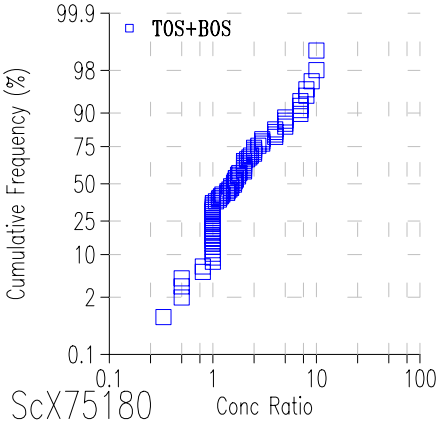


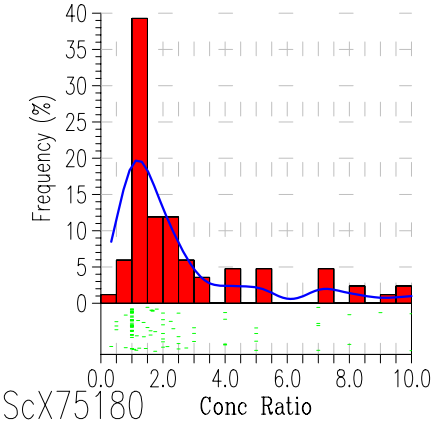








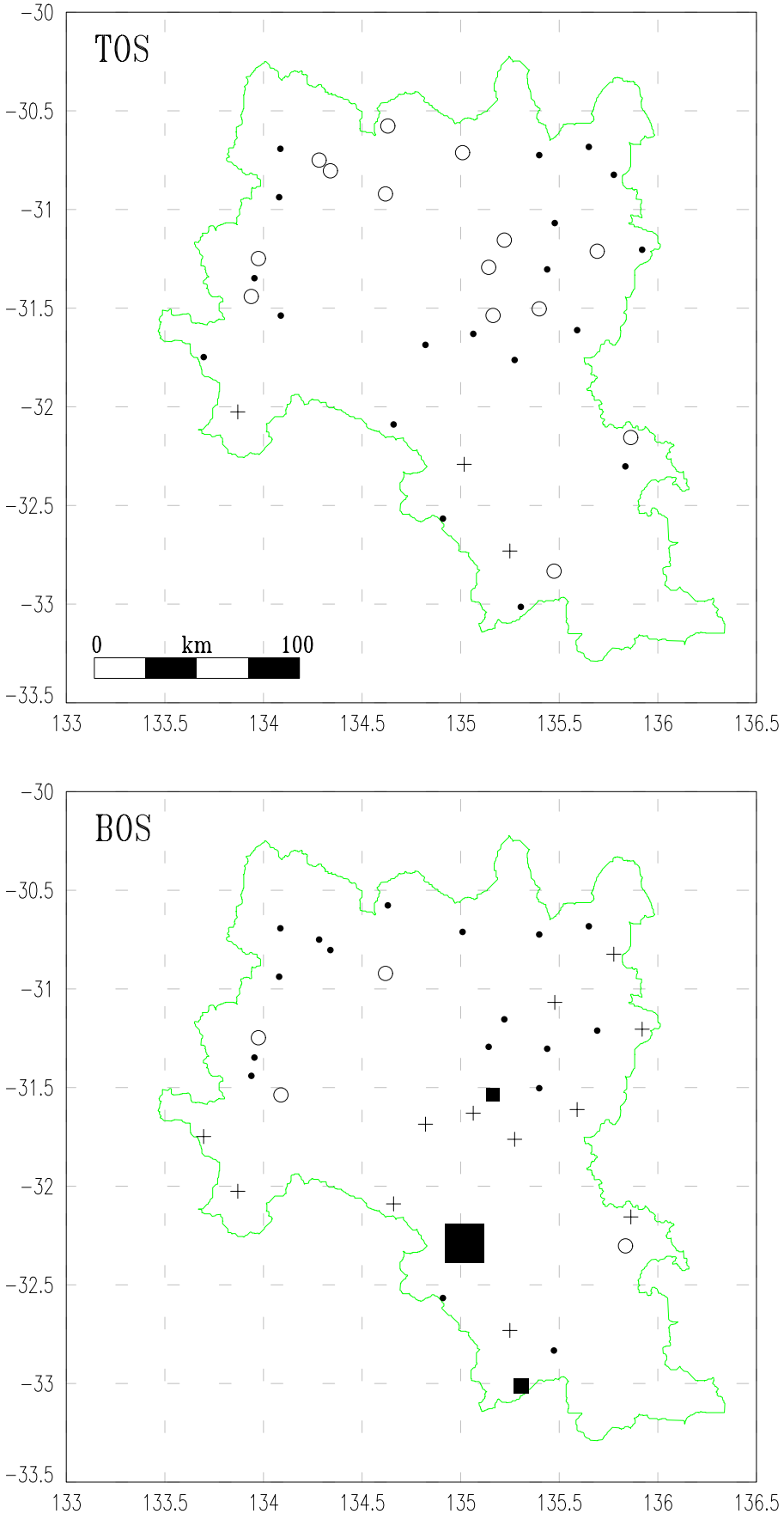




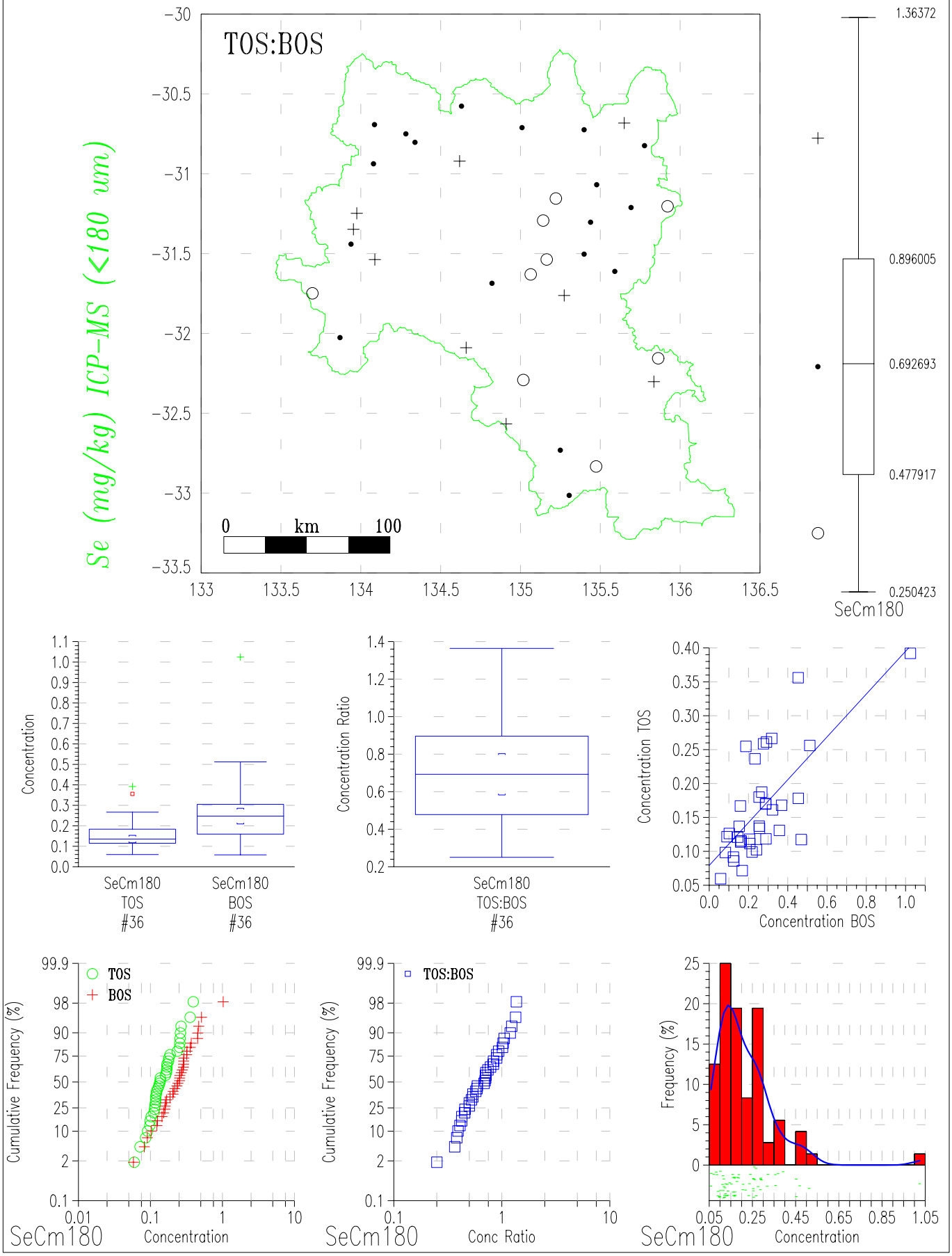
GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

Se (mg/kg) ICP-MS (<180 um)

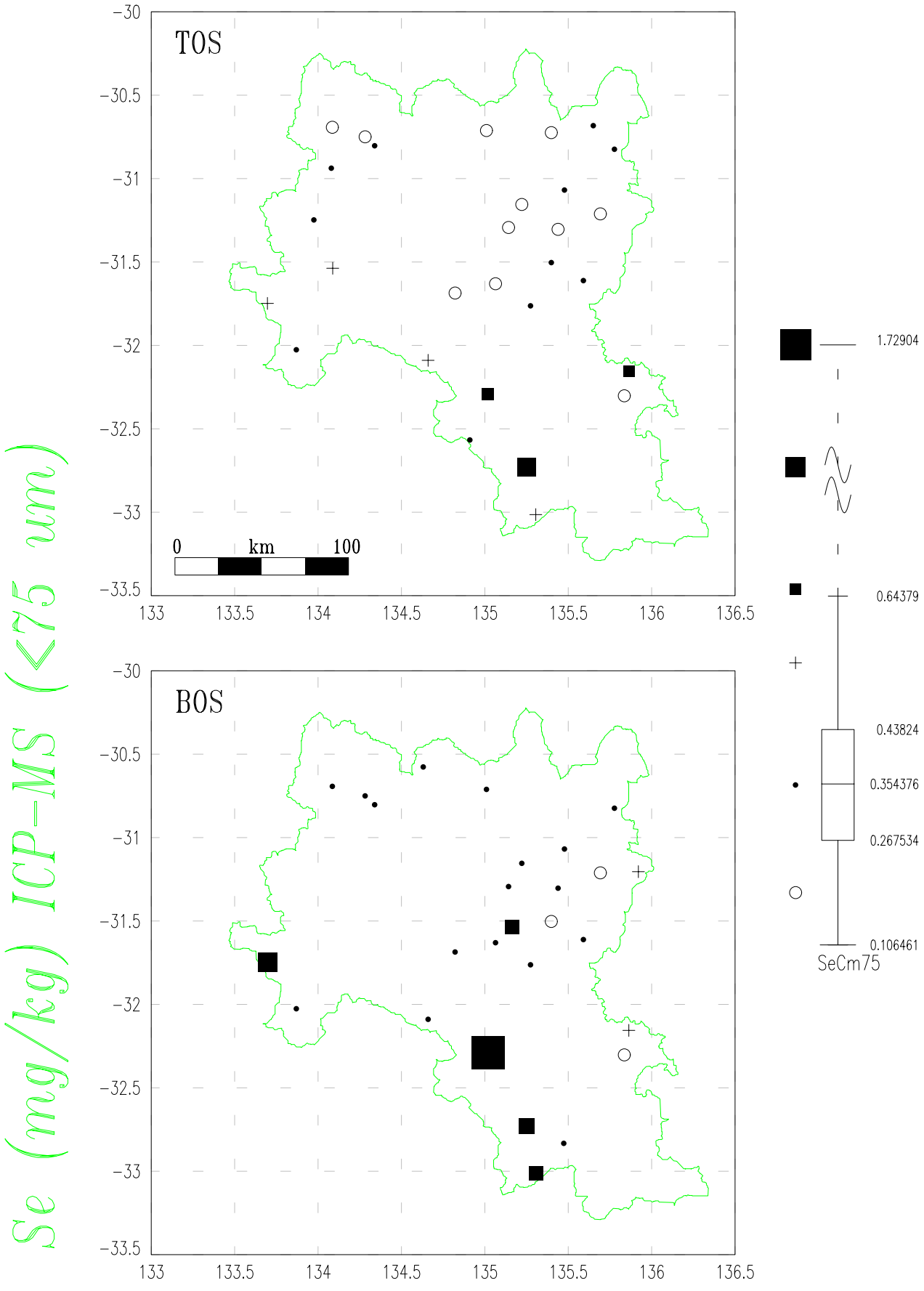


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

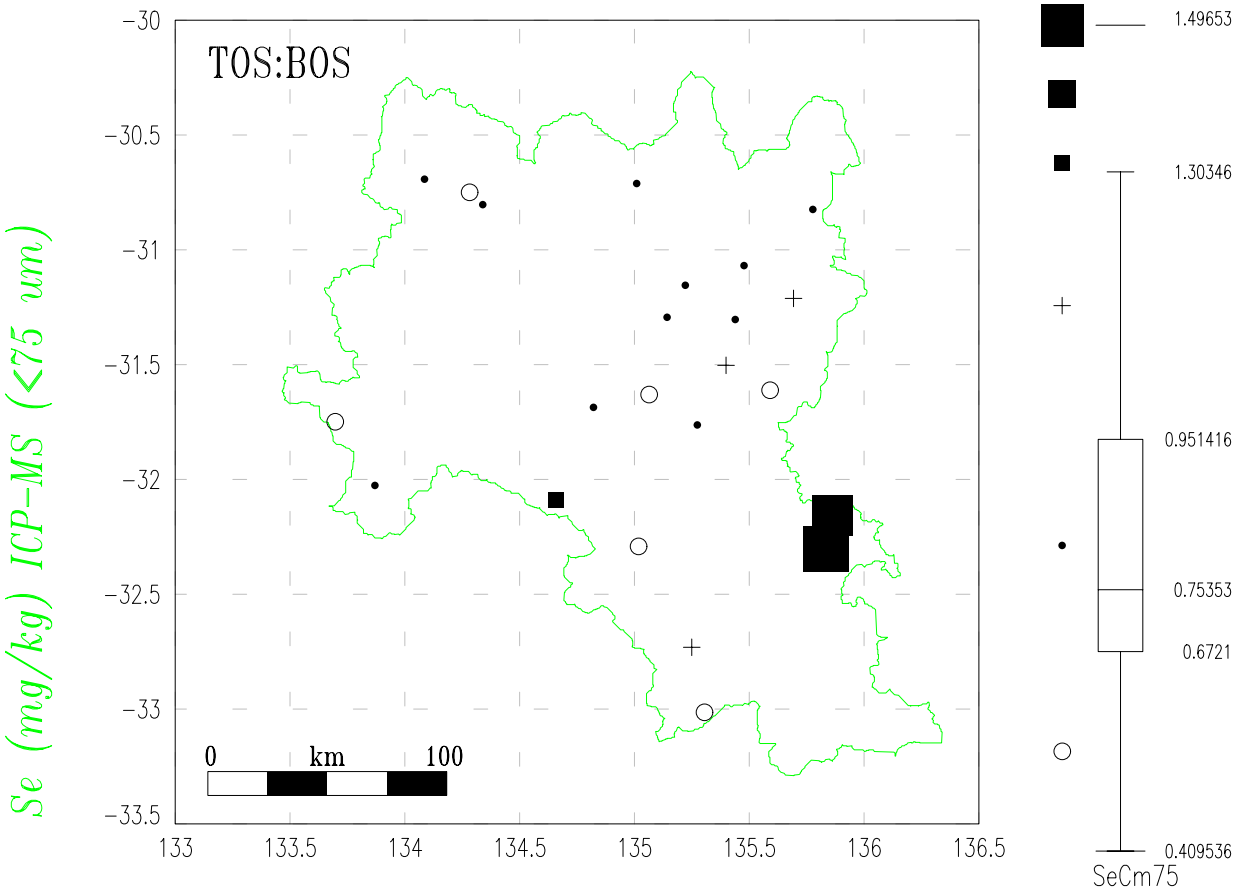


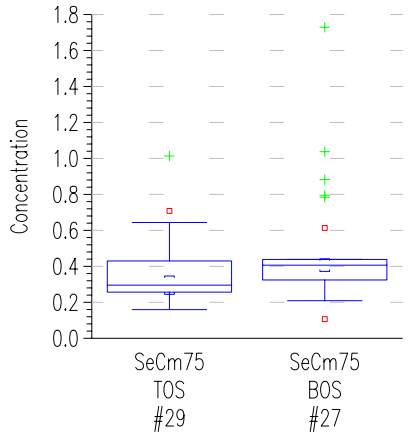
GAWLER GEOCHEMICAL SURVEY

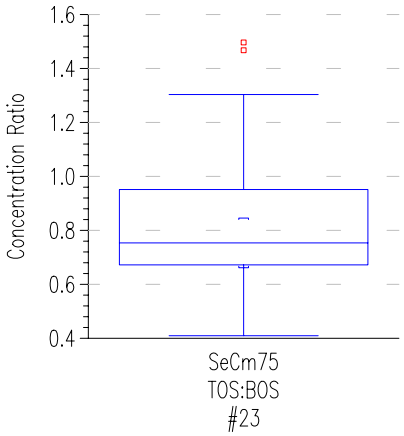
Top & Bottom Outlet Sediments (TOS & BOS)

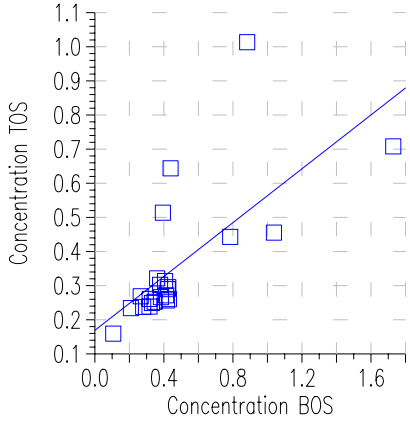


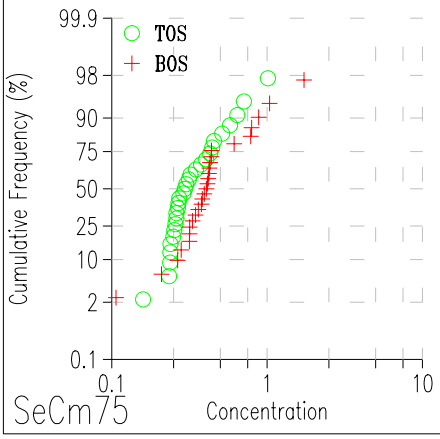
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

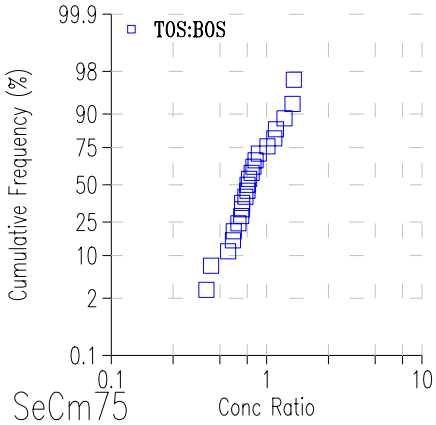


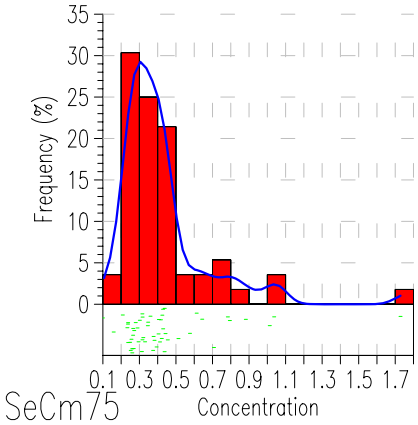




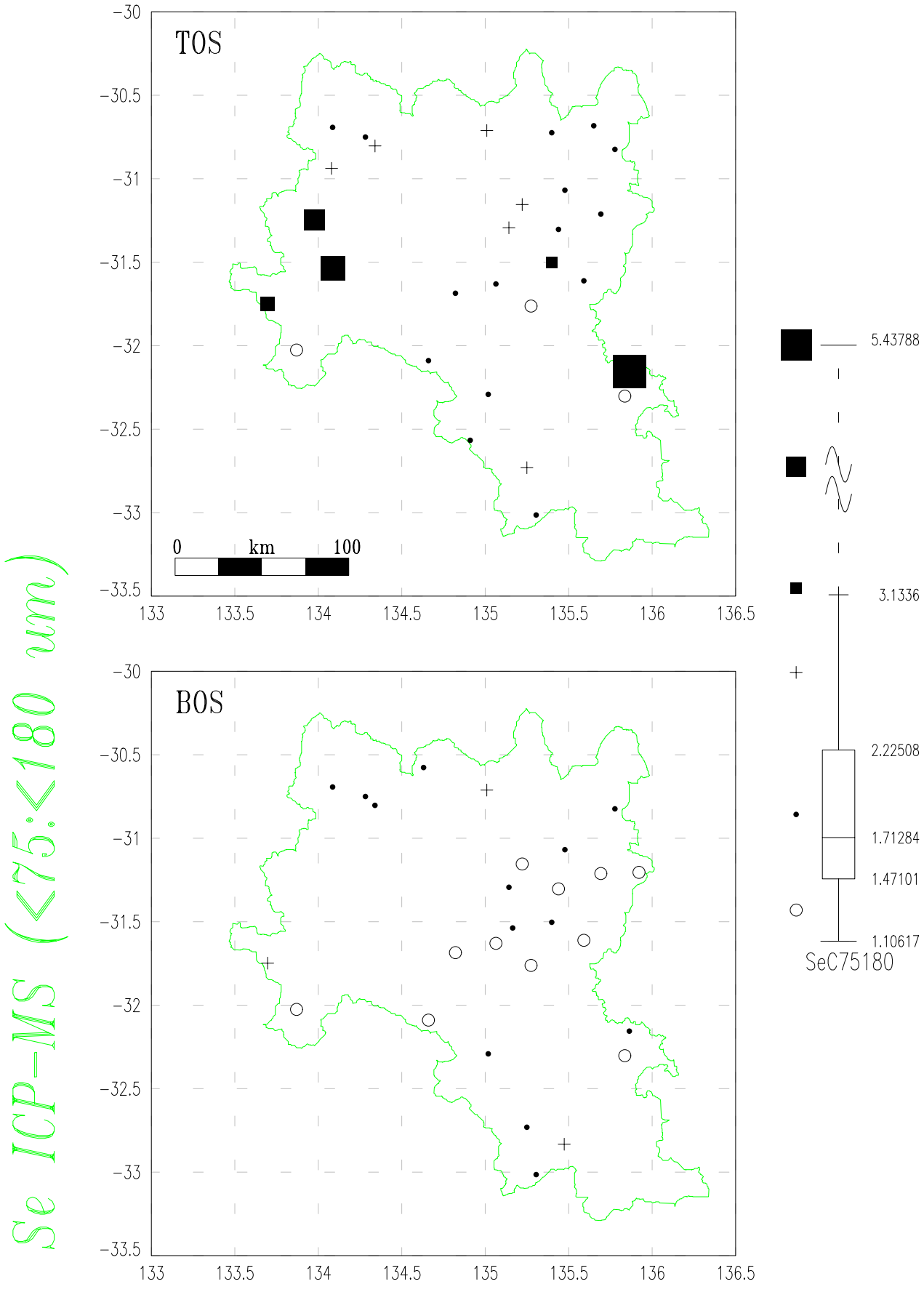




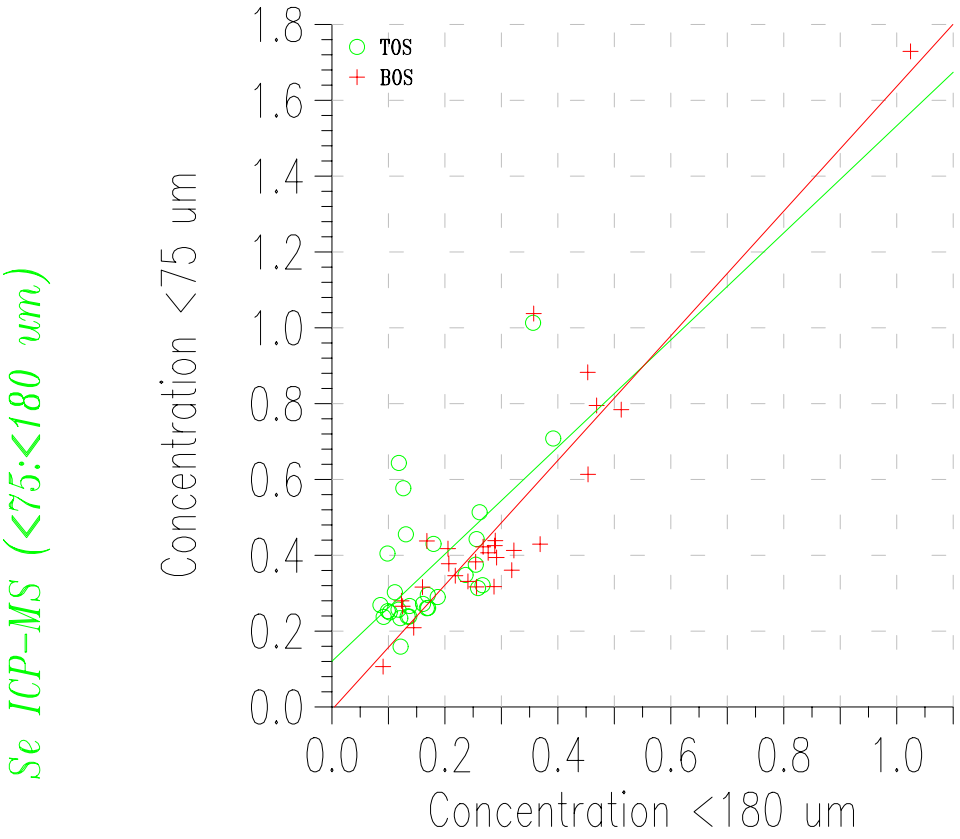


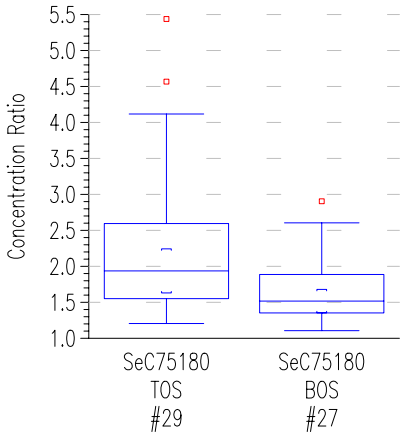


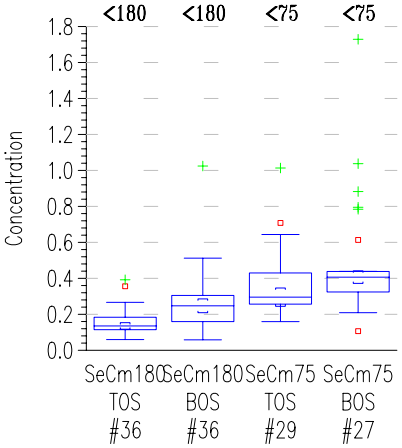
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

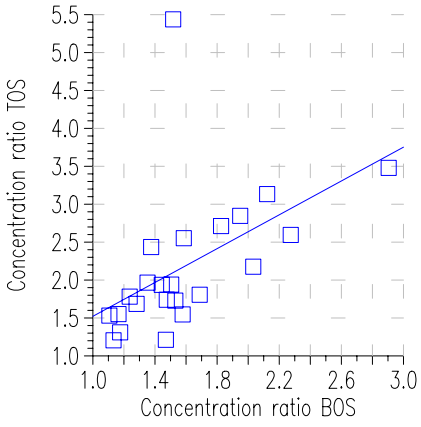


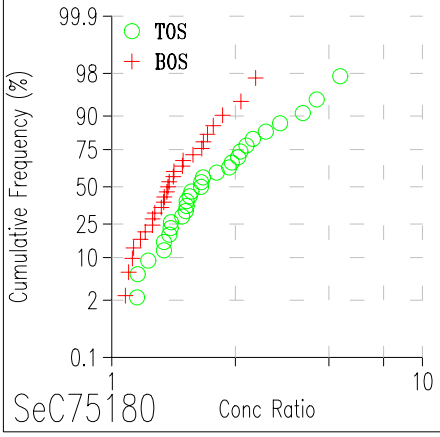
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

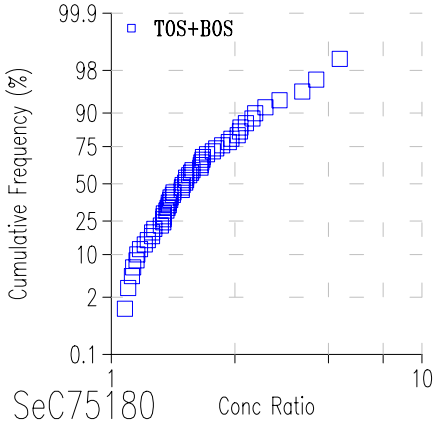


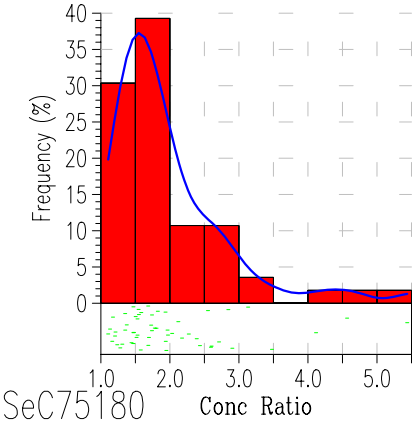






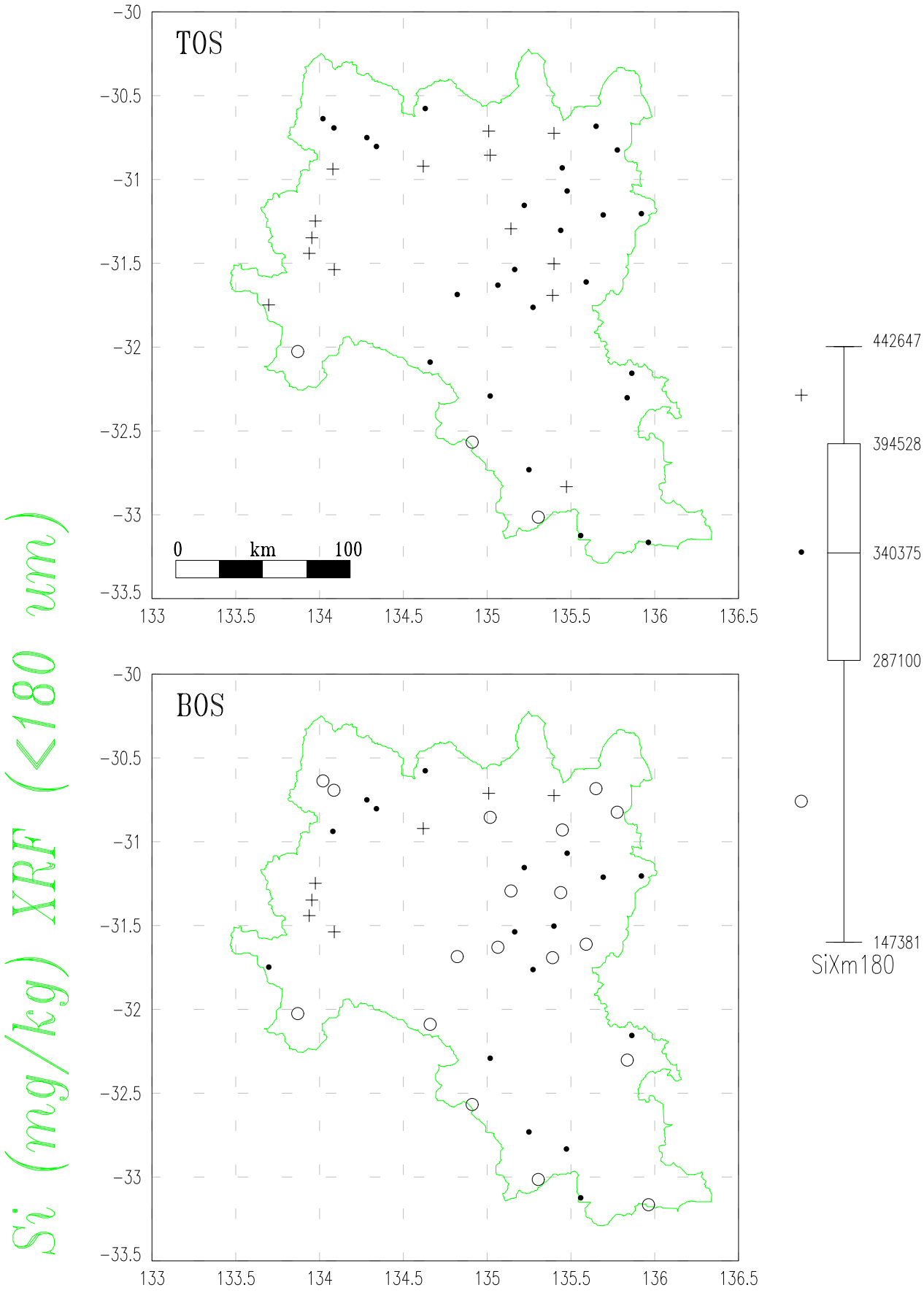






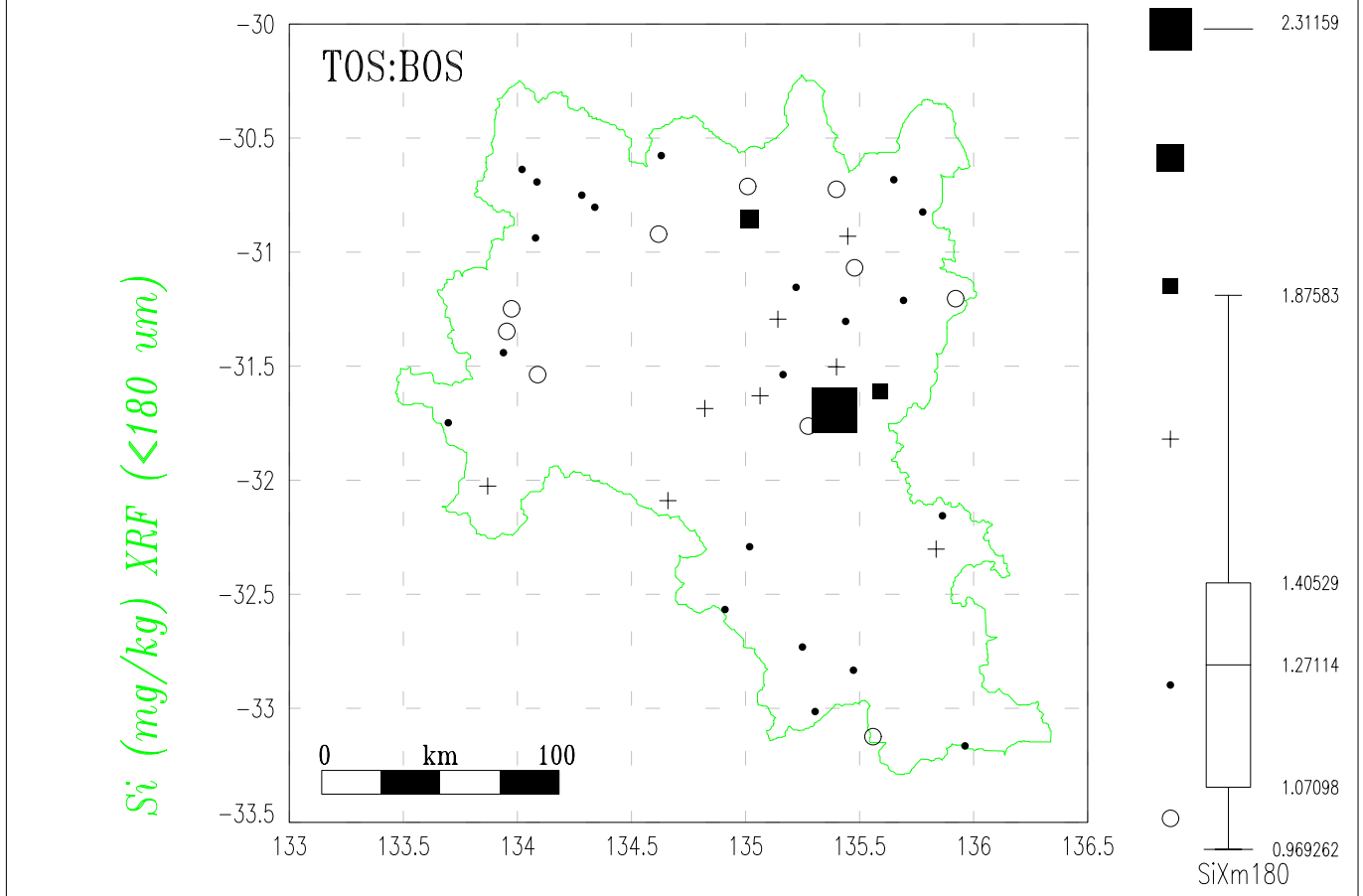
GAWLER GEOCHEMICAL SURVEY

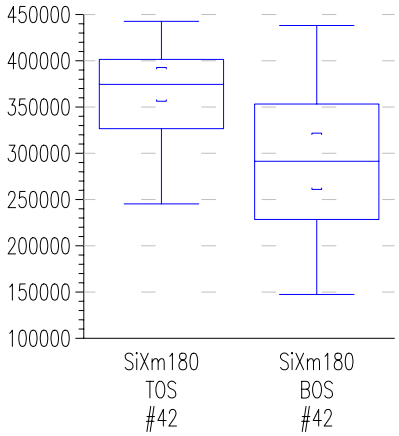
Top & Bottom Outlet Sediments (TOS & BOS)

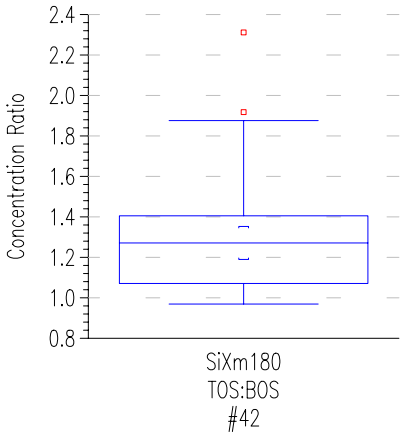


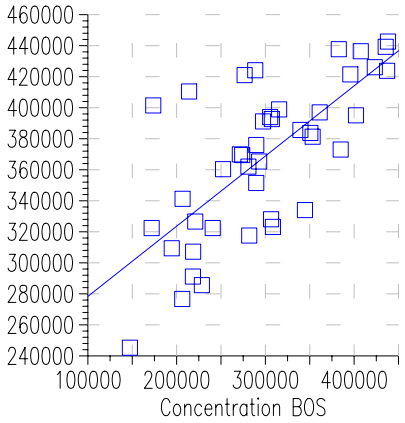
CAWLER GEOCHEMICAL SURVEY

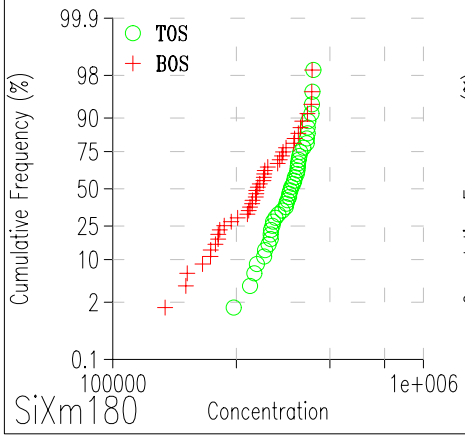
Top & Bottom Outlet Sediments (TOS & BOS)

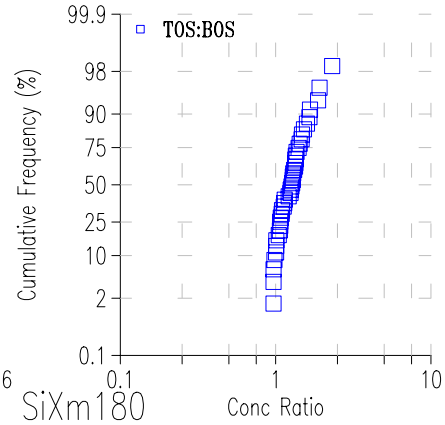


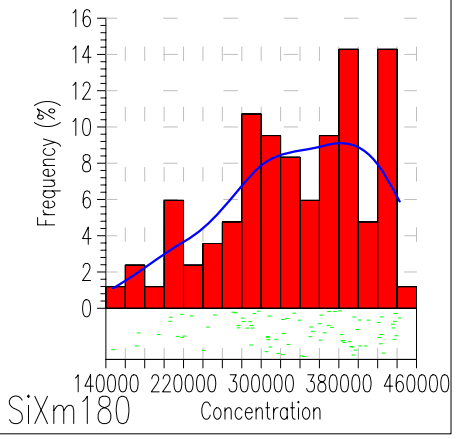






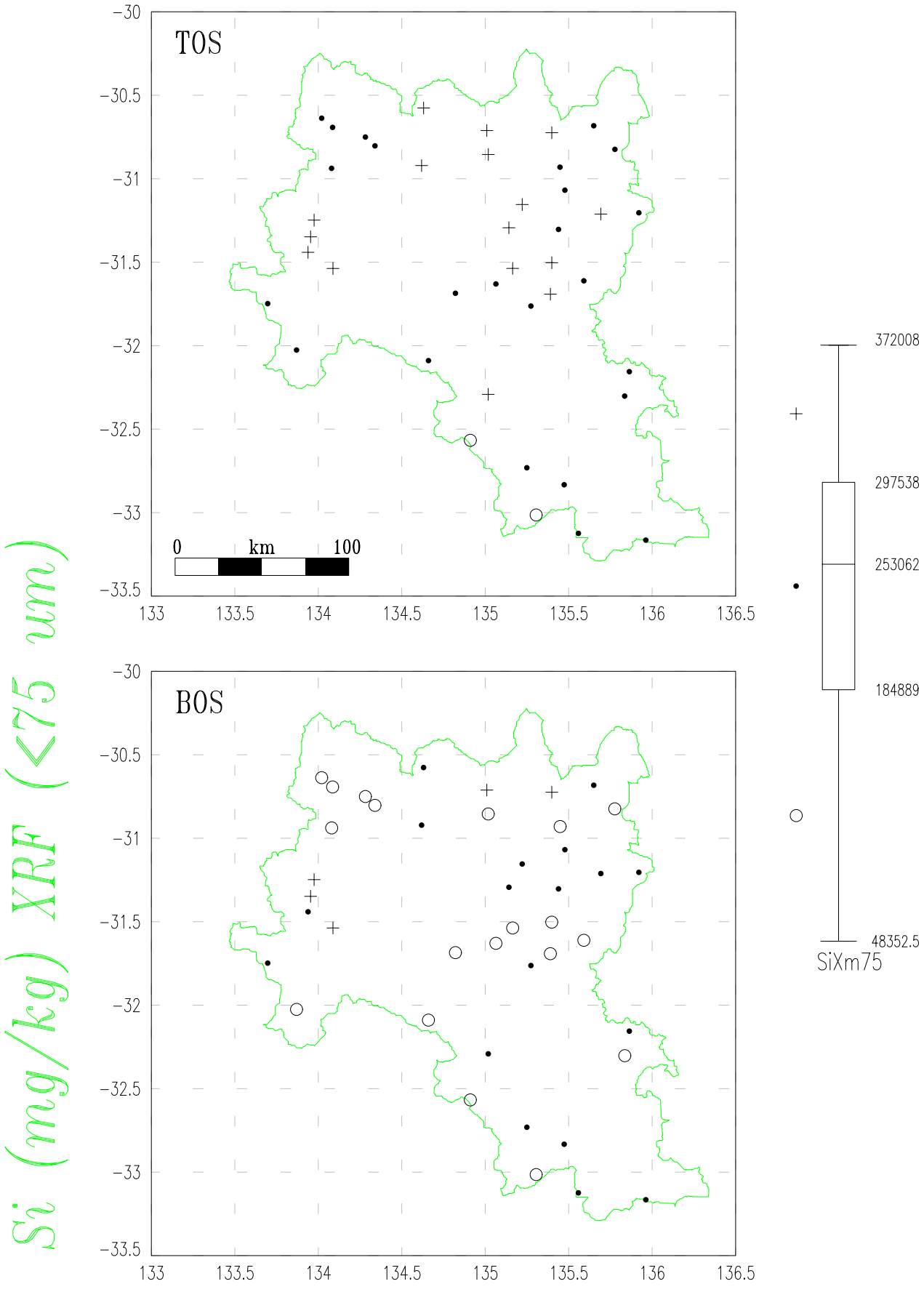




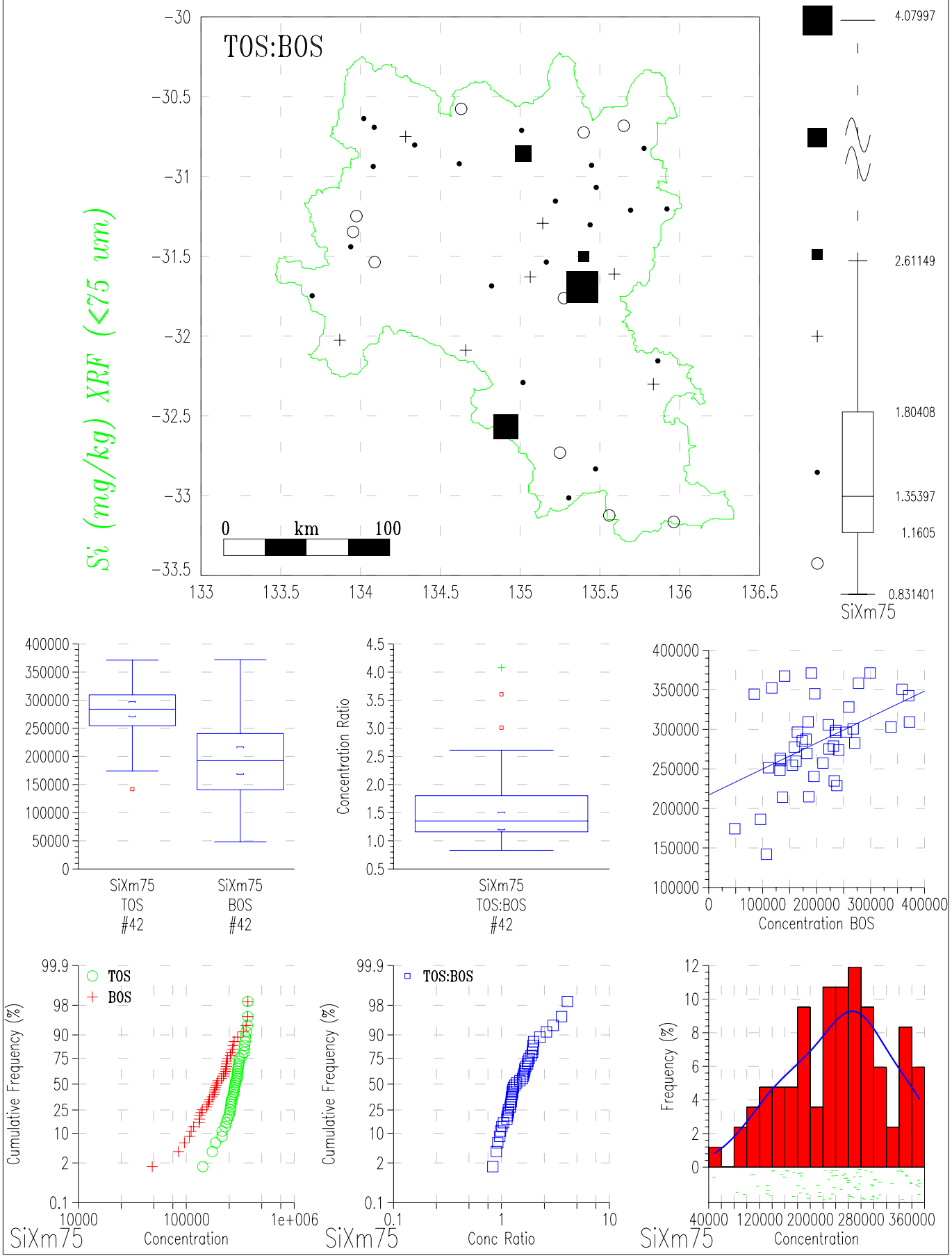


CAWLER GEOCHEMICAL SURVEY

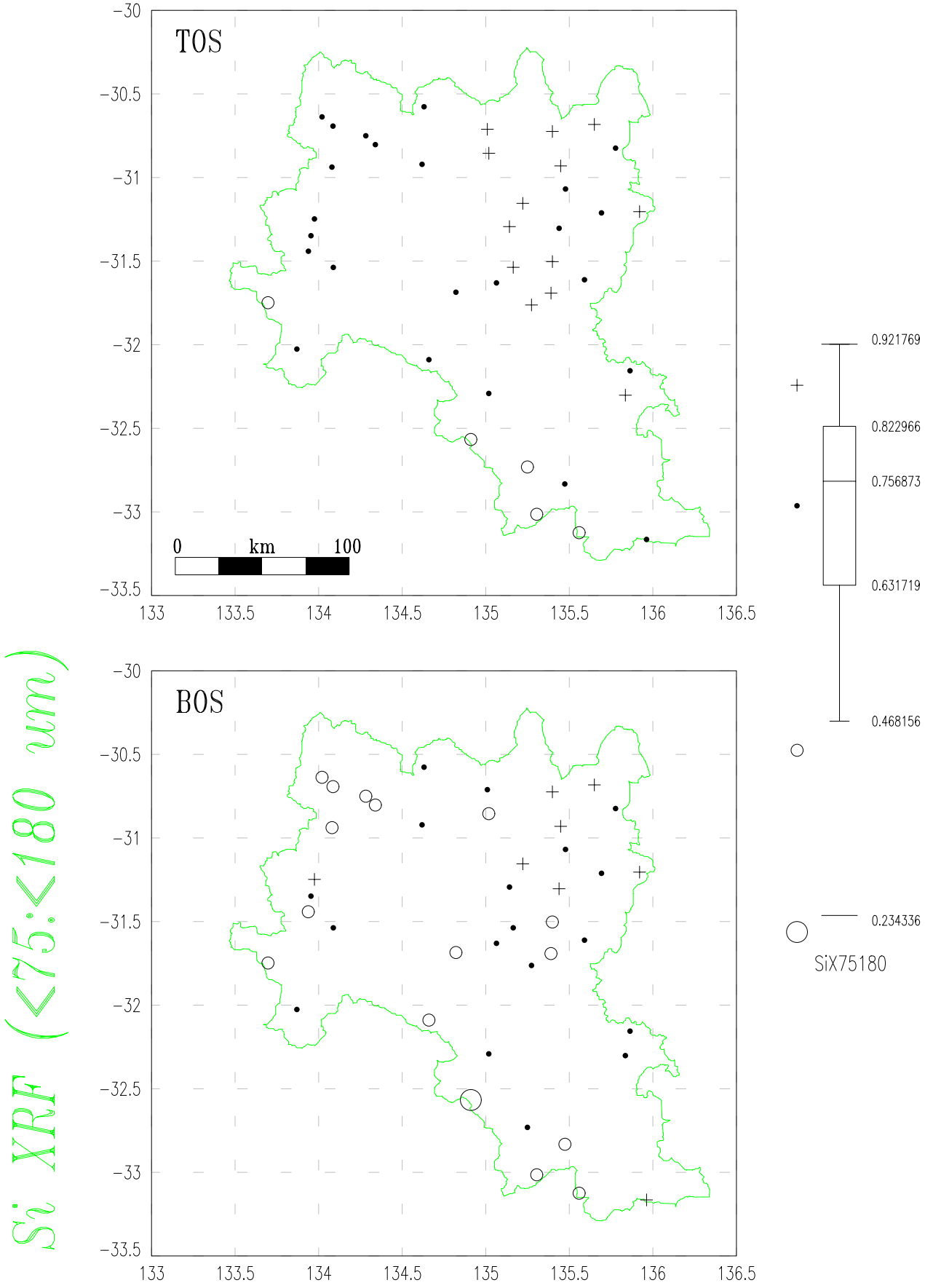
Top & Bottom Outlet Sediments (TOS & BOS)



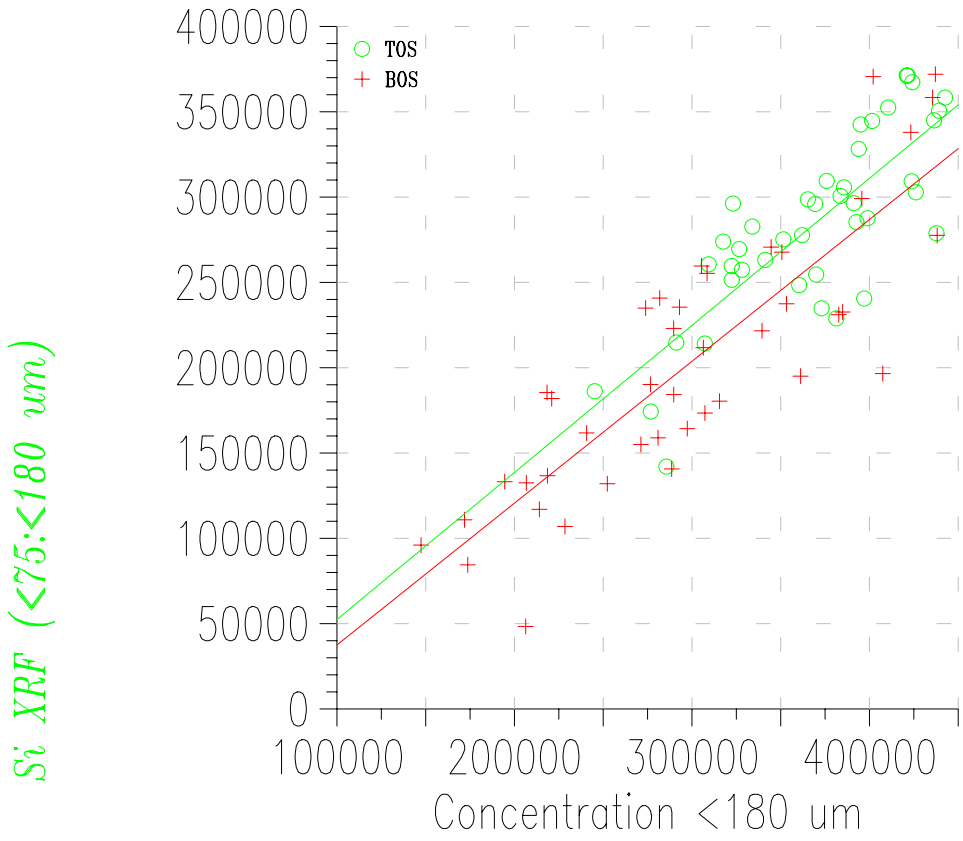
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

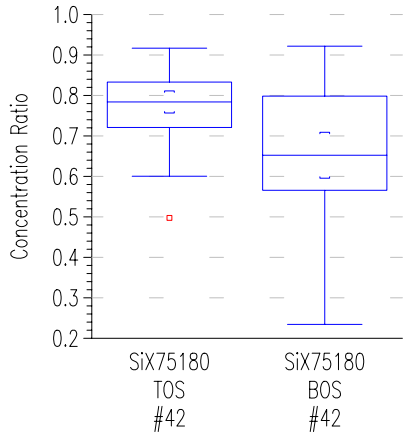


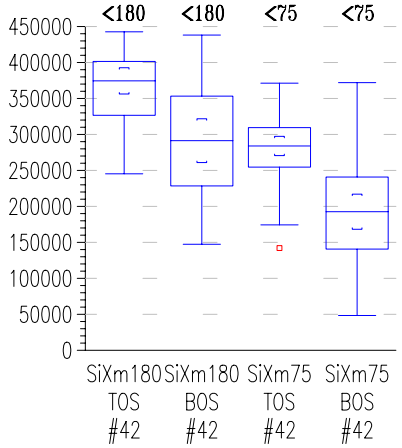
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

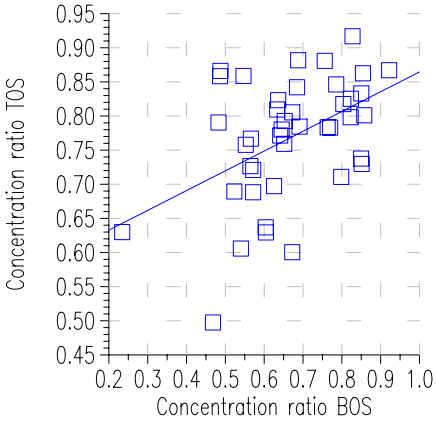


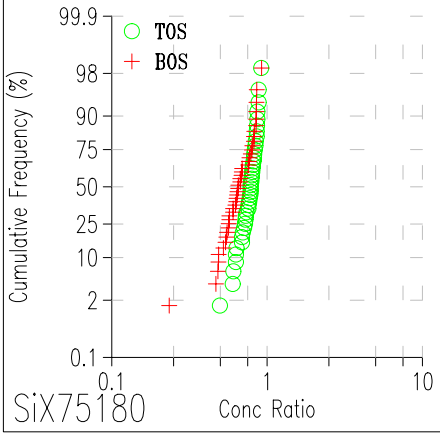
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

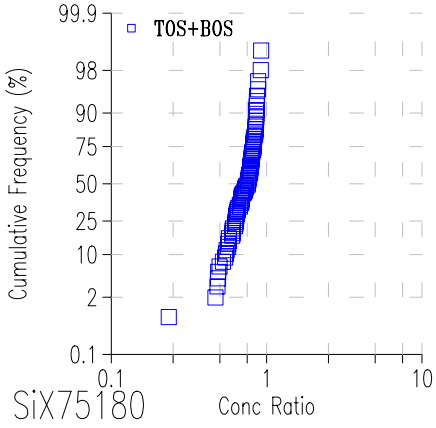


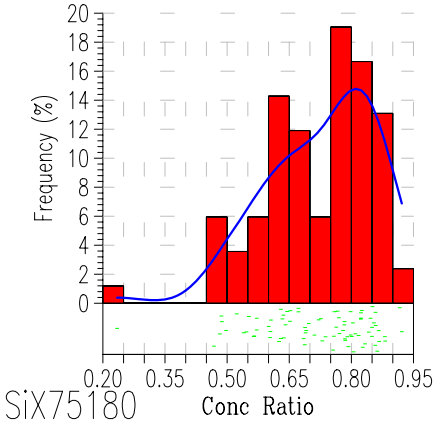








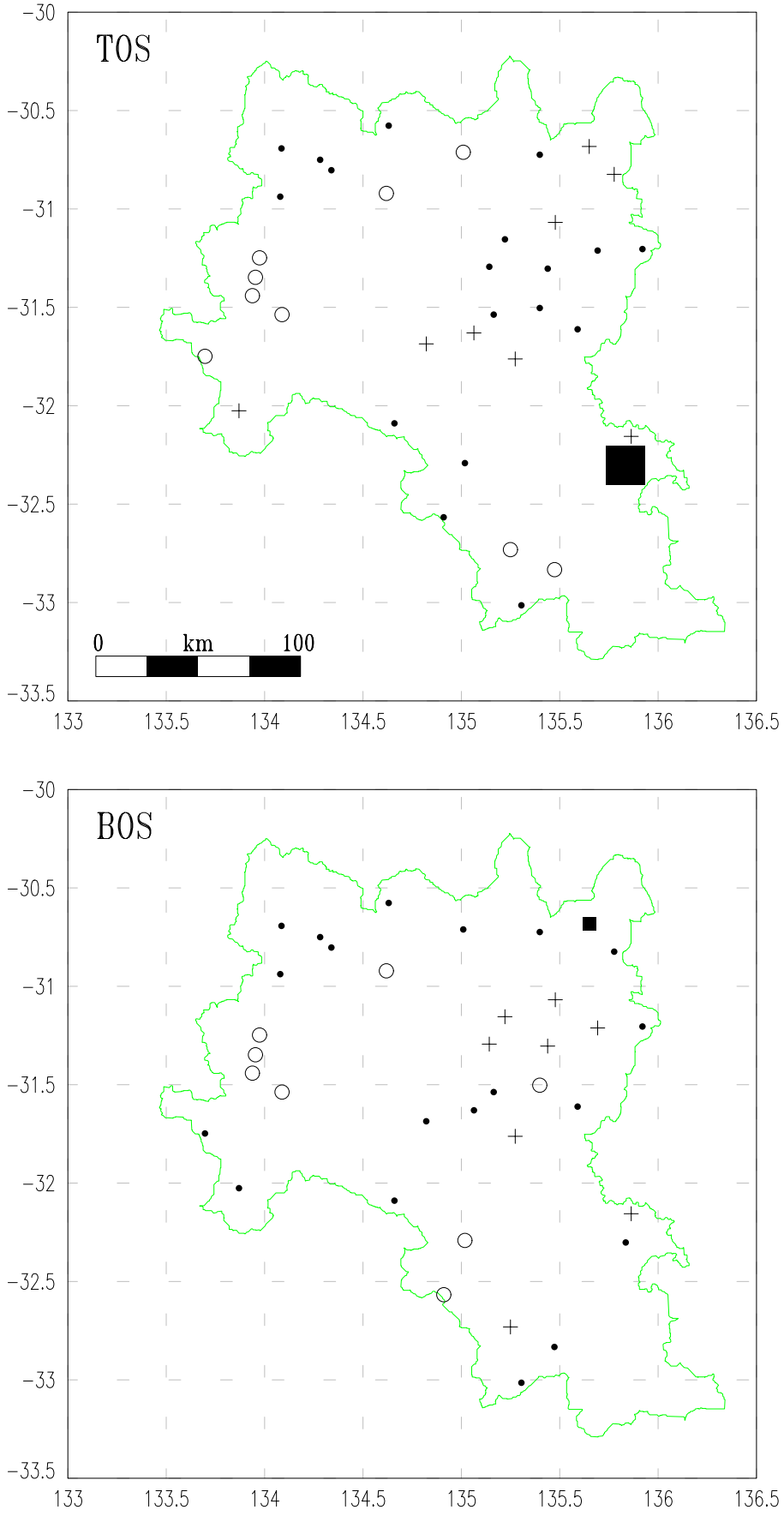




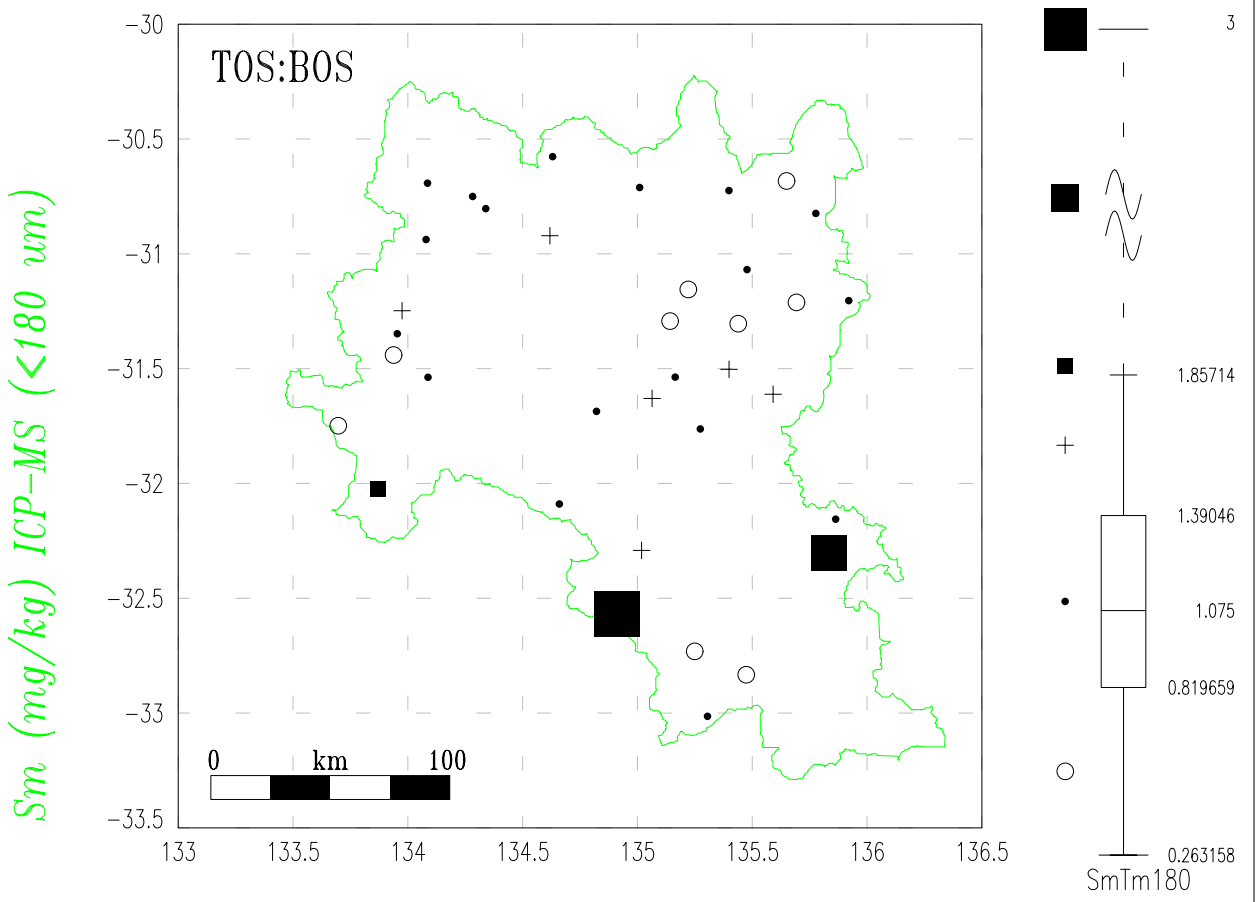
CAWLER GEOCHEMICAL SURVEY

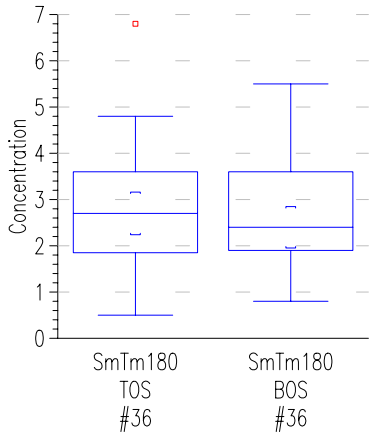
Top & Bottom Outlet Sediments (TOS & BOS)

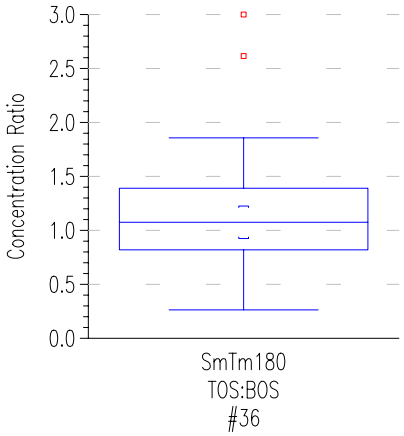
Sm (mg/kg) ICP-MS (<180 um)

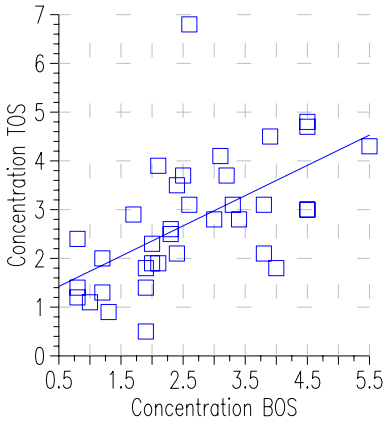


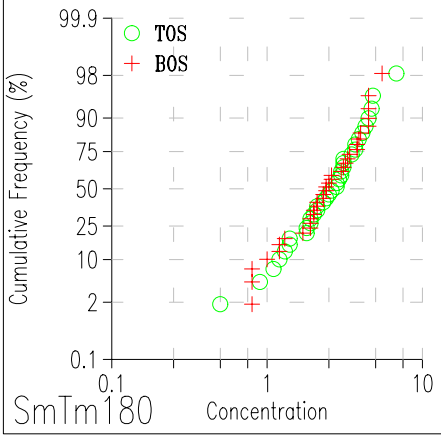
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

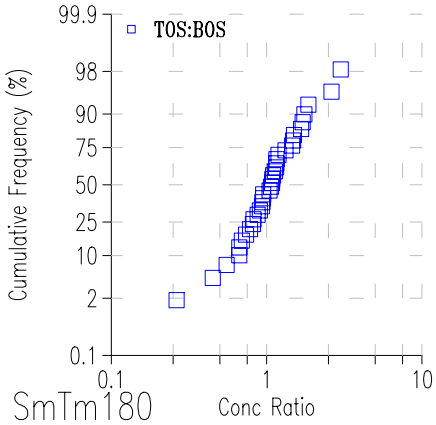


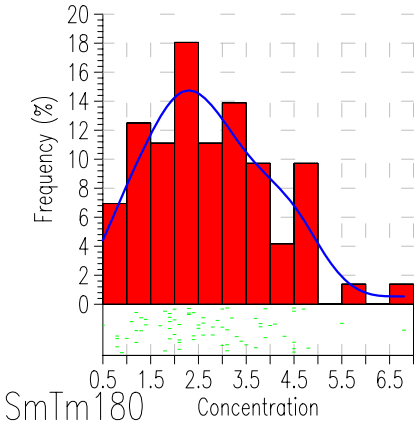






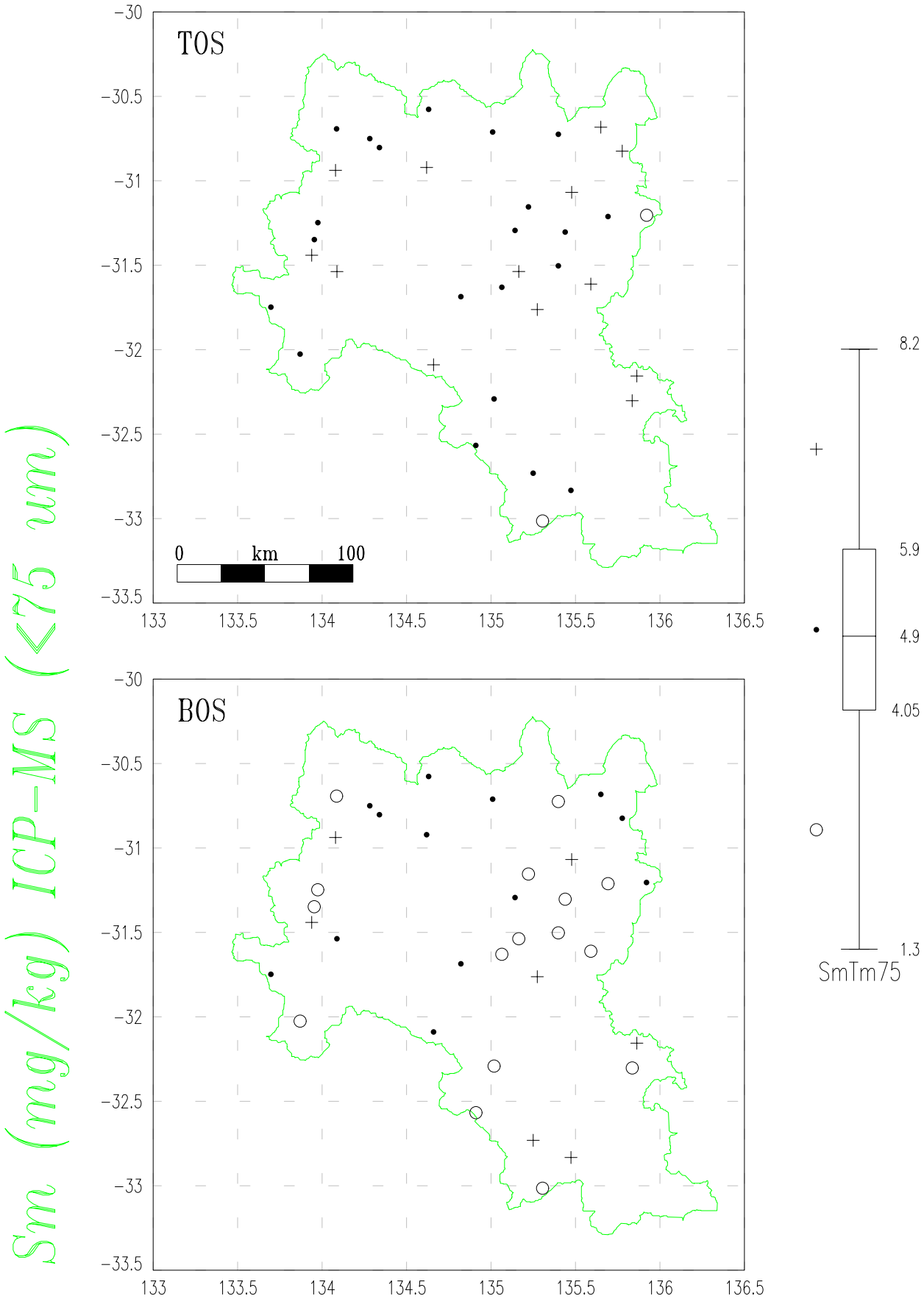




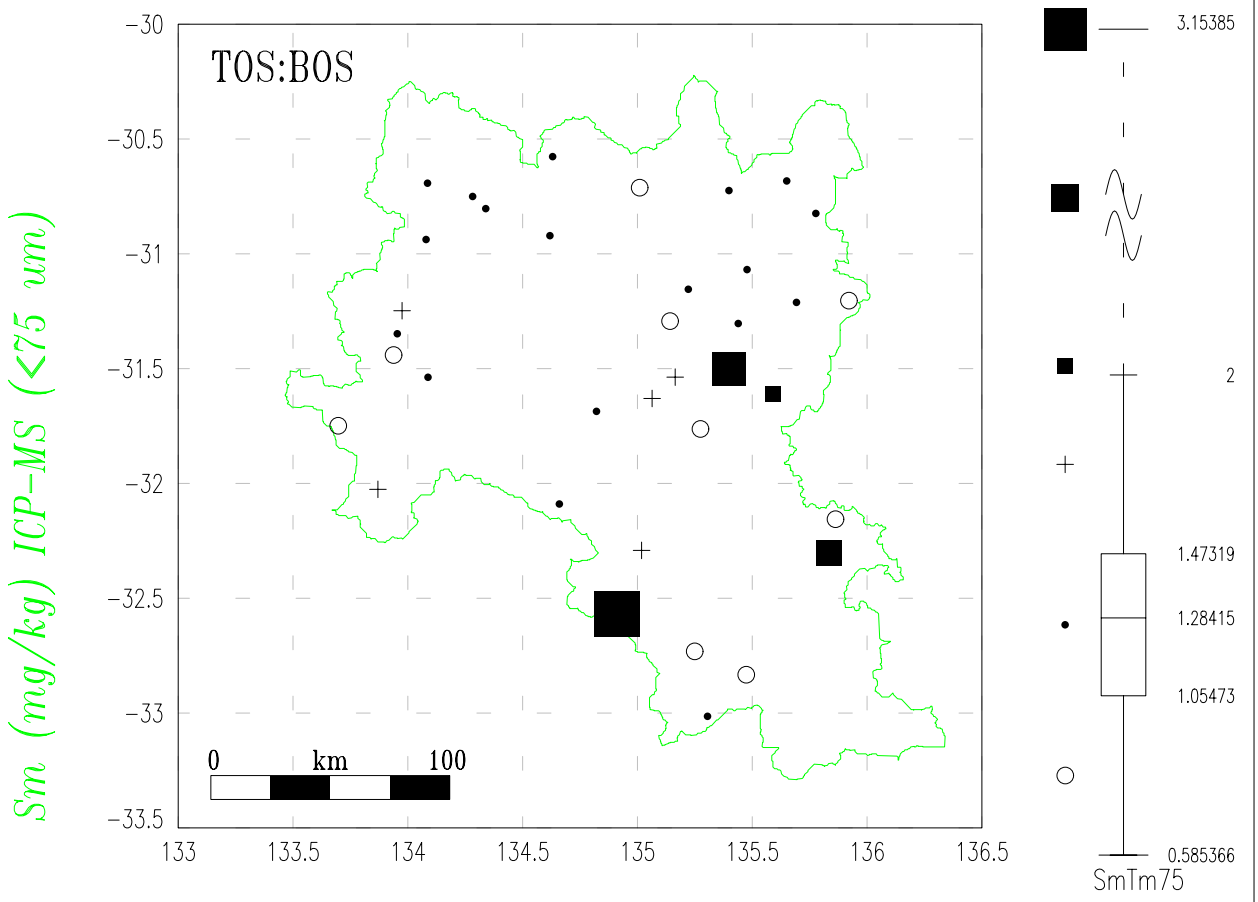


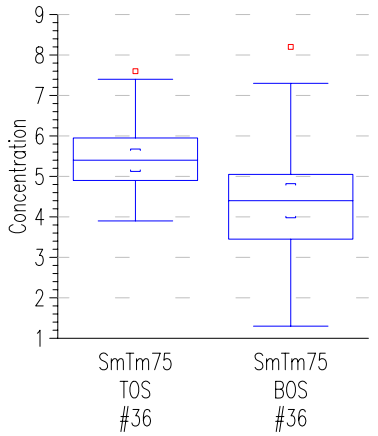
CAWLER GEOCHEMICAL SURVEY

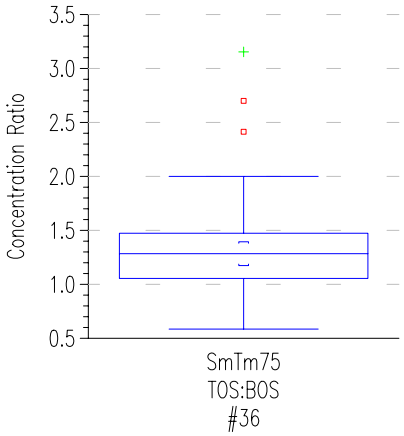
Top & Bottom Outlet Sediments (TOS & BOS)

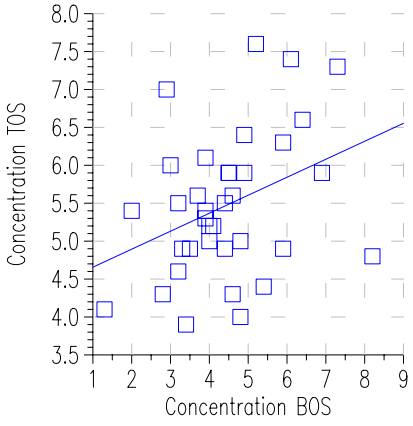


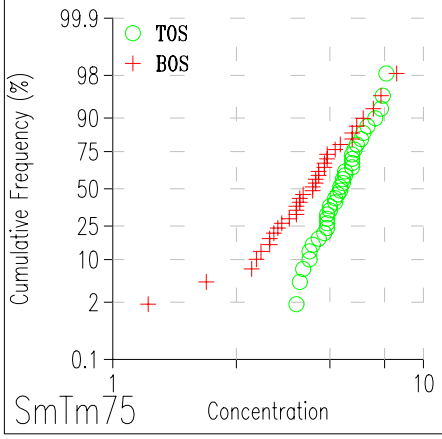
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

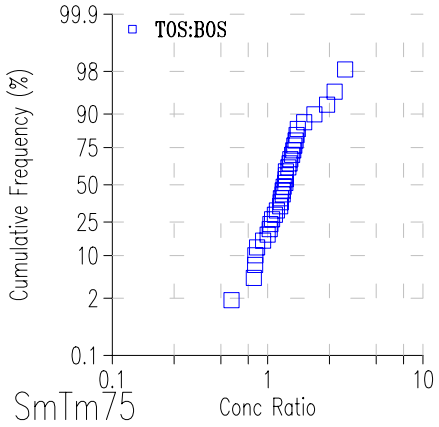


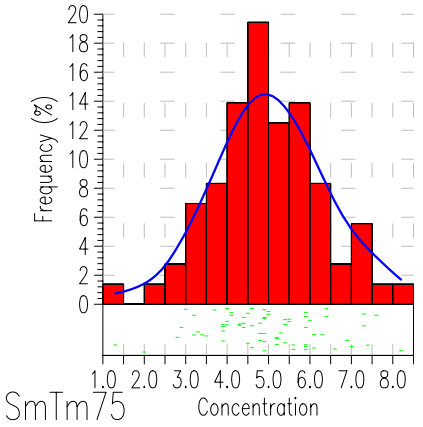






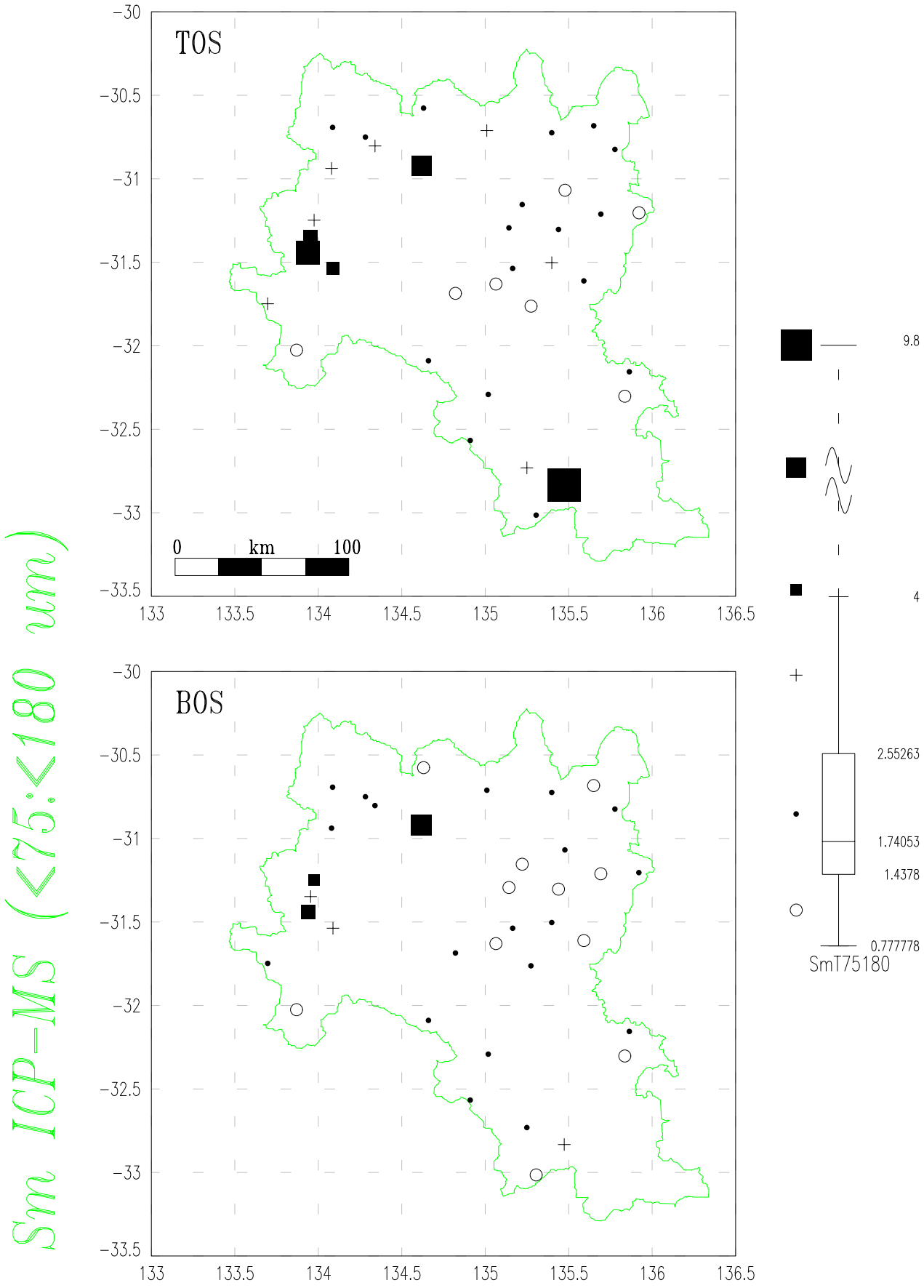






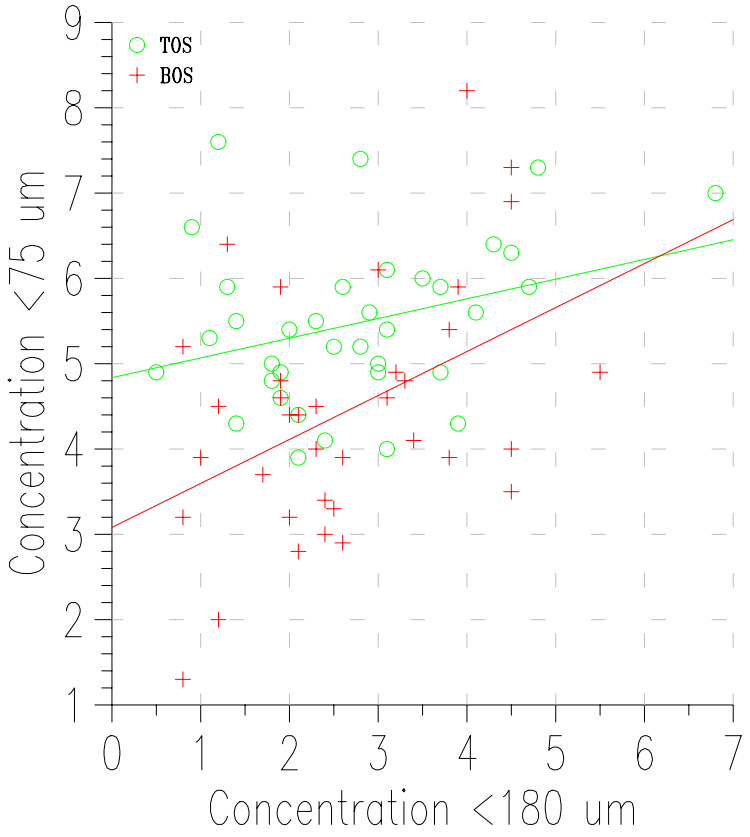
GAWLER GEOCHEMICAL SURVEY

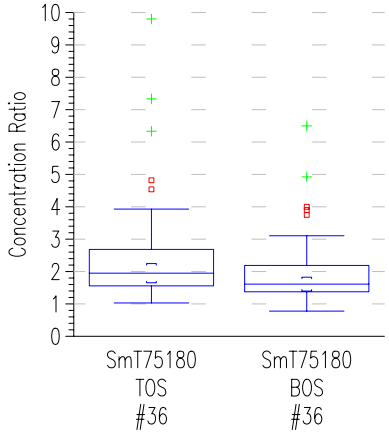
Top & Bottom Outlet Sediments (TOS & BOS)

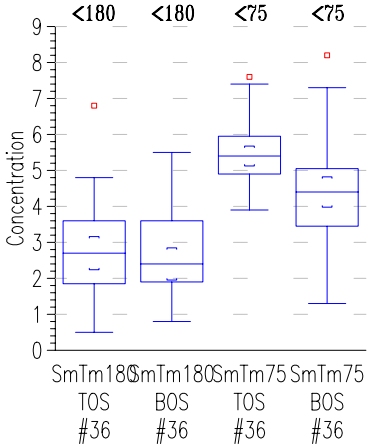


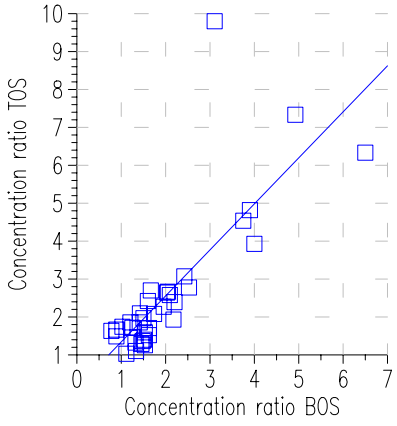
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

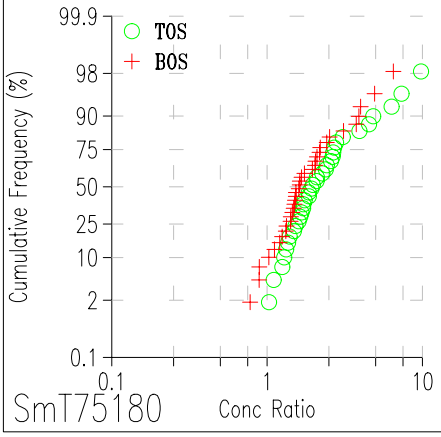
Sm ICP-MS (<75:<180 um)

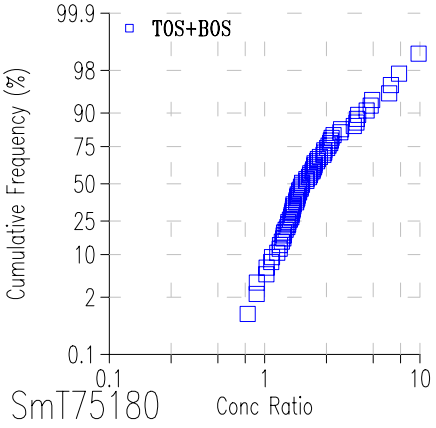


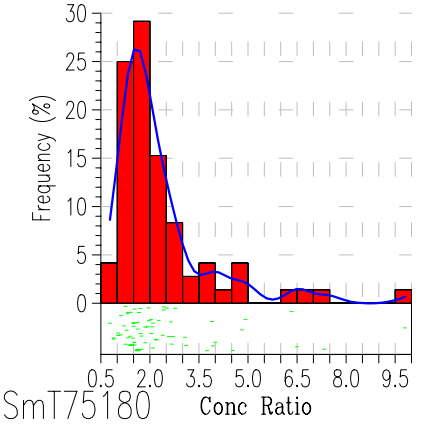






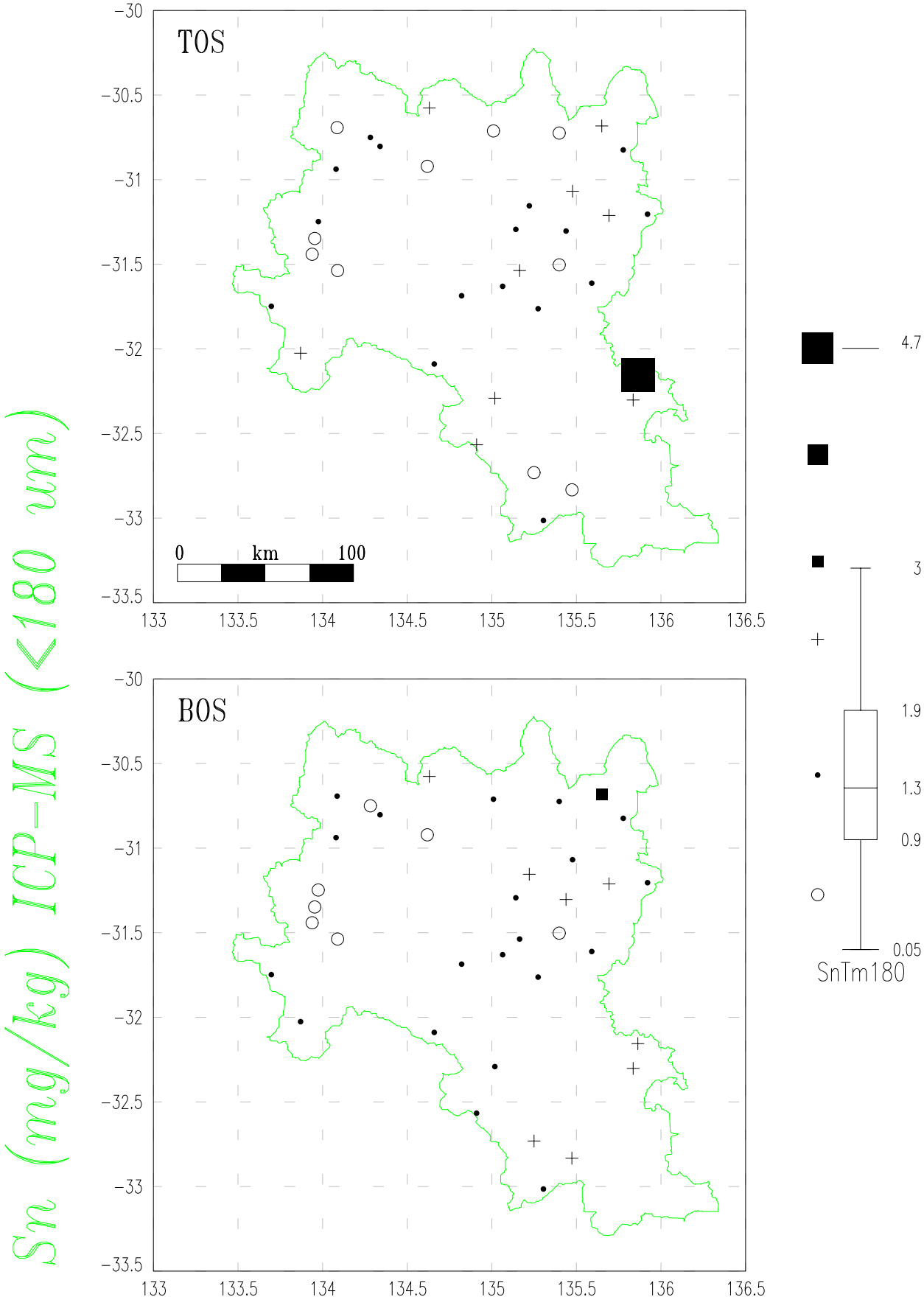




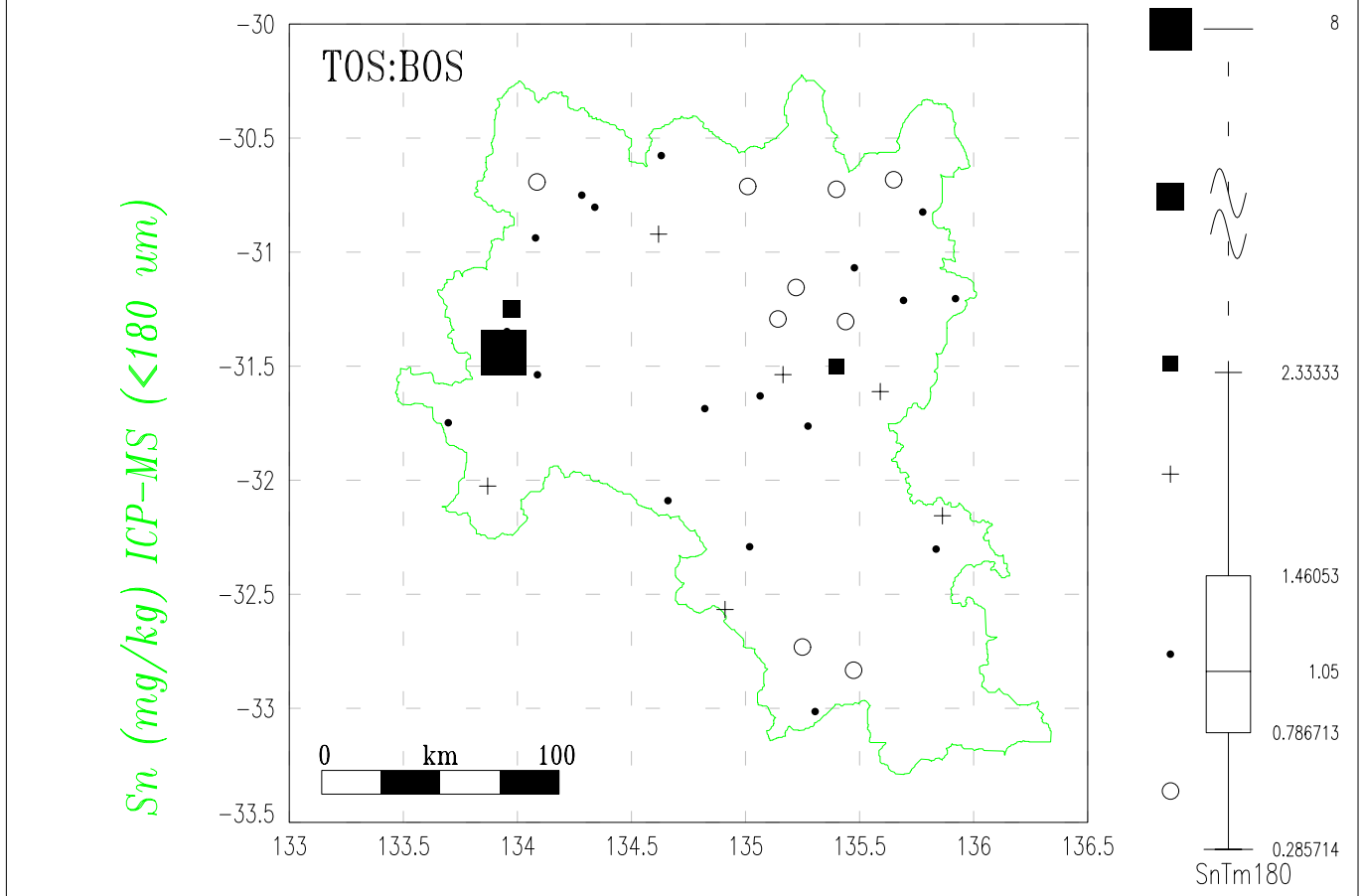


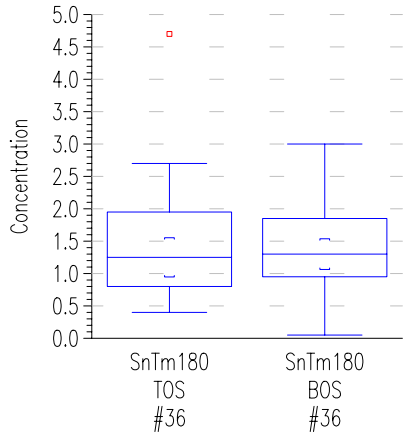
GAWLER GEOCHEMICAL SURVEY

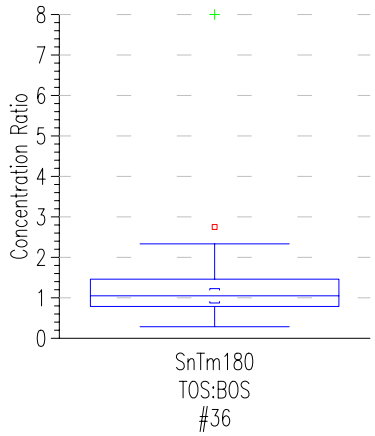
Top & Bottom Outlet Sediments (TOS & BOS)

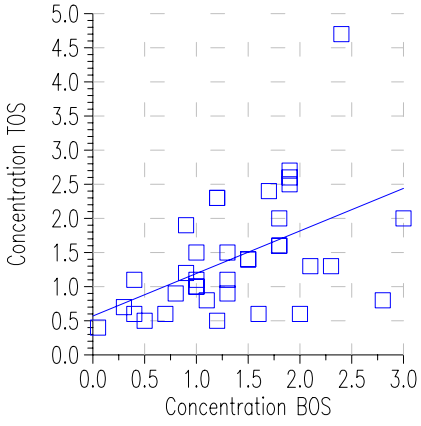


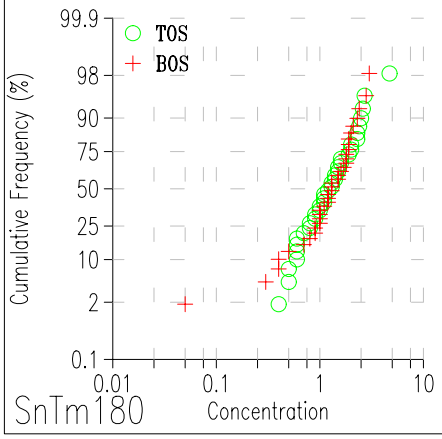
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

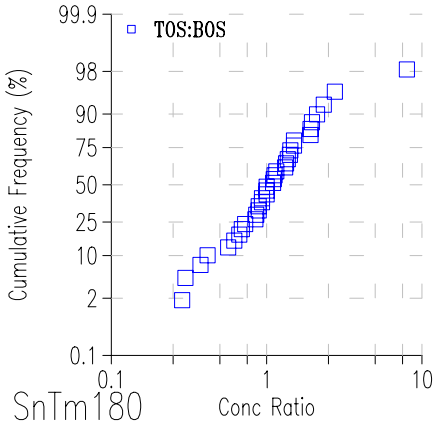


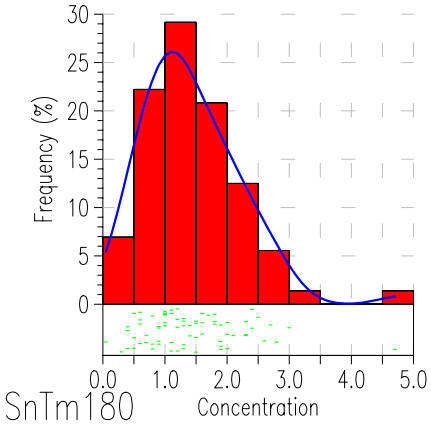






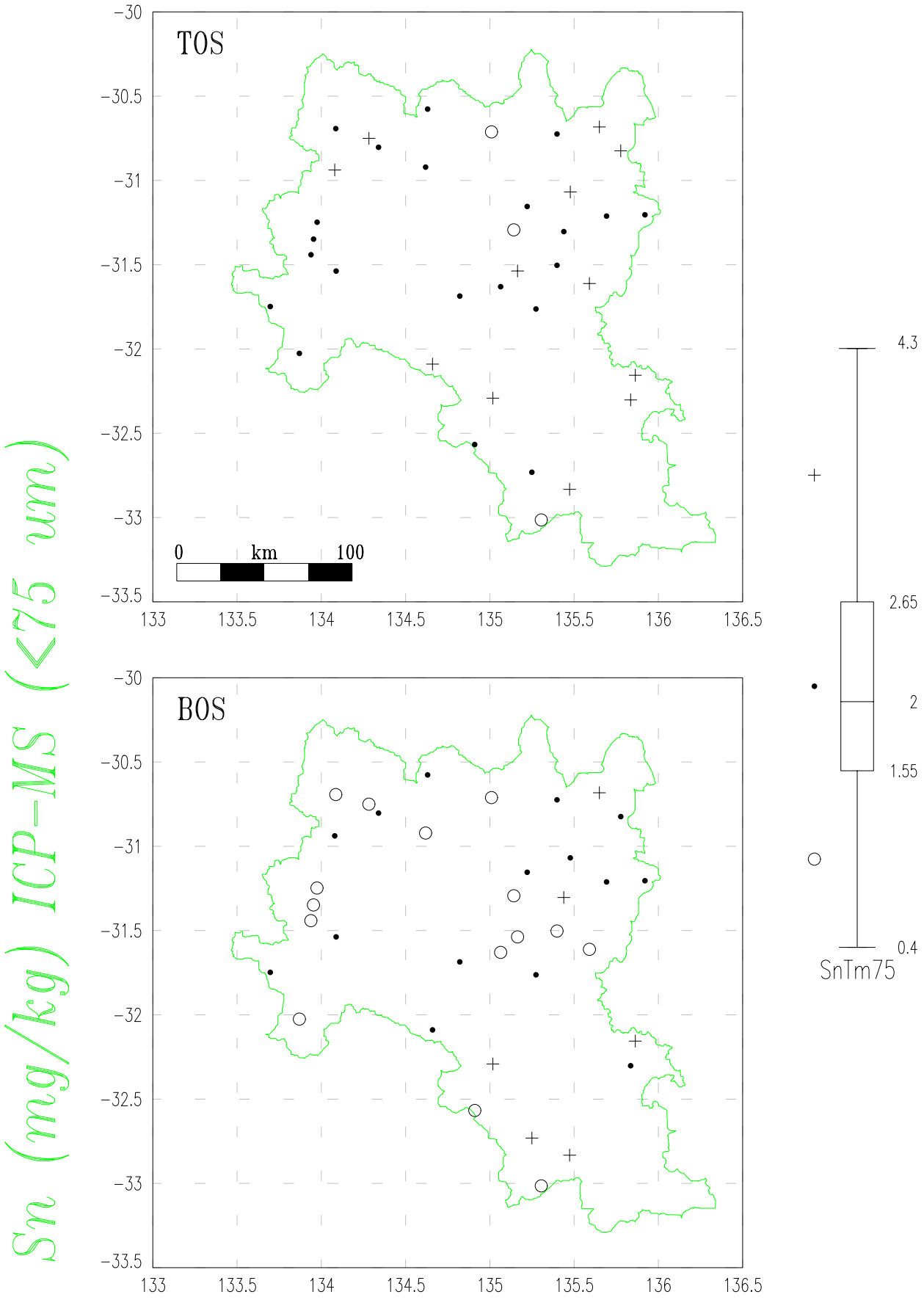






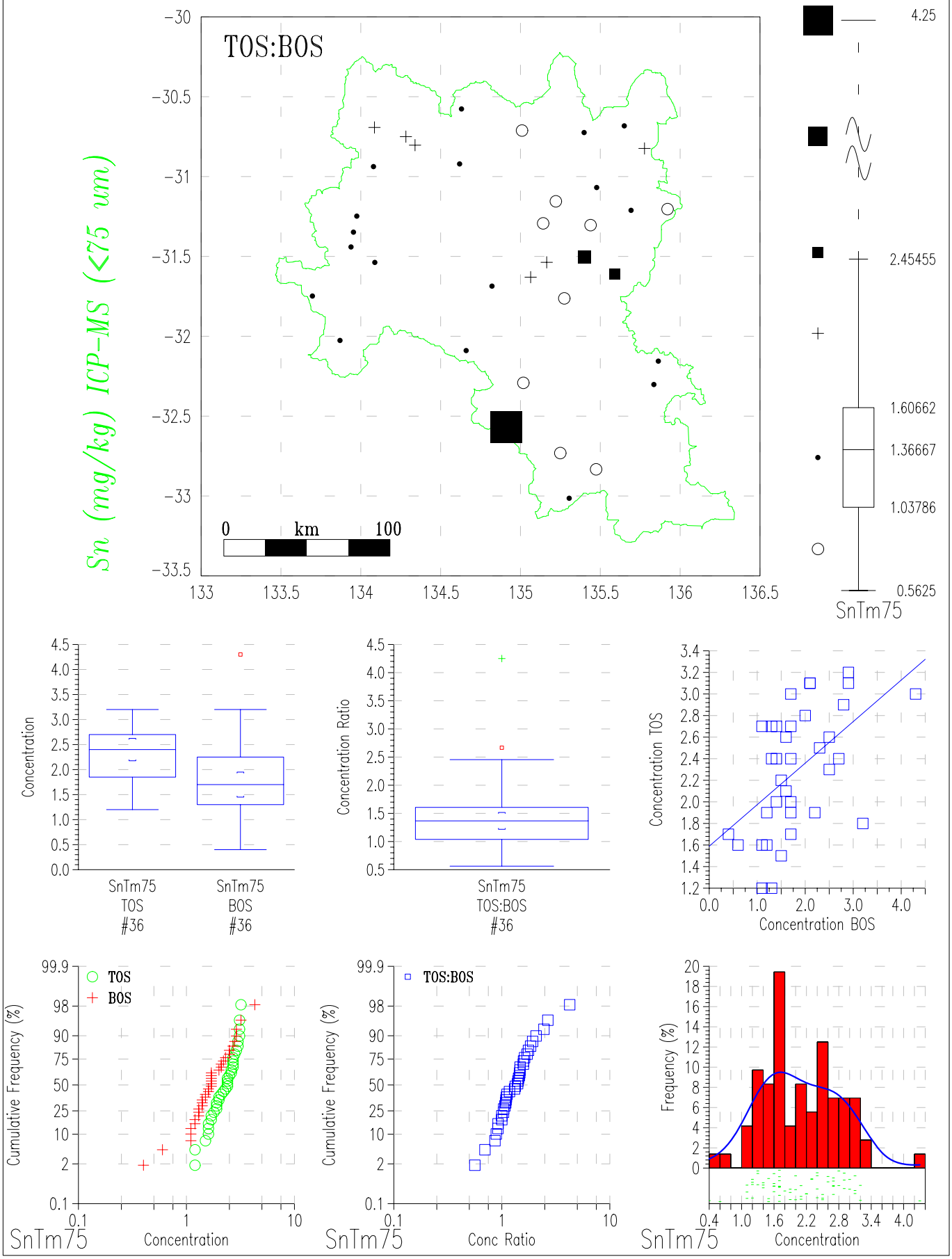
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



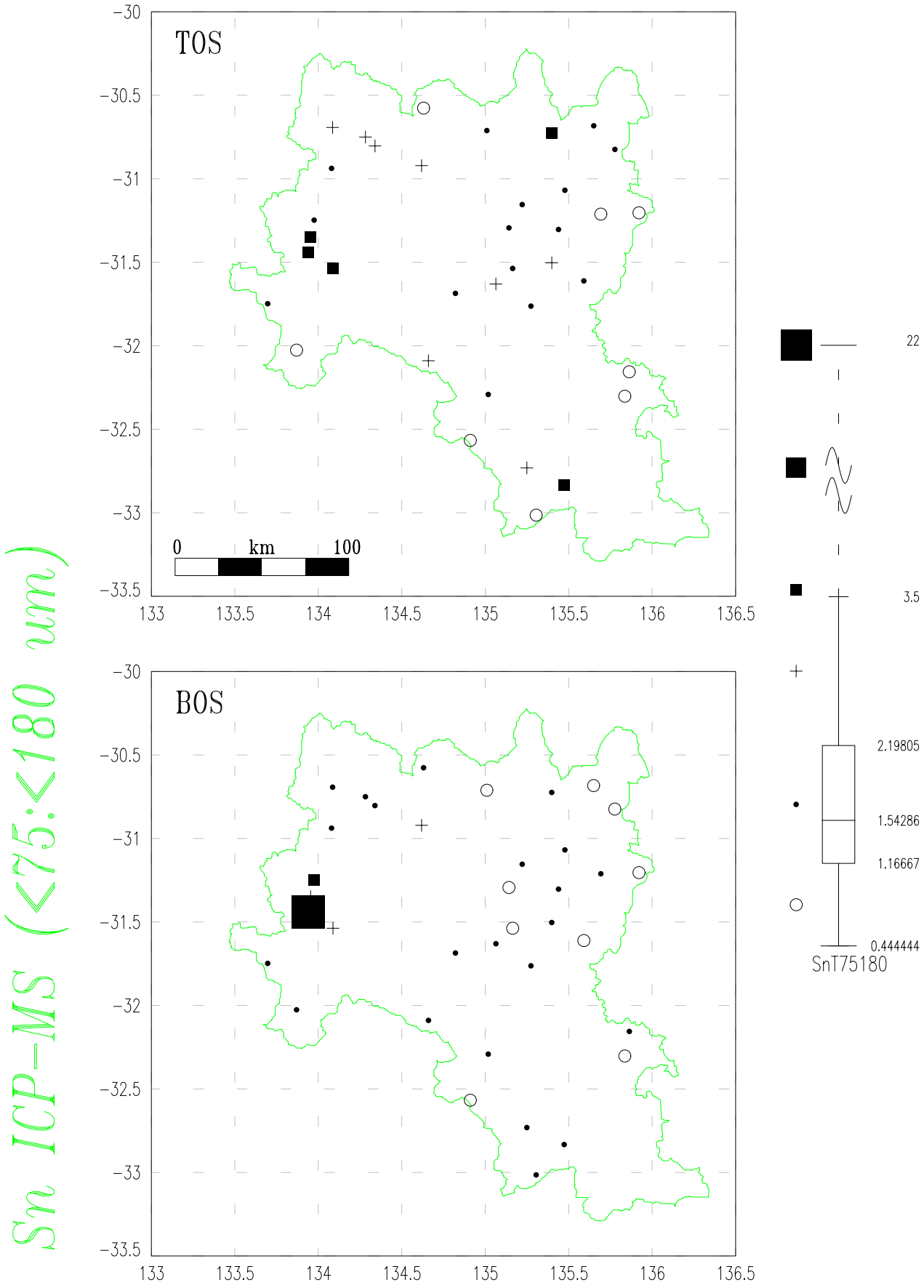
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



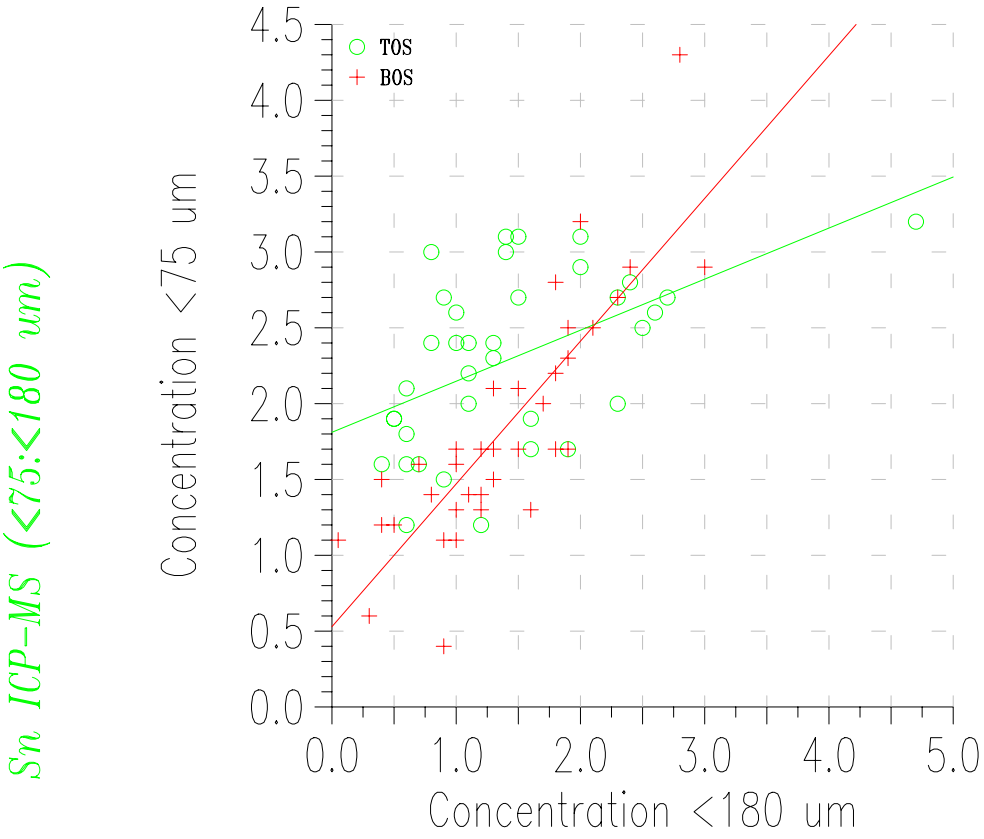
CAWLER GEOCHEMICAL SURVEY

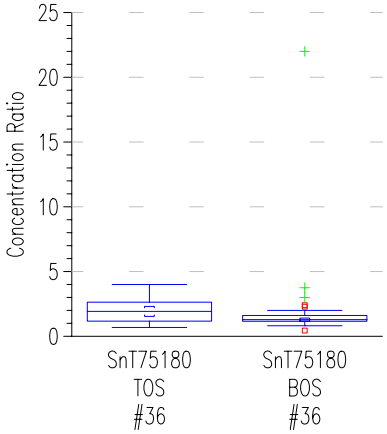
Top & Bottom Outlet Sediments (TOS & BOS)

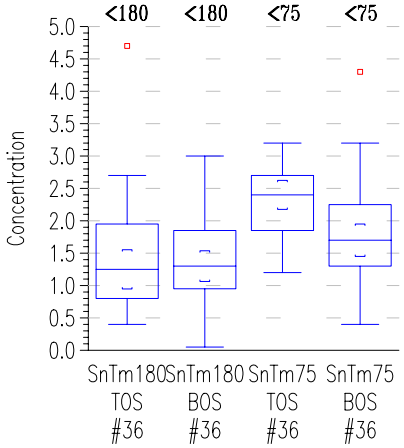


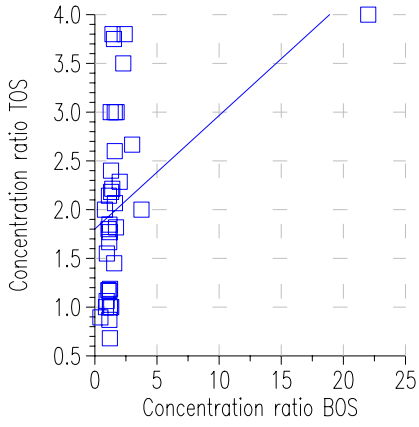
Sn ICP-MS (<75:<180 um)

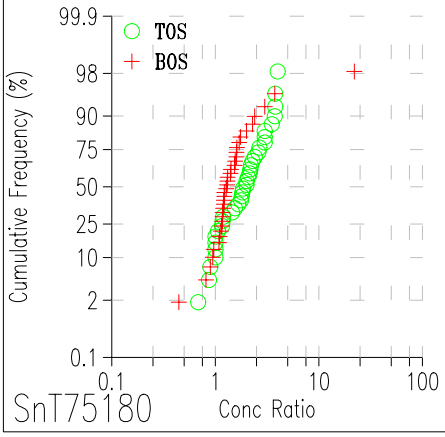
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

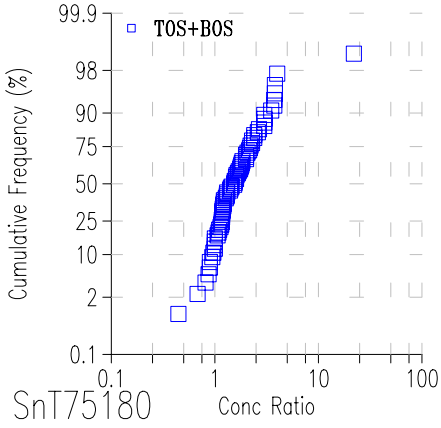


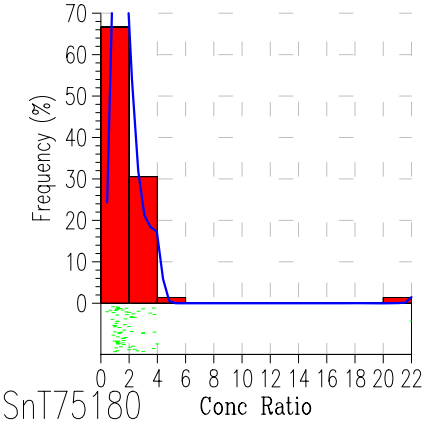






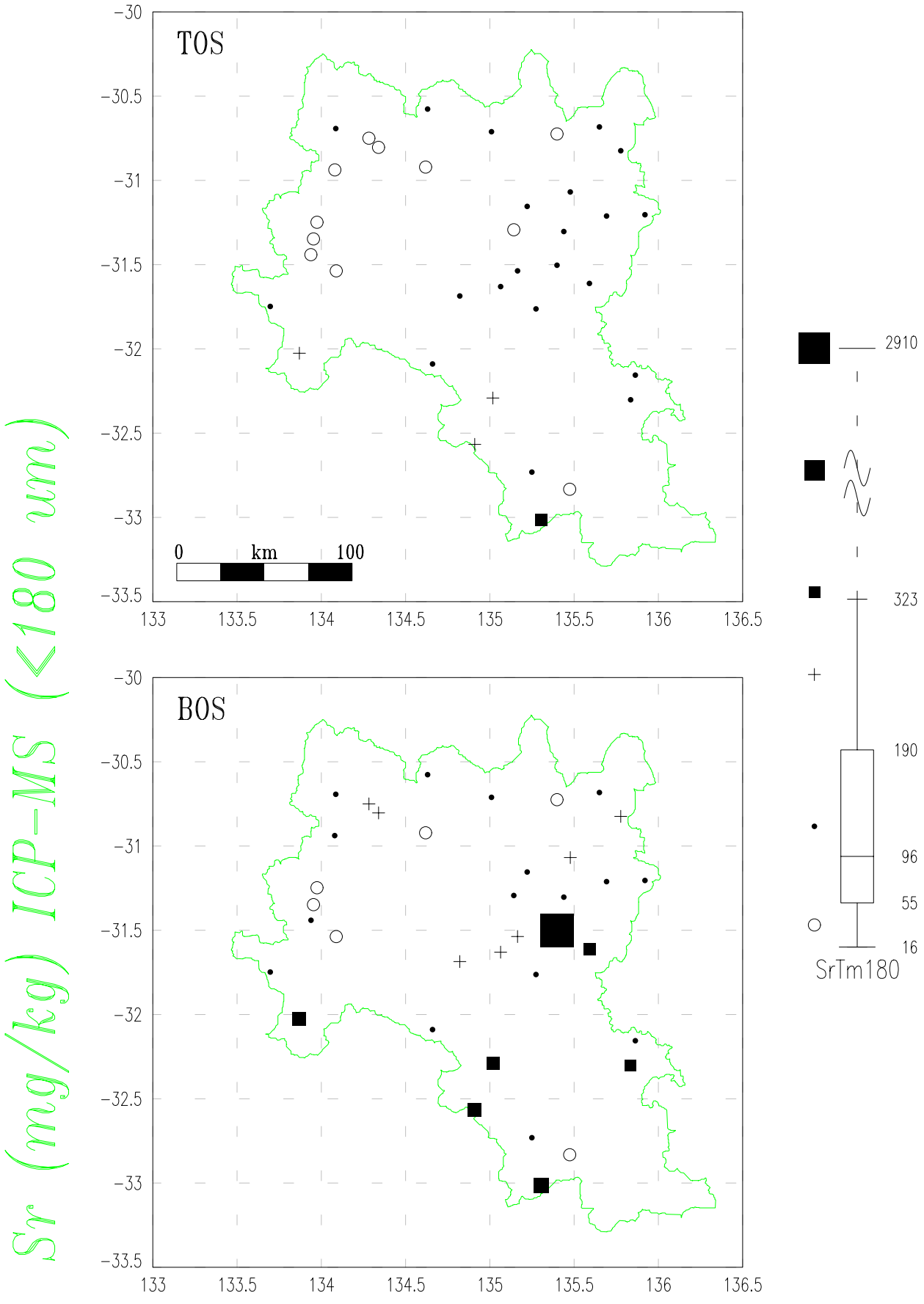






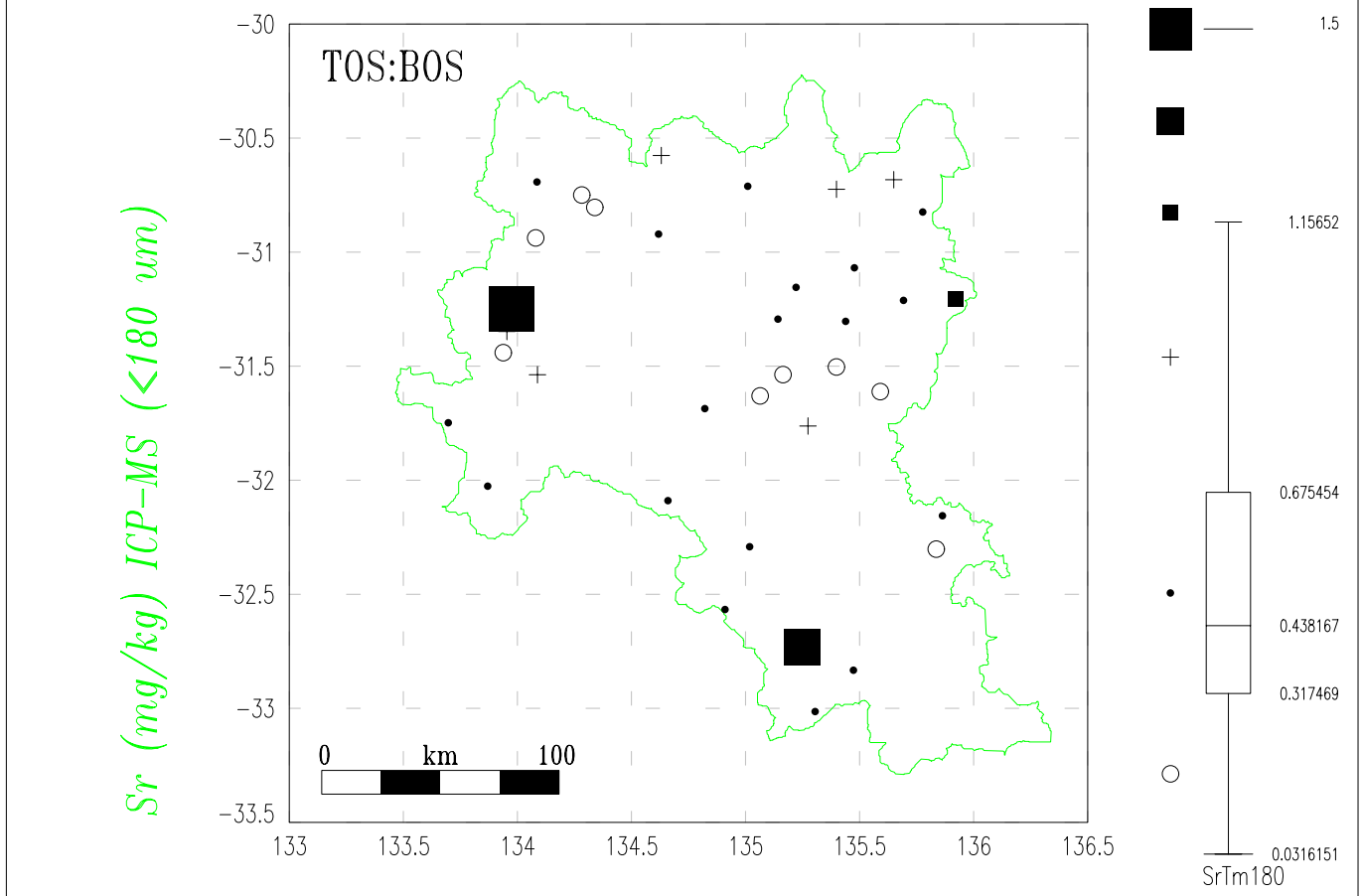
CAWLER GEOCHEMICAL SURVEY

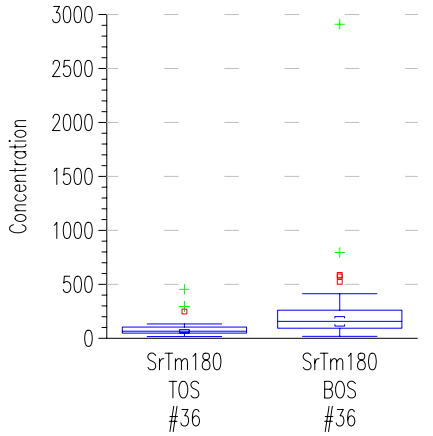
Top & Bottom Outlet Sediments (TOS & BOS)

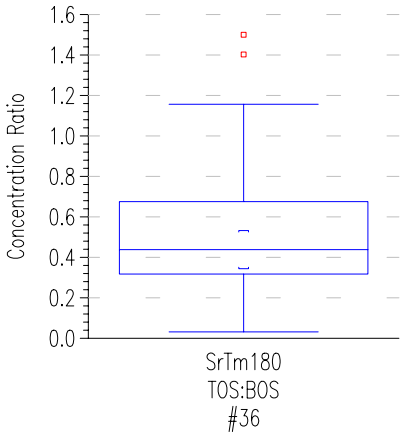


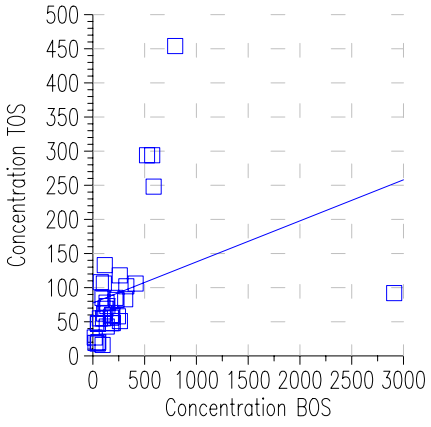
Sr (mg/kg) ICP-MS (<180 um)

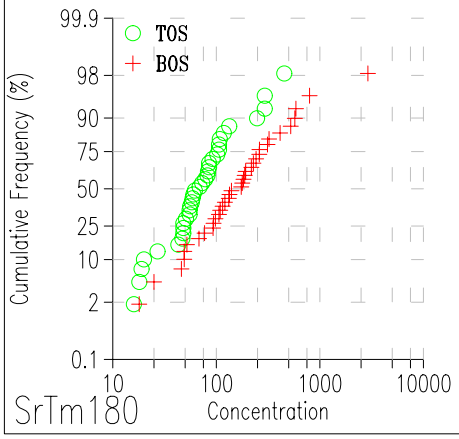
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

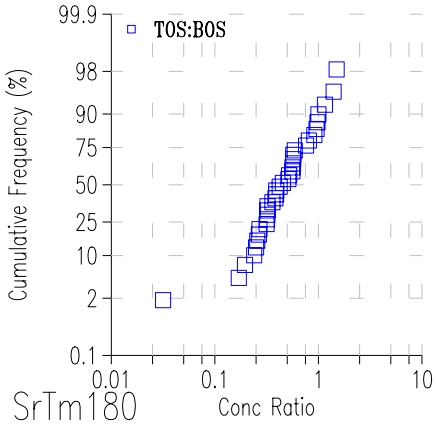


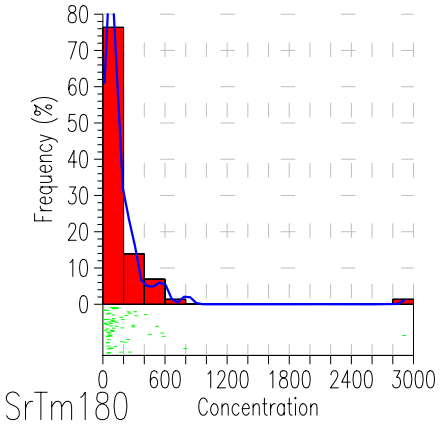






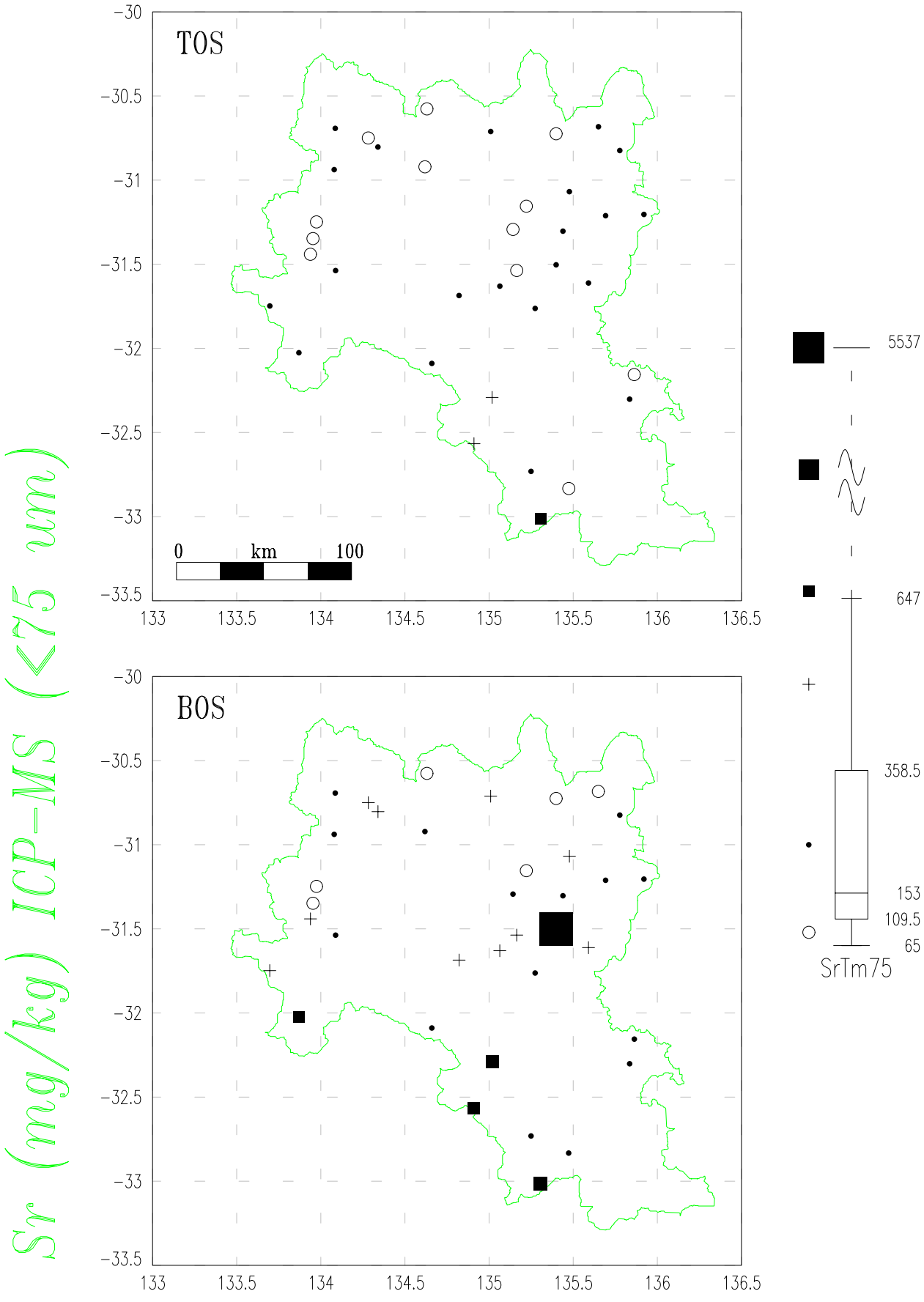




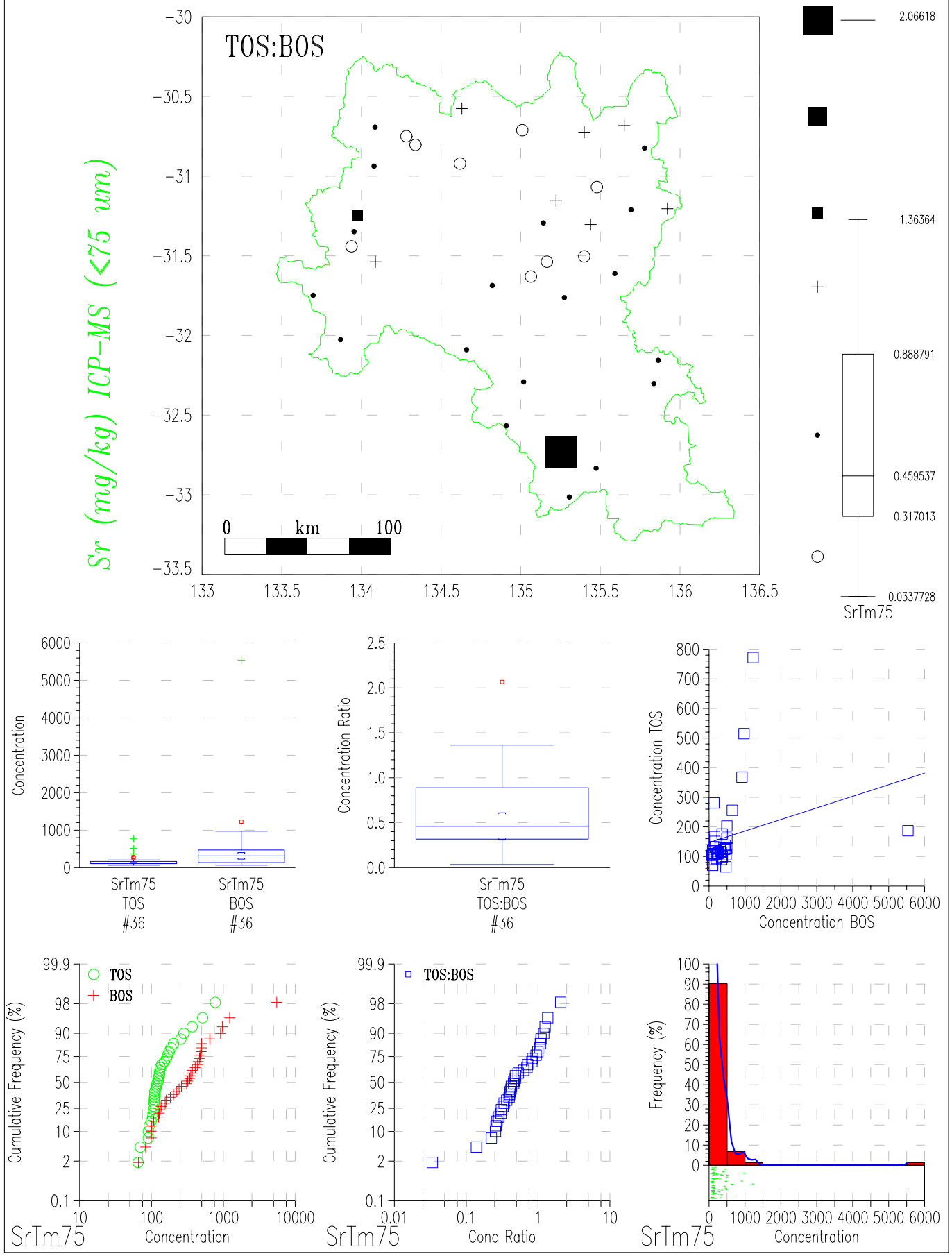


CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

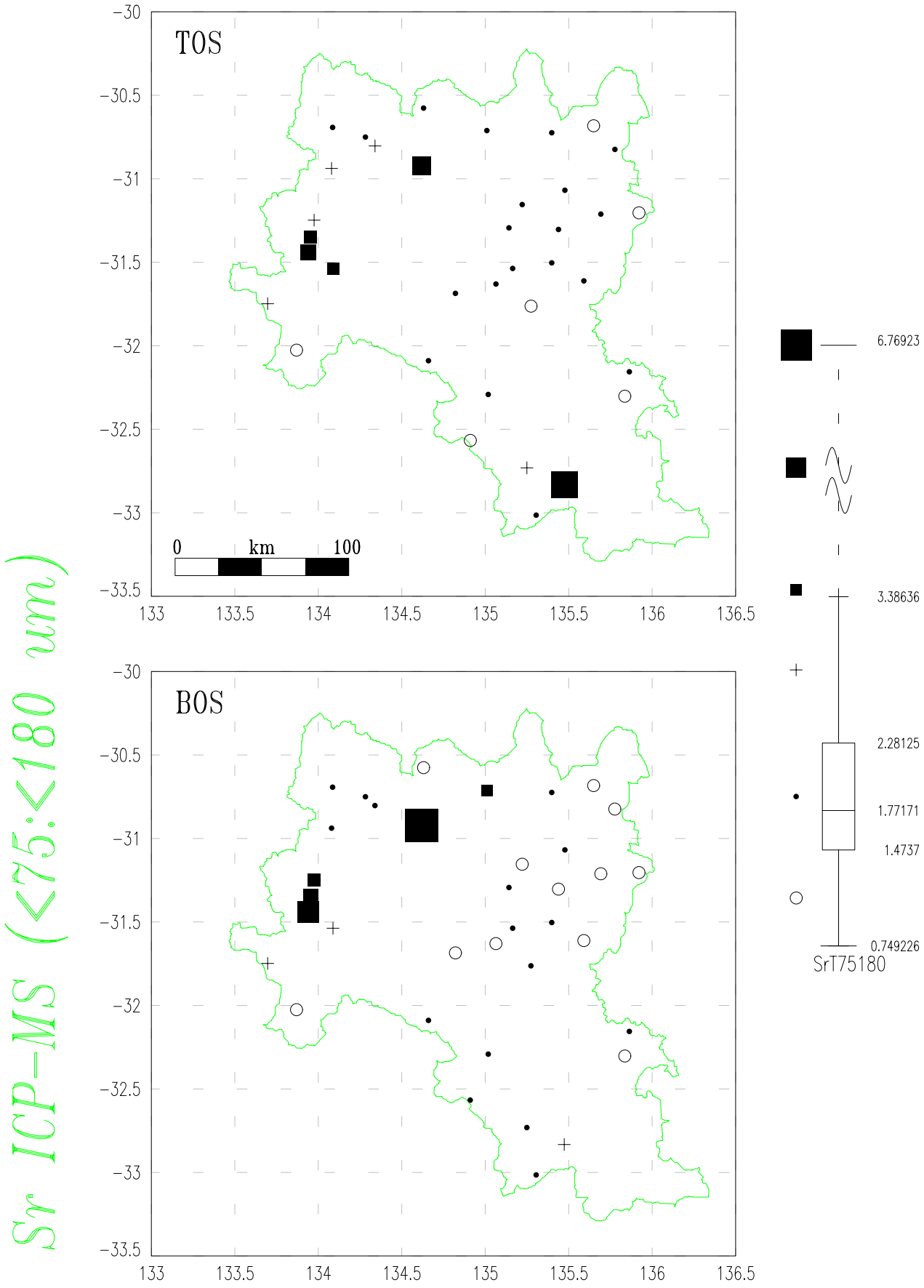


GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)



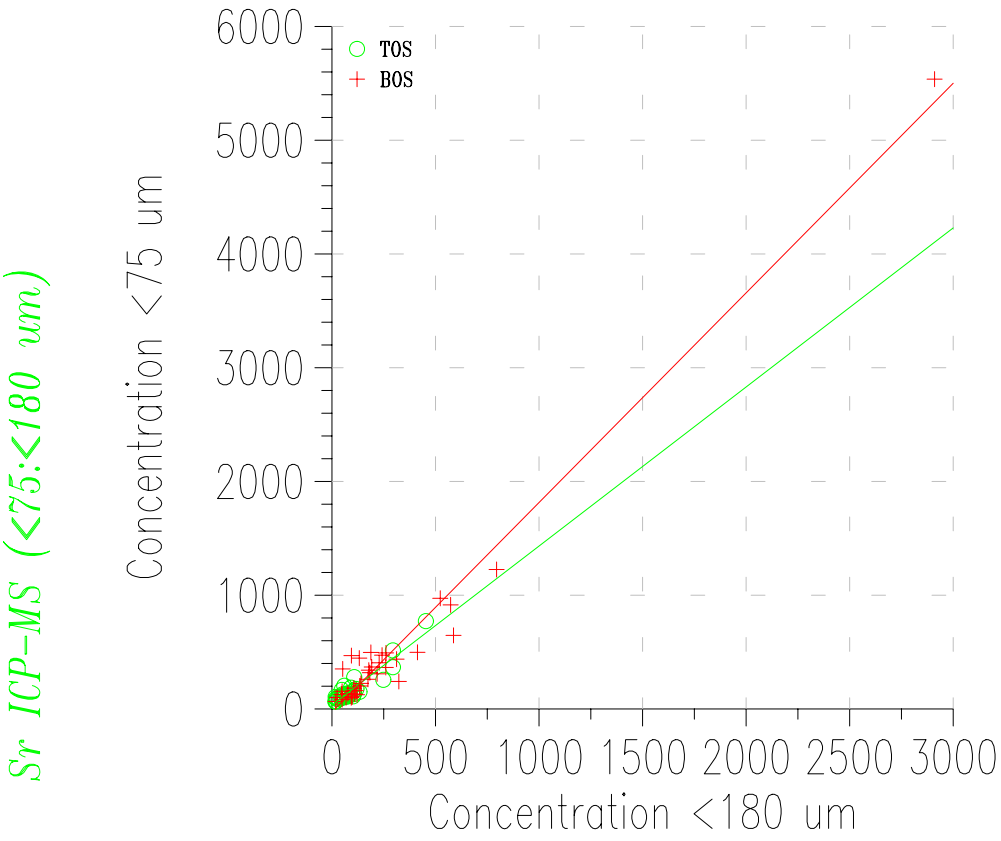
GAWLER GEOCHEMICAL SURVEY

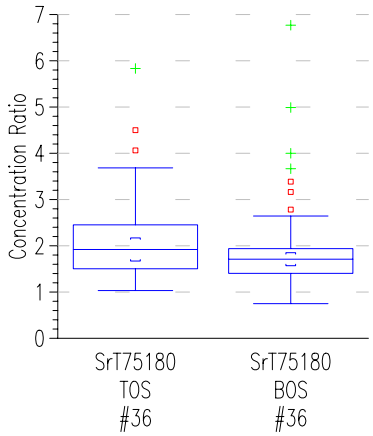
Top & Bottom Outlet Sediments (TOS & BOS)

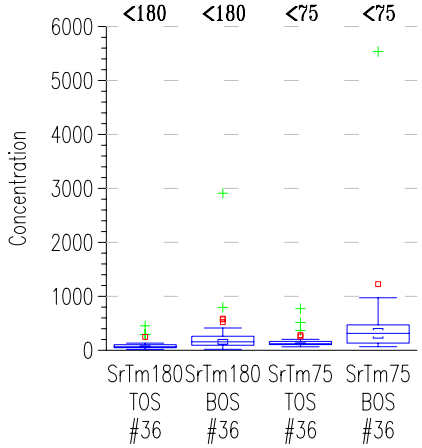


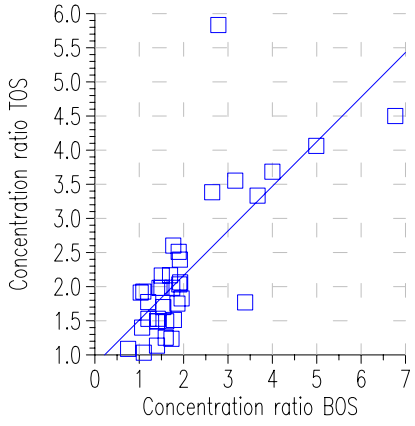
Sr ICP-MS (<75:<180 um)

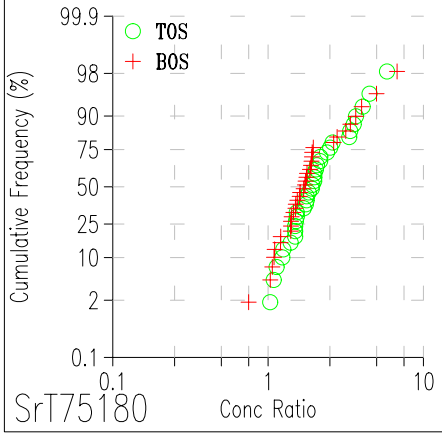
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

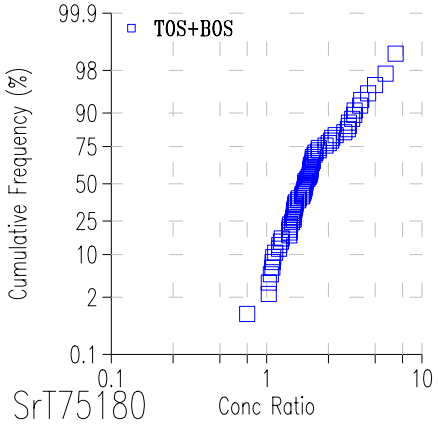


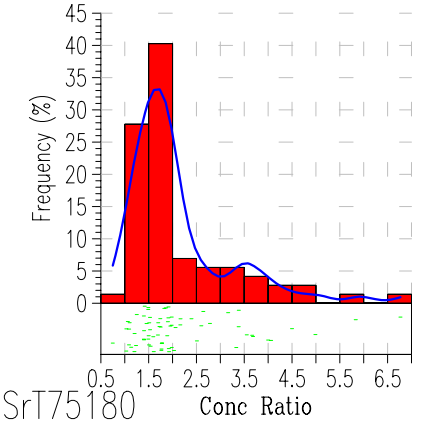






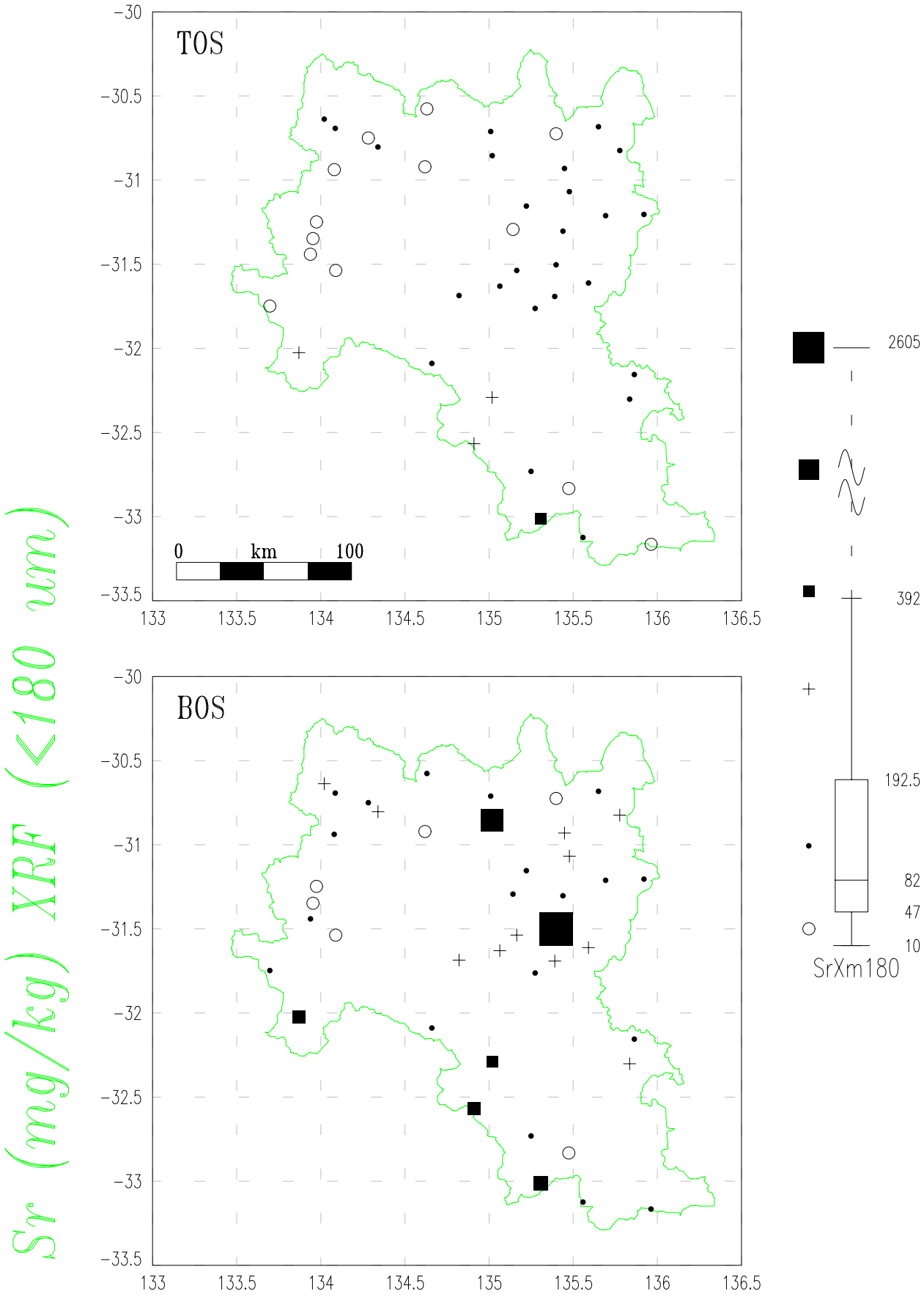






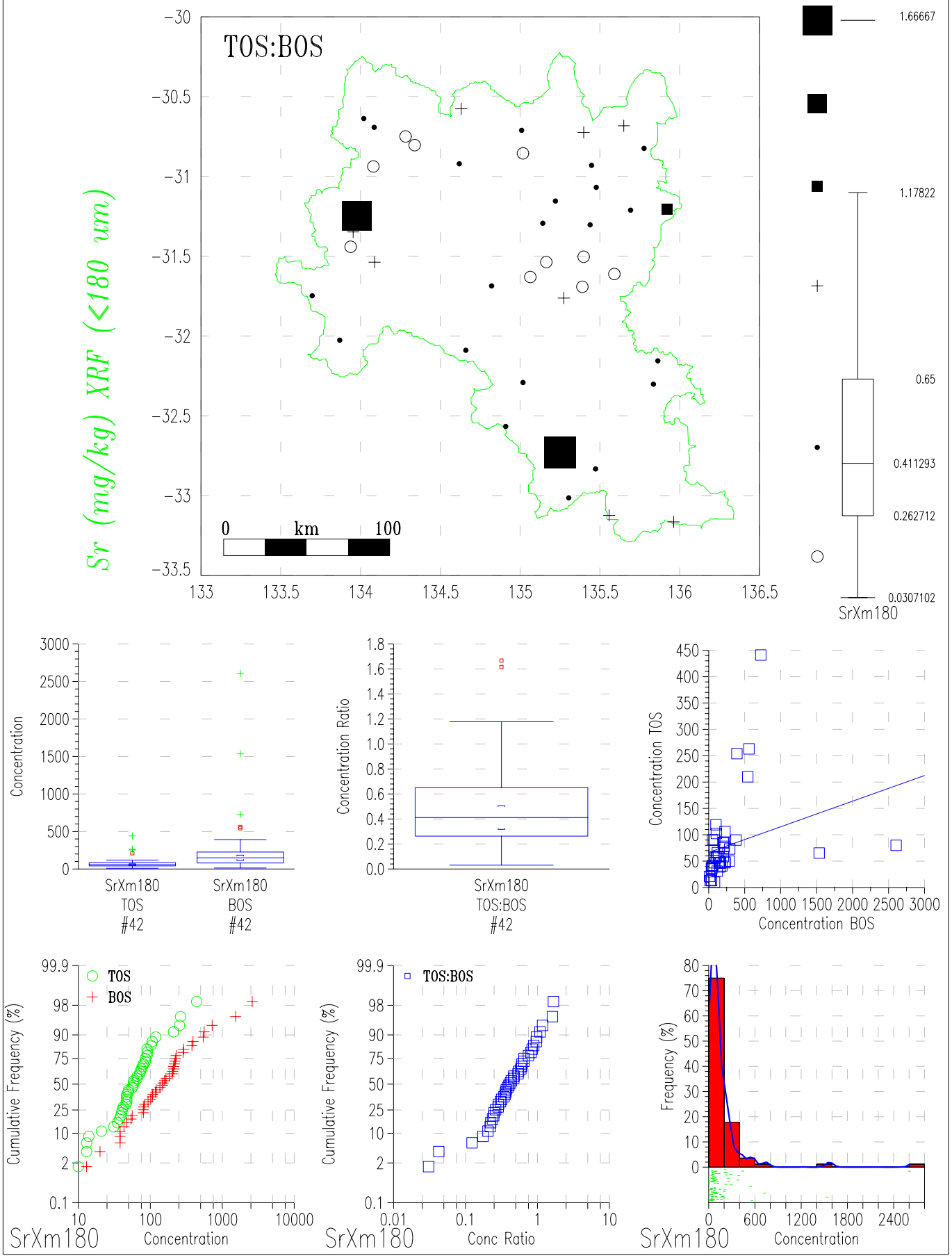
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



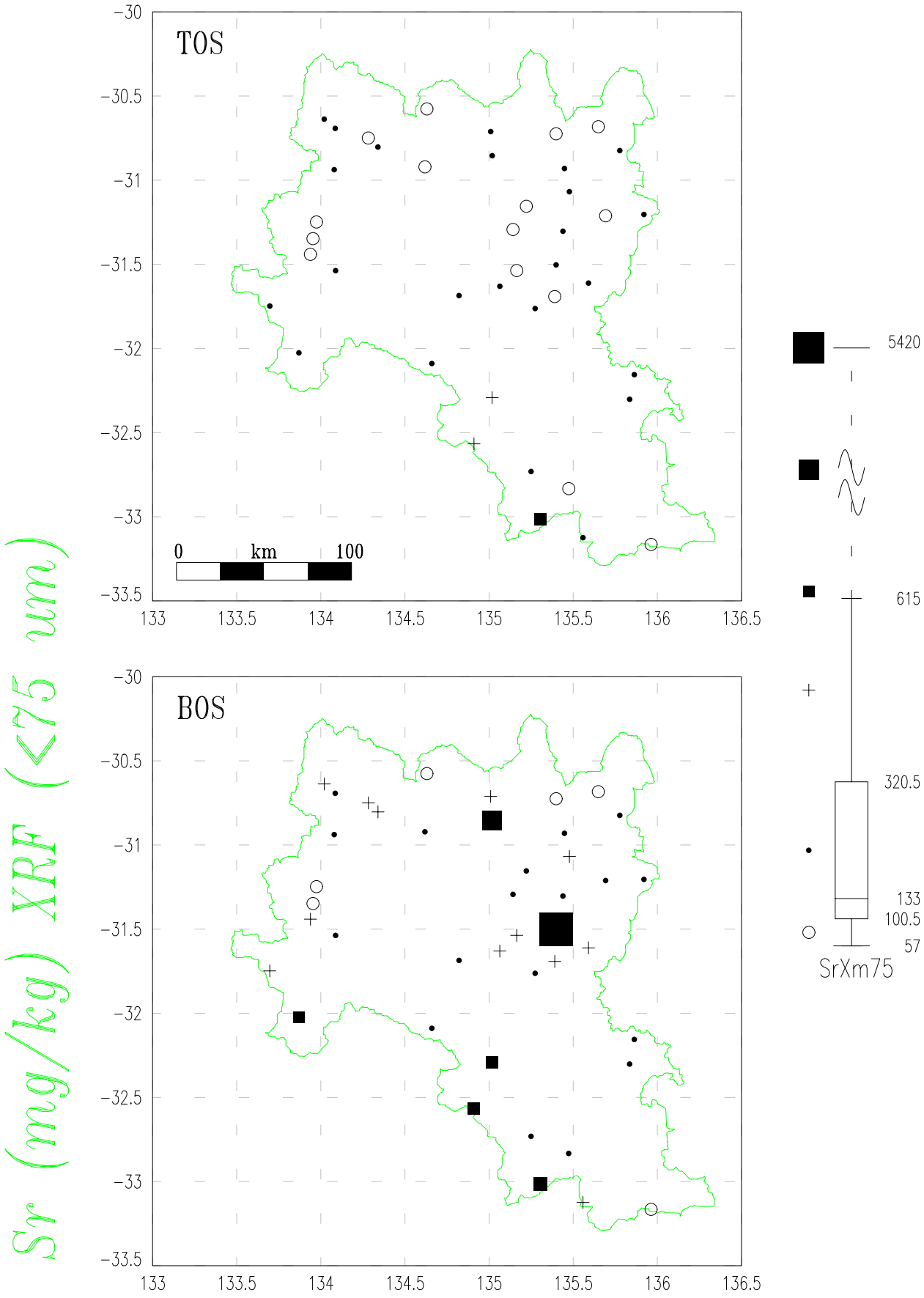
GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

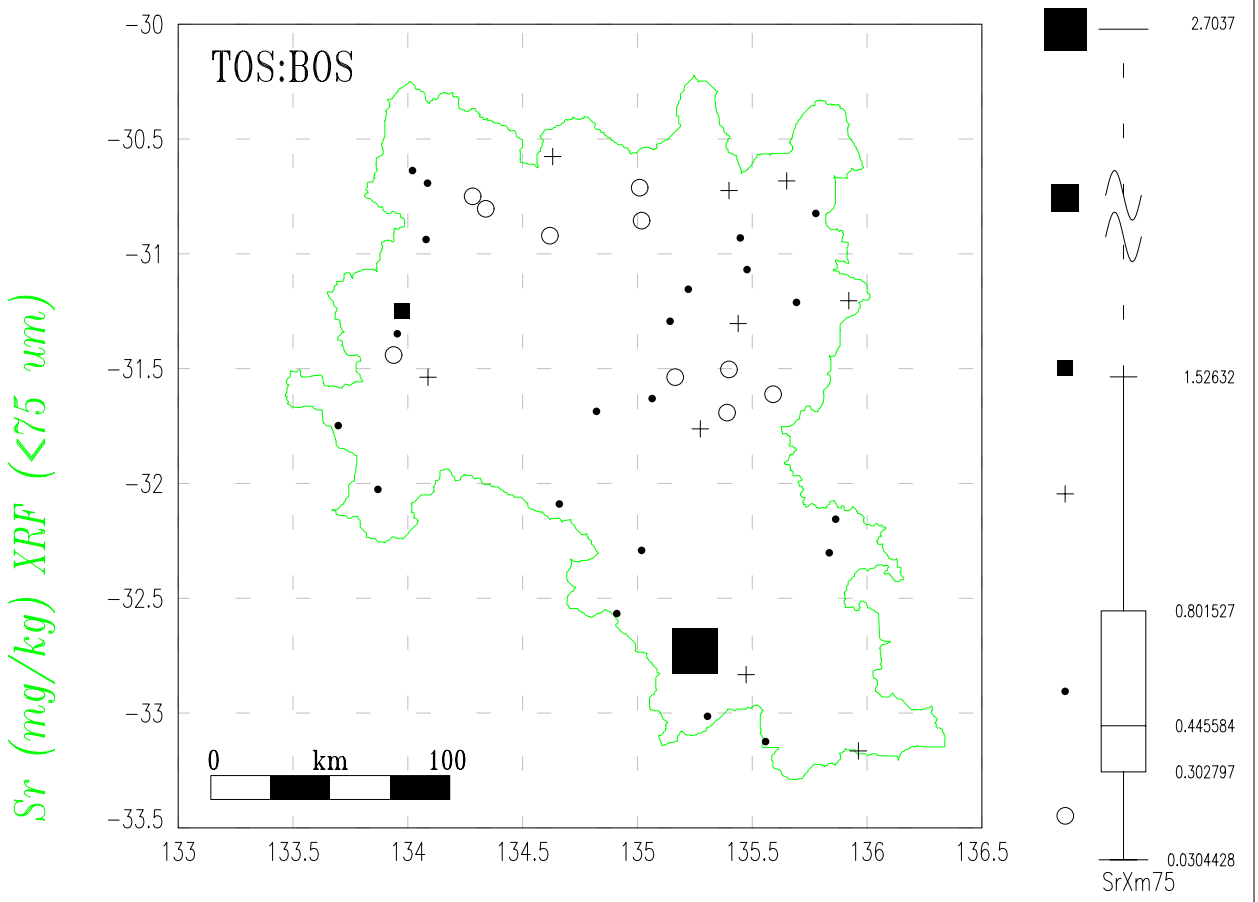


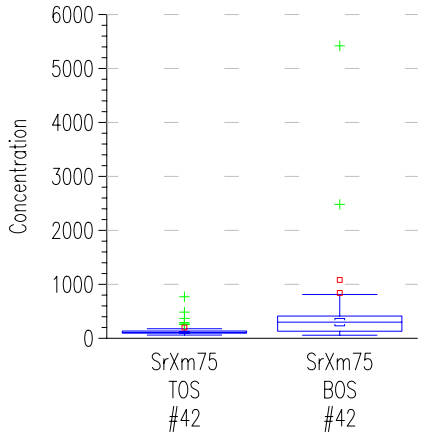
CAWLER GEOCHEMICAL SURVEY

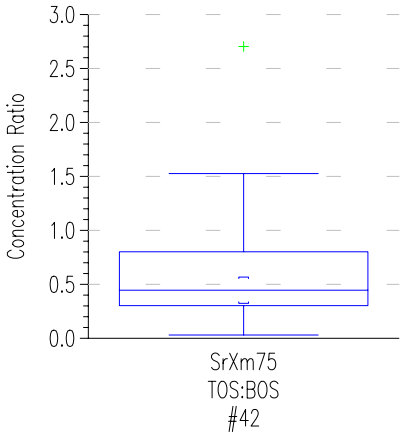
Top & Bottom Outlet Sediments (TOS & BOS)

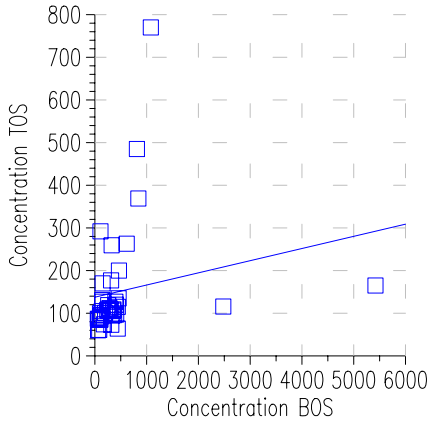


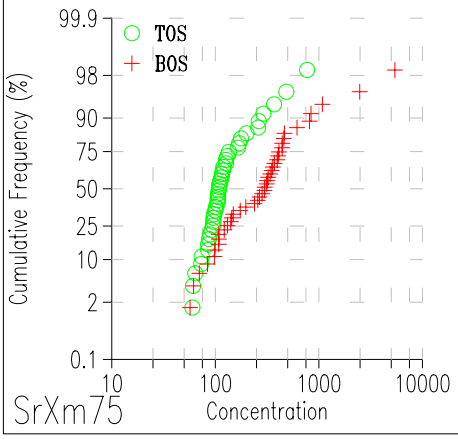
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

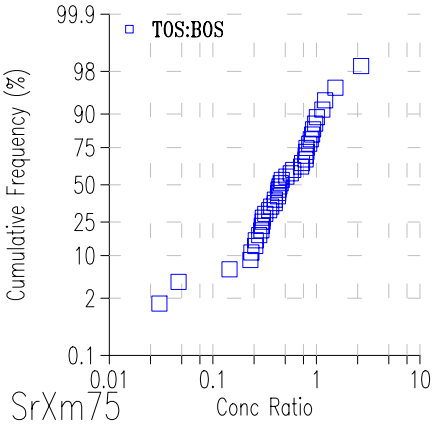


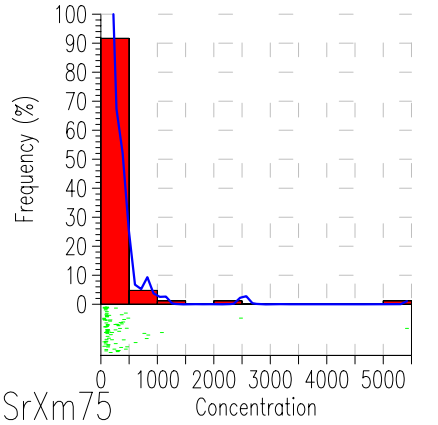






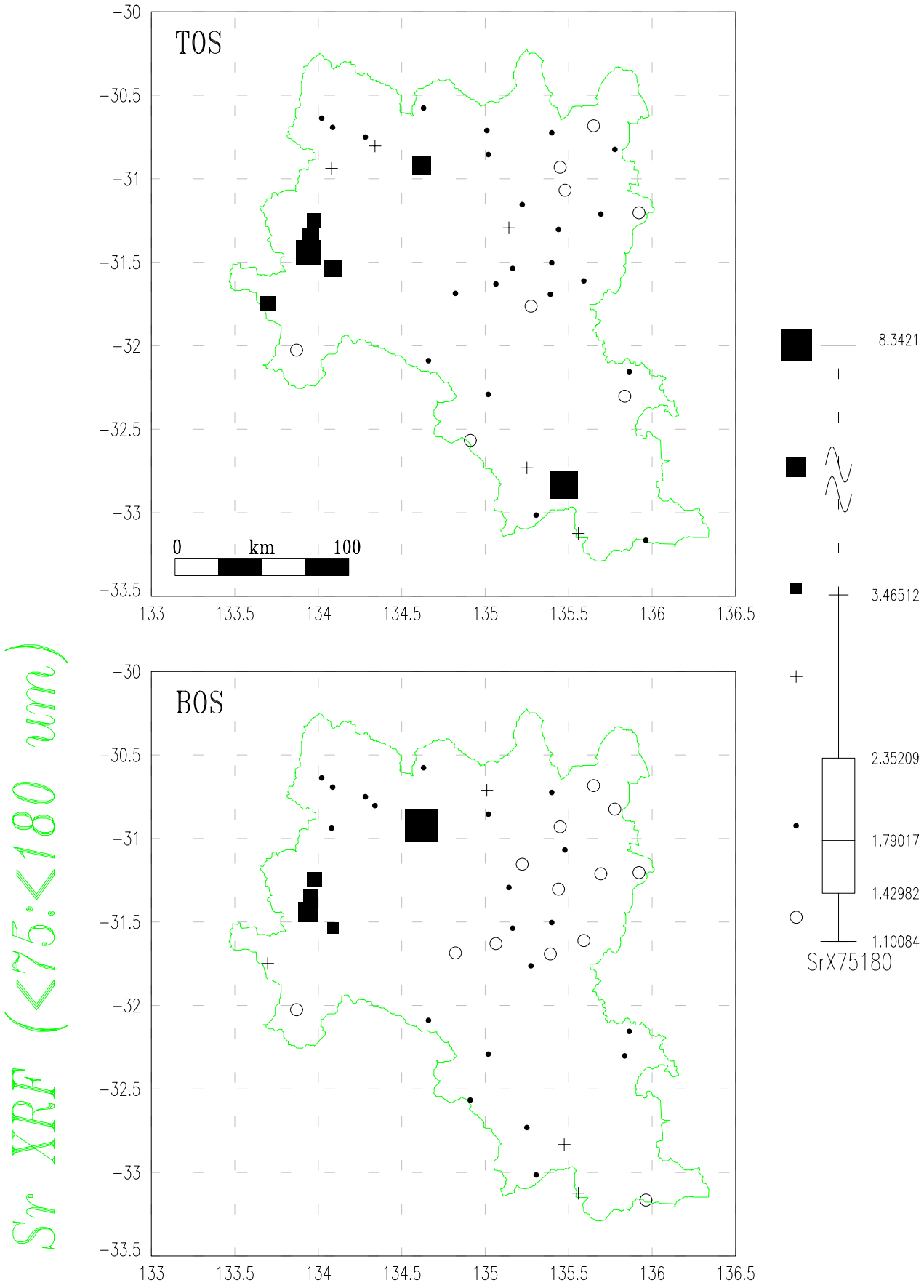






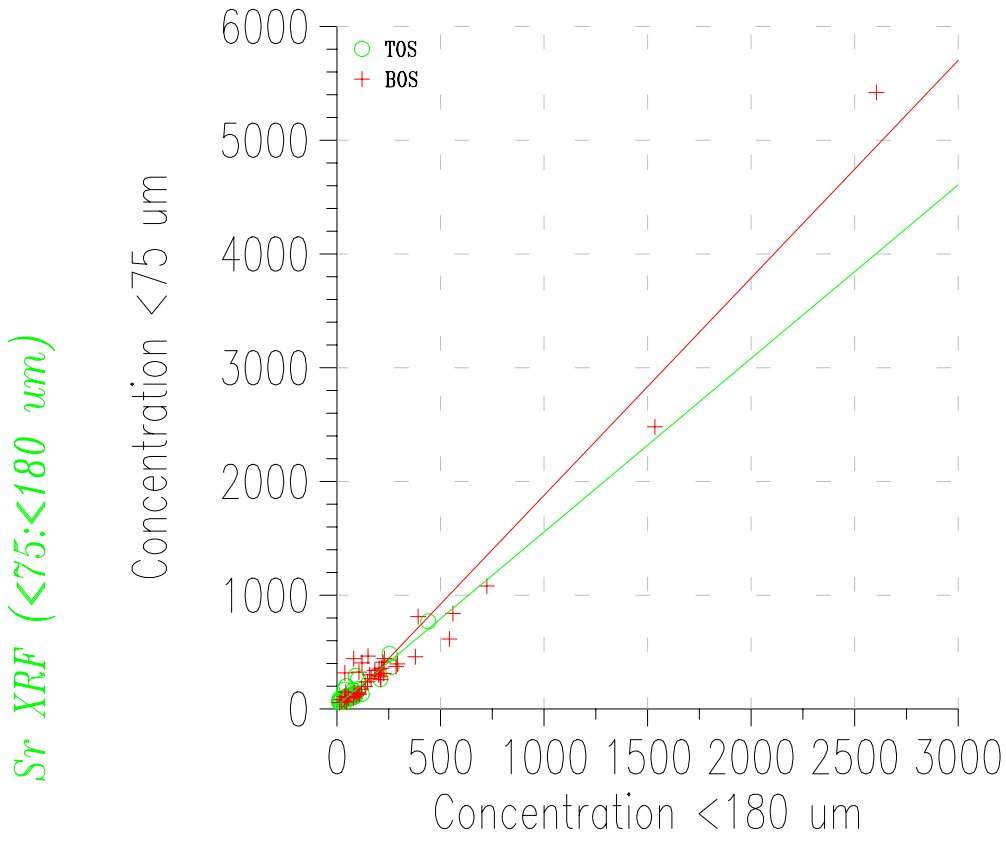
CAWLER GEOCHEMICAL SURVEY

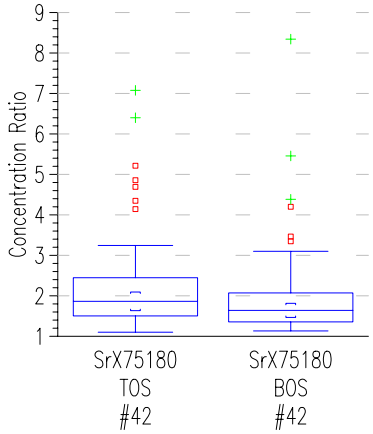
Top & Bottom Outlet Sediments (TOS & BOS)

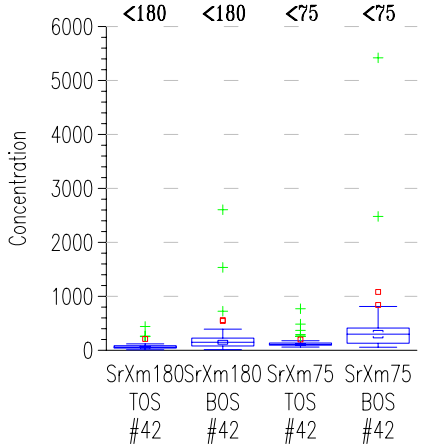


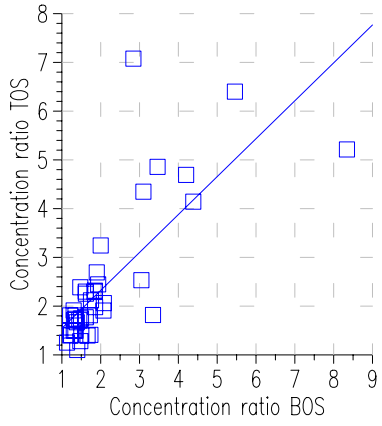
Sr XRF (<75:<180 um)

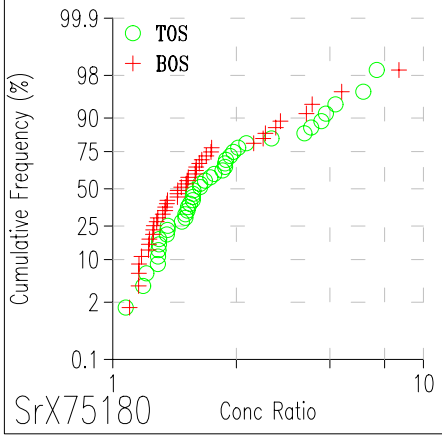
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

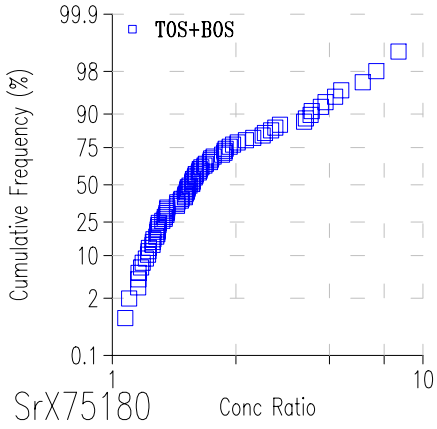


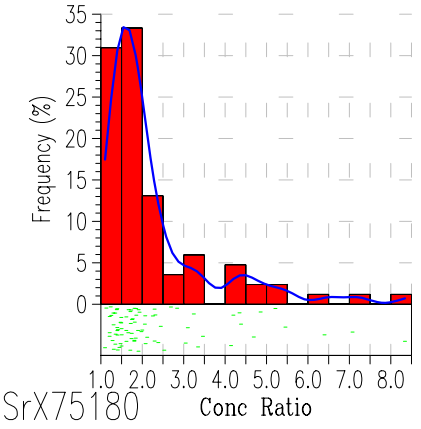






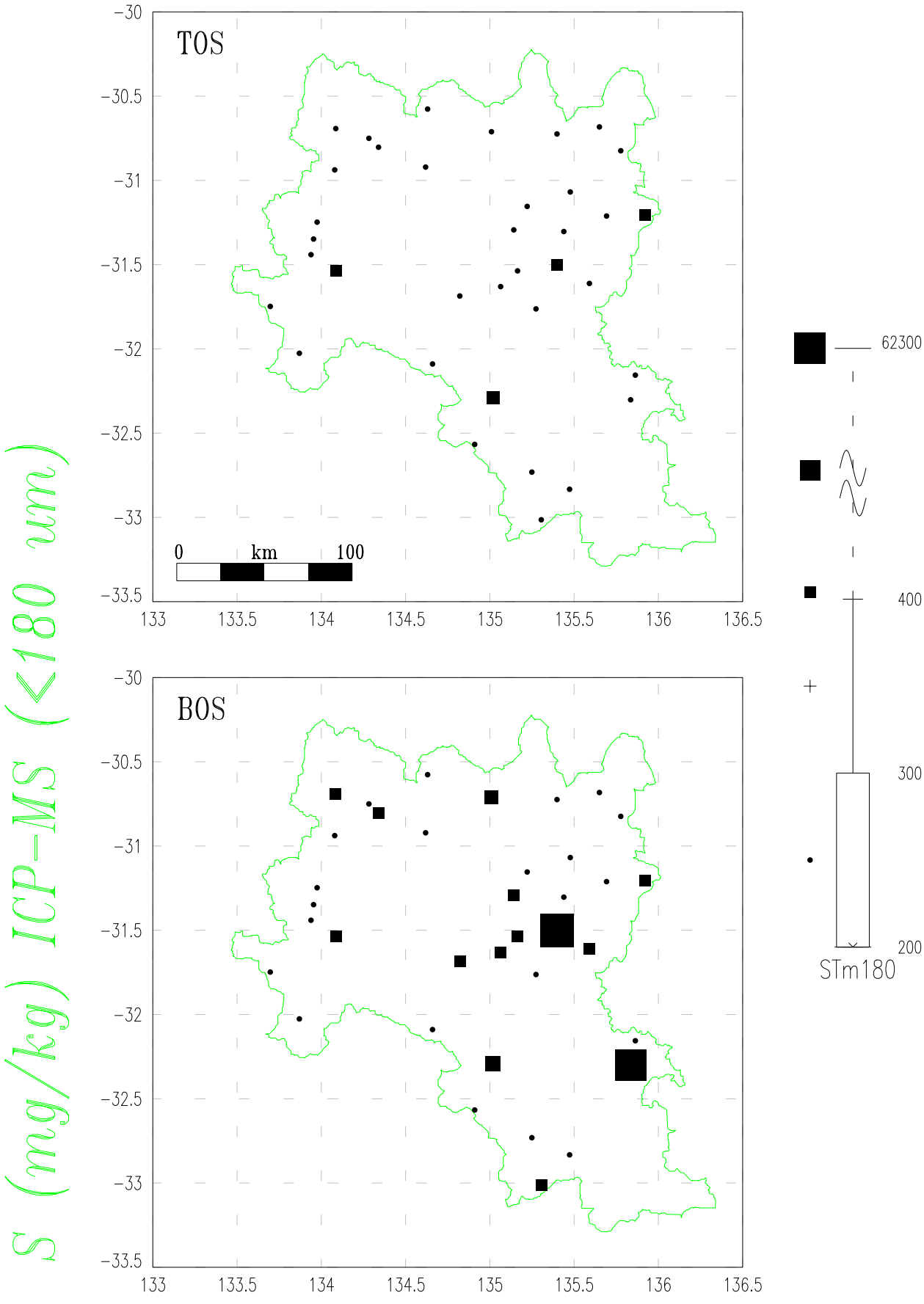




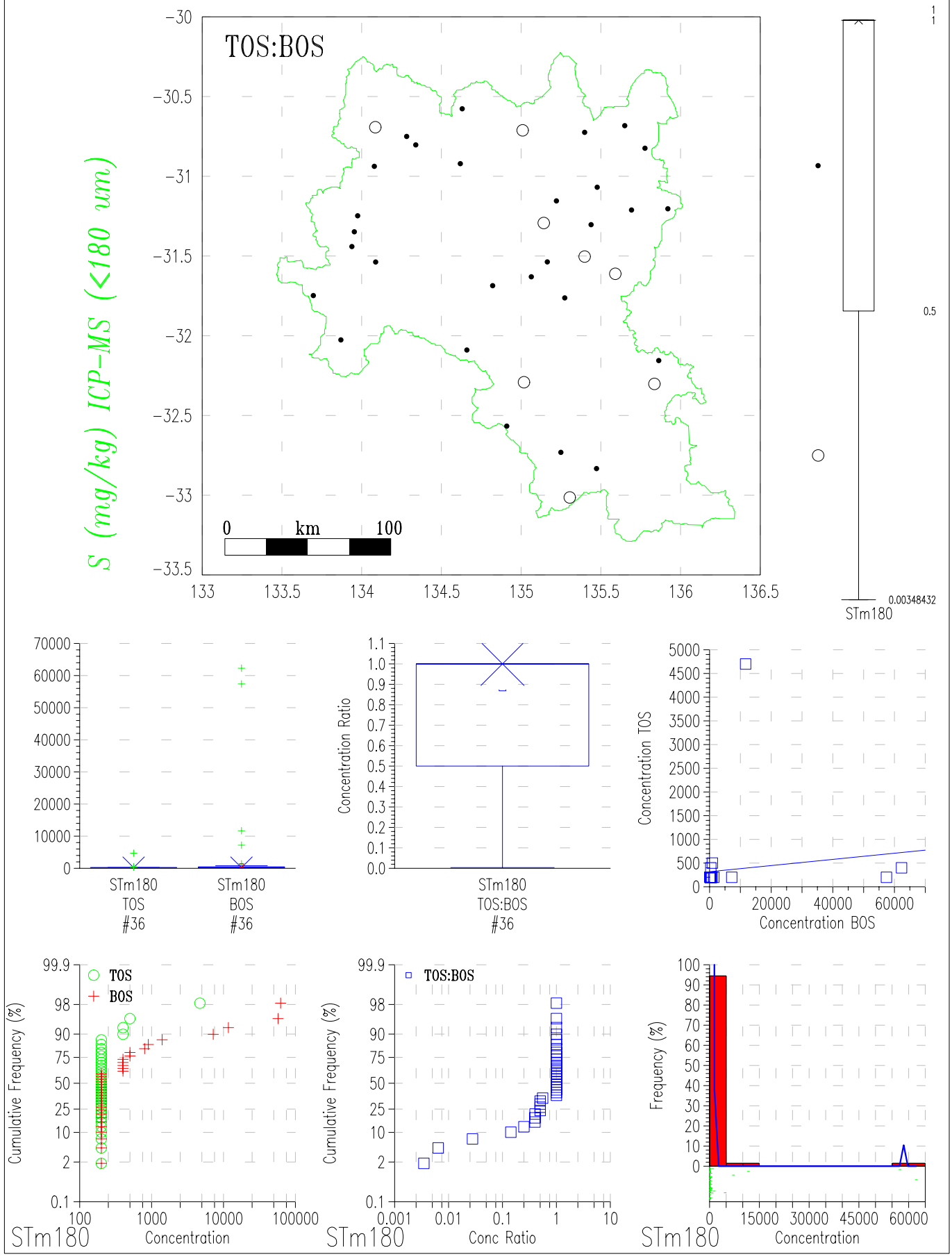


CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

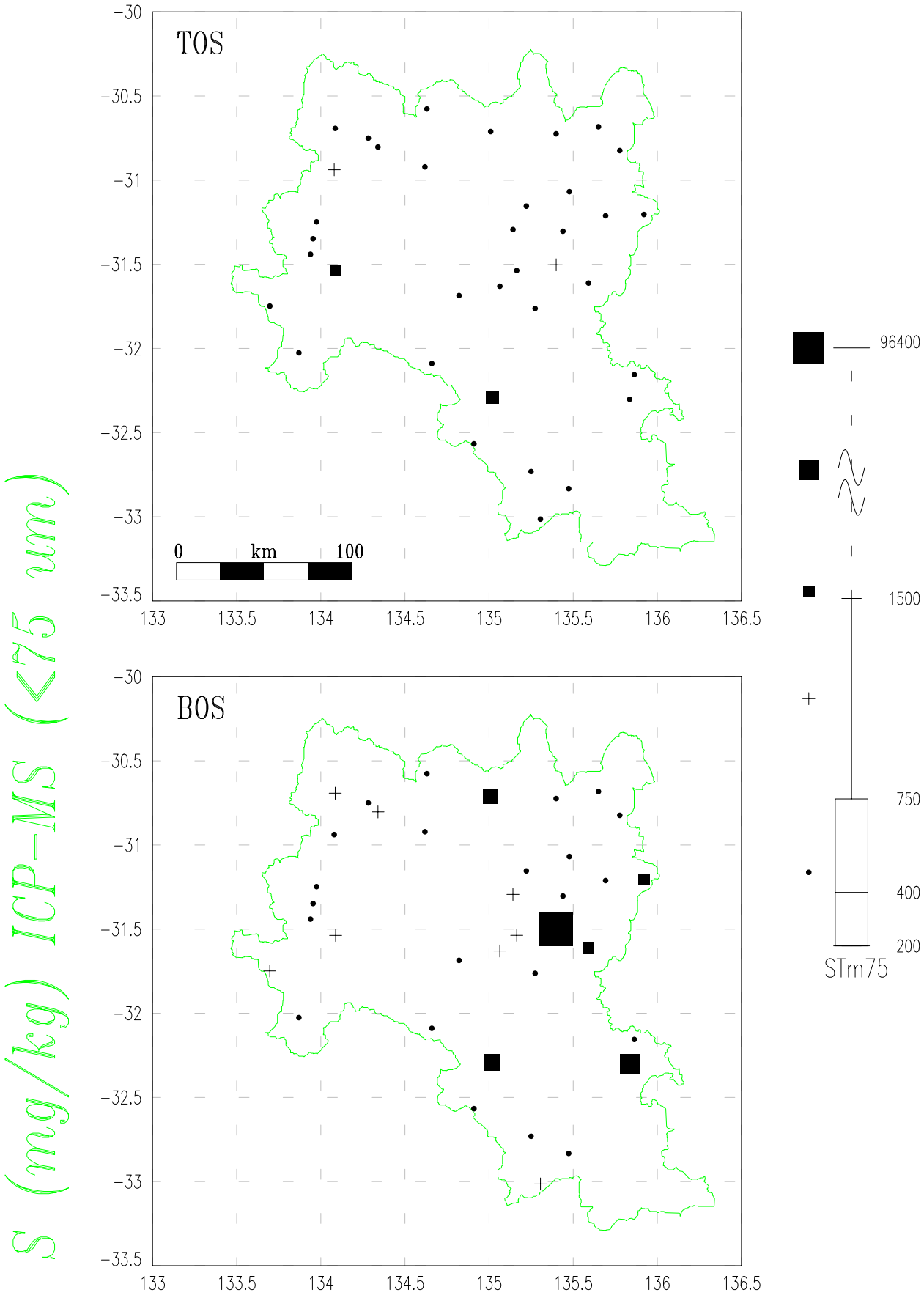


CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)



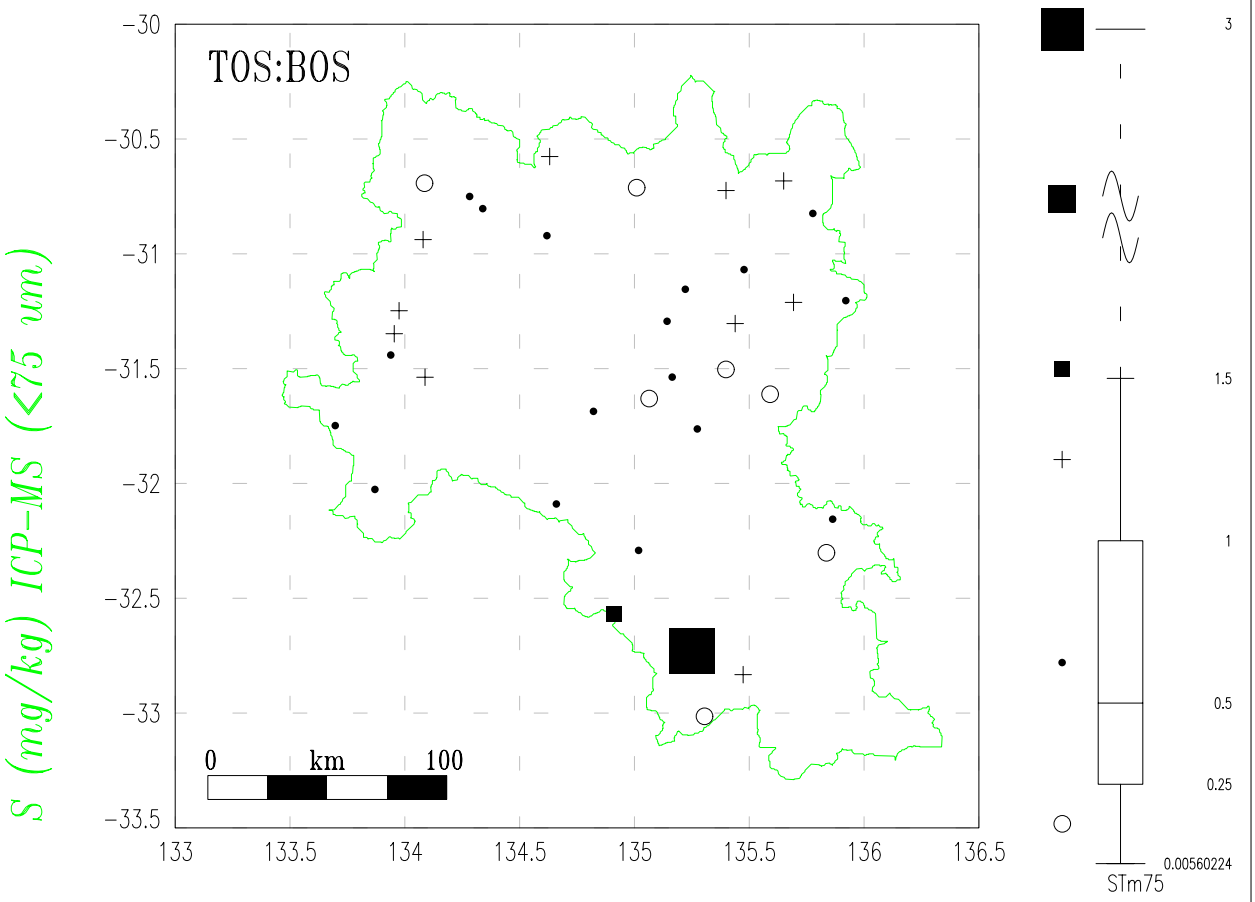
GAWLER GEOCHEMICAL SURVEY

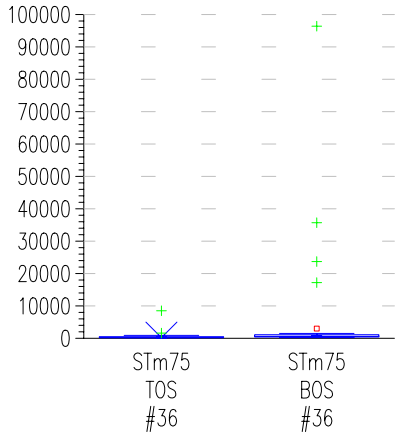
Top & Bottom Outlet Sediments (TOS & BOS)

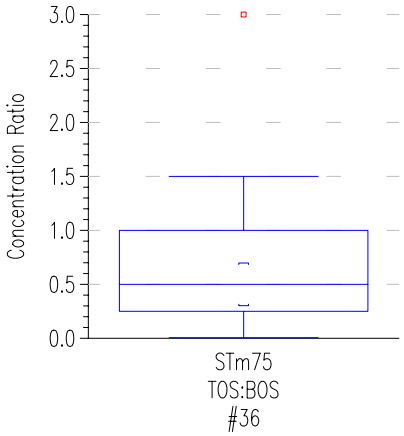


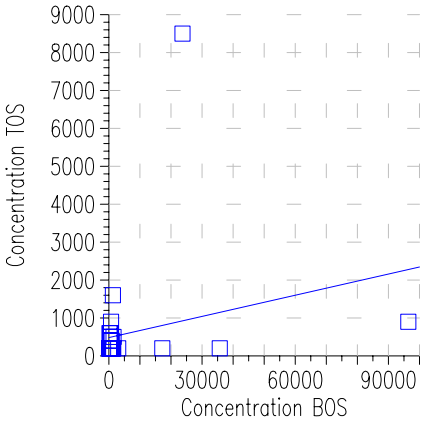
CAWLER GEOCHEMICAL SURVEY

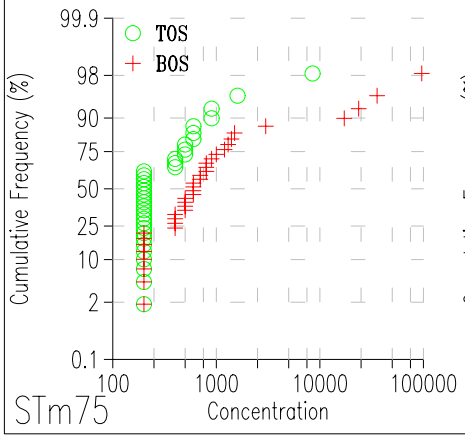
Top & Bottom Outlet Sediments (TOS & BOS)

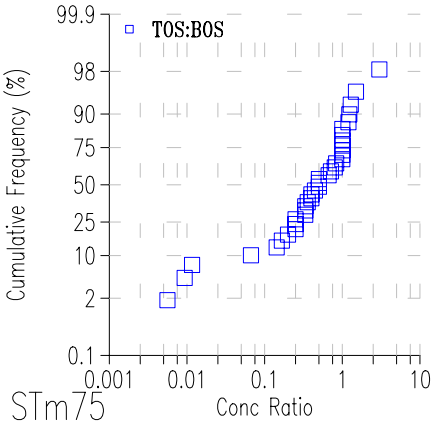


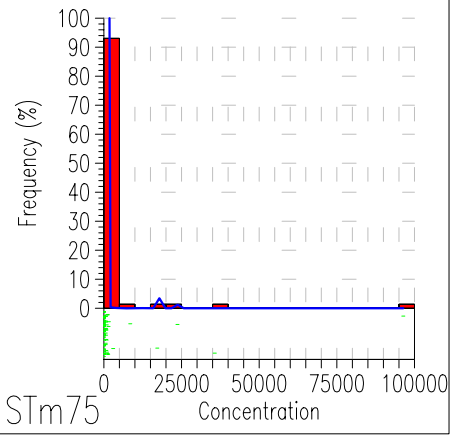






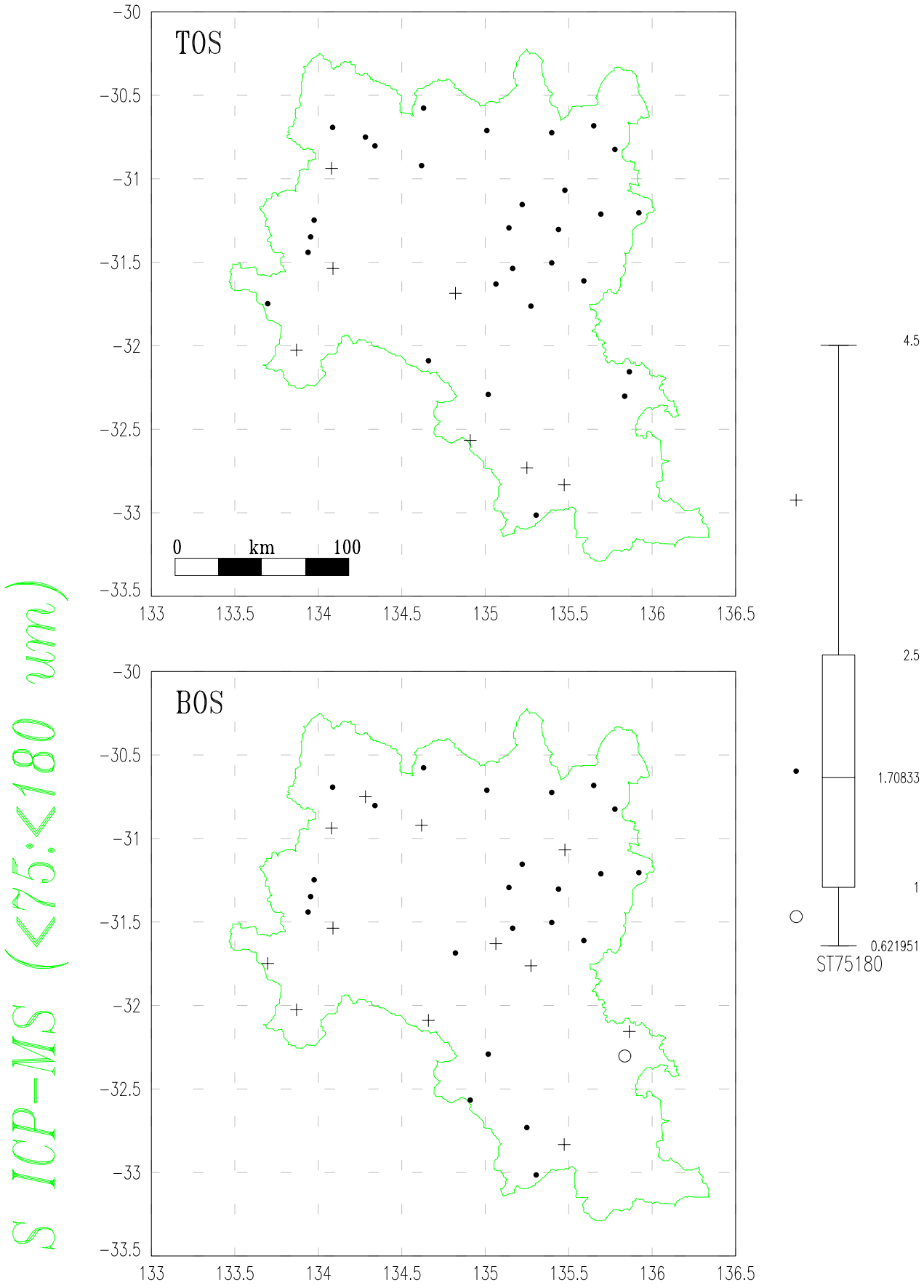






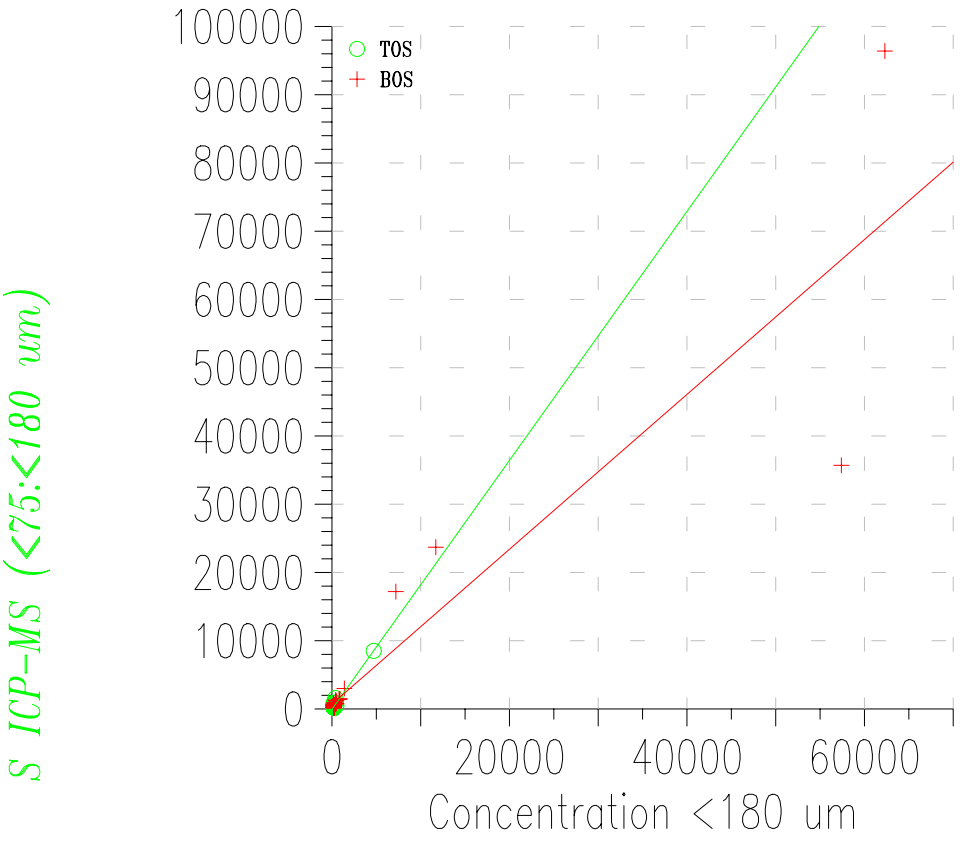
GAWLER GEOCHEMICAL SURVEY

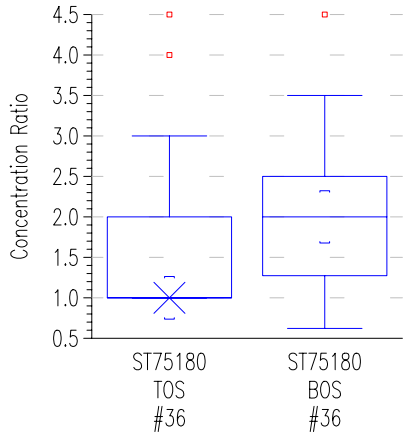
Top & Bottom Outlet Sediments (TOS & BOS)

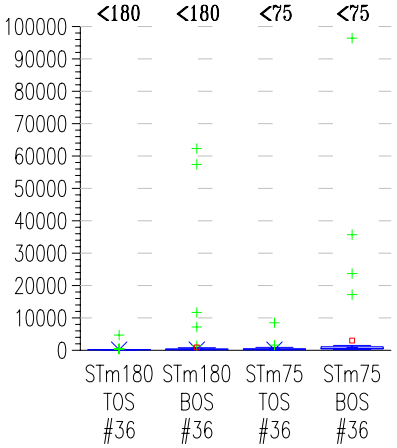


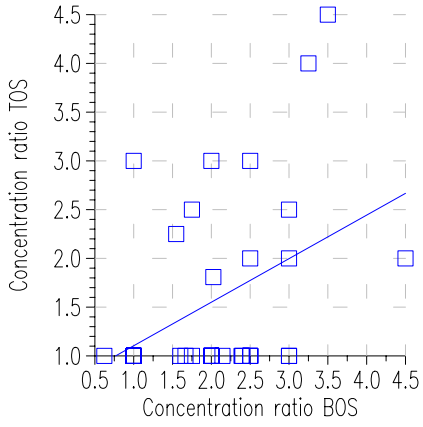
S ICP-MS (<75:<180 um)

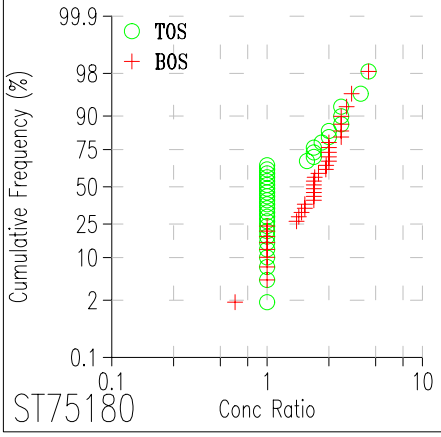
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

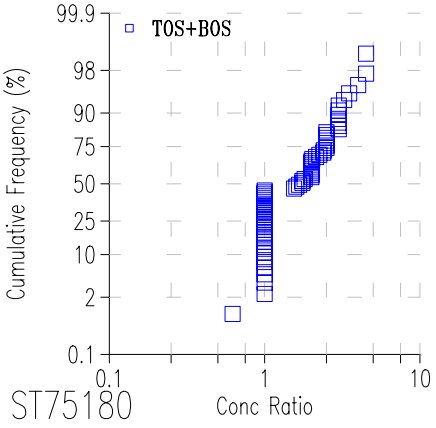


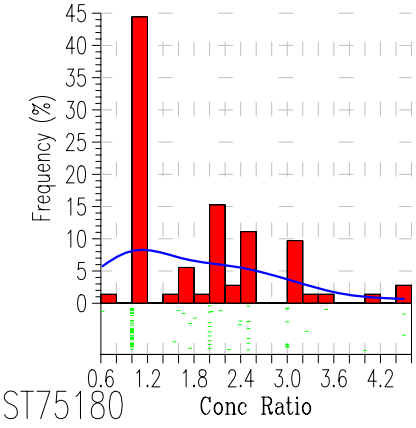






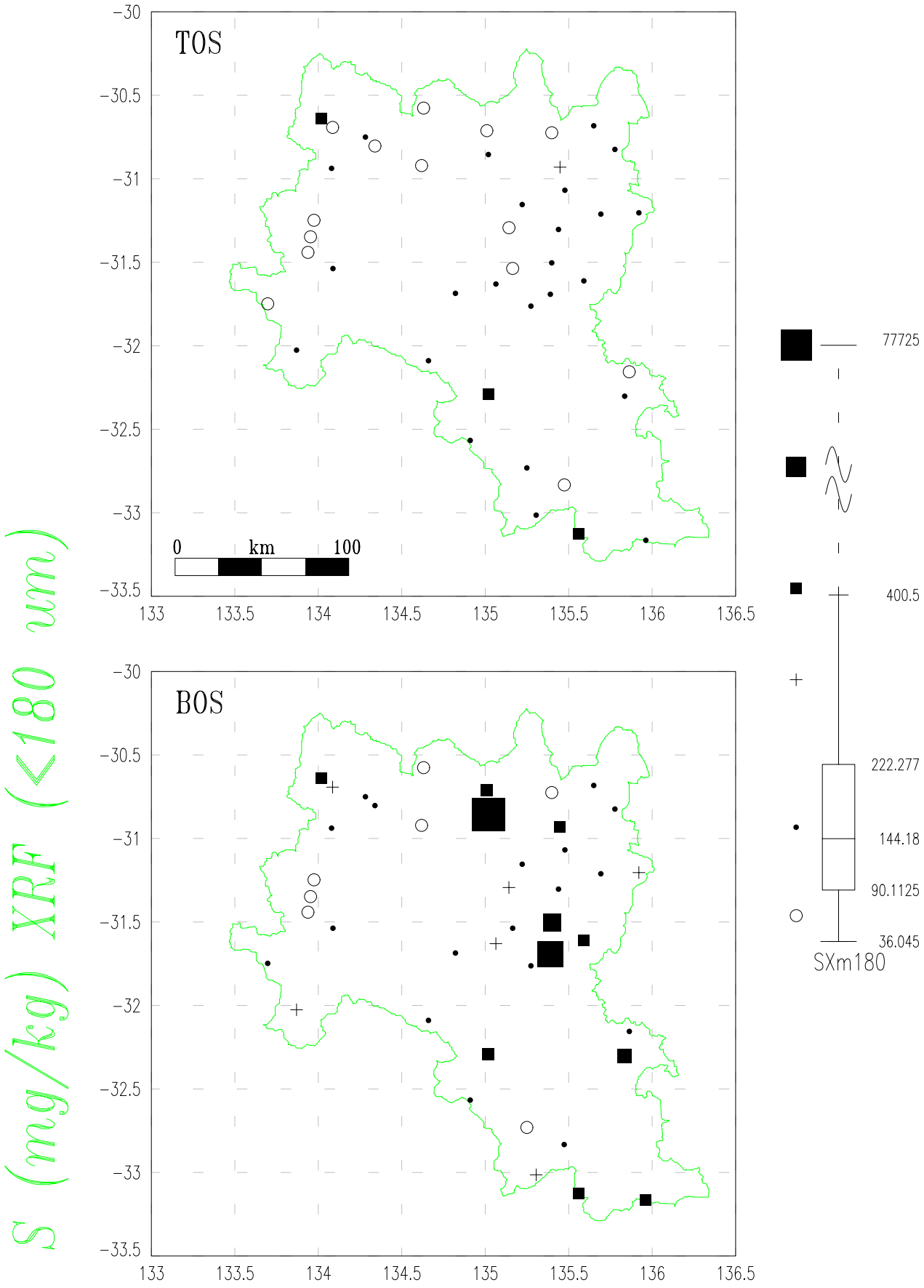




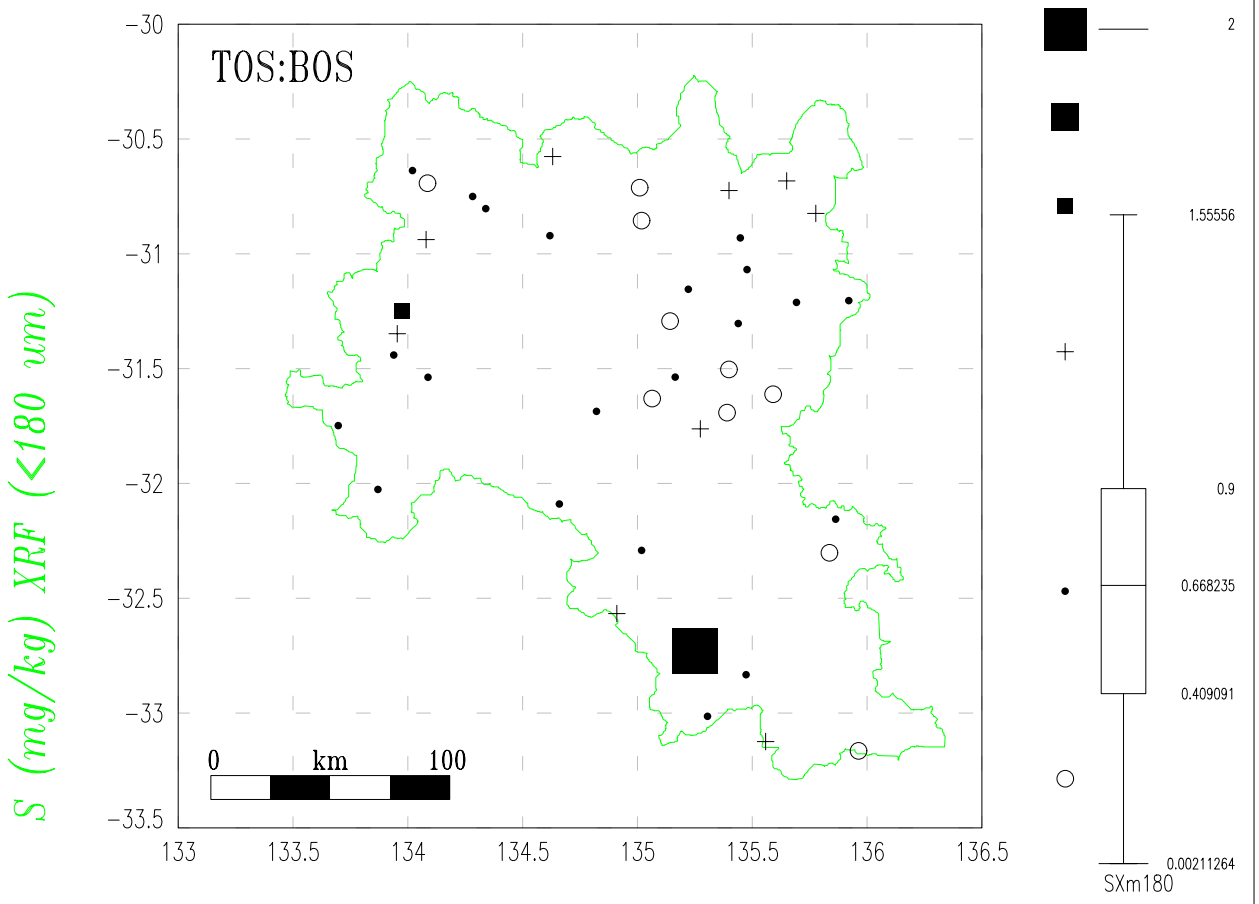


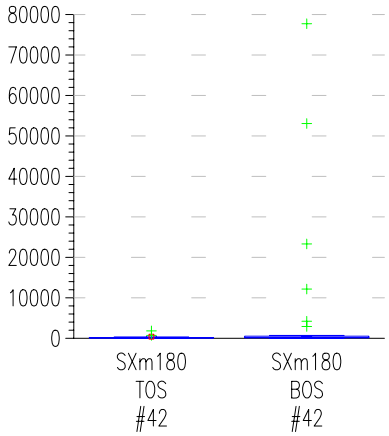
GAWLER GEOCHEMICAL SURVEY

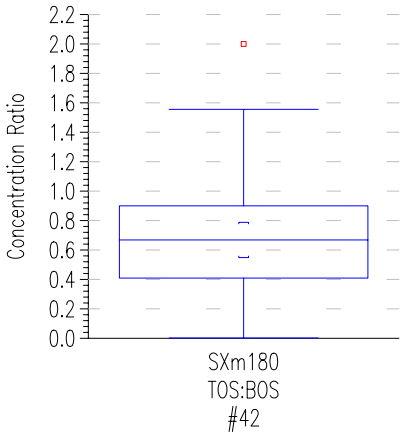
Top & Bottom Outlet Sediments (TOS & BOS)

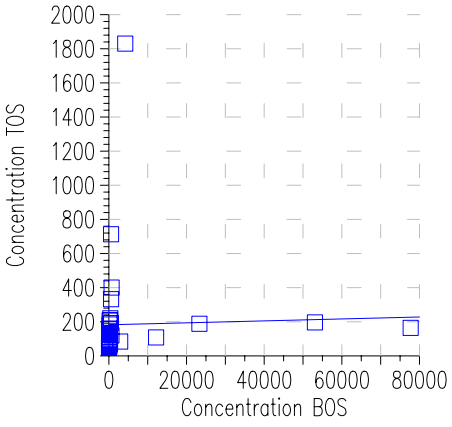


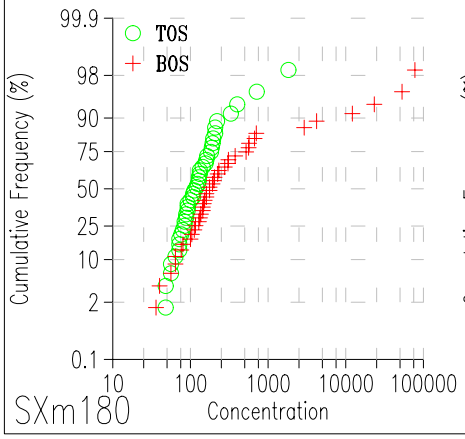
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

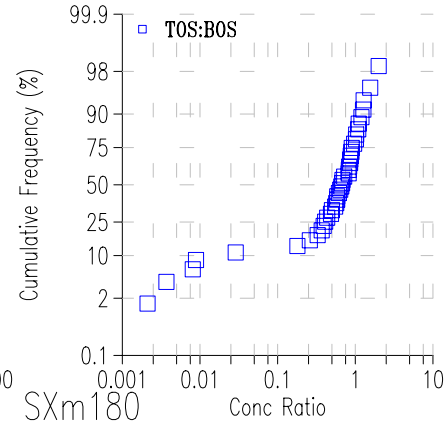


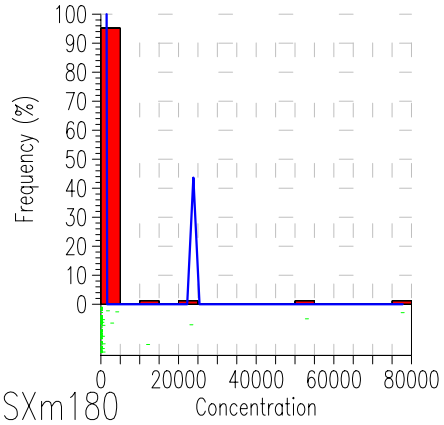






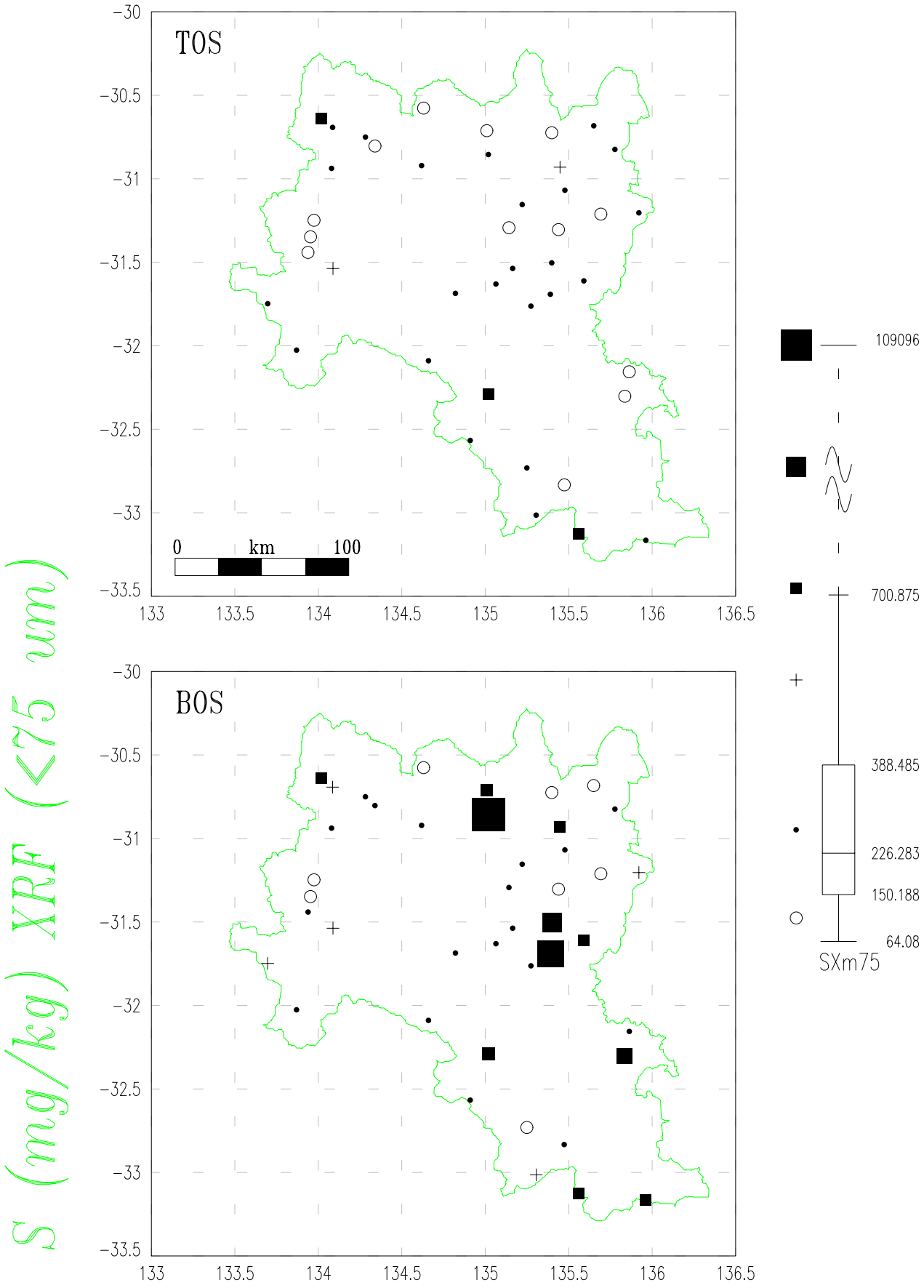






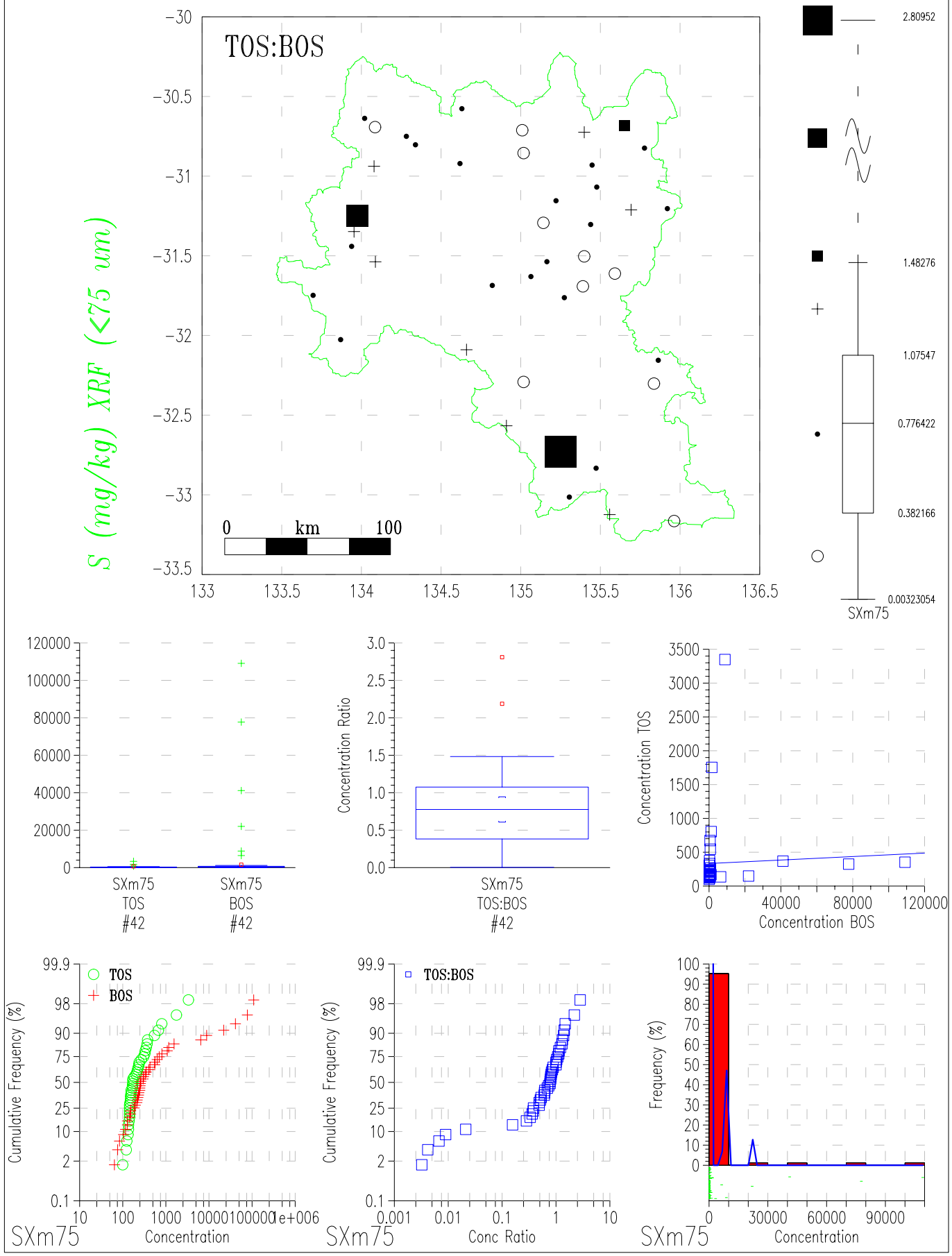
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



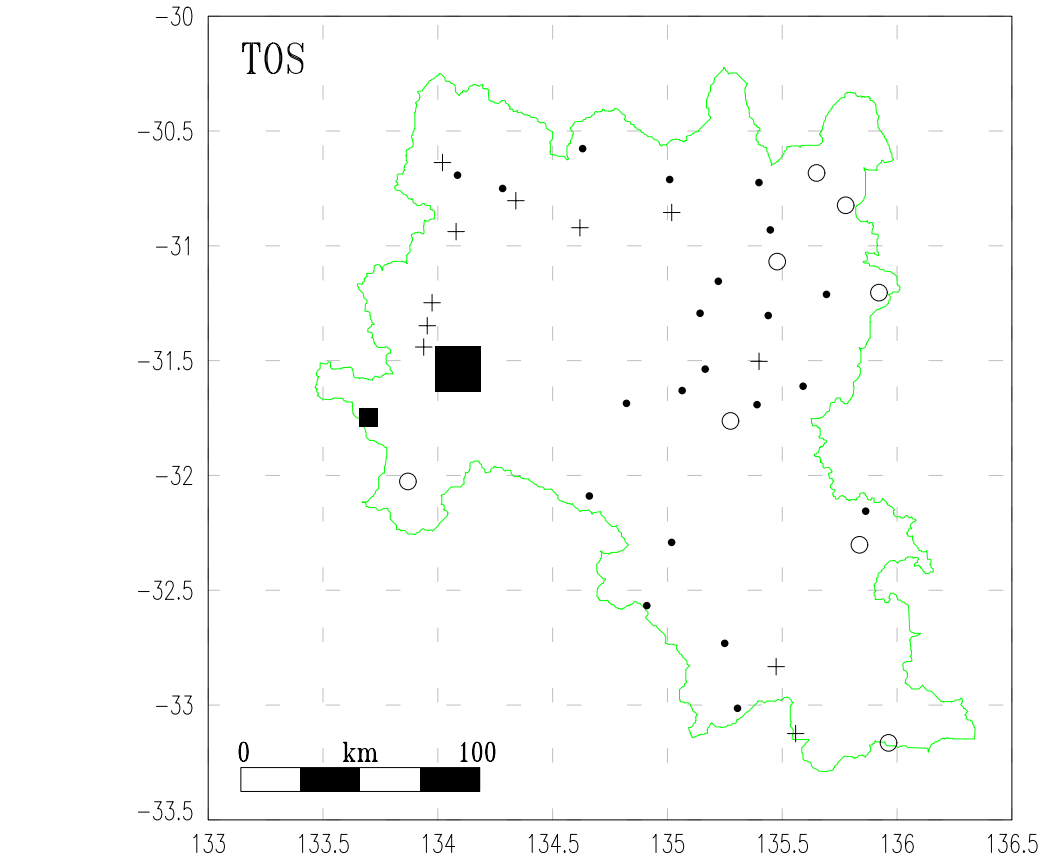
S (mg/kg) XRF (<75 um)

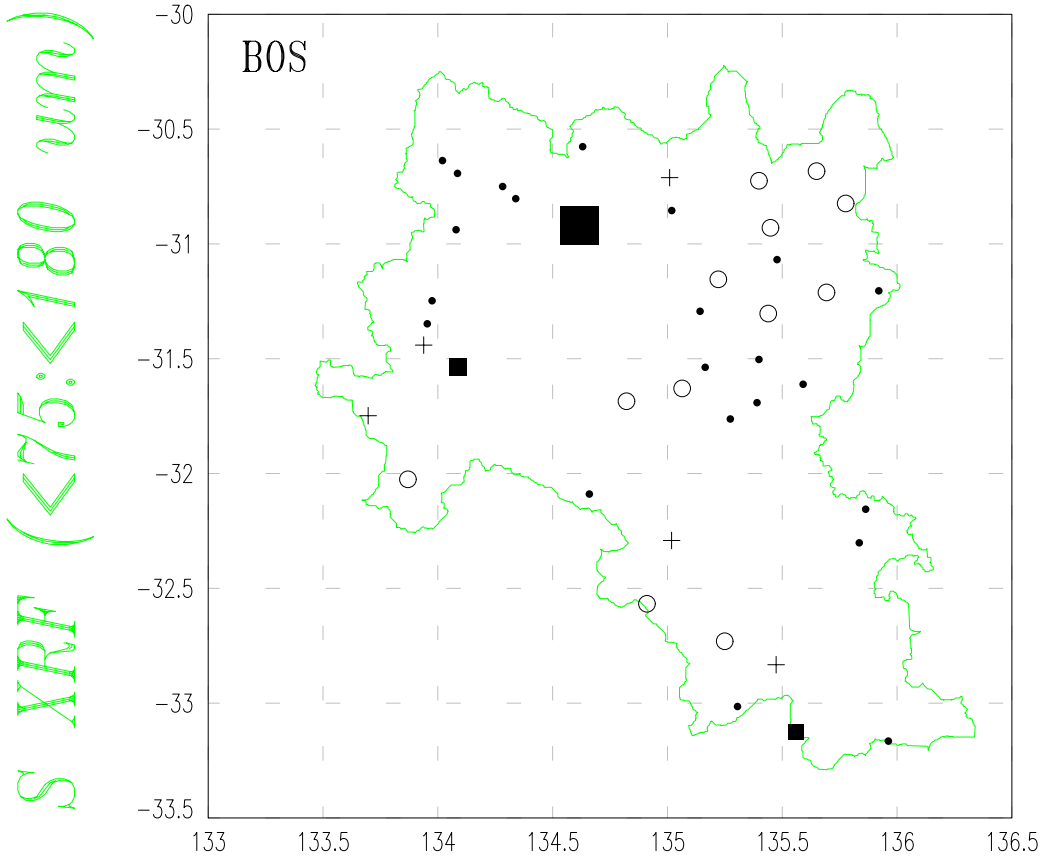
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)



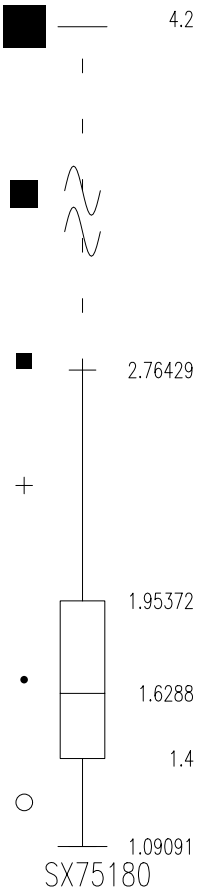
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

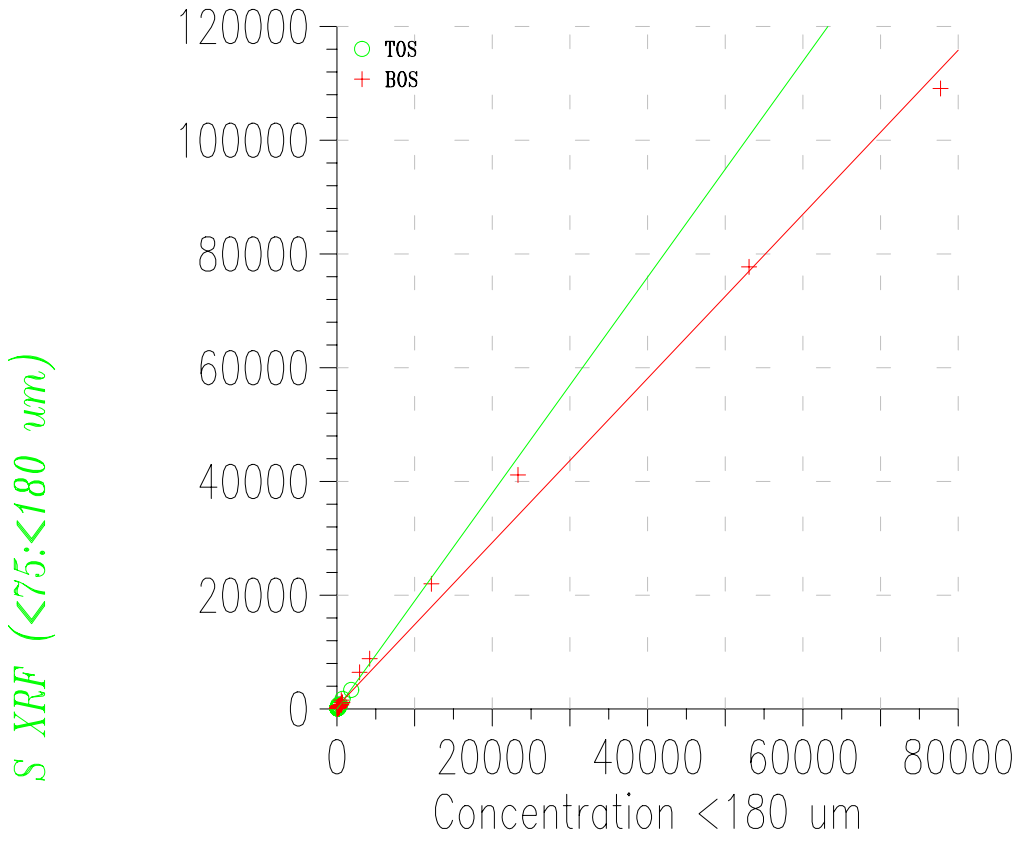


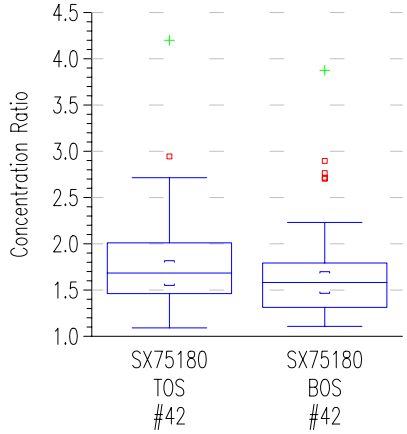


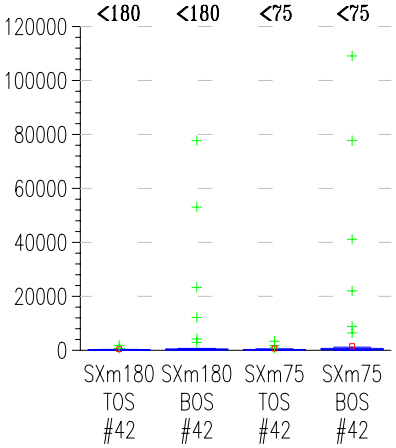
S XRF (<75:<180 um)

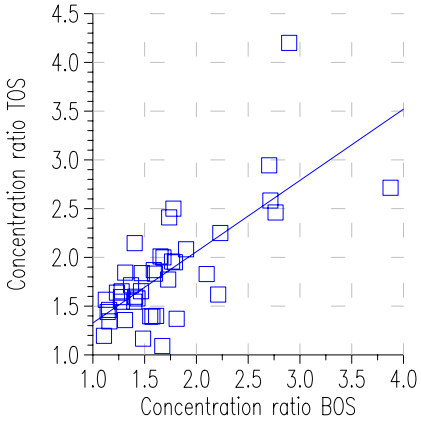


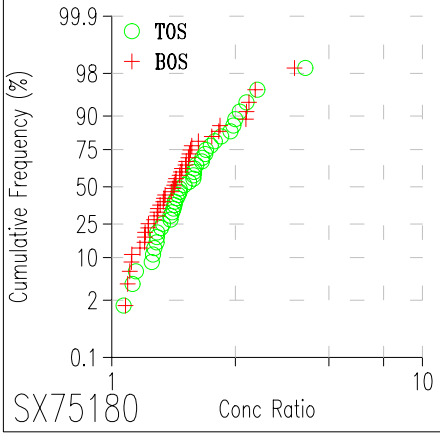
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

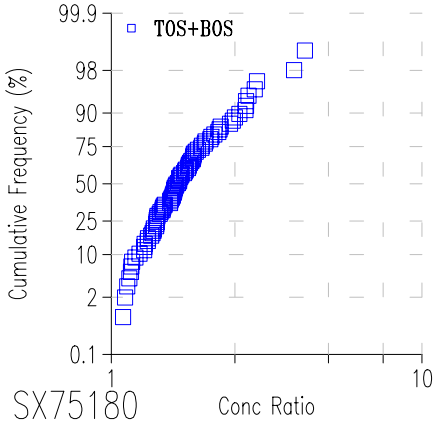


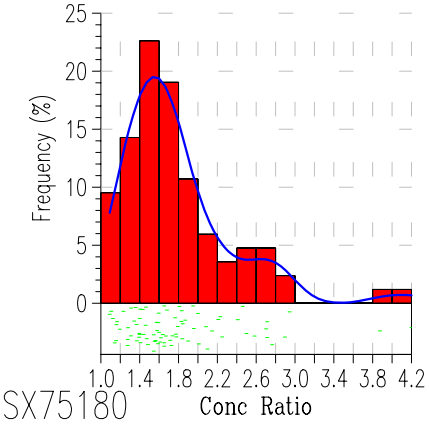






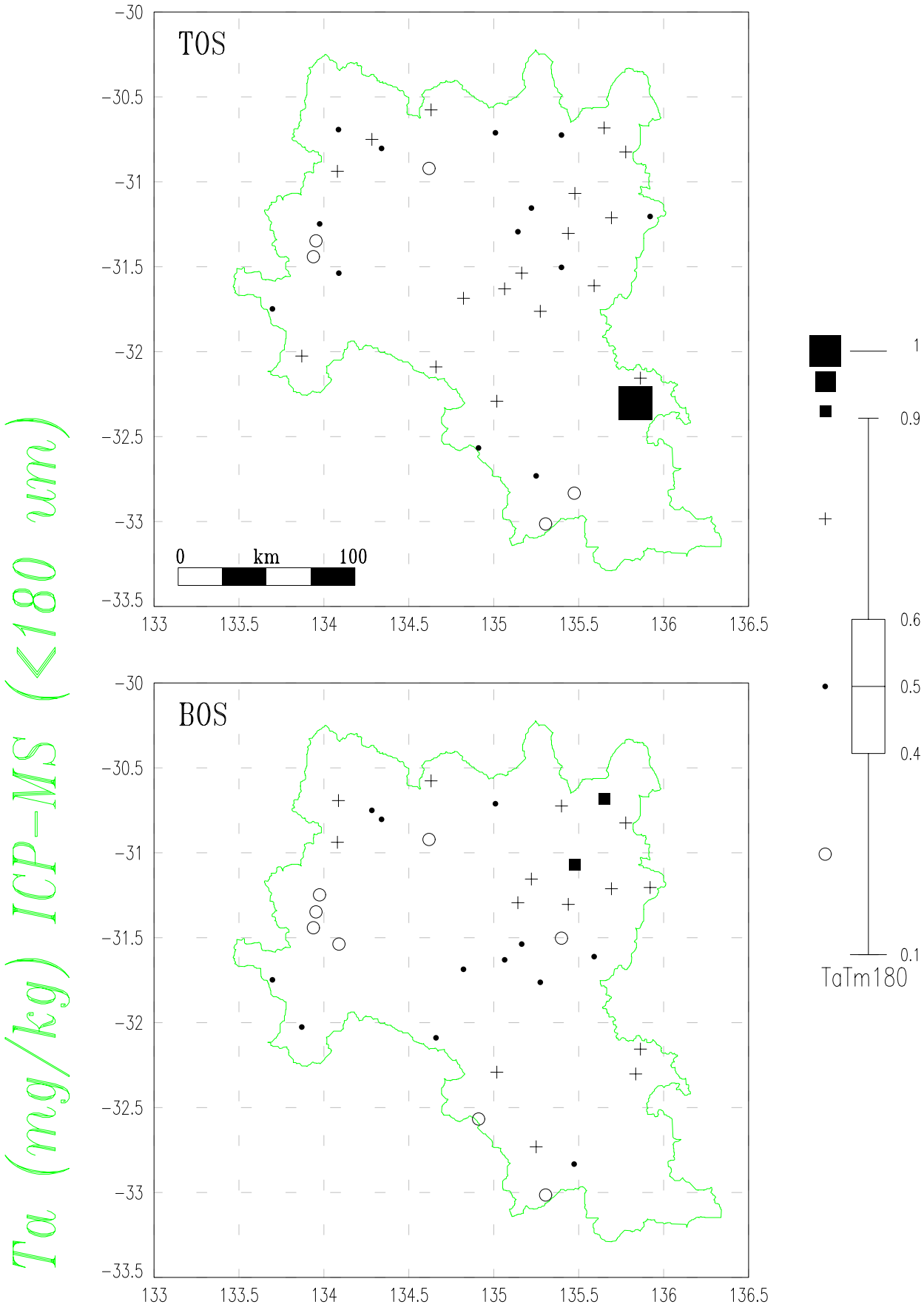






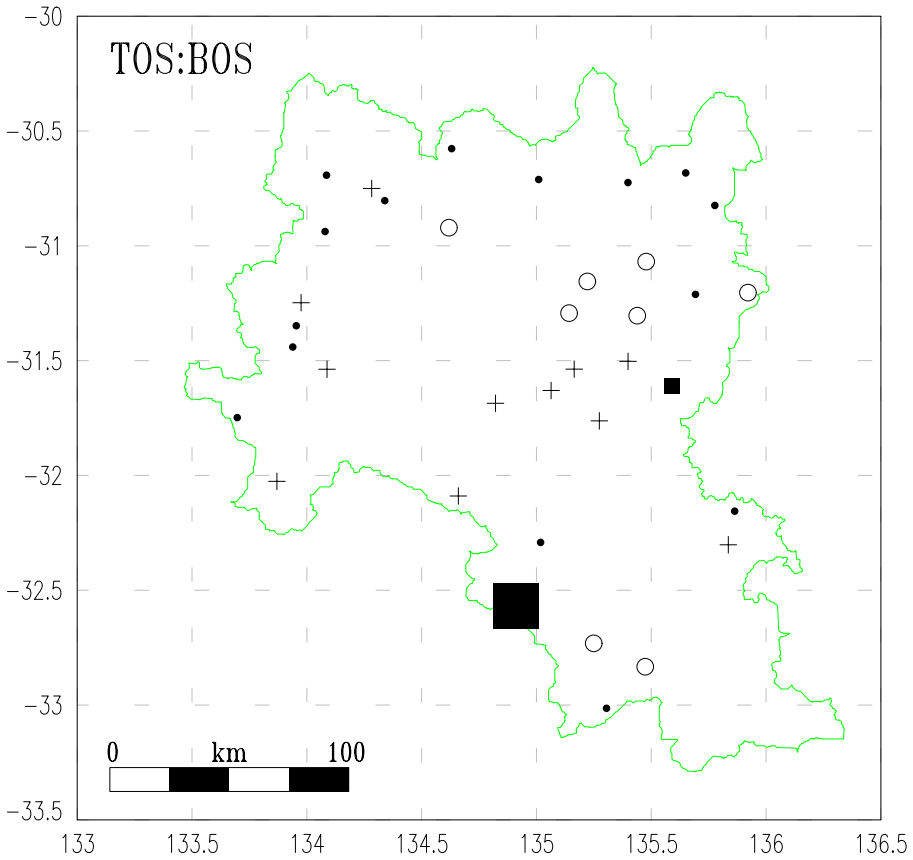
GAWLER GEOCHEMICAL SURVEY

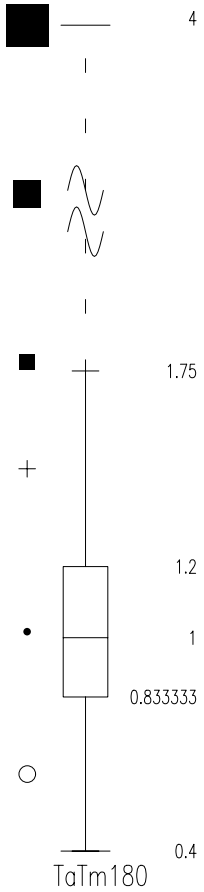
Top & Bottom Outlet Sediments (TOS & BOS)

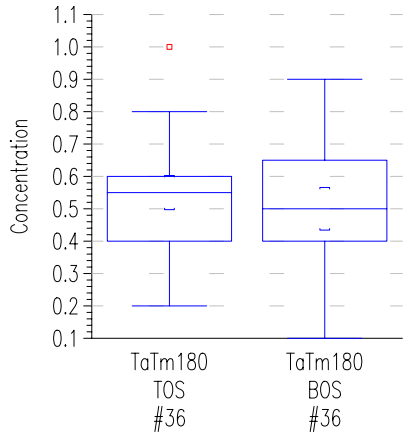


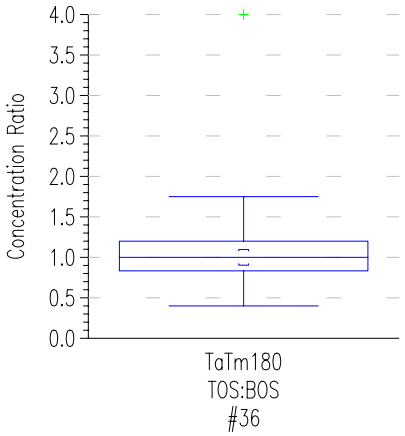
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

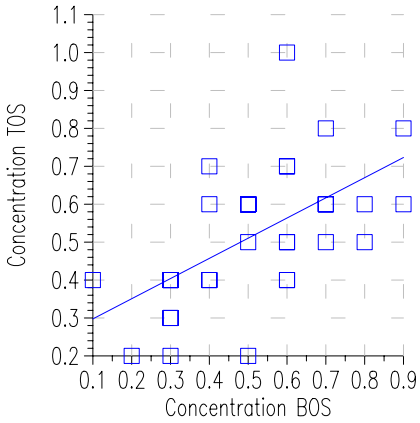
Ta (mg/kg) ICP-MS (<180 um)

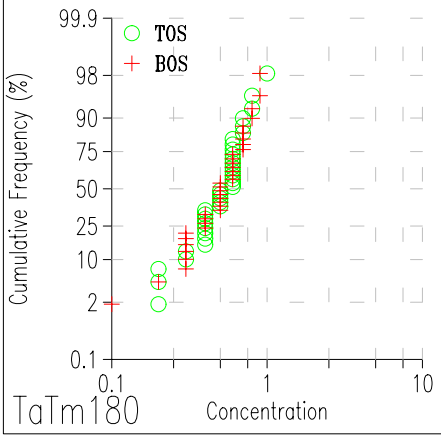


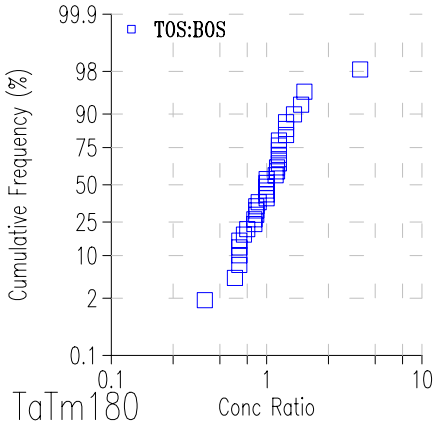


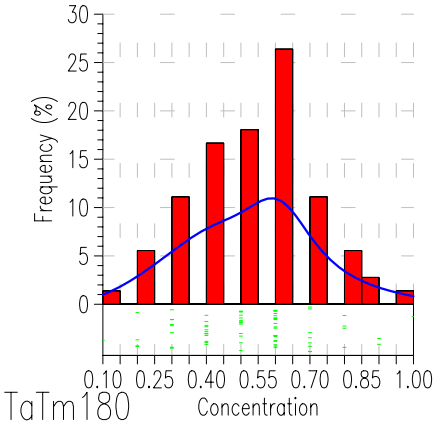




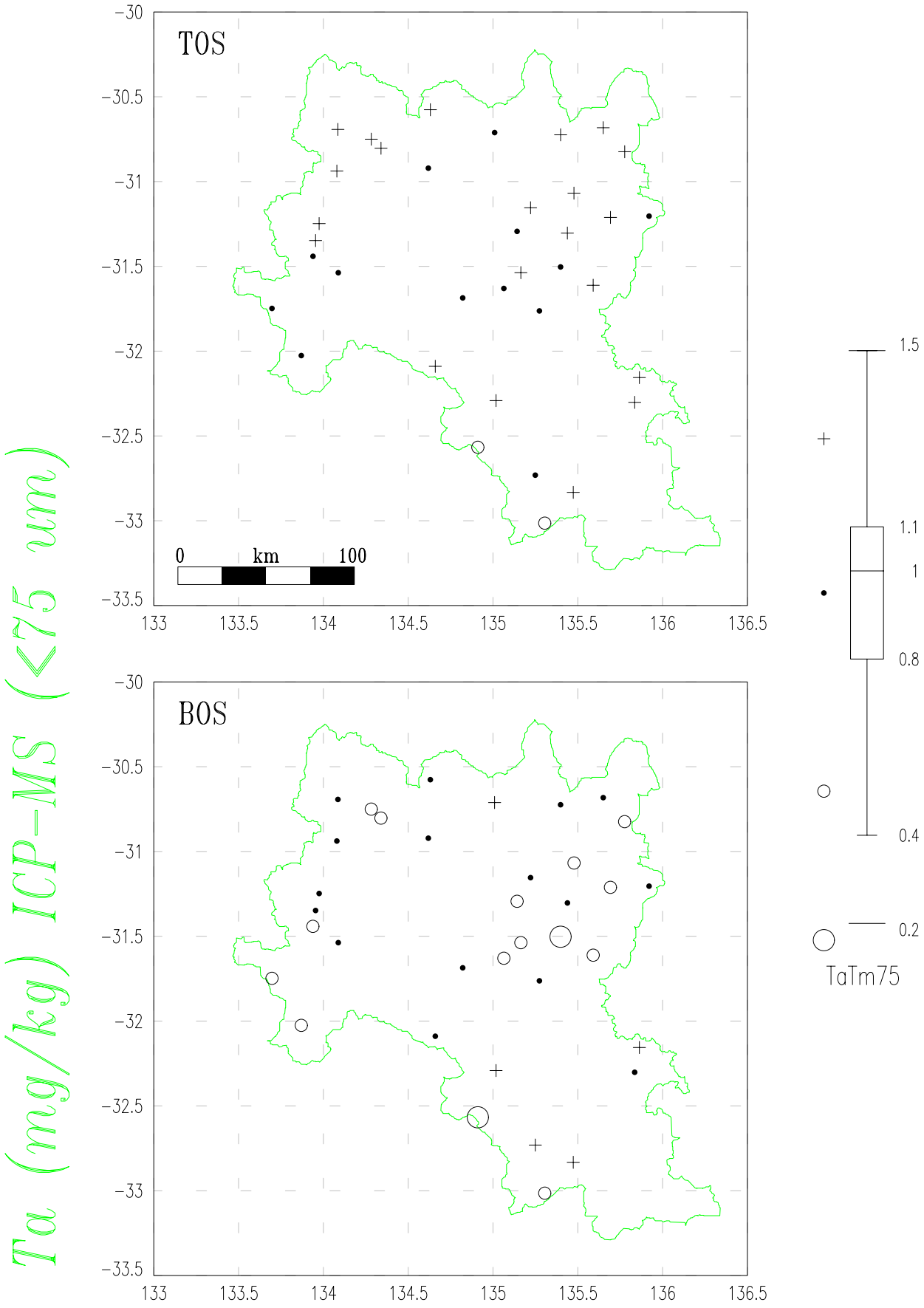




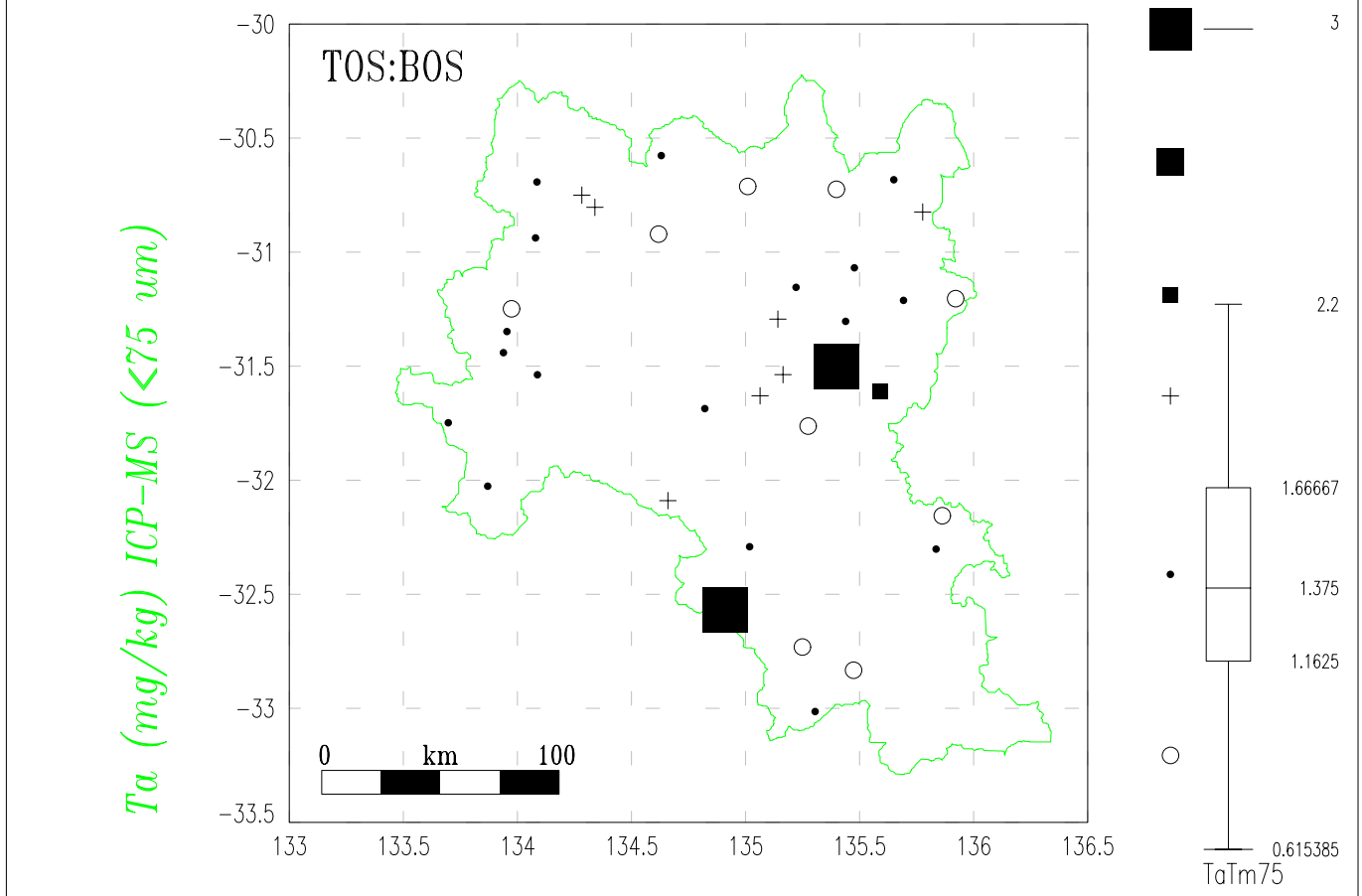


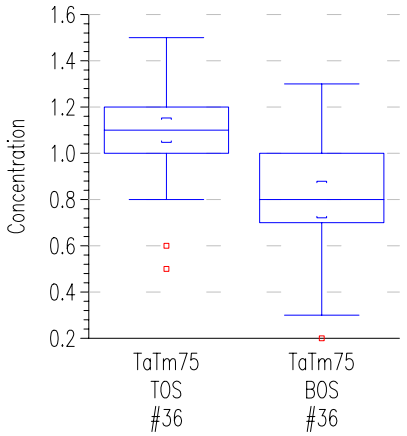


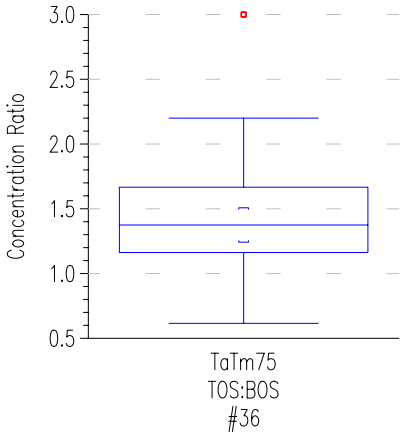
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

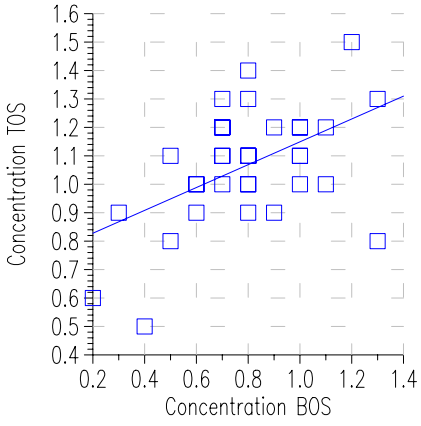


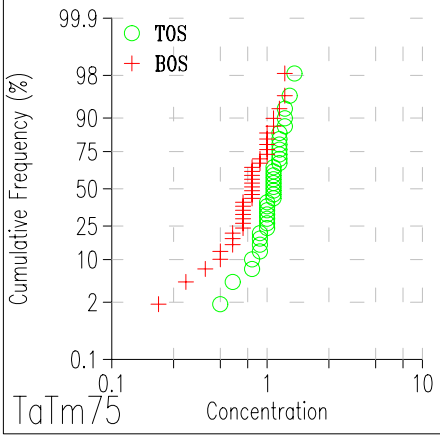
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

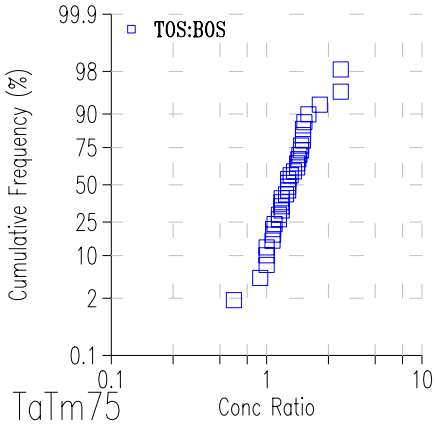


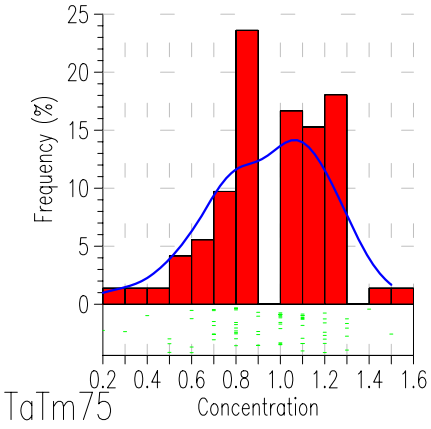






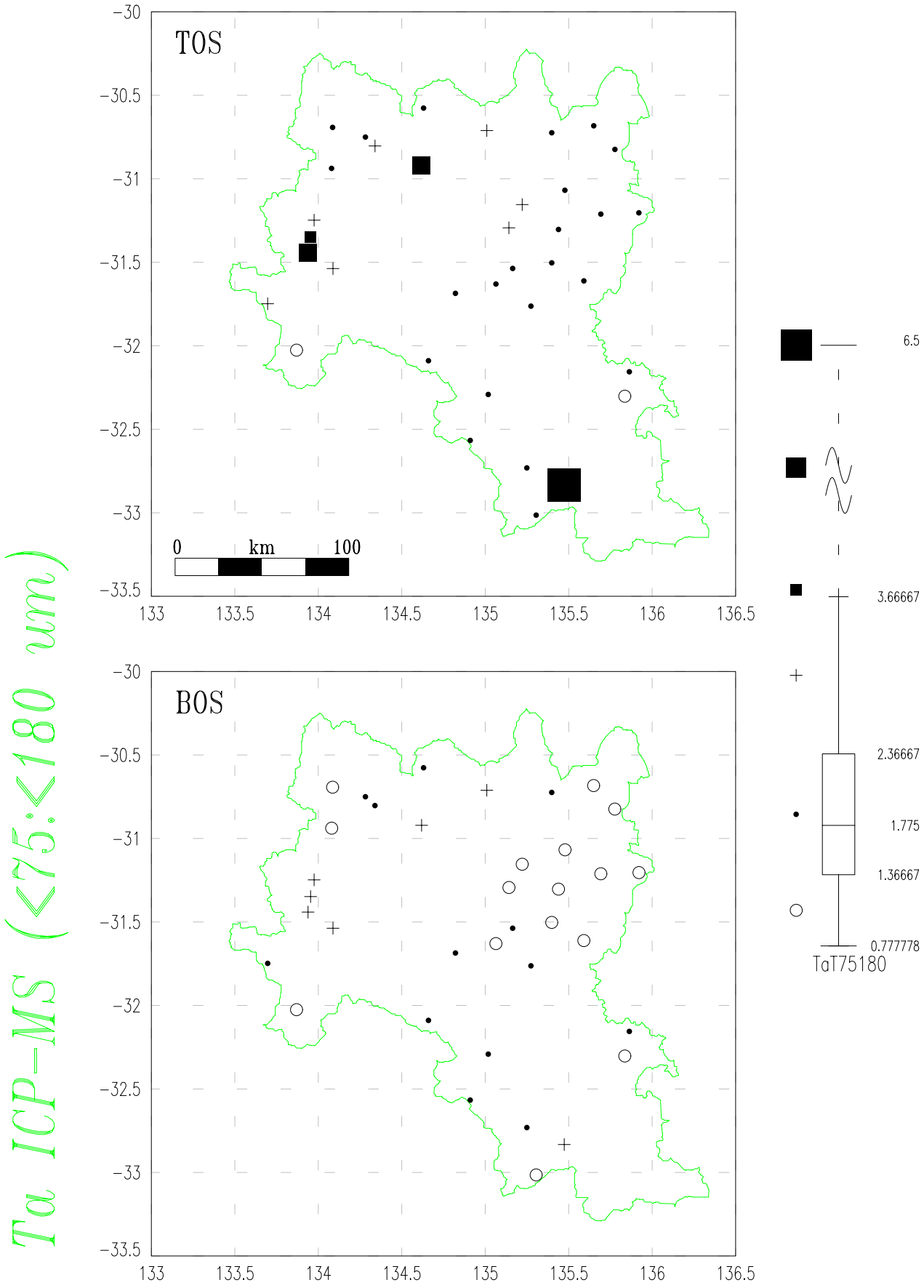






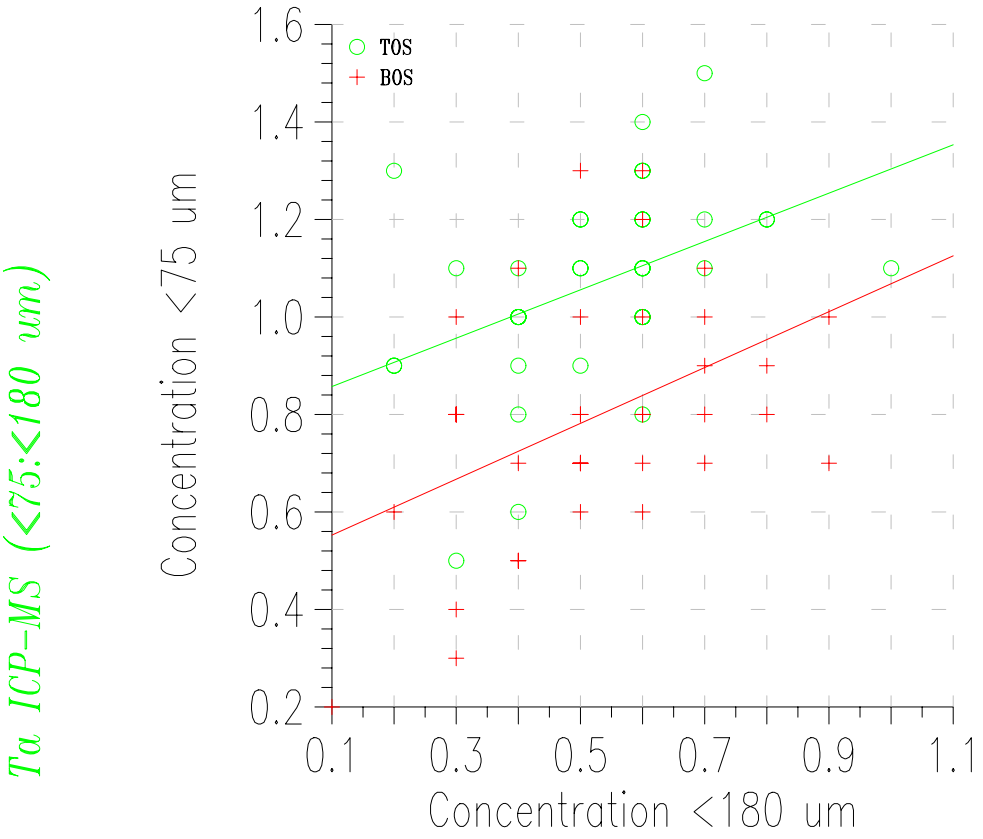
GAWLER GEOCHEMICAL SURVEY

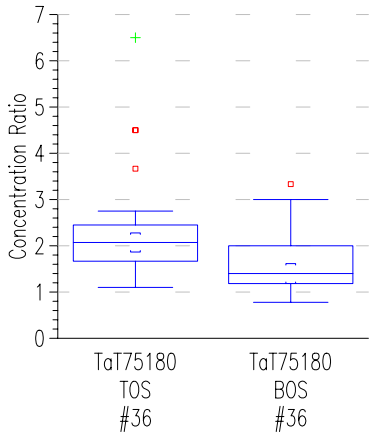
Top & Bottom Outlet Sediments (TOS & BOS)

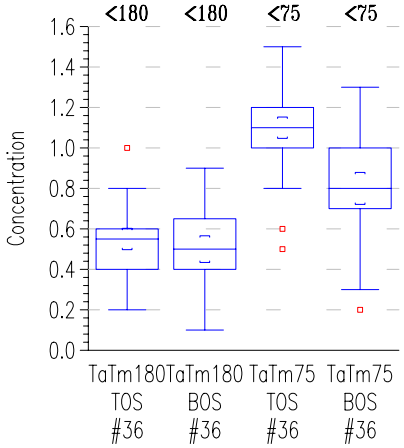


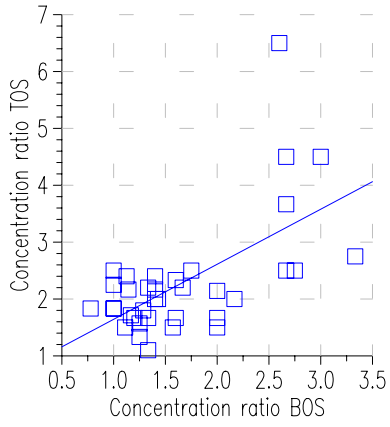
Ta ICP-MS (<75:<180 um)

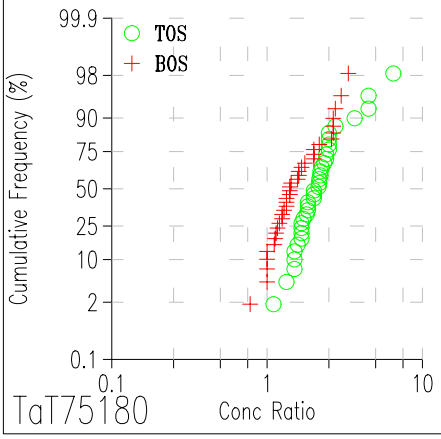
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

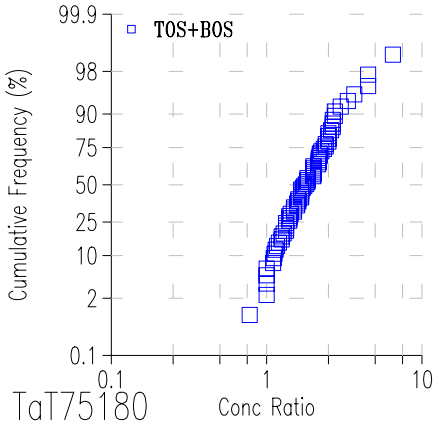


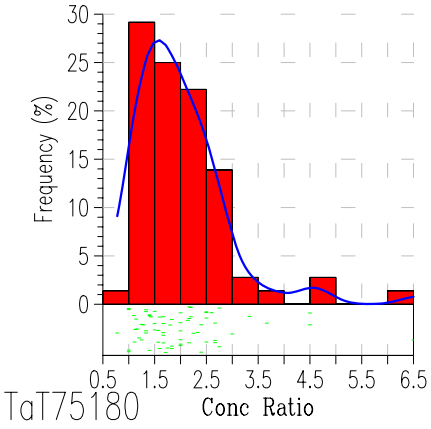






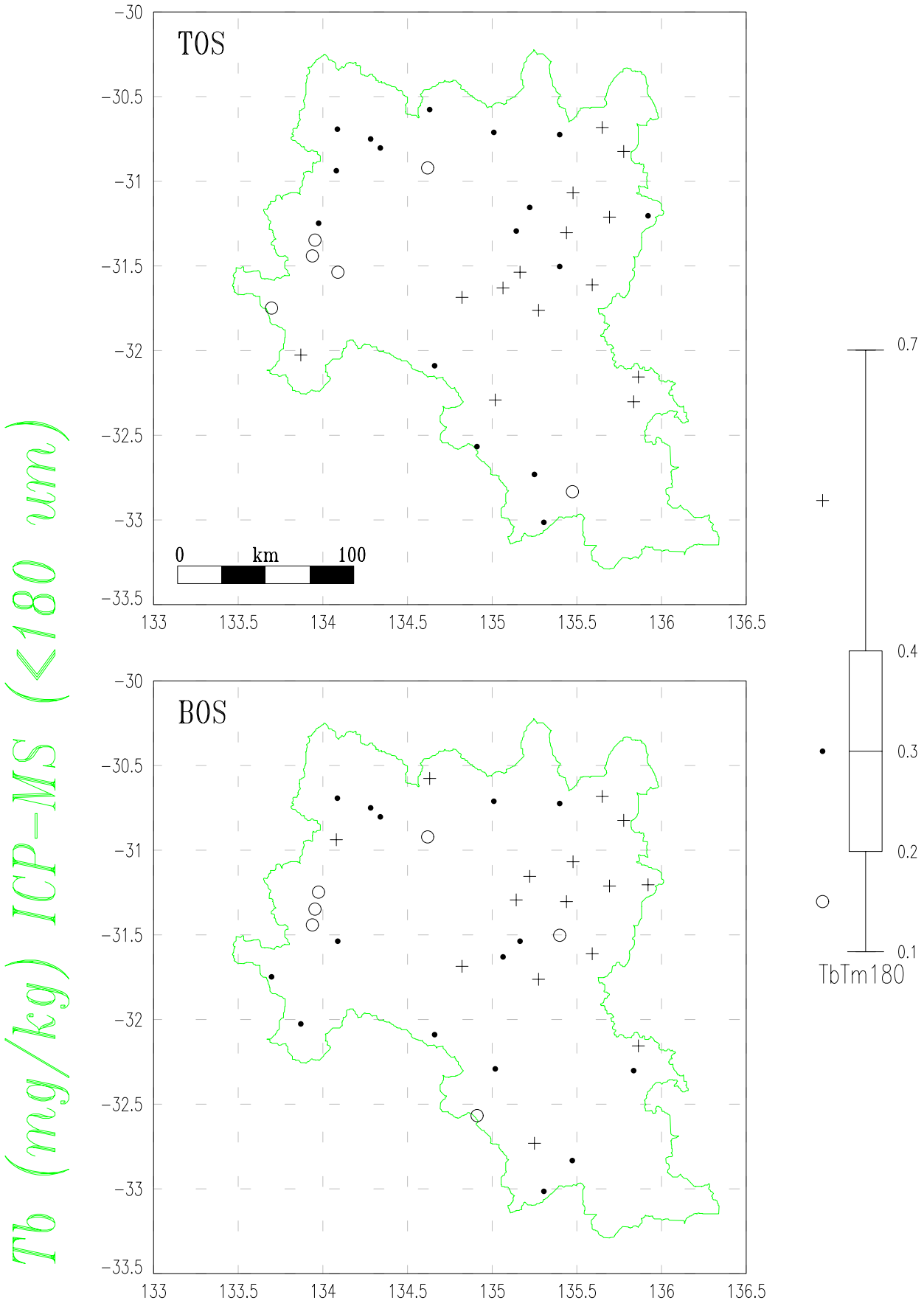




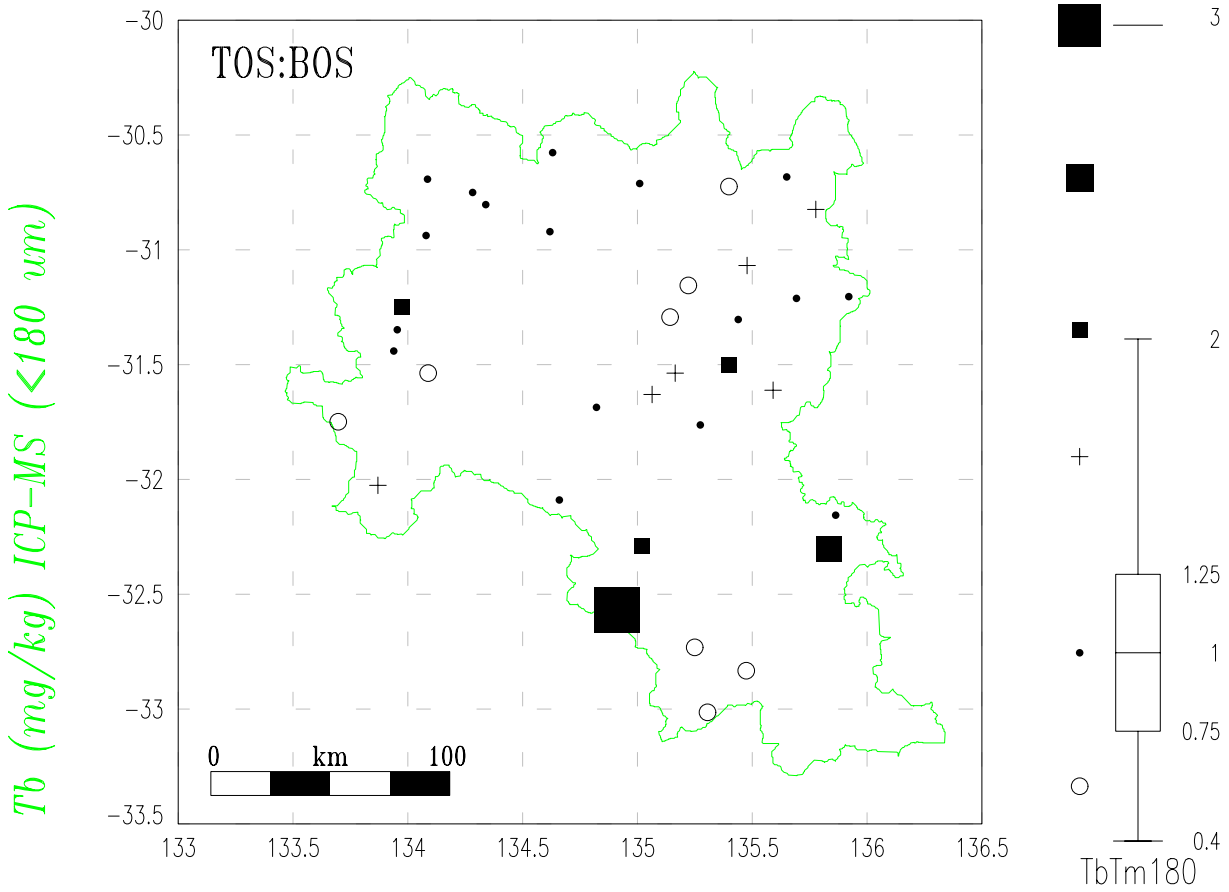


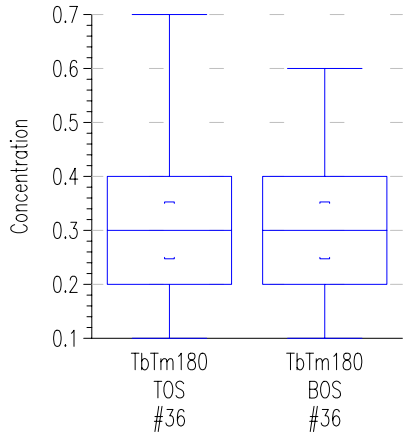
GAWLER GEOCHEMICAL SURVEY

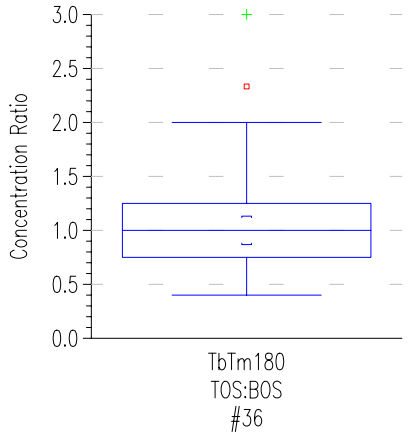
Top & Bottom Outlet Sediments (TOS & BOS)

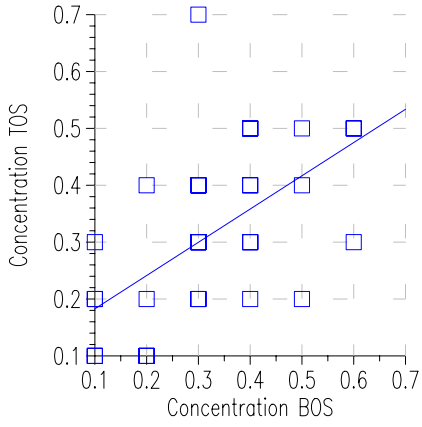


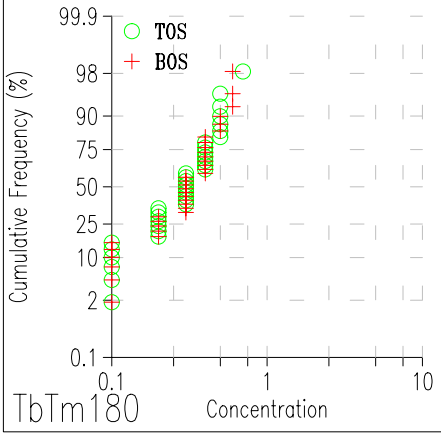
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

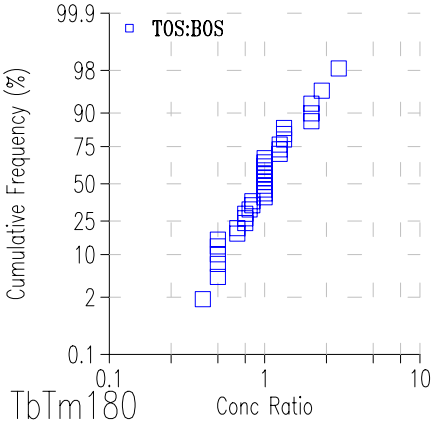


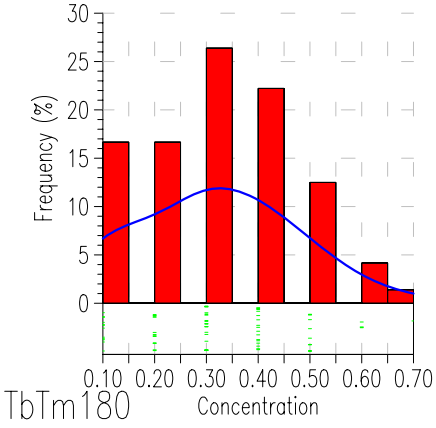






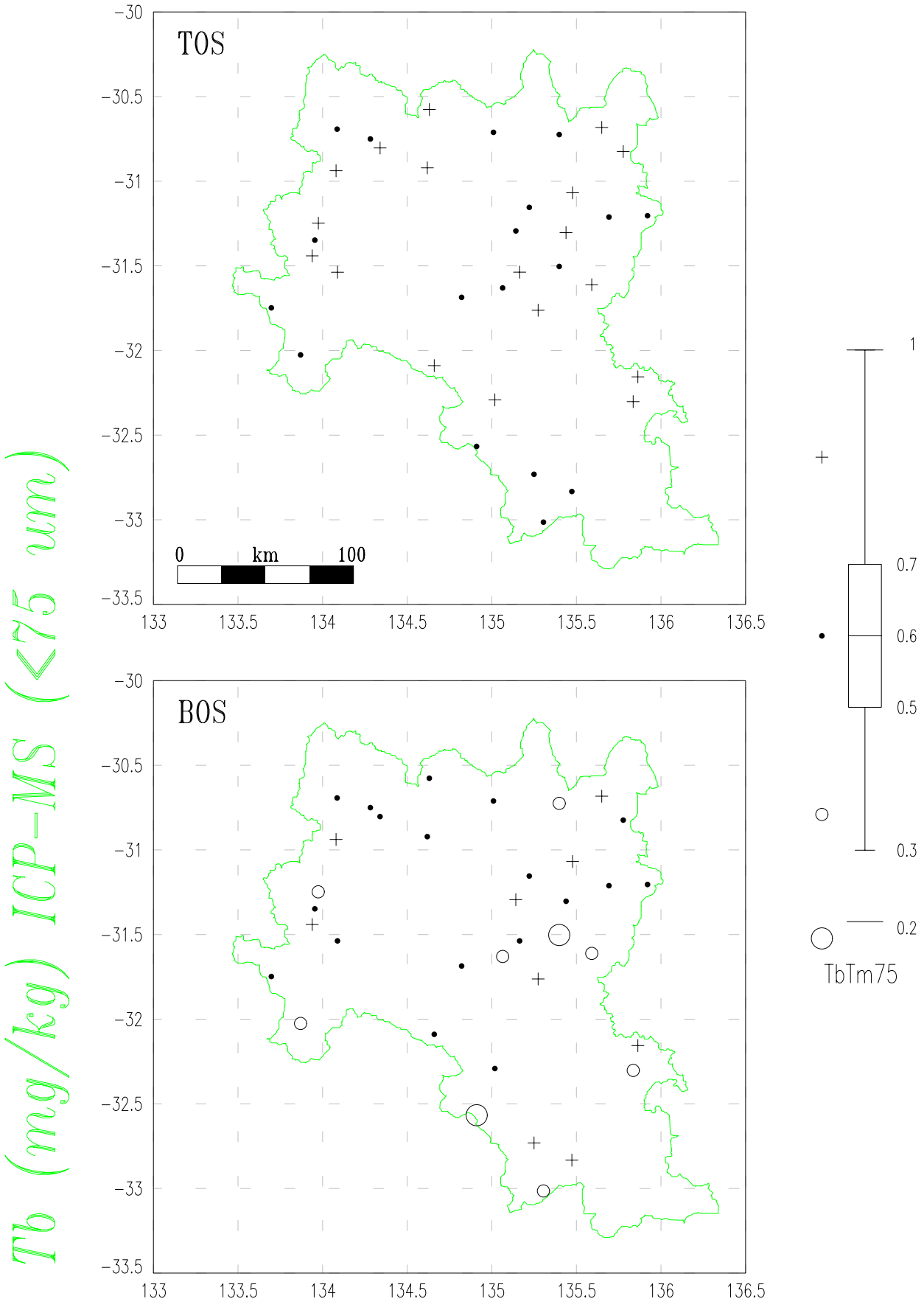




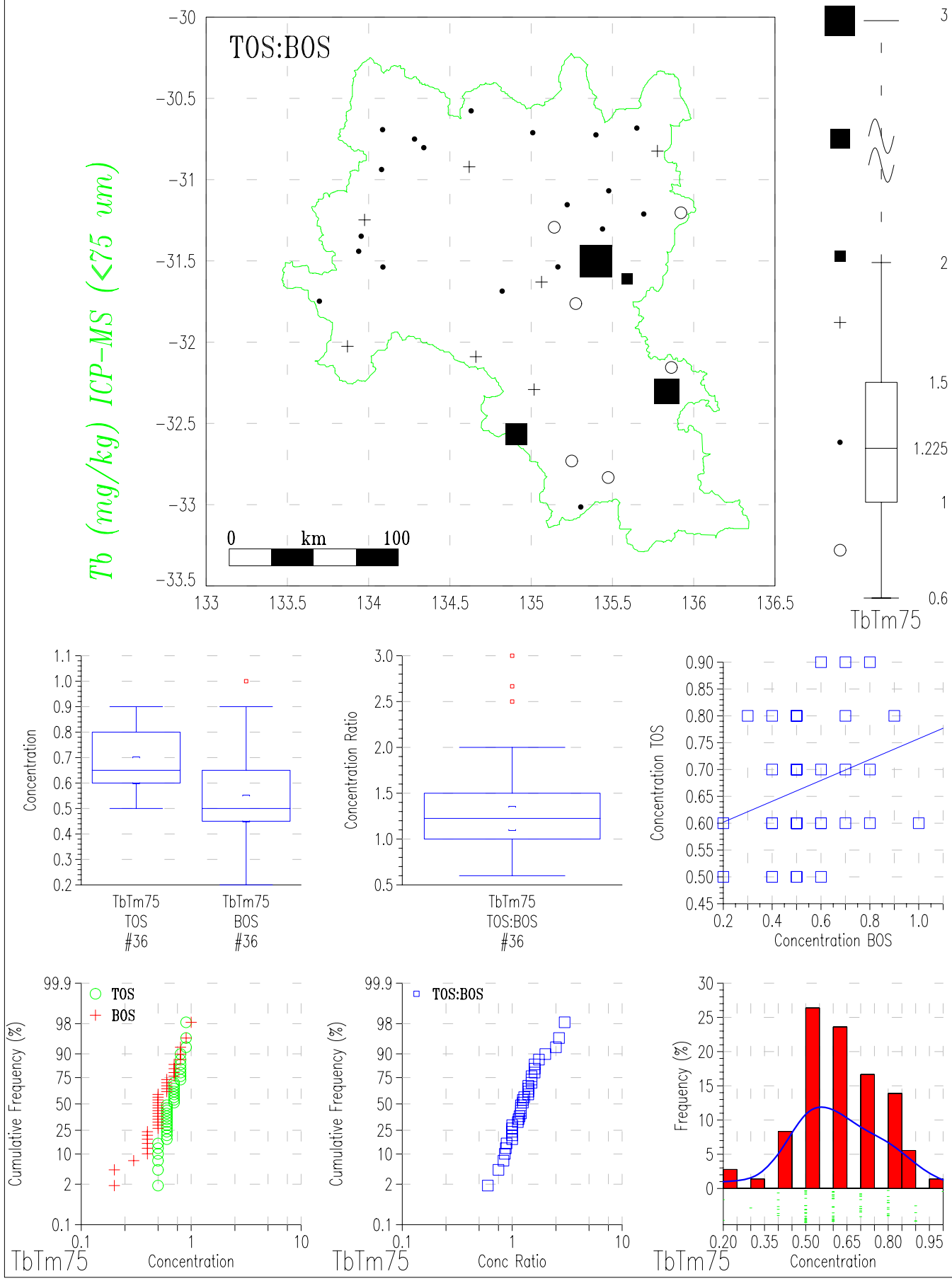


CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

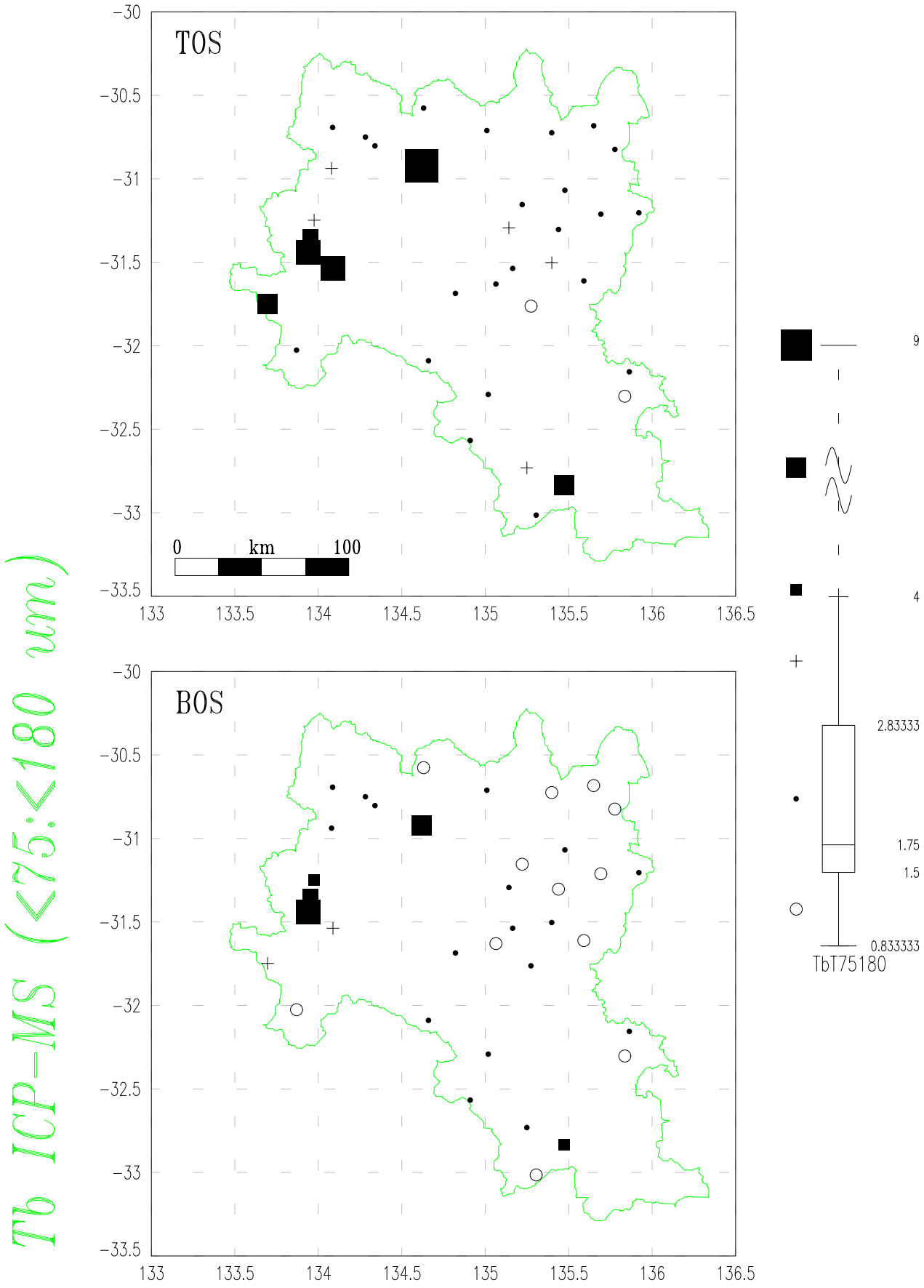


CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)



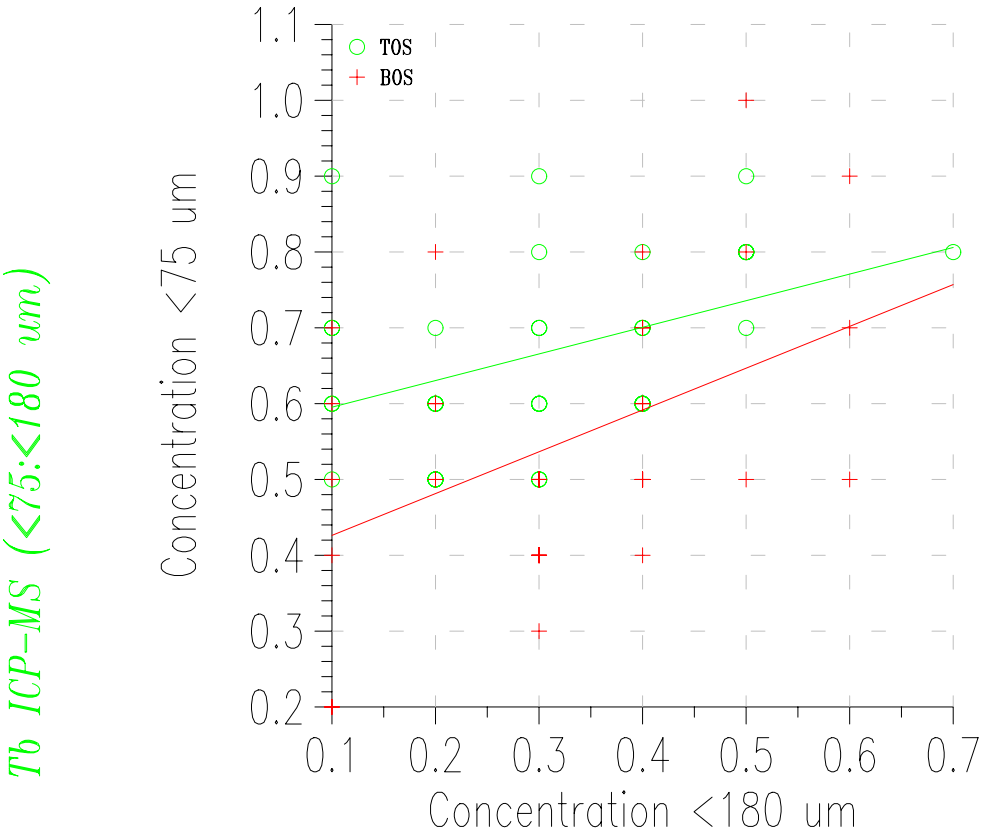
GAWLER GEOCHEMICAL SURVEY

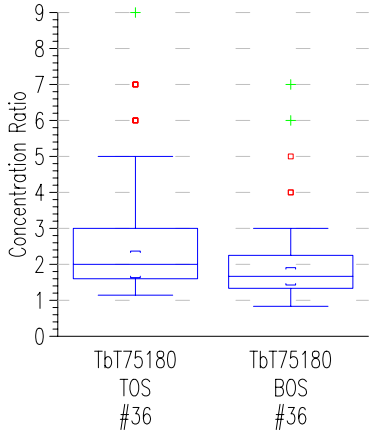
Top & Bottom Outlet Sediments (TOS & BOS)

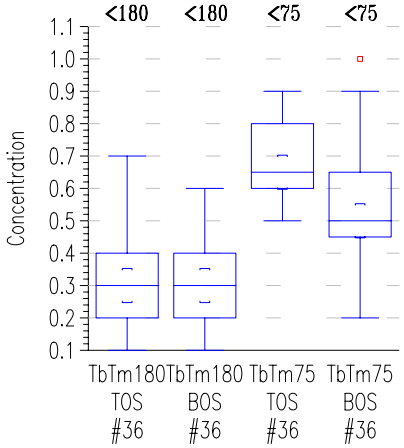


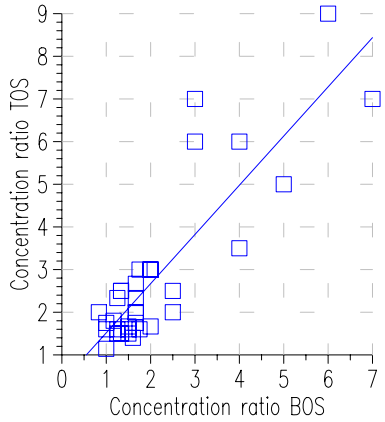
Tb ICP-MS (<75:<180 um)

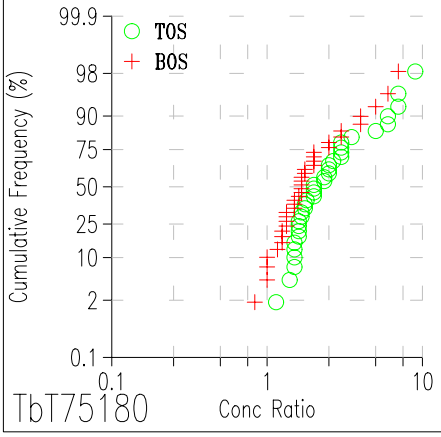
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

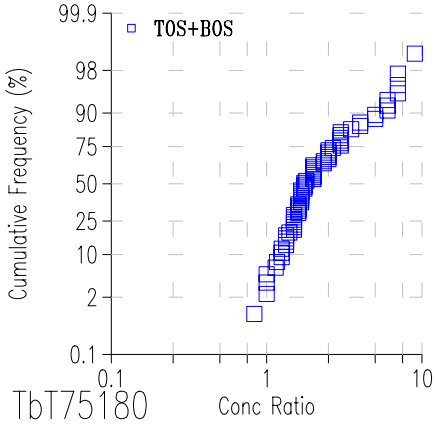


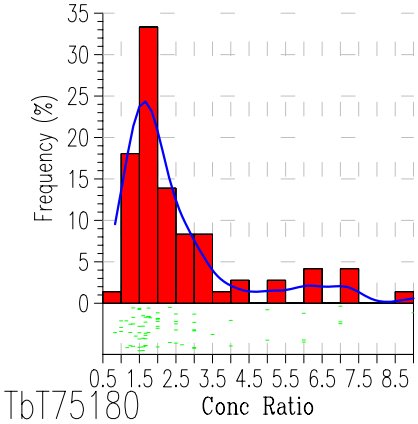




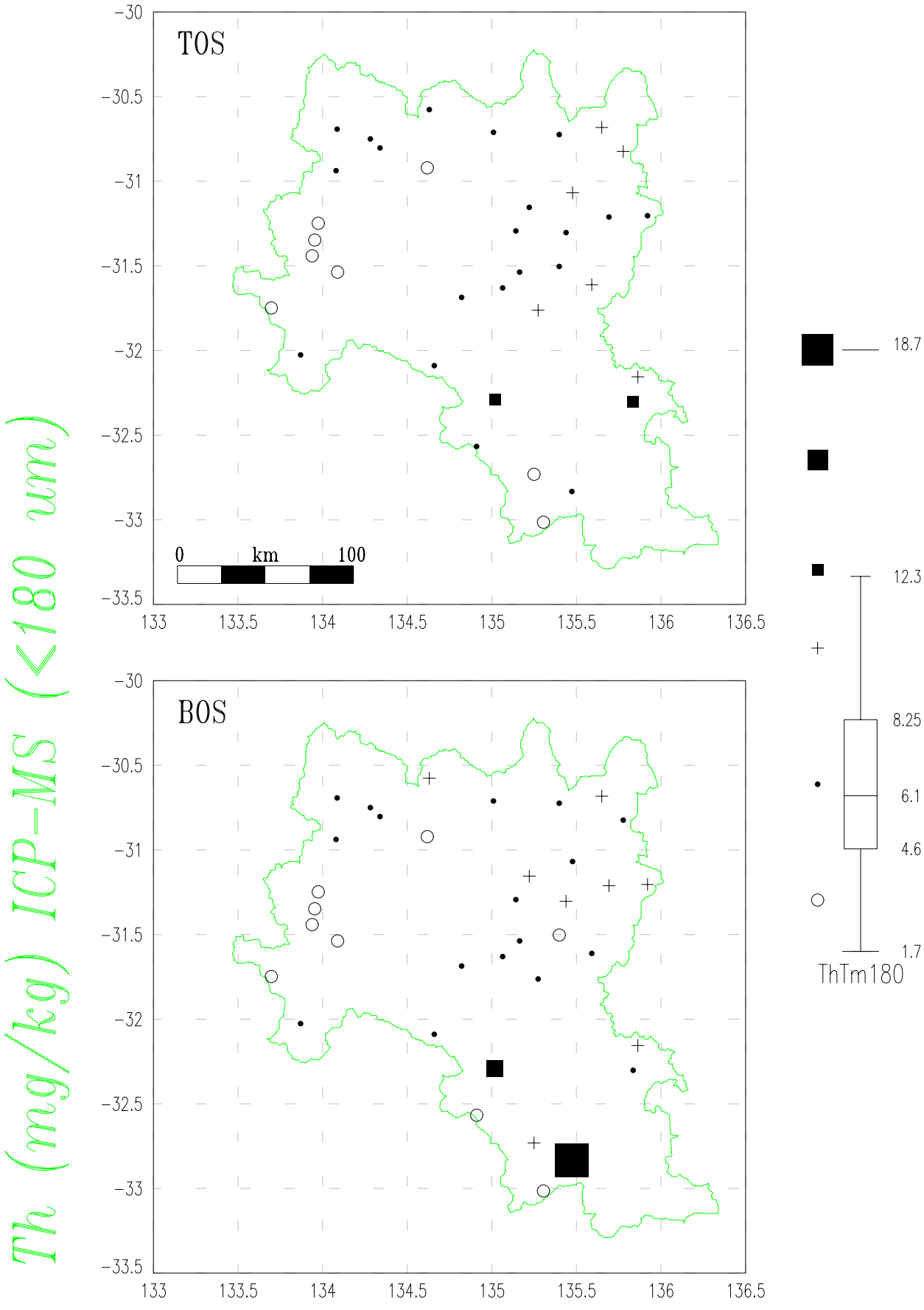




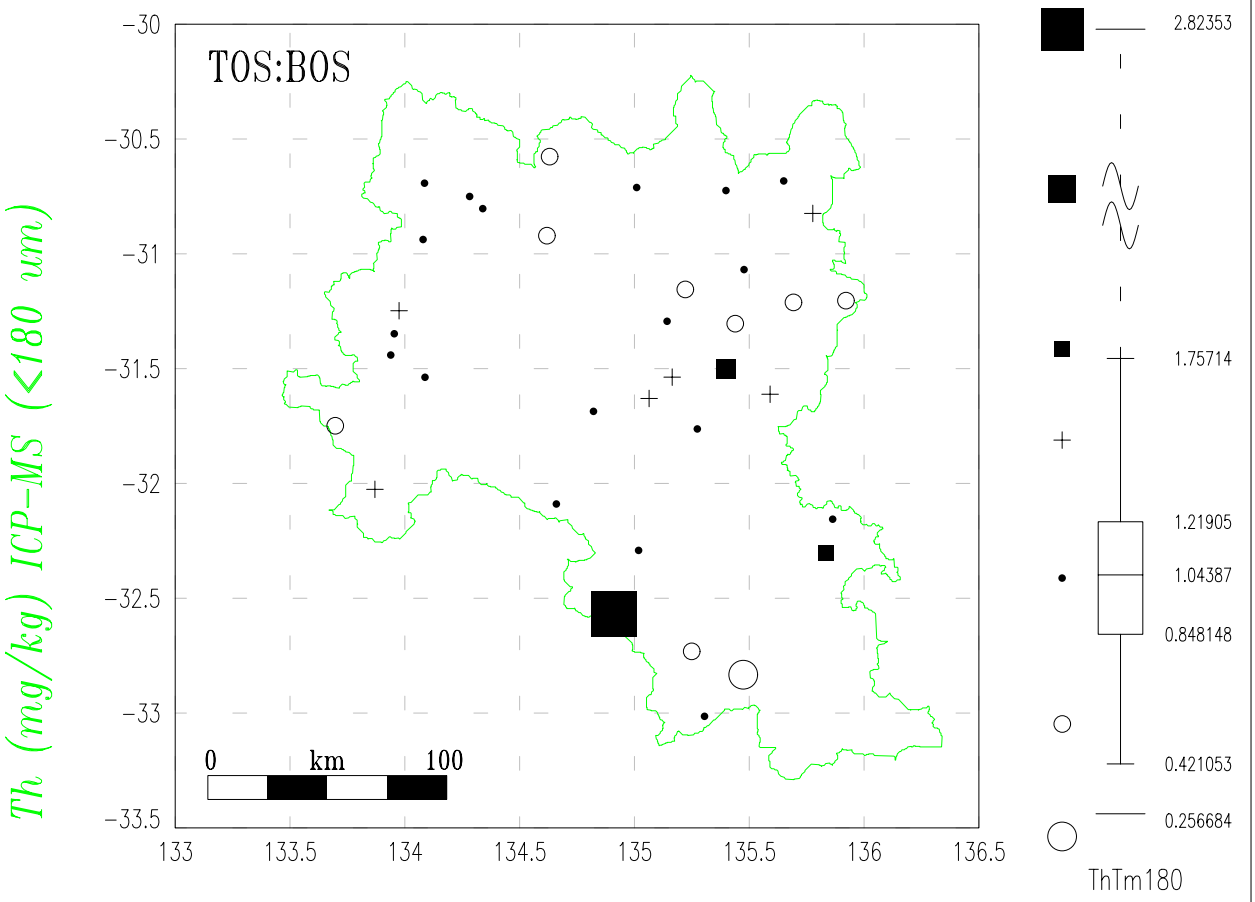


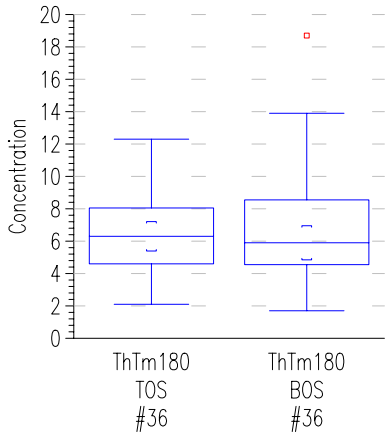


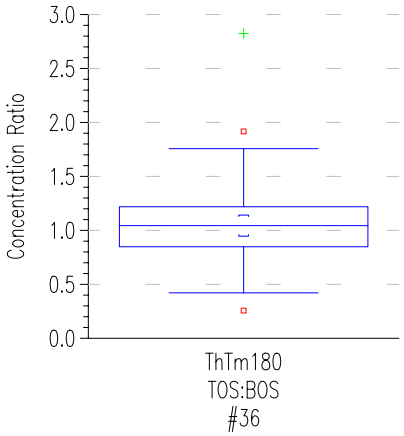
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

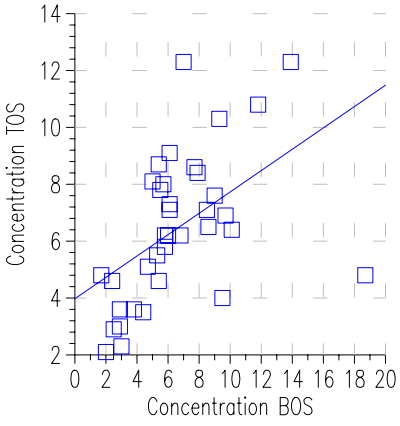


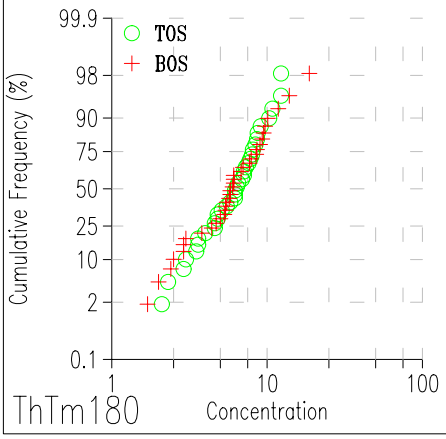
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

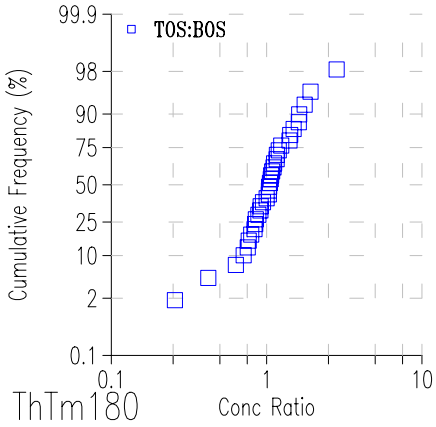


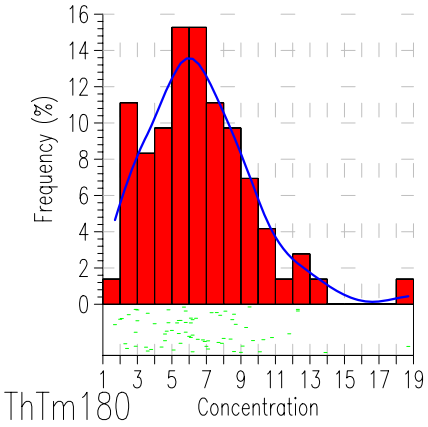






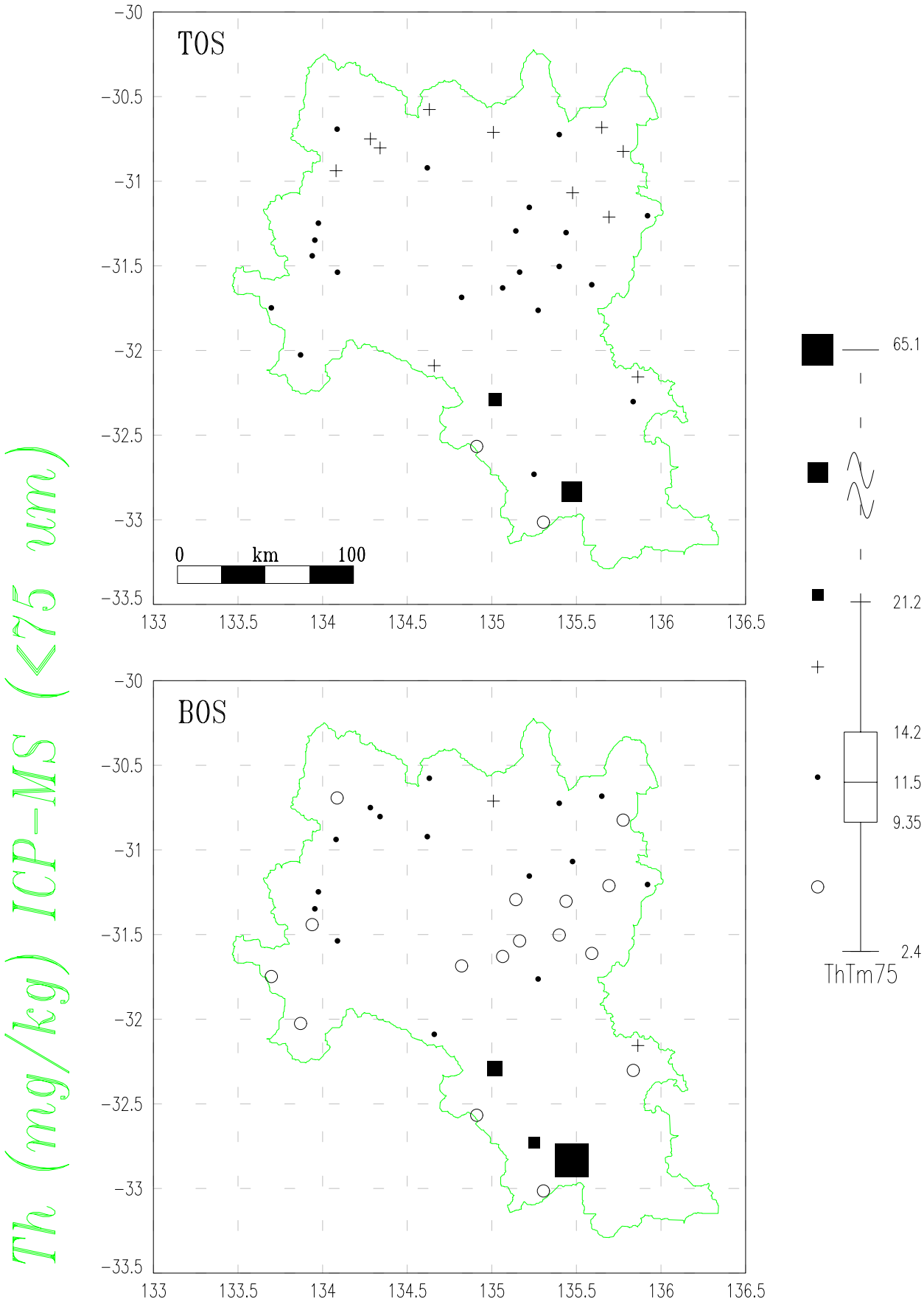






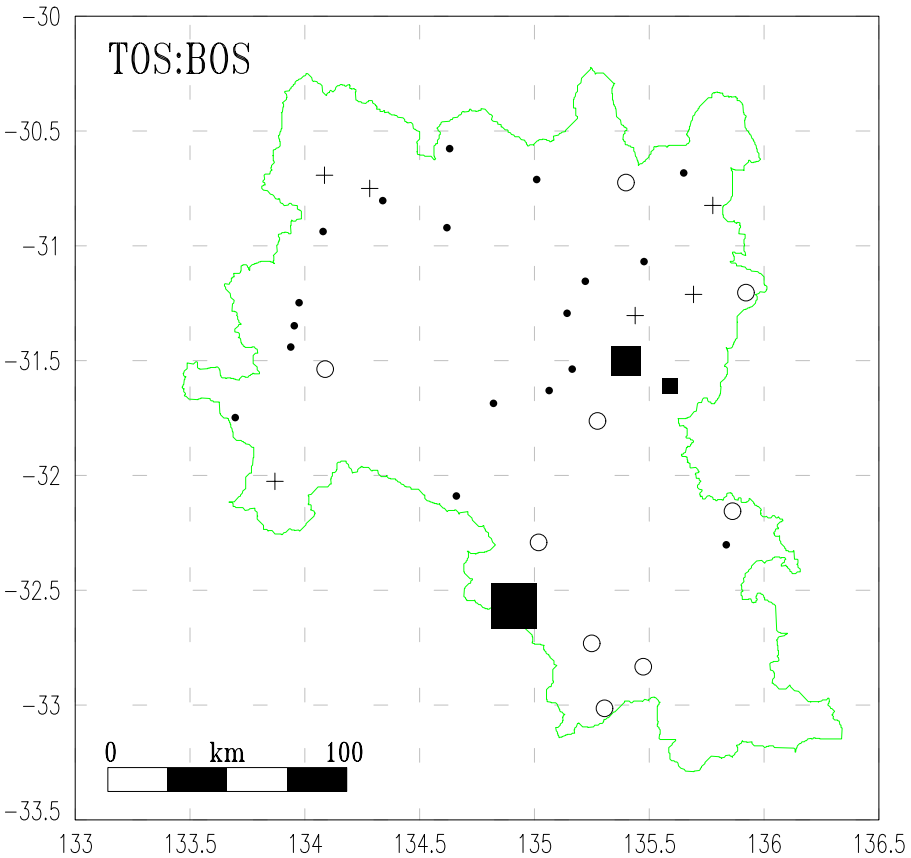
CAWLER GEOCHEMICAL SURVEY

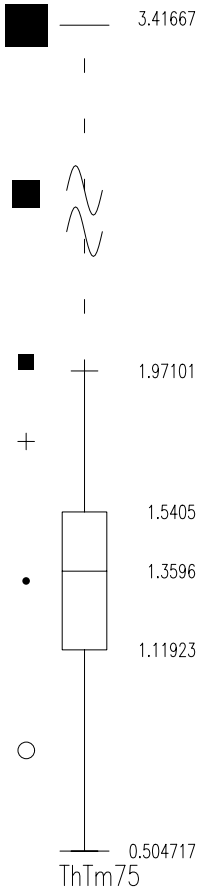
Top & Bottom Outlet Sediments (TOS & BOS)

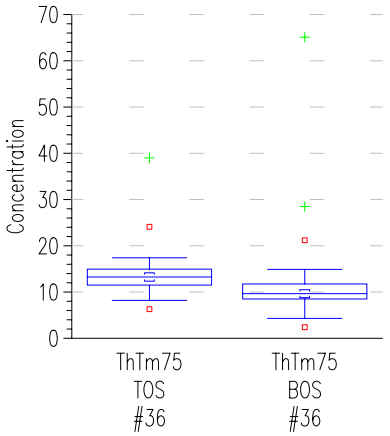


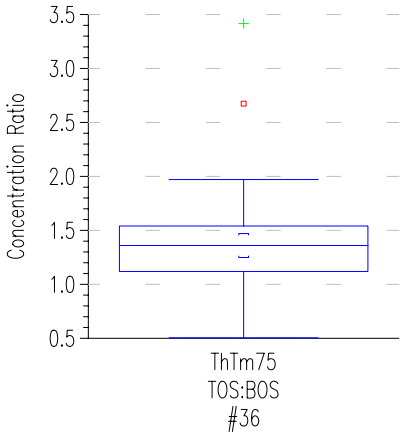
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

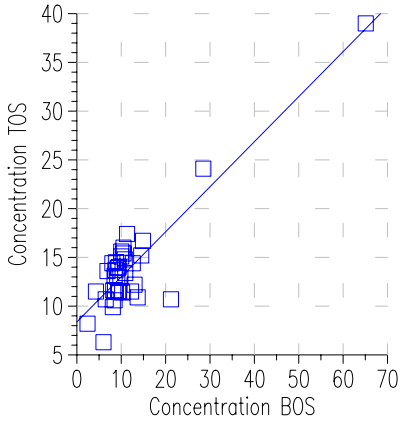
Th (mg/kg) ICP-MS (<75 um)

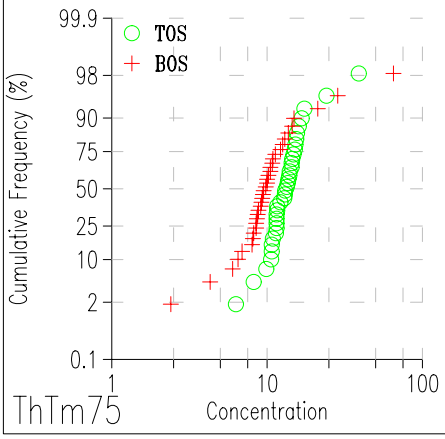


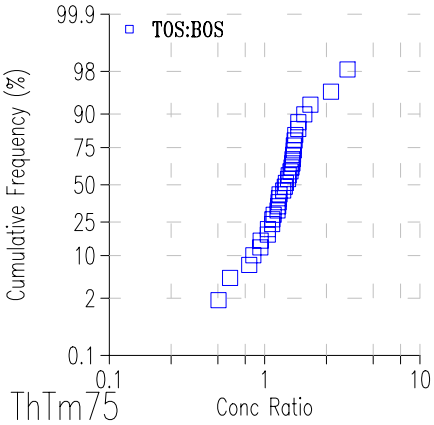


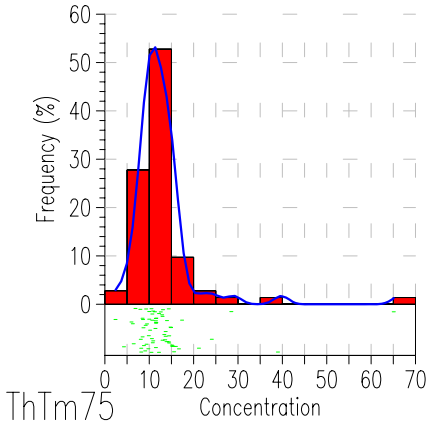






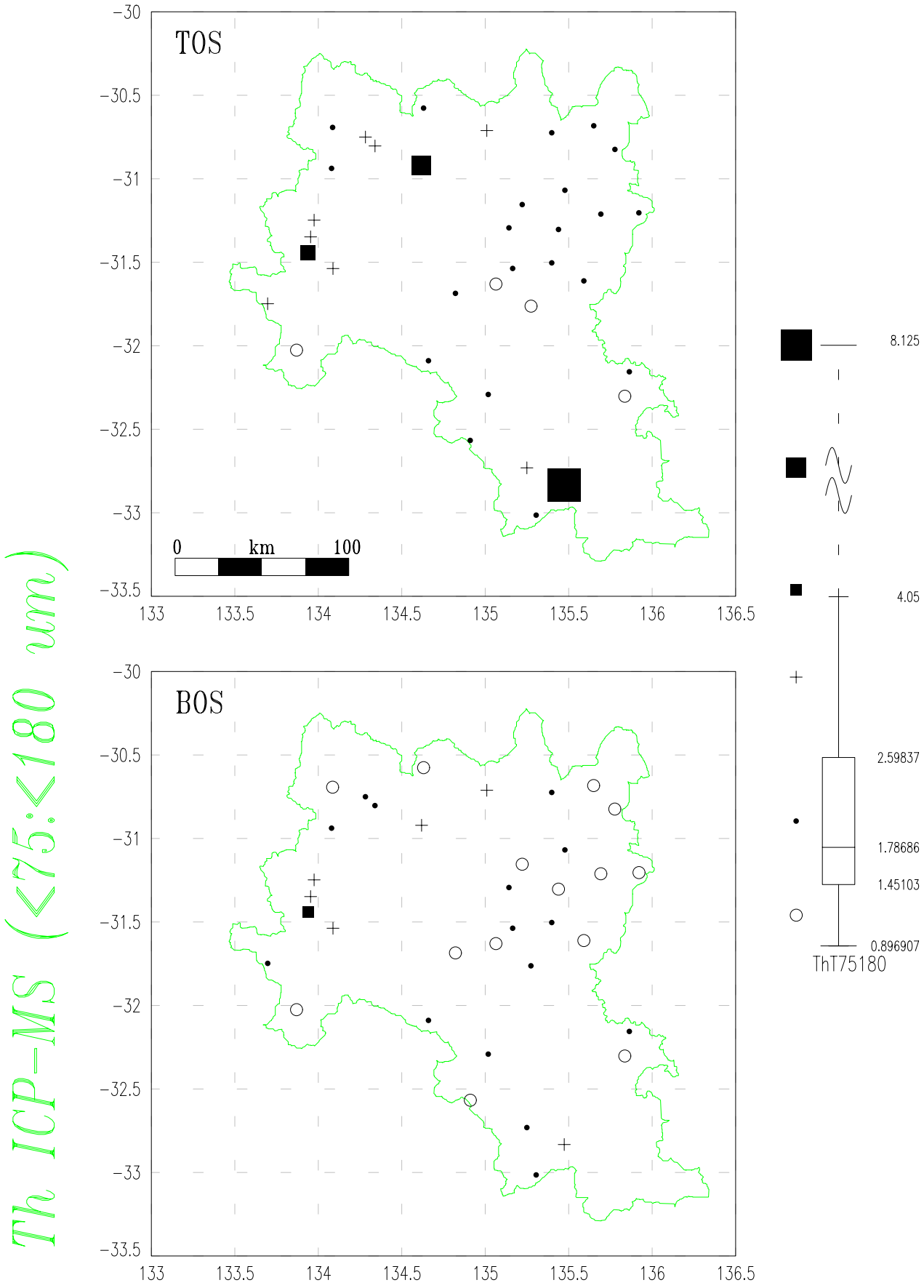






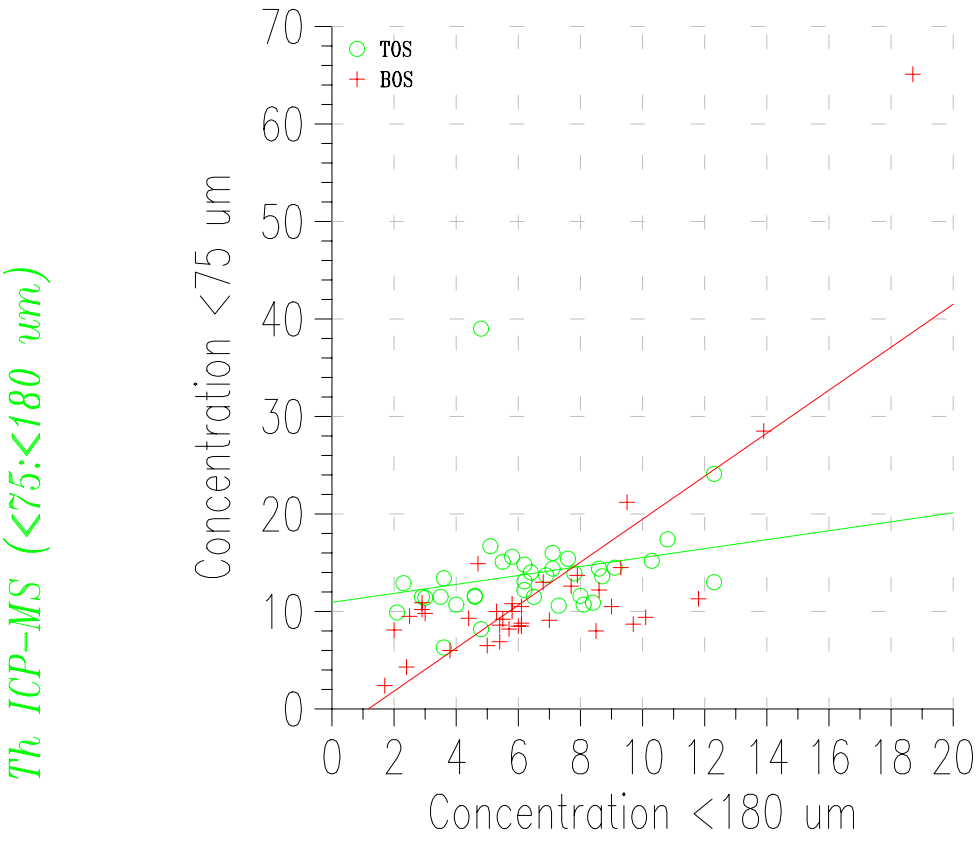
CAWLER GEOCHEMICAL SURVEY

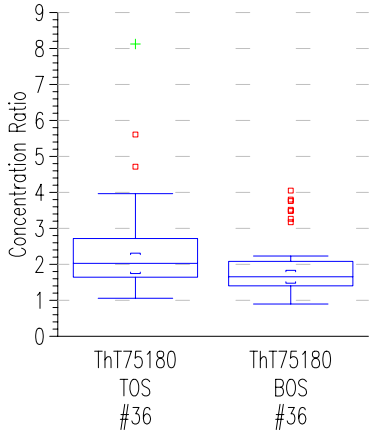
Top & Bottom Outlet Sediments (TOS & BOS)

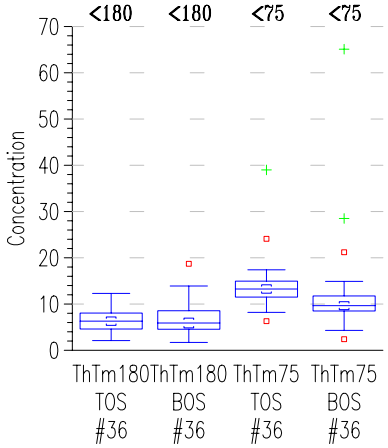


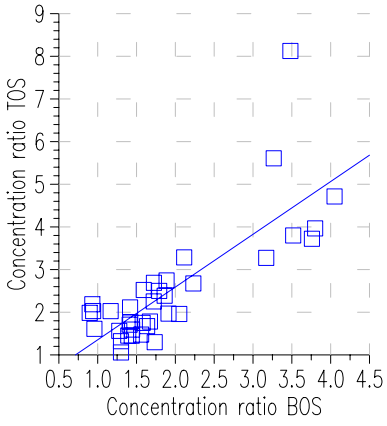
Th ICP-MS (<75:<180 um)

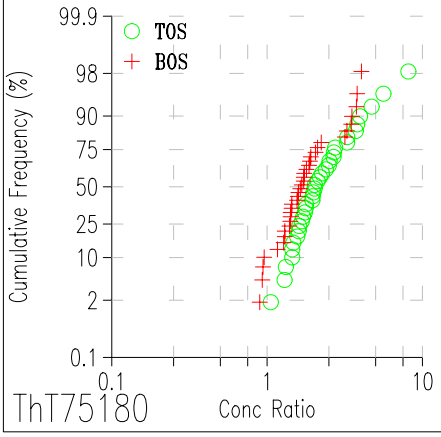
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

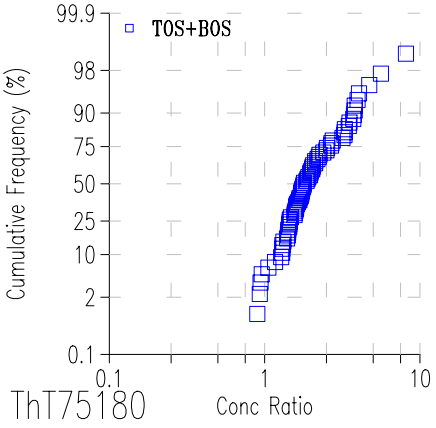


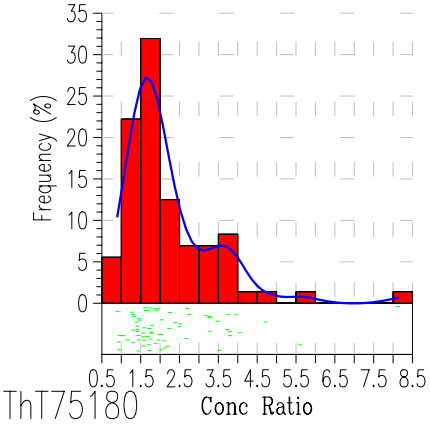








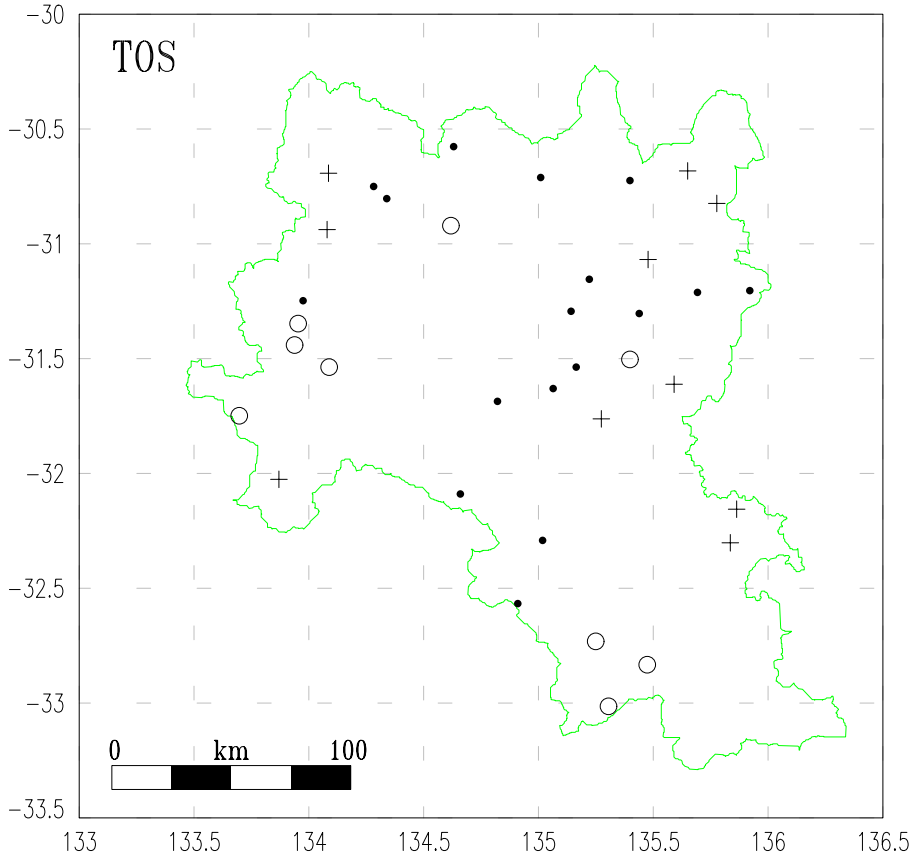


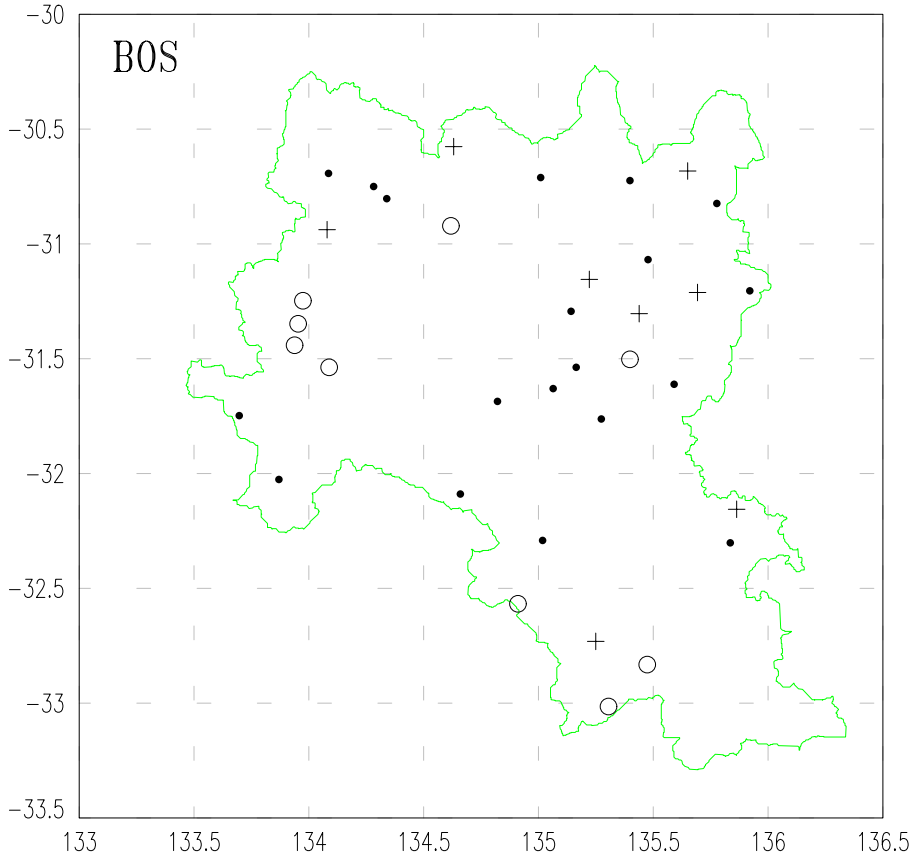


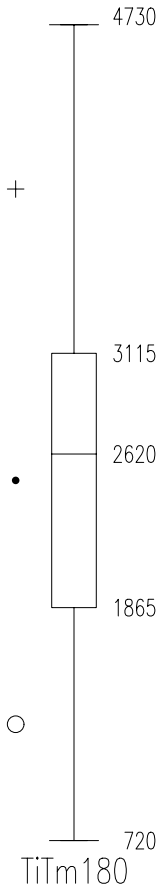
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

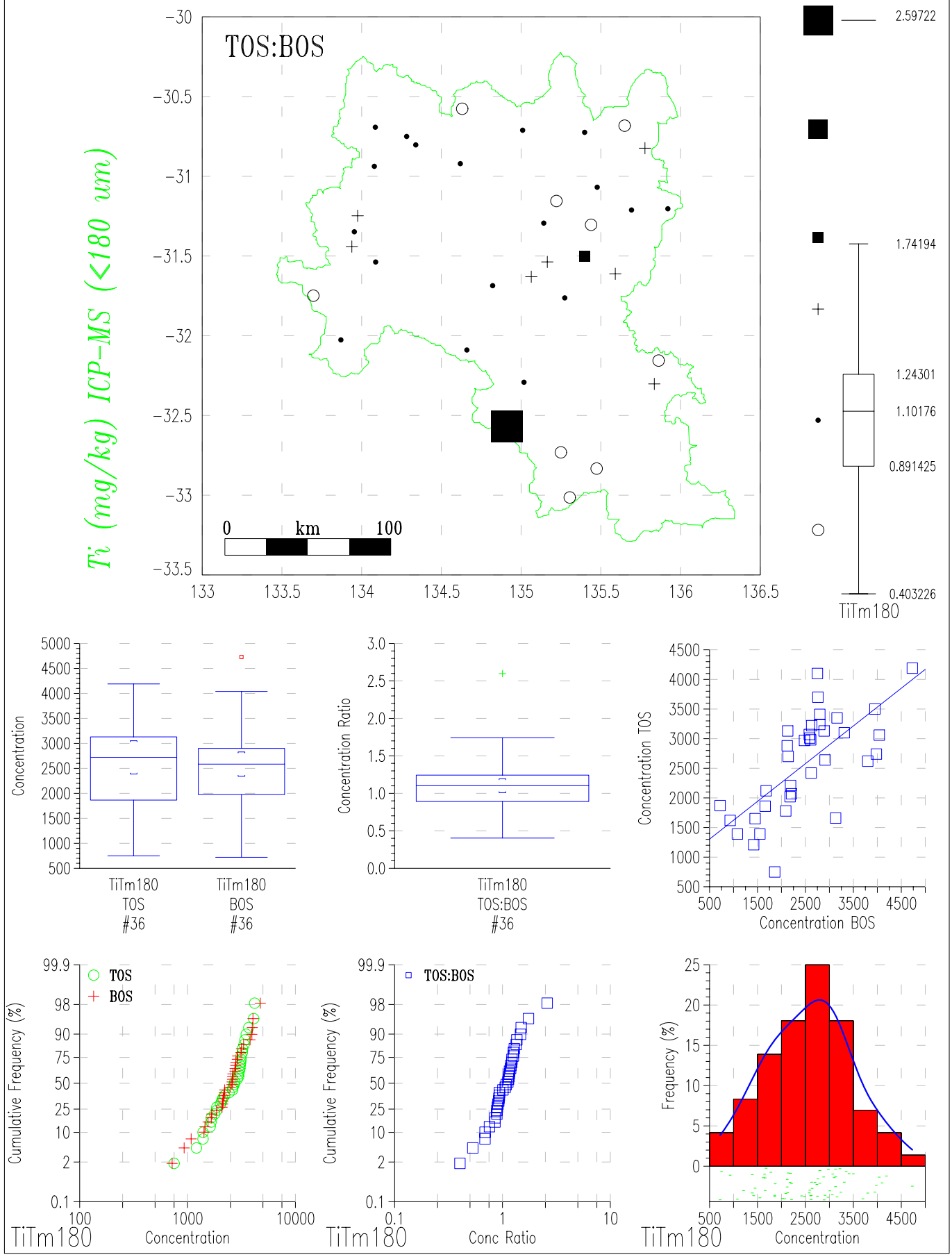
Ti (mg/kg) ICP-MS (<180 um)





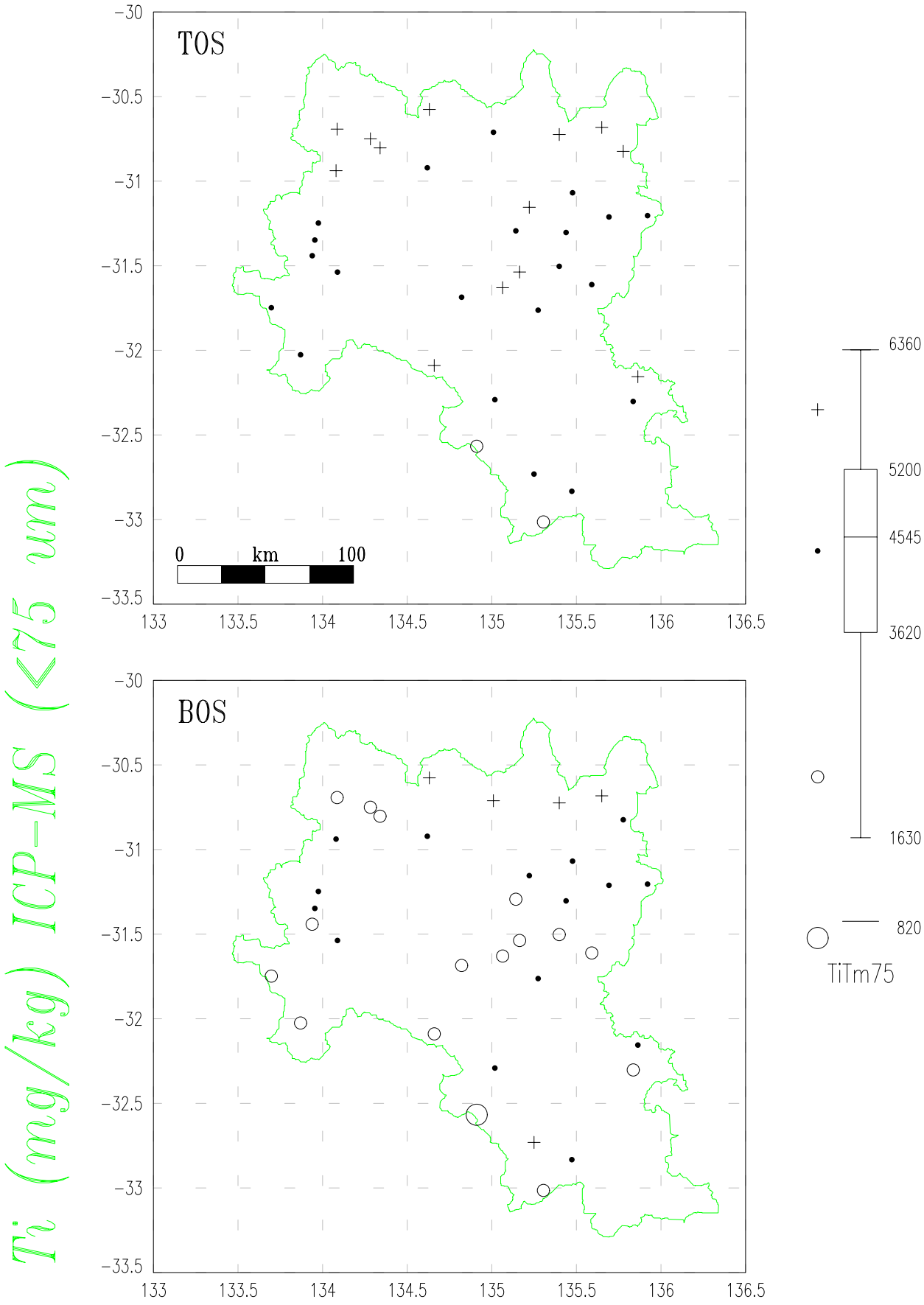


CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

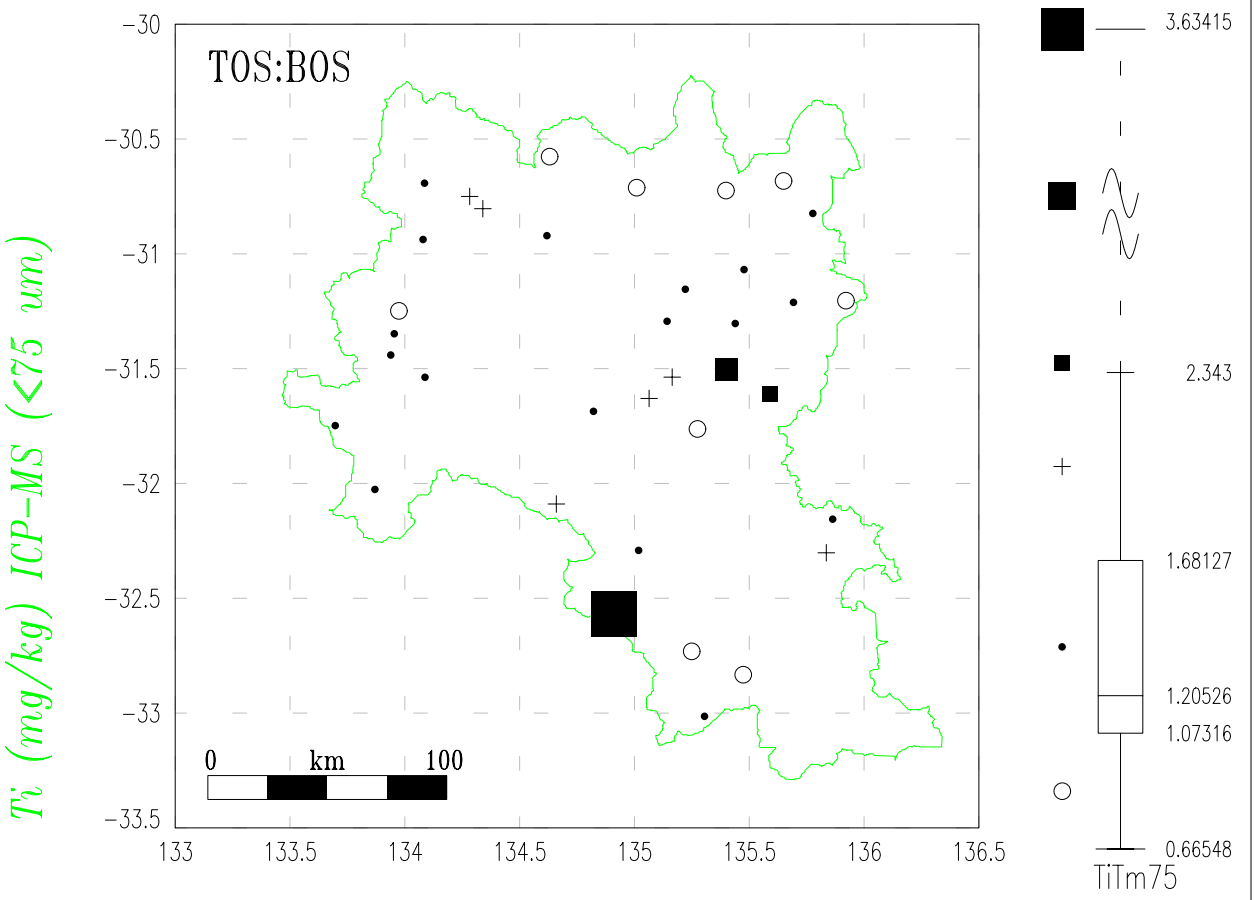


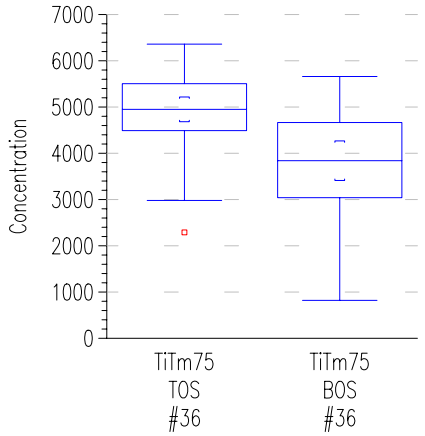
CAWLER GEOCHEMICAL SURVEY

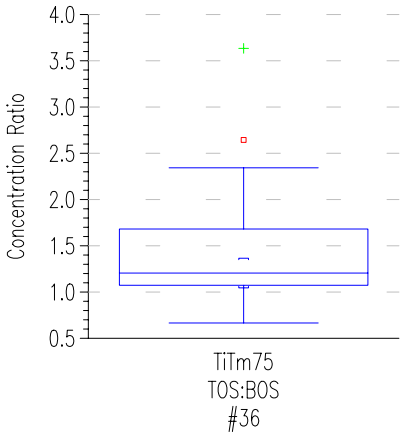
Top & Bottom Outlet Sediments (TOS & BOS)

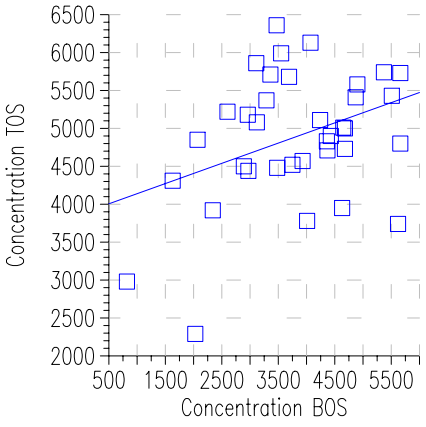


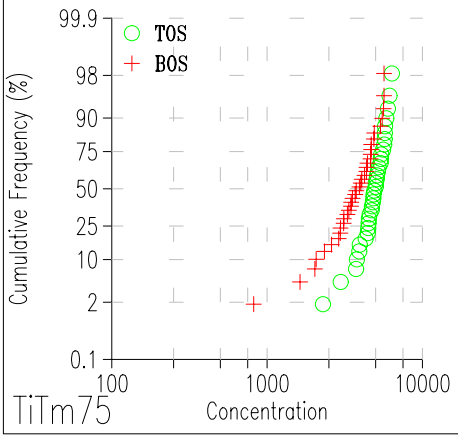
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

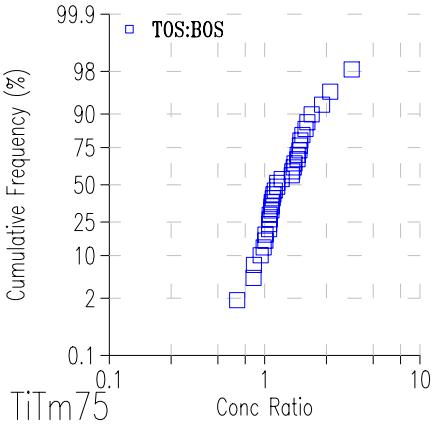


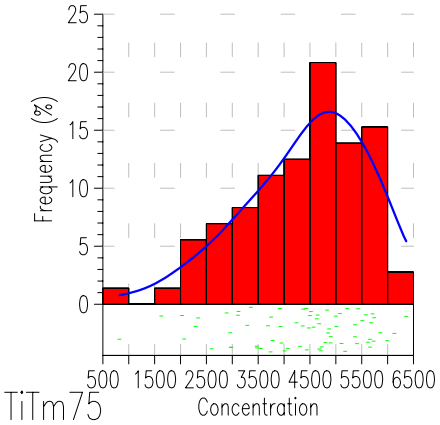






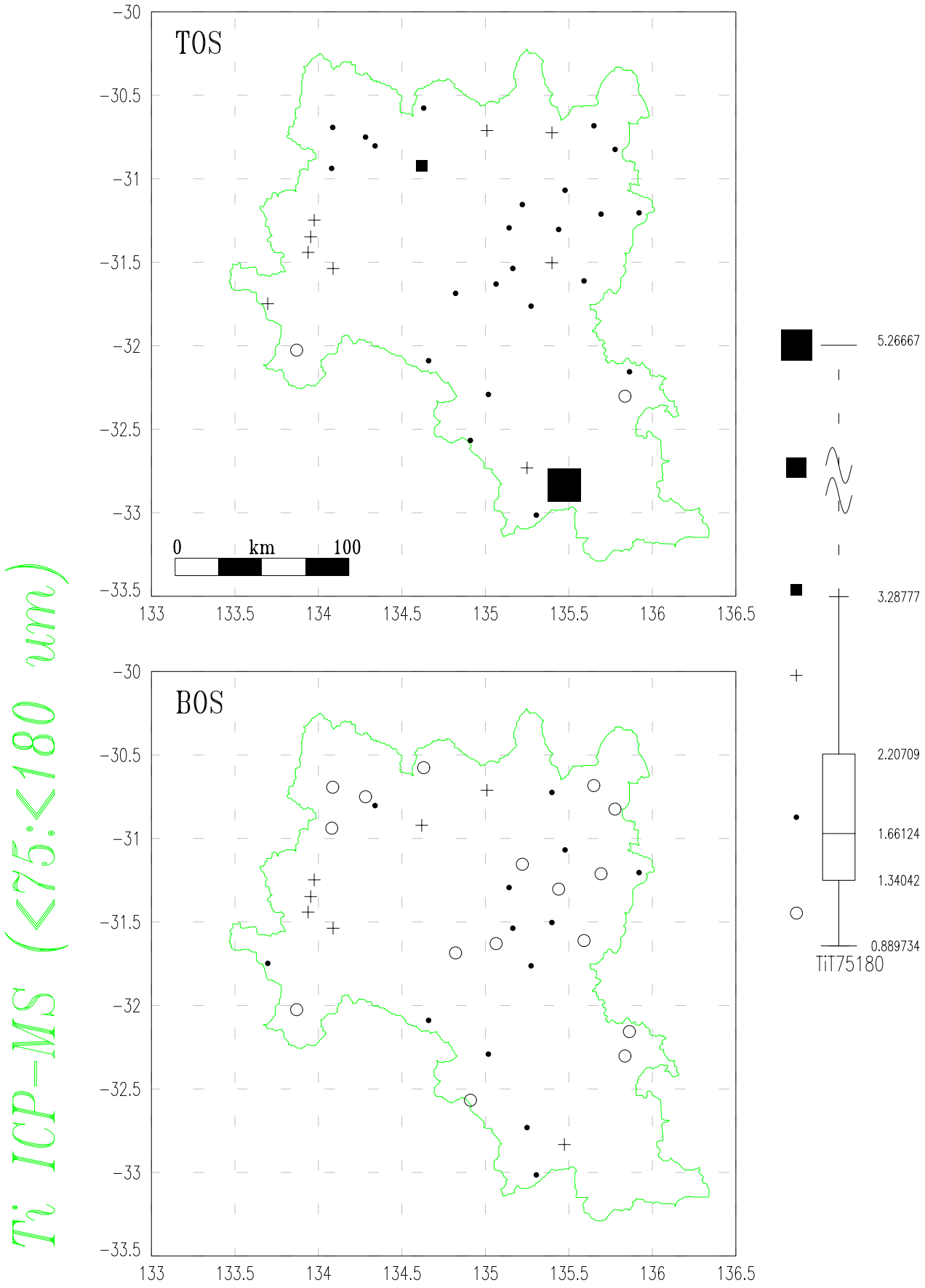




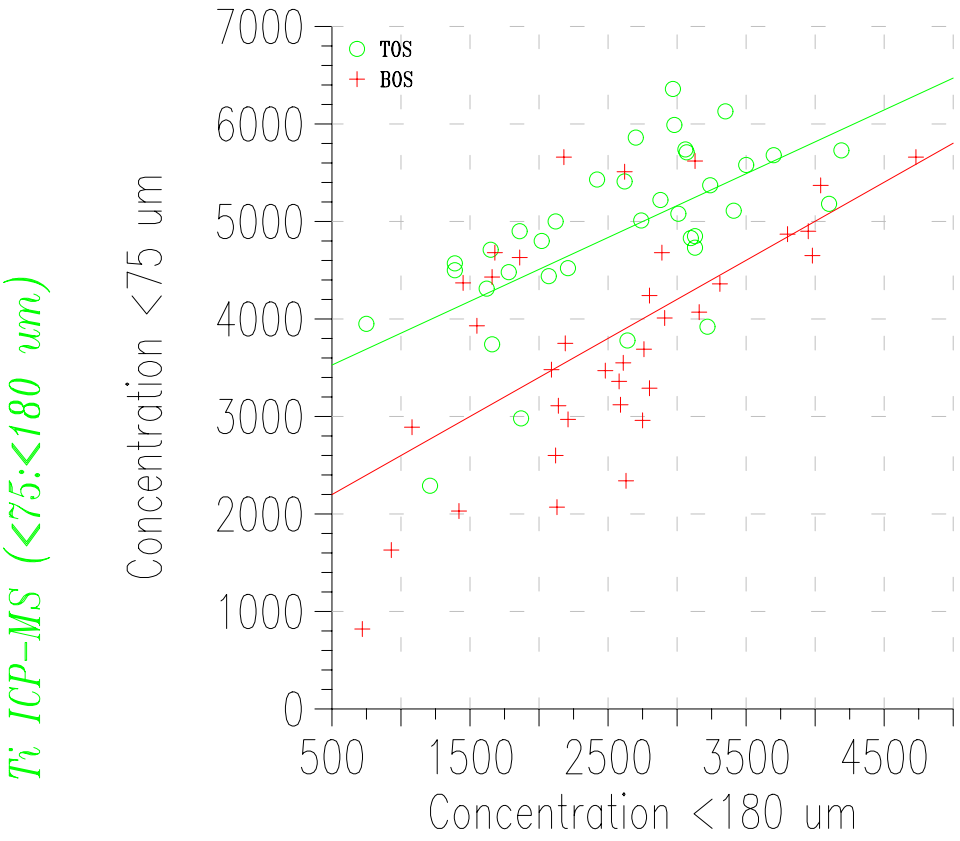


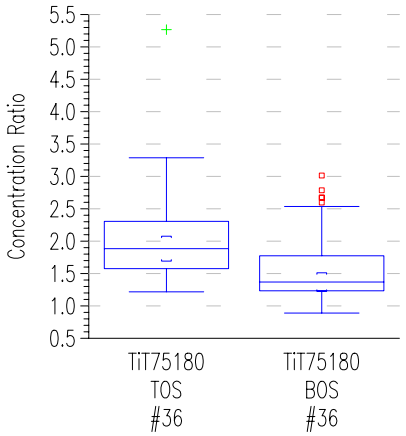
CAWLER GEOCHEMICAL SURVEY

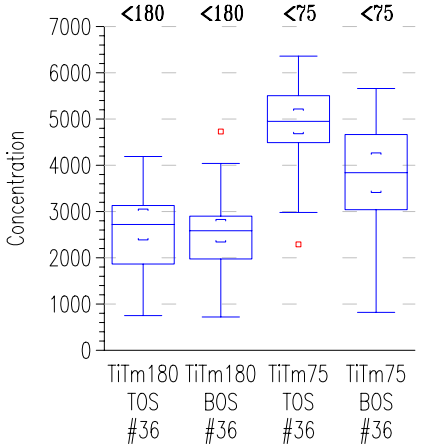
Top & Bottom Outlet Sediments (TOS & BOS)

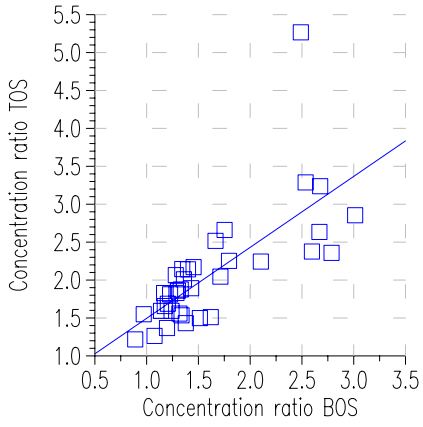


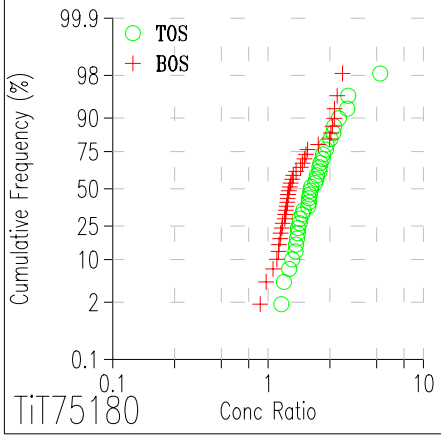
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

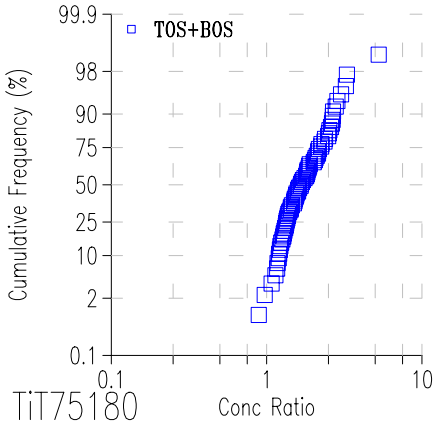


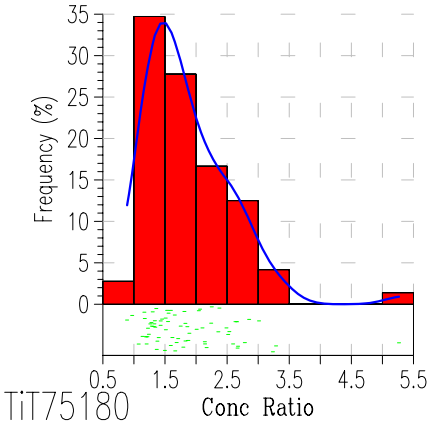






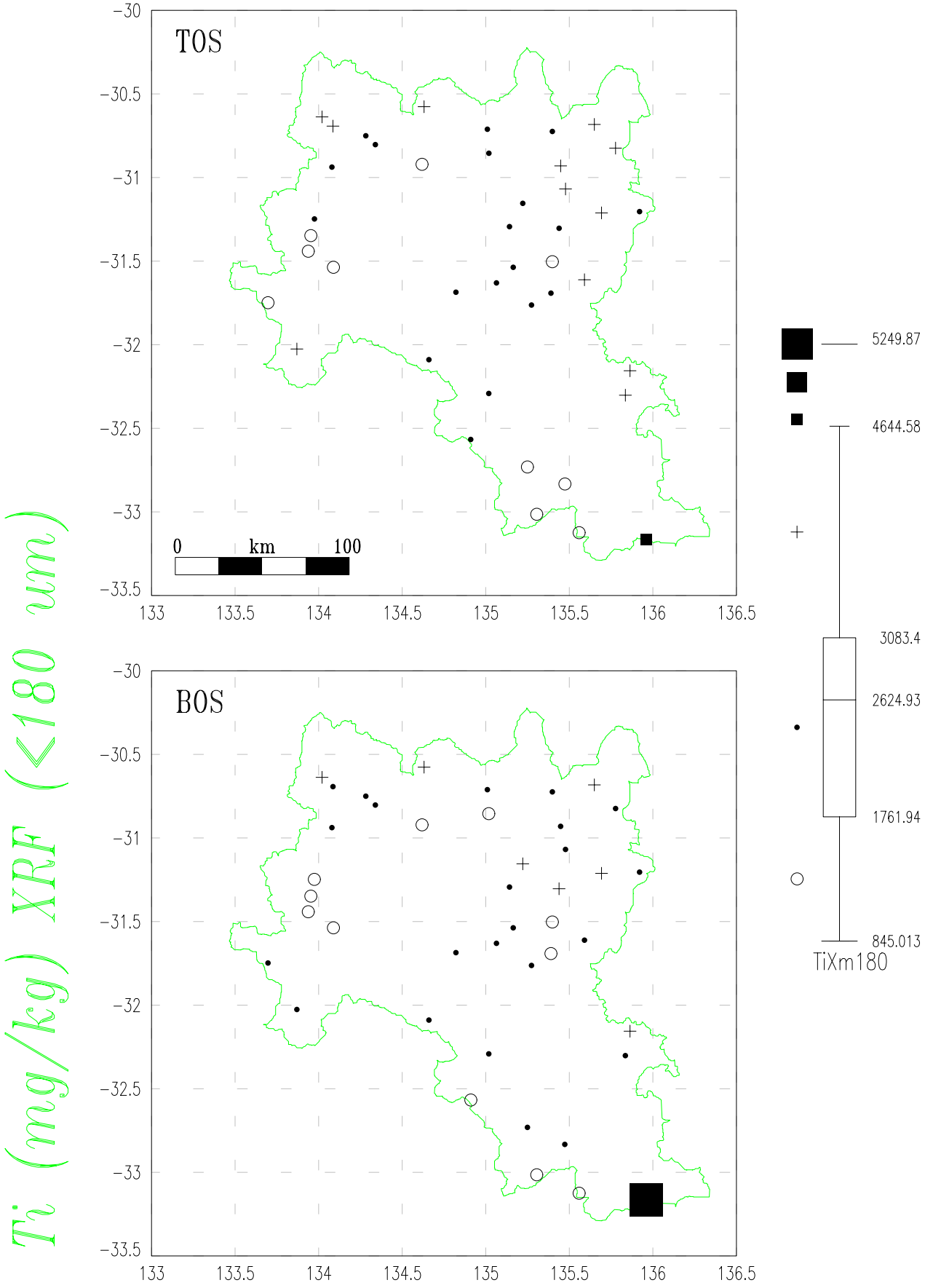






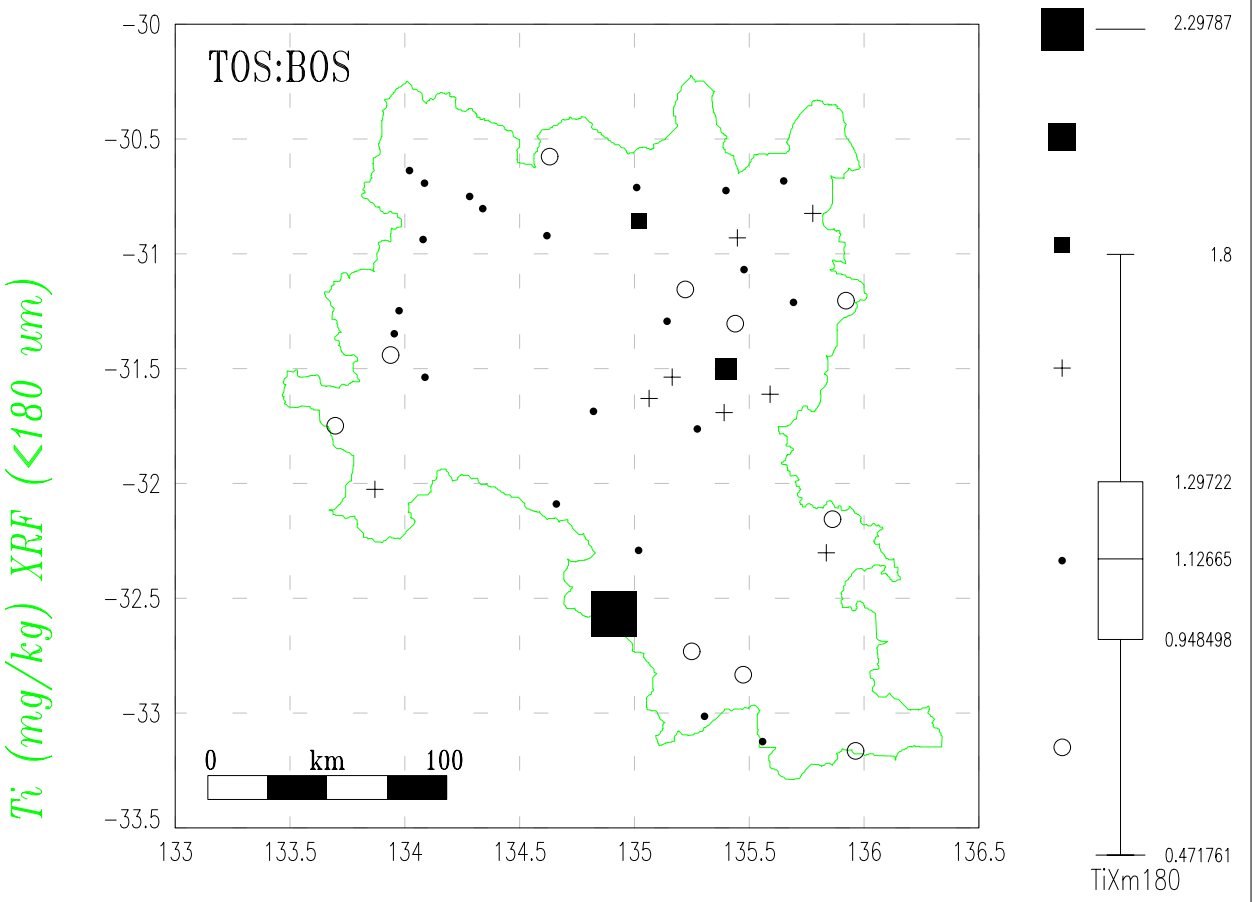
GAWLER GEOCHEMICAL SURVEY

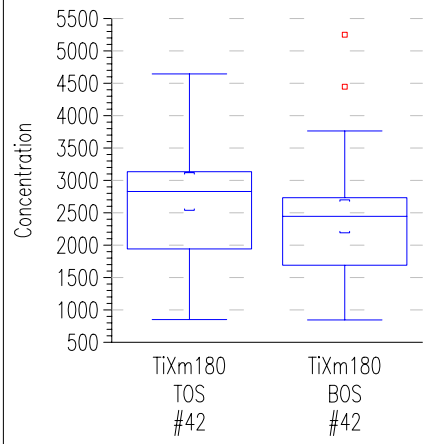
Top & Bottom Outlet Sediments (TOS & BOS)

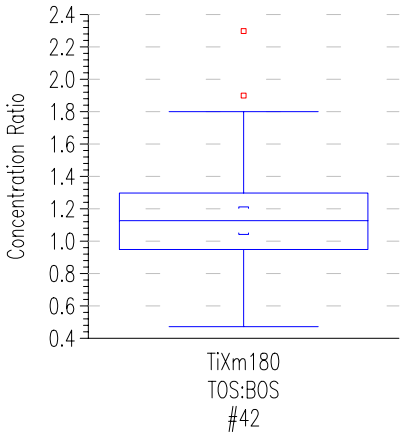


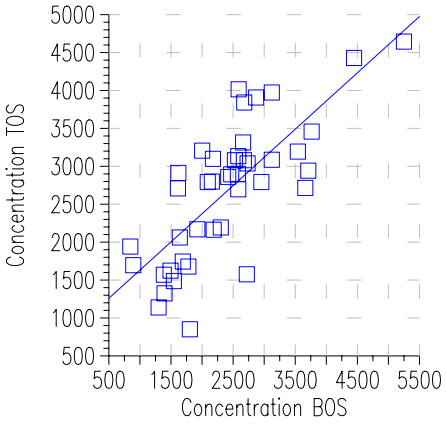
Ti (mg/kg) XRF (<180 um)

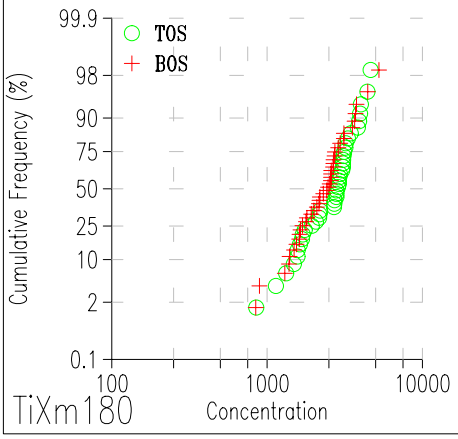
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

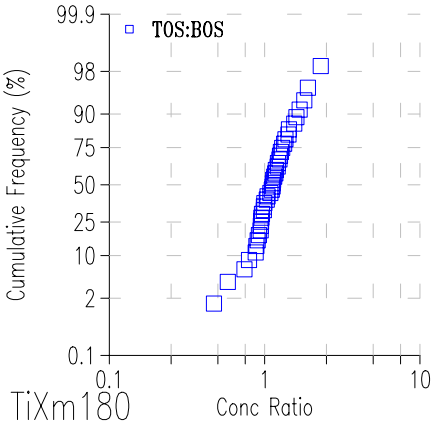


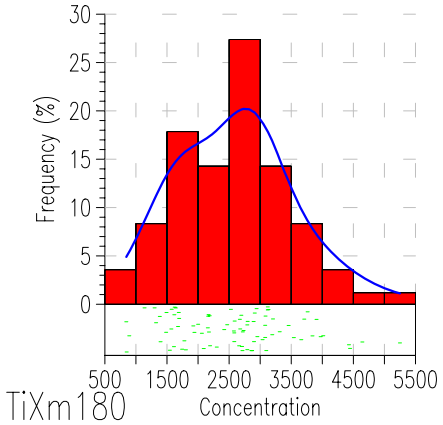






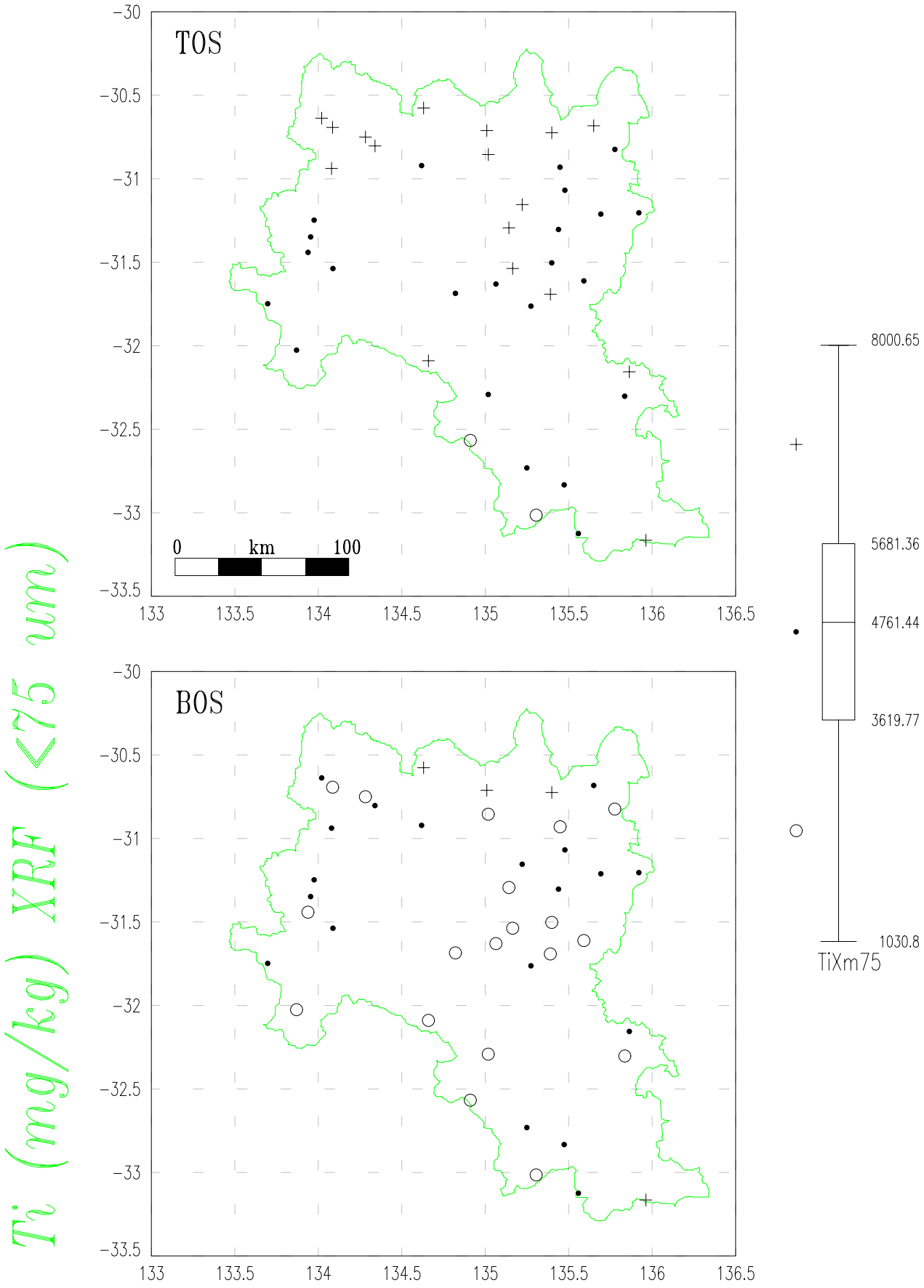




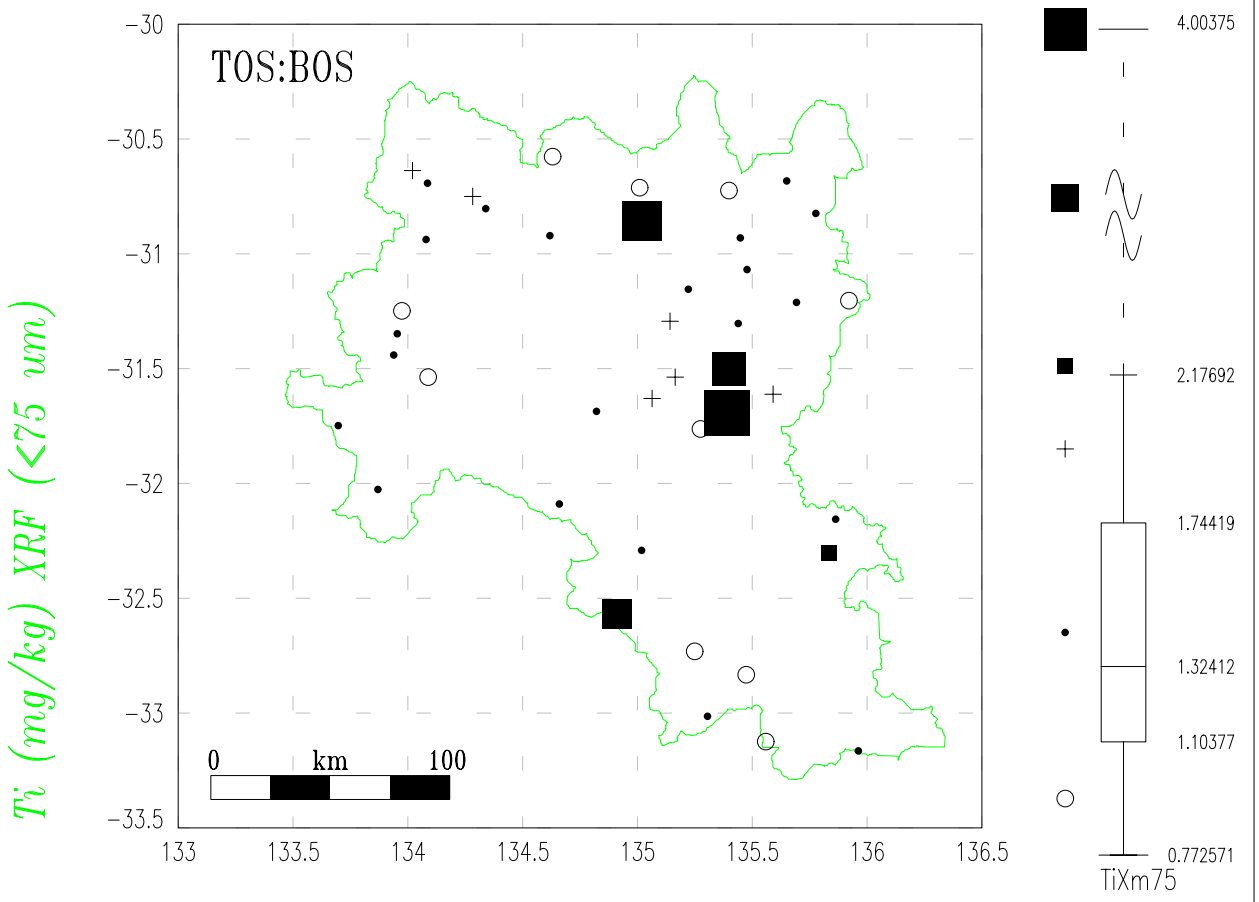


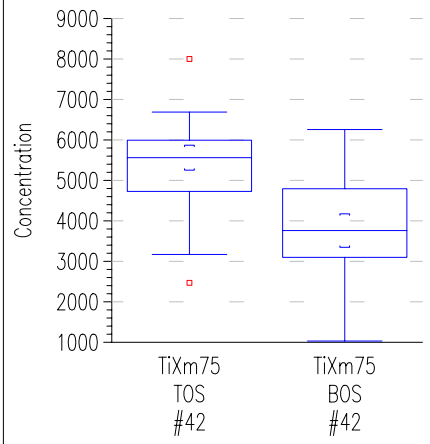
GAWLER GEOCHEMICAL SURVEY

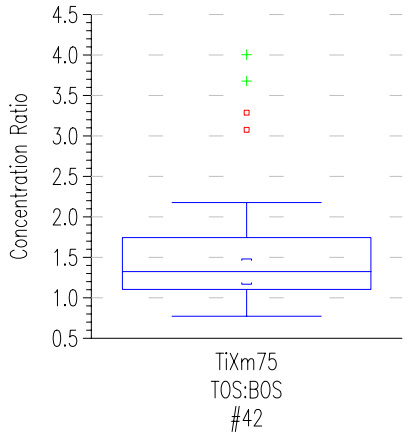
Top & Bottom Outlet Sediments (TOS & BOS)

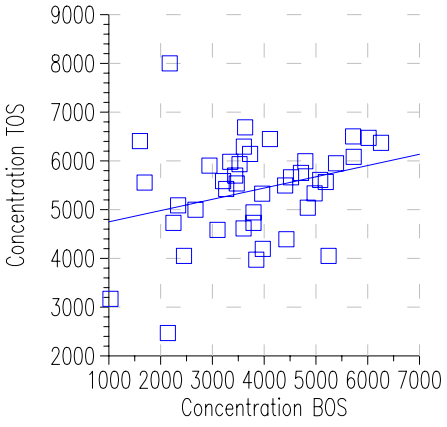


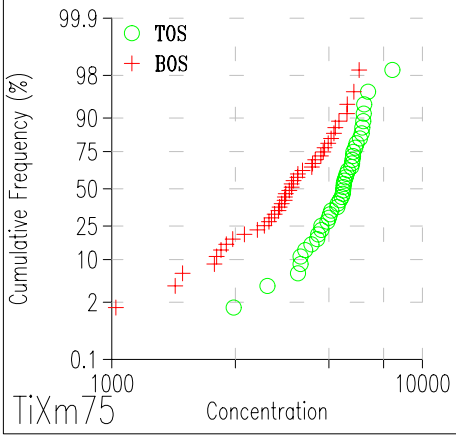
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

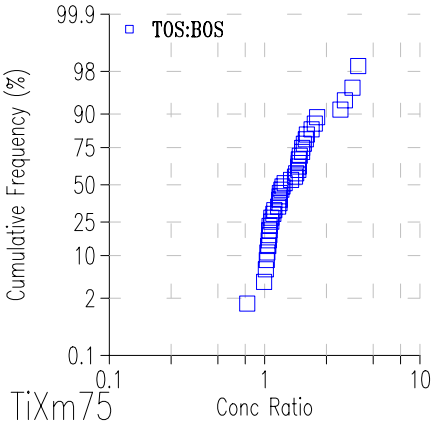


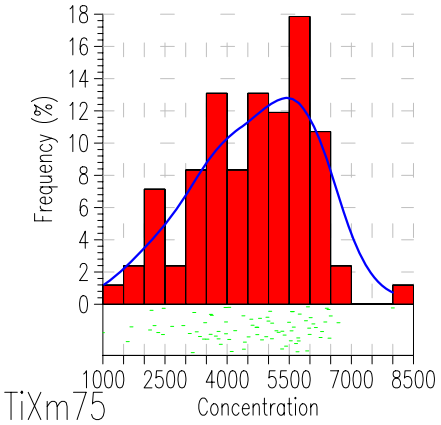




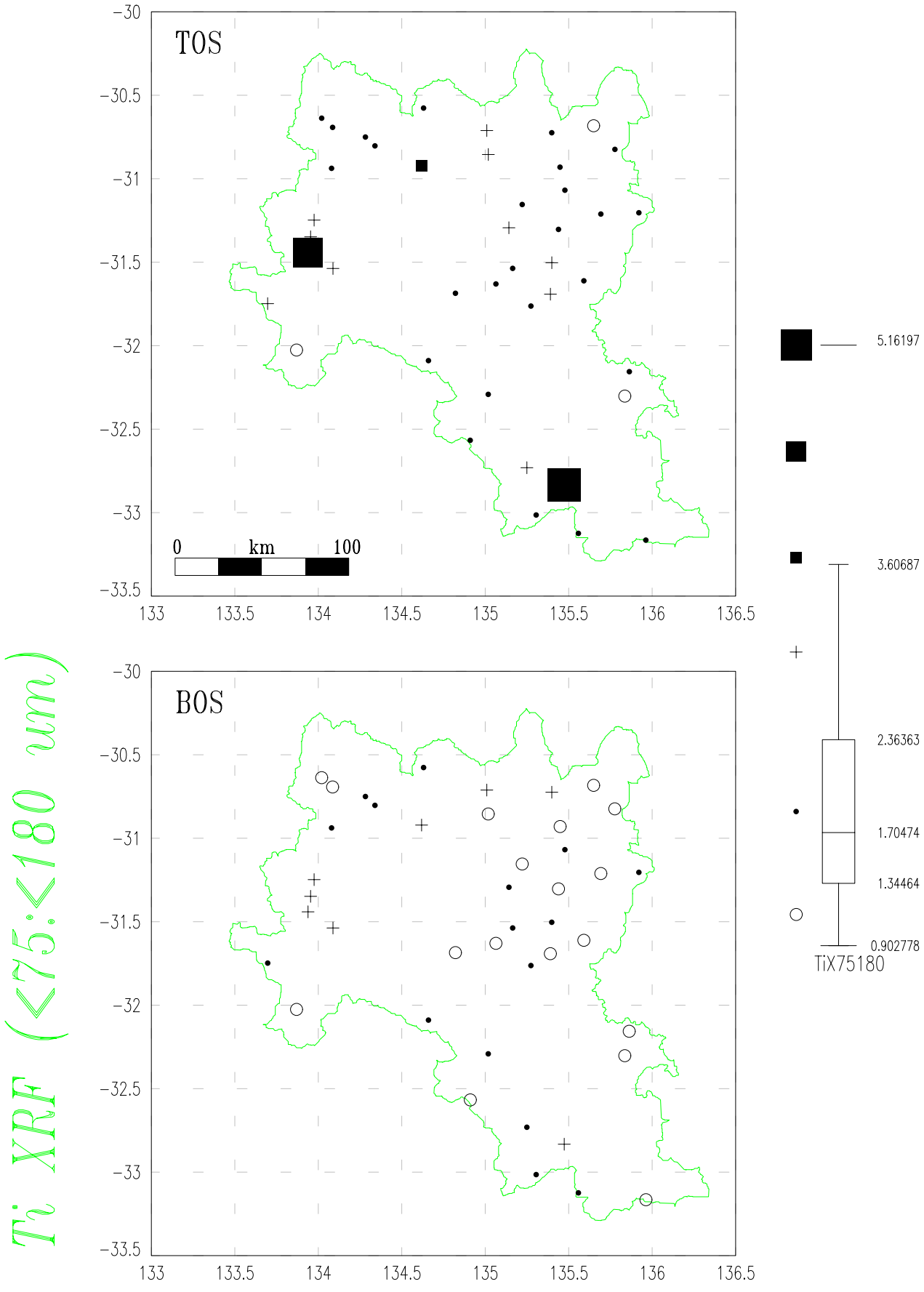




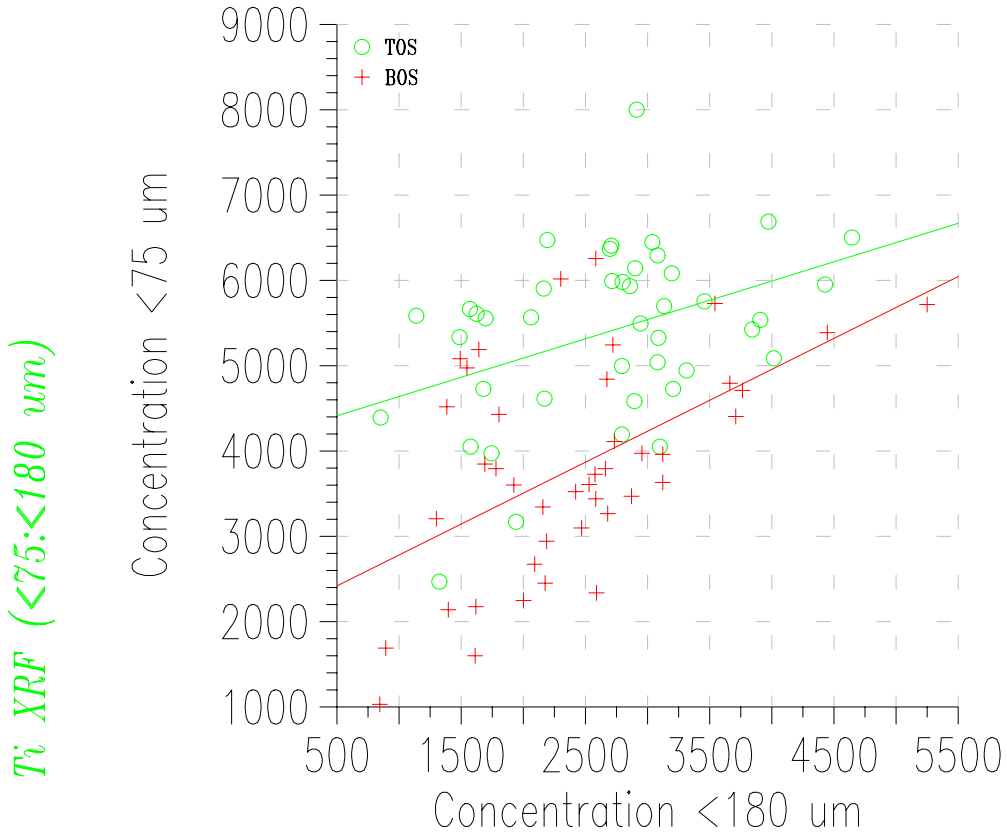


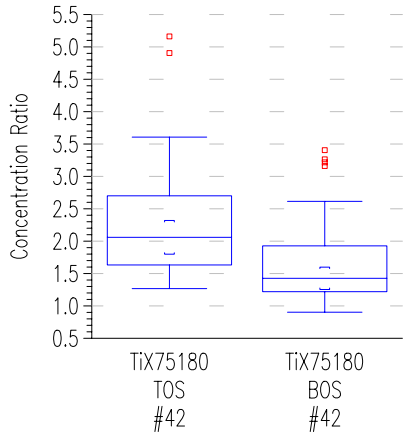


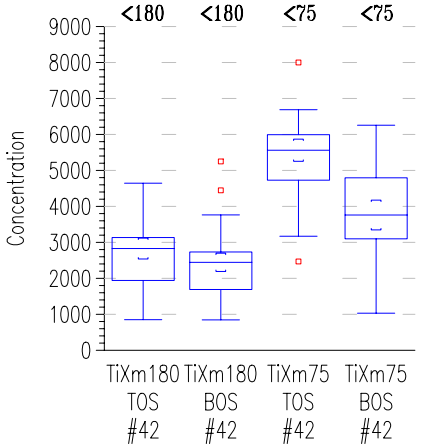
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

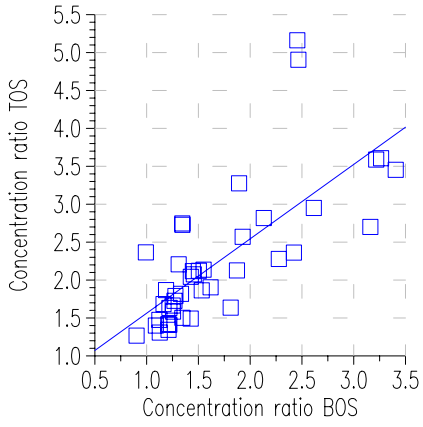


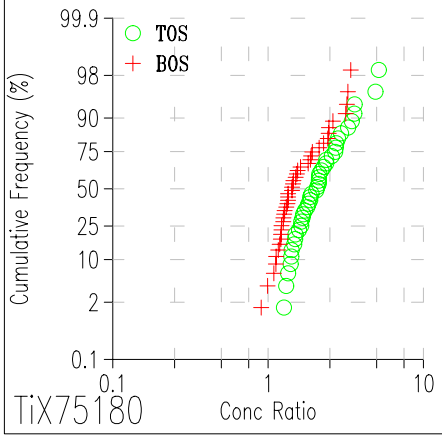
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

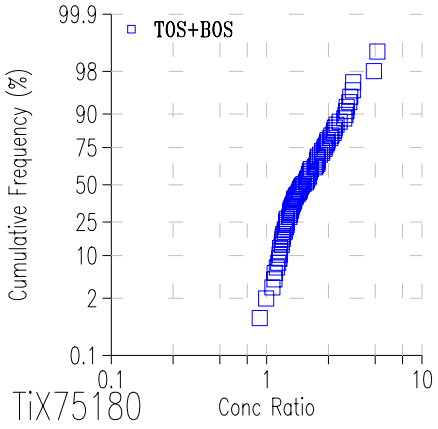


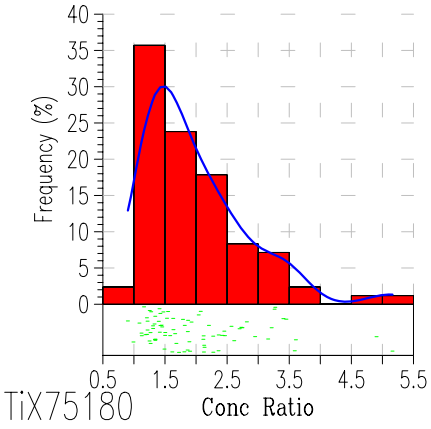






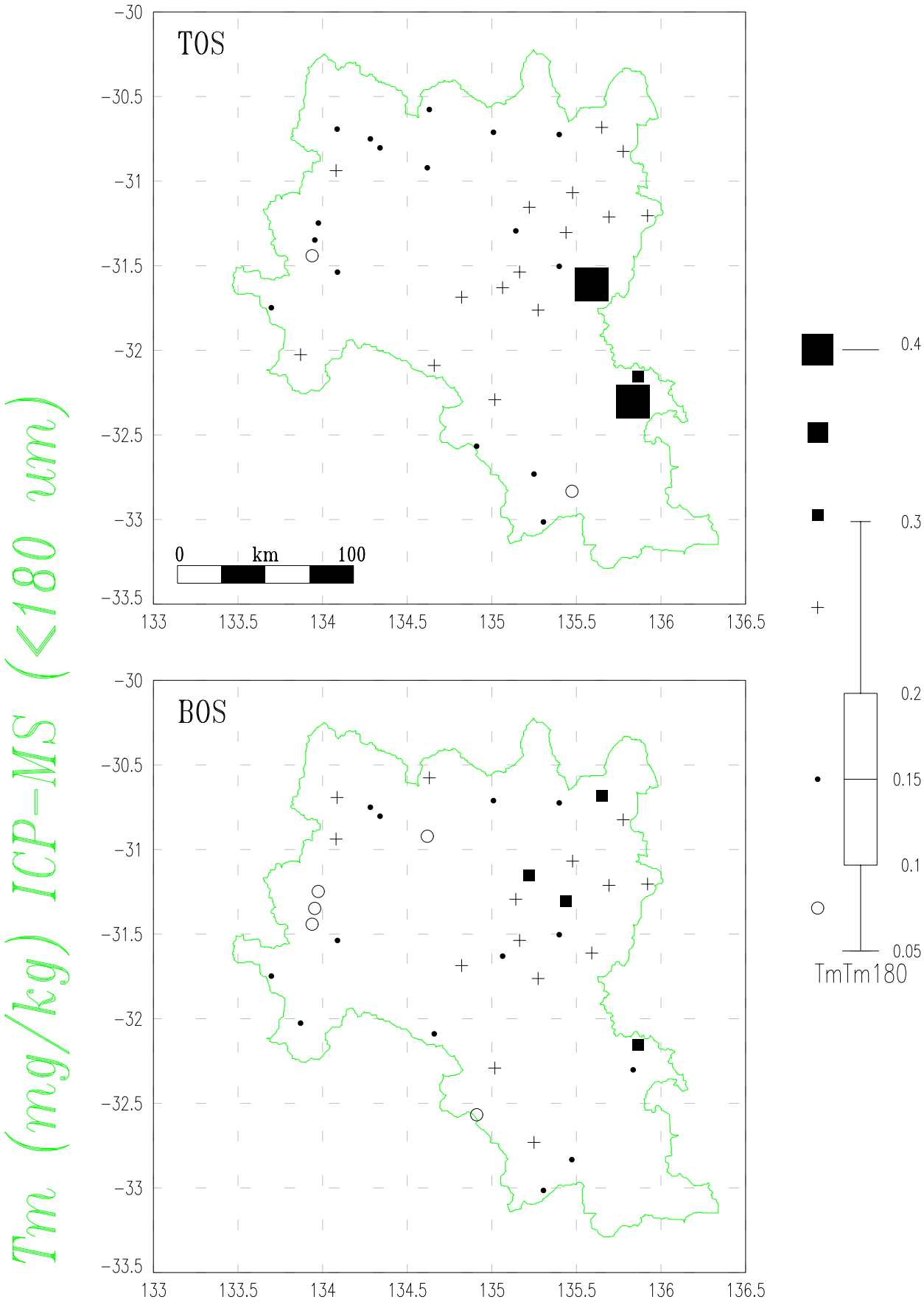




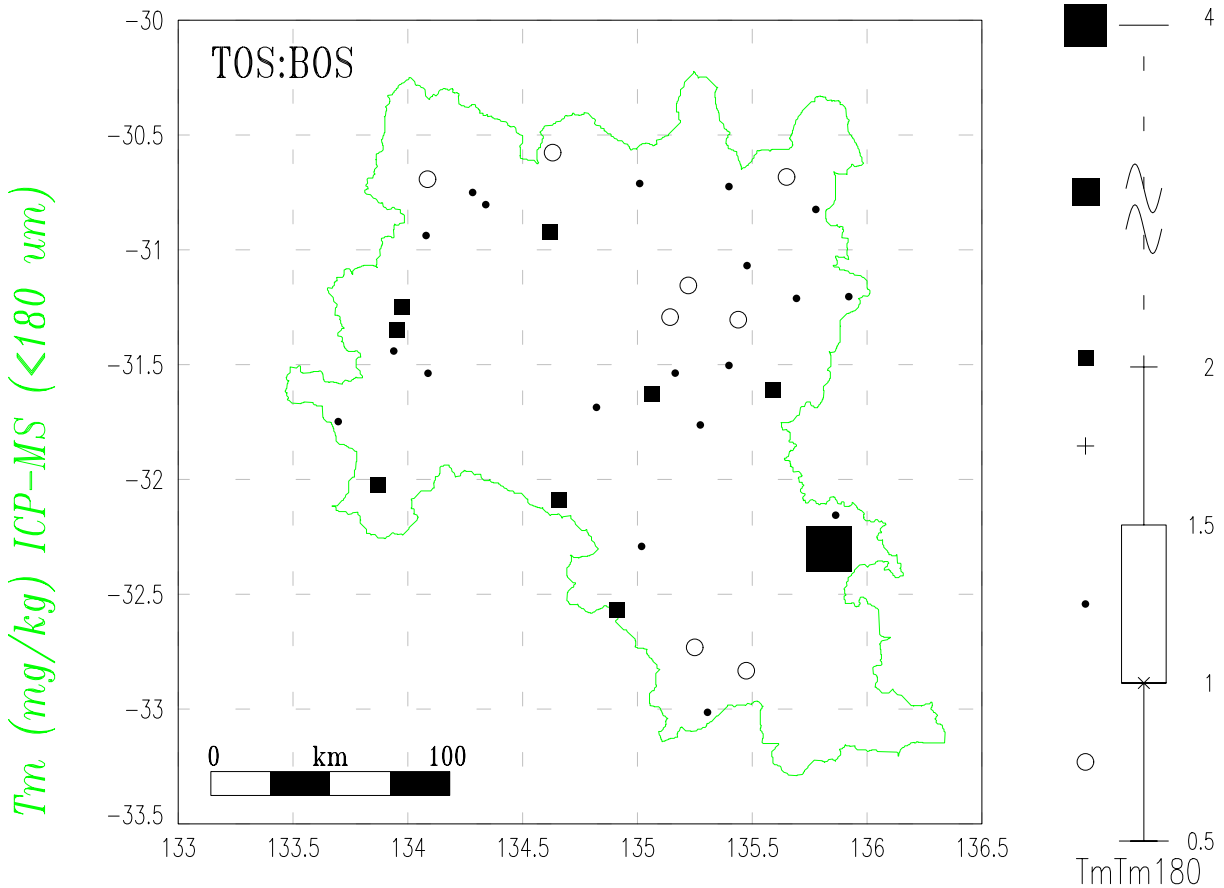


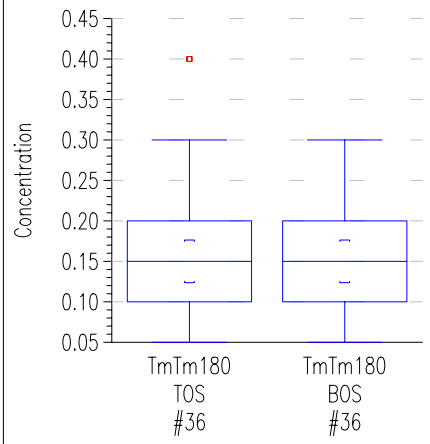
GAWLER GEOCHEMICAL SURVEY

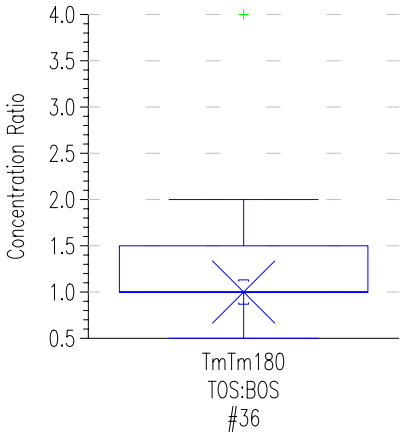
Top & Bottom Outlet Sediments (TOS & BOS)

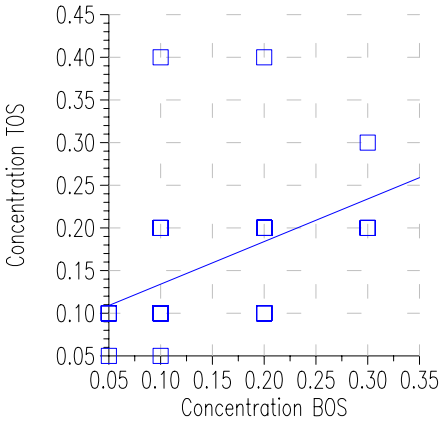


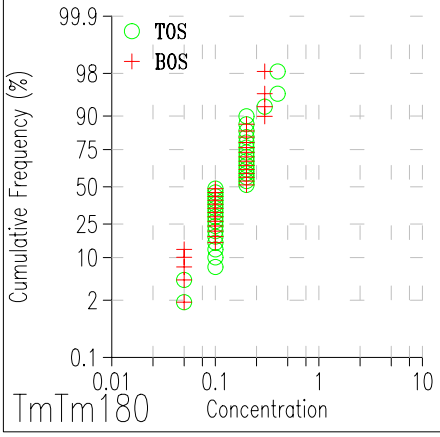
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

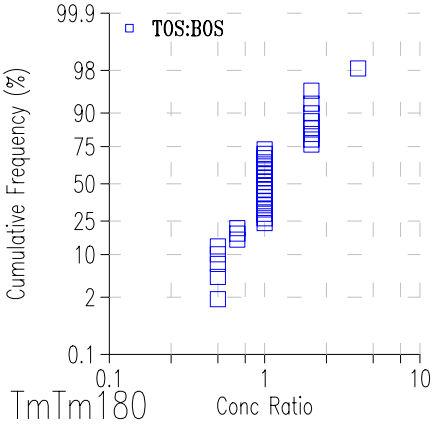


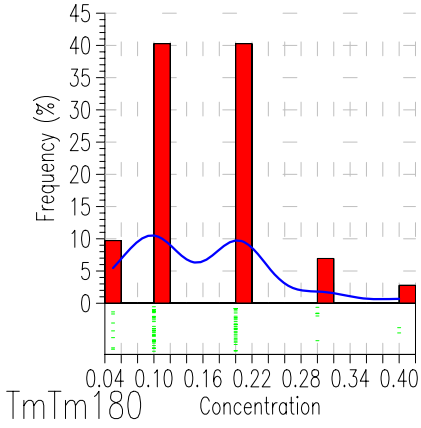








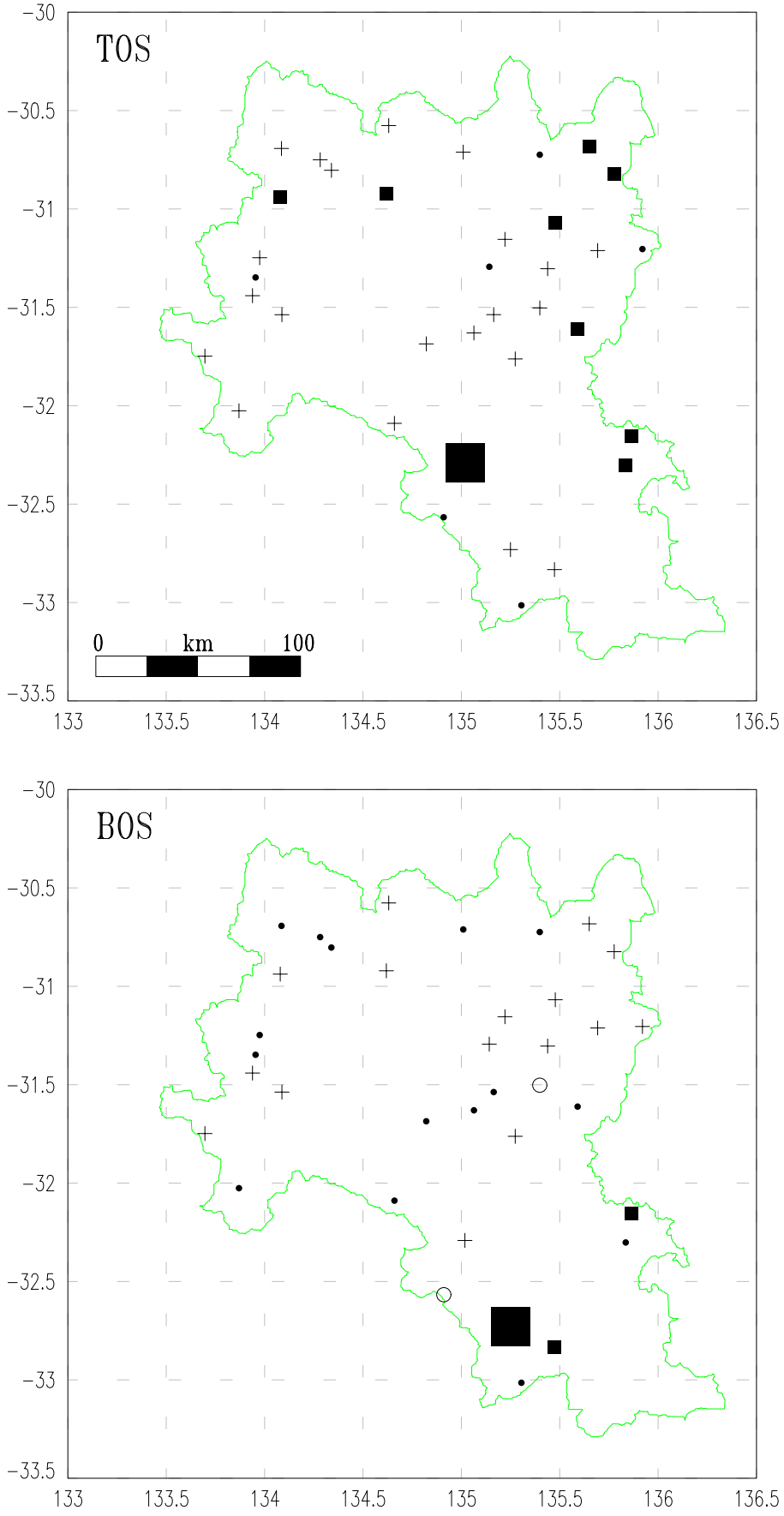


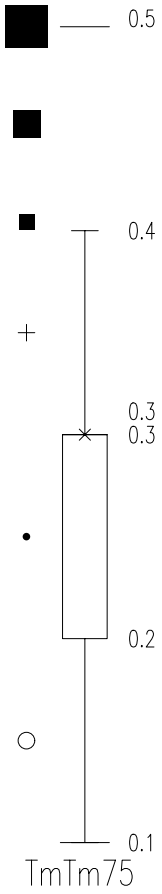


CAWLER GEOCHEMICAL SURVEY

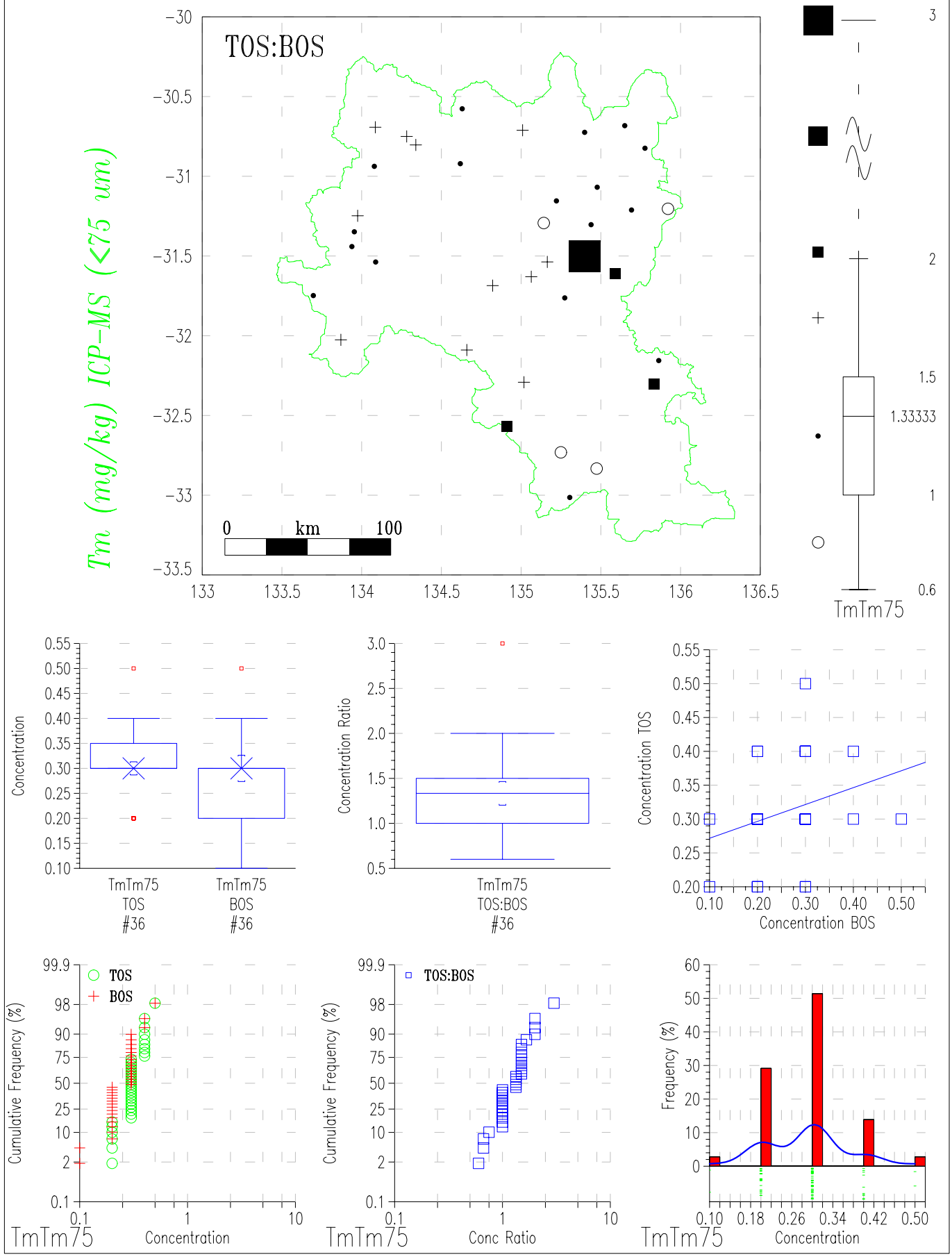
Top & Bottom Outlet Sediments (TOS & BOS)

Tm (mg/kg) ICP-MS (<75 um)

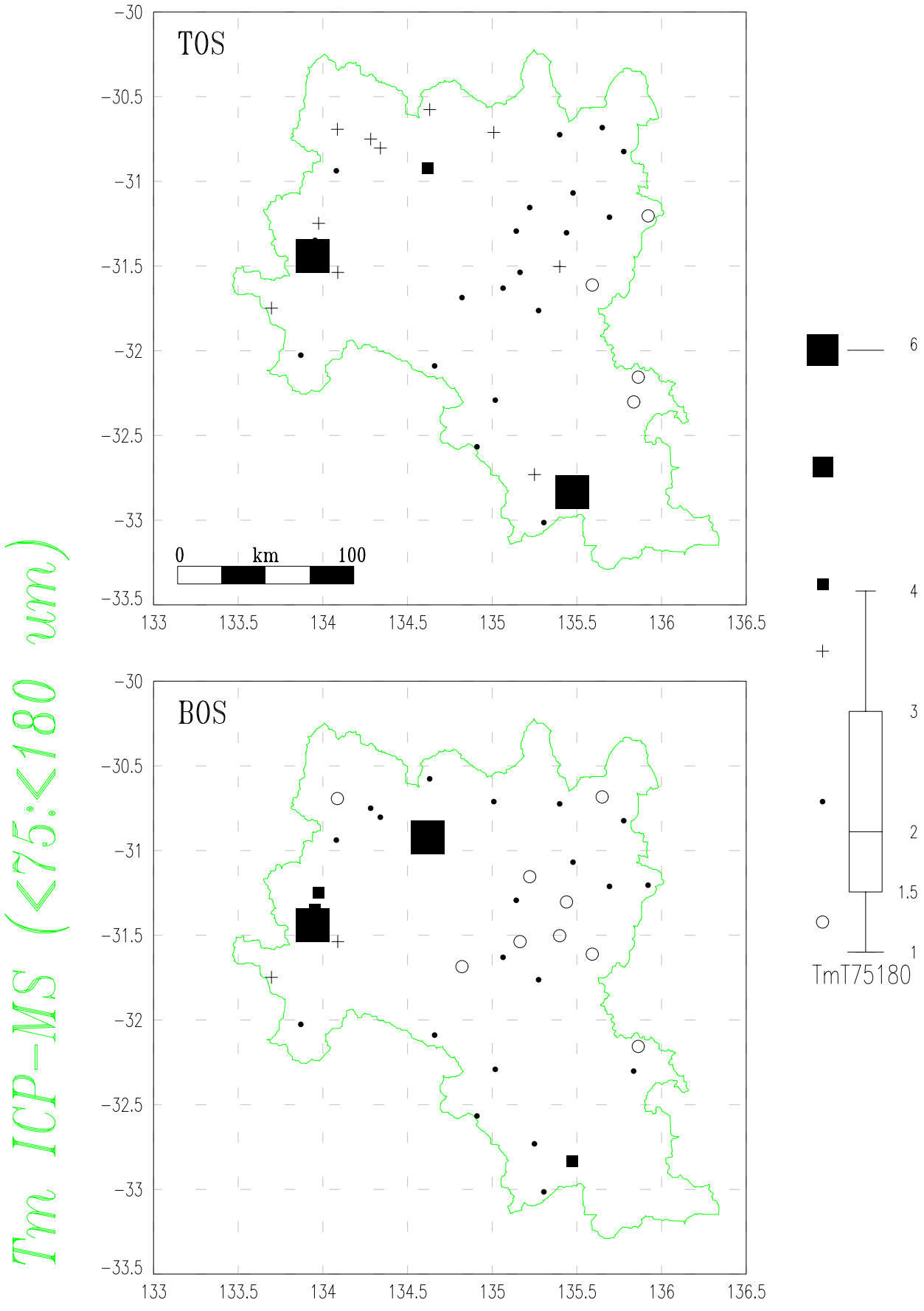




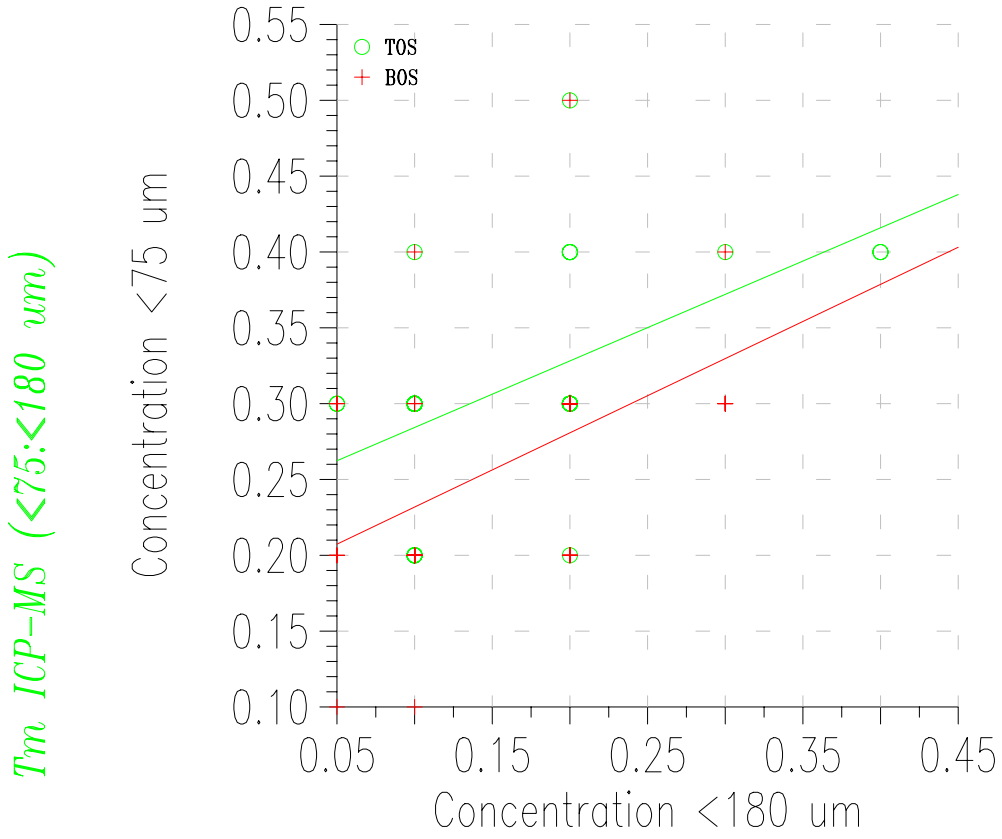
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

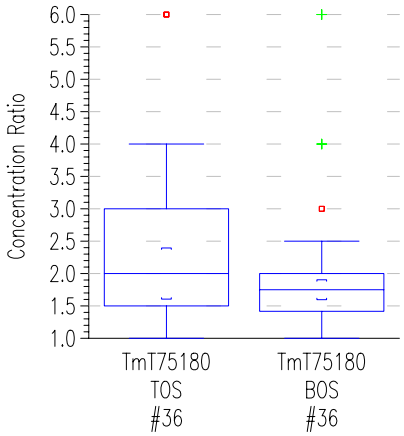


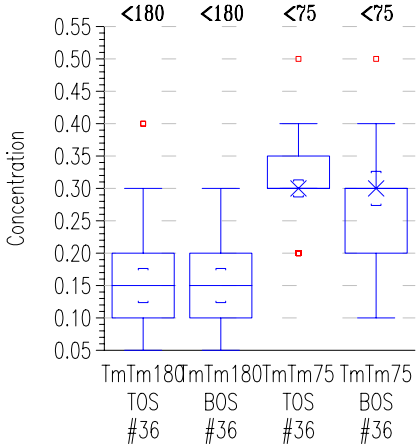
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

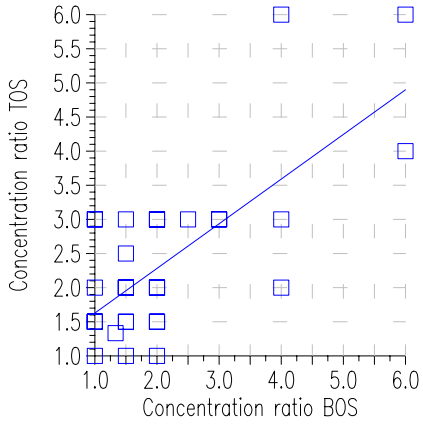


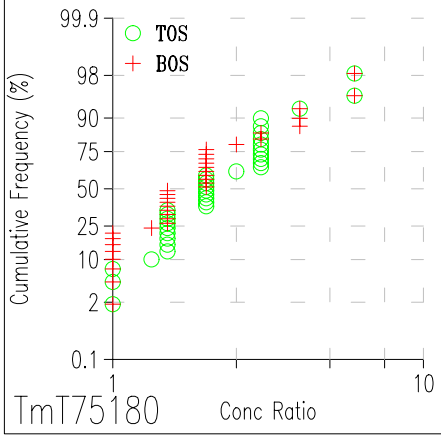
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

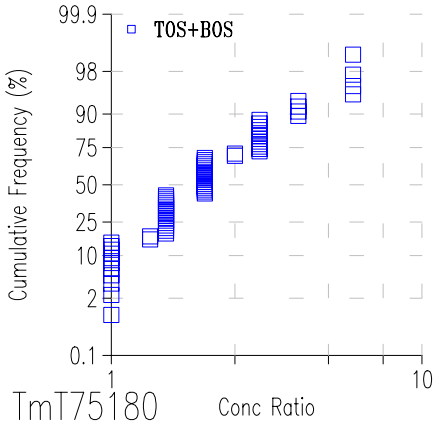


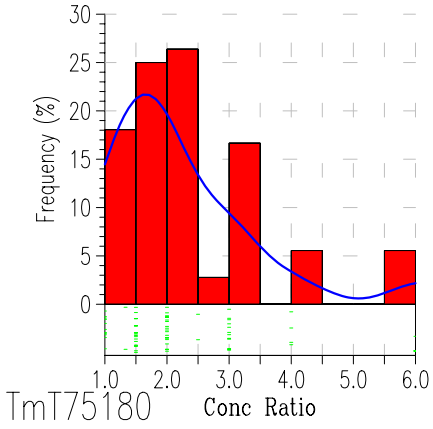








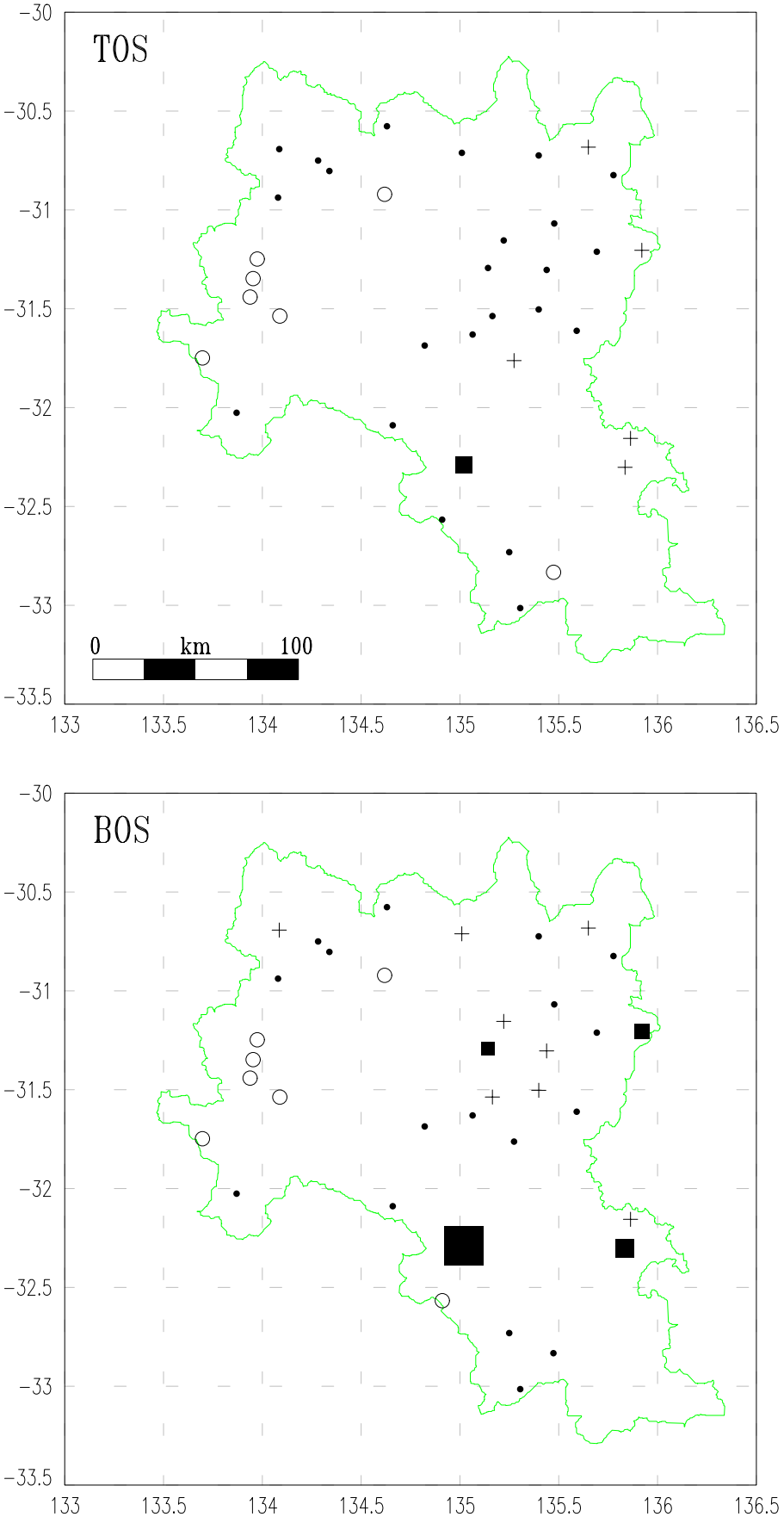




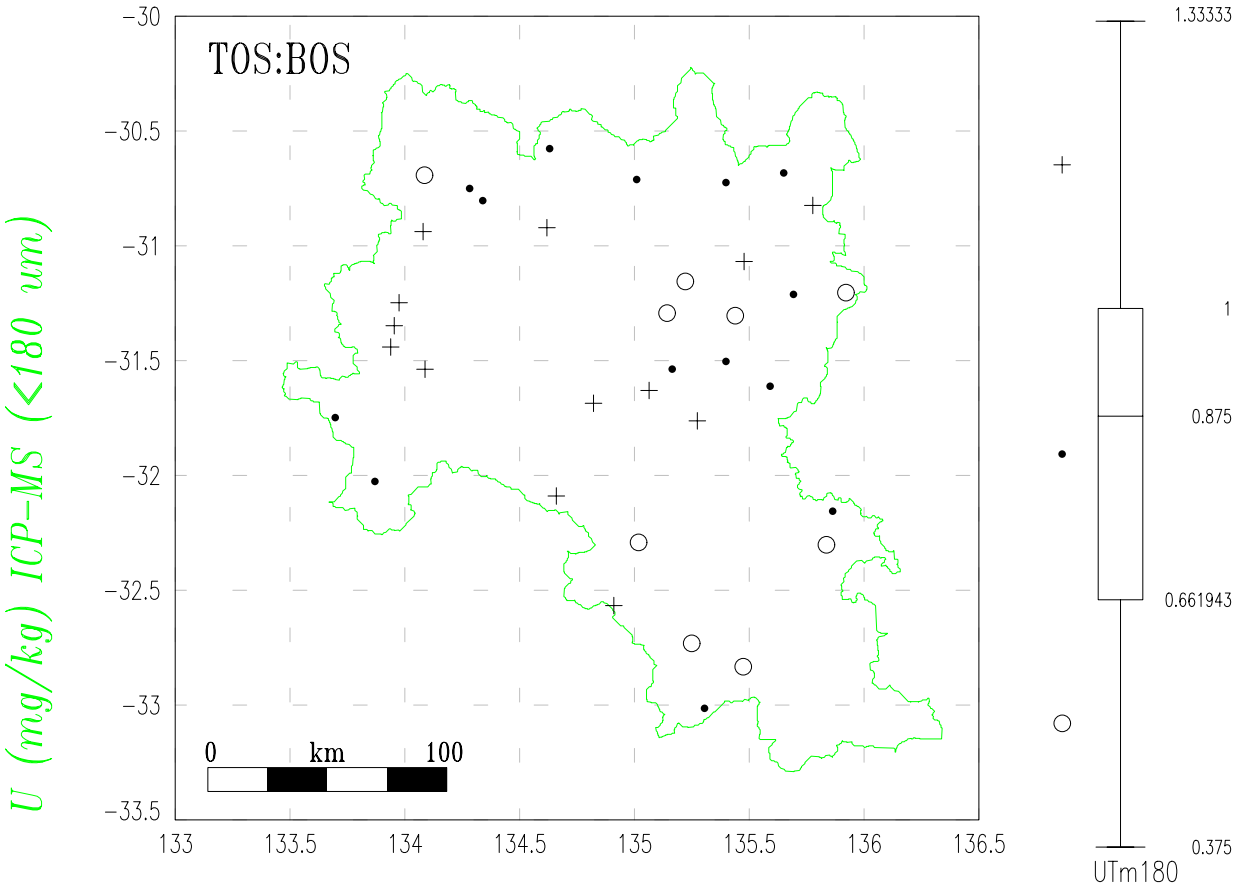
GAWLER GEOCHEMICAL SURVEY

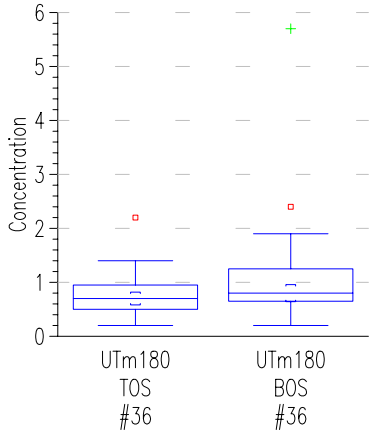
Top & Bottom Outlet Sediments (TOS & BOS)

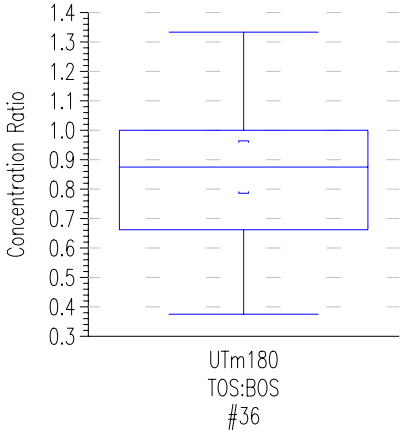
U (mg/kg) ICP-MS (<180 um)

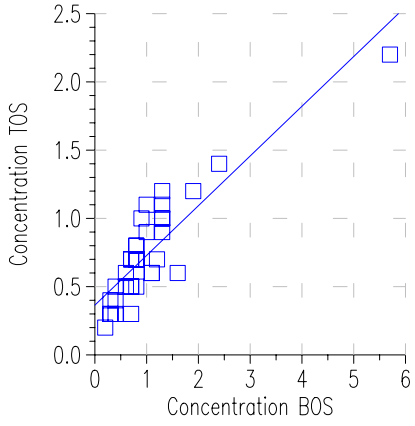


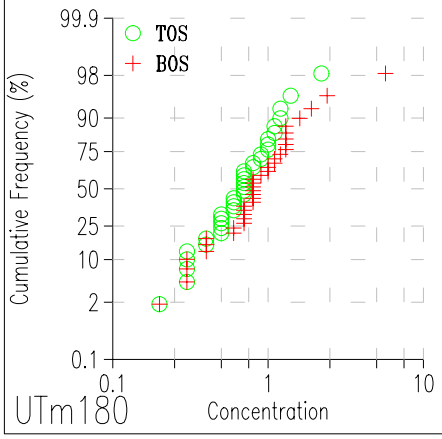
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

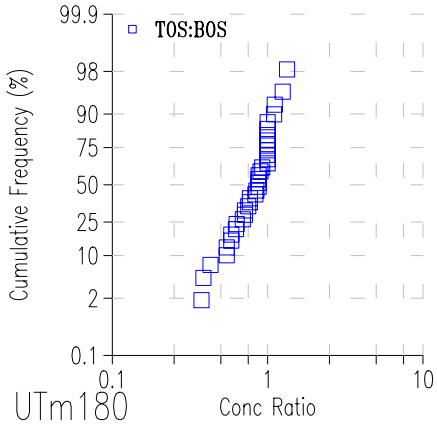


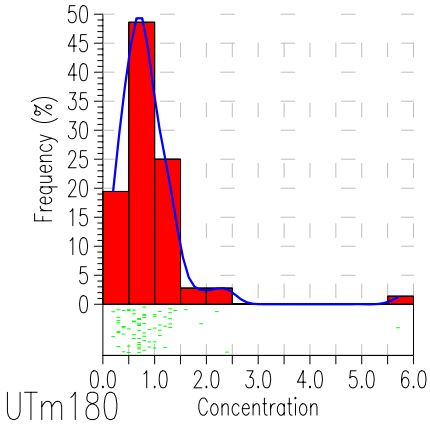








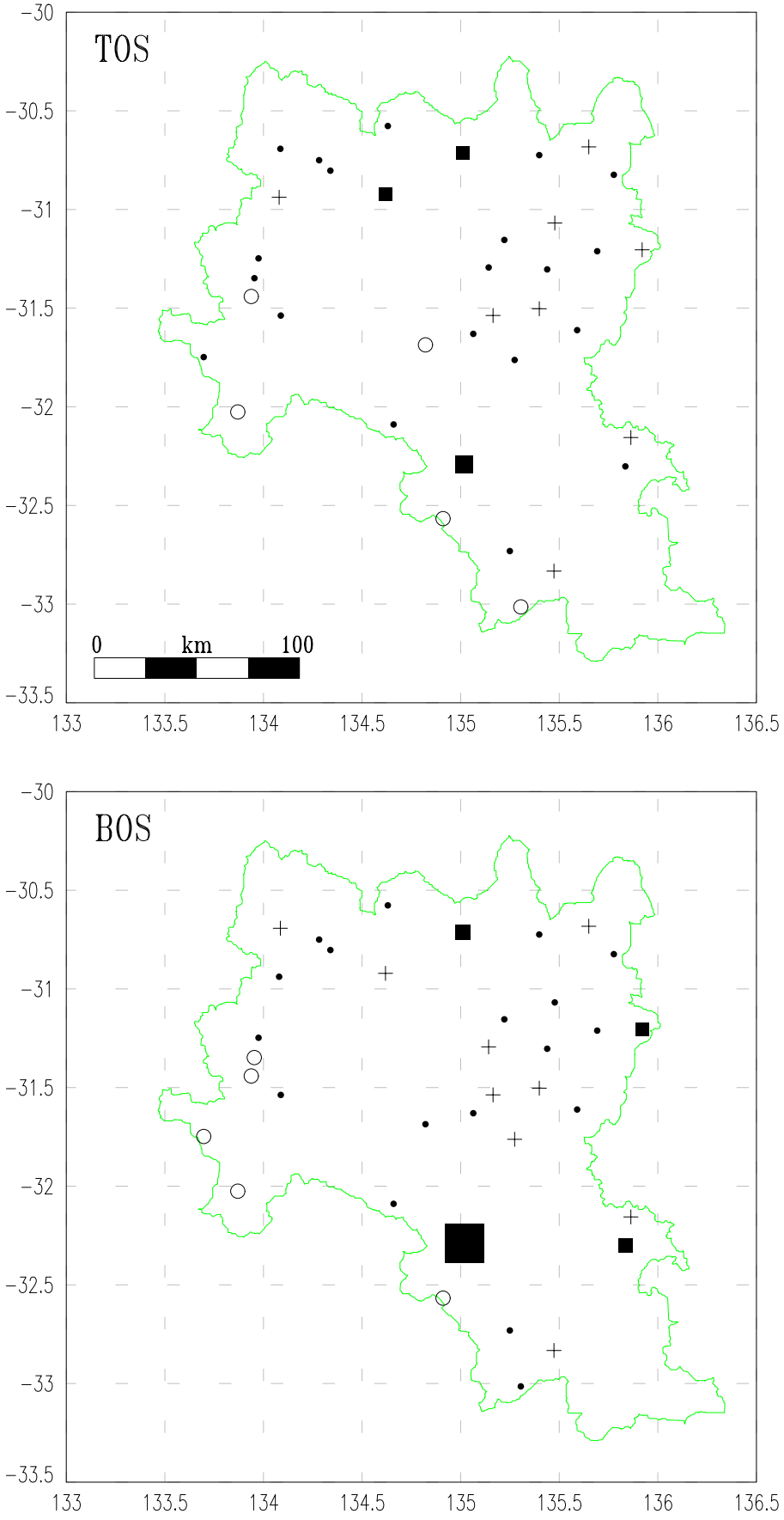




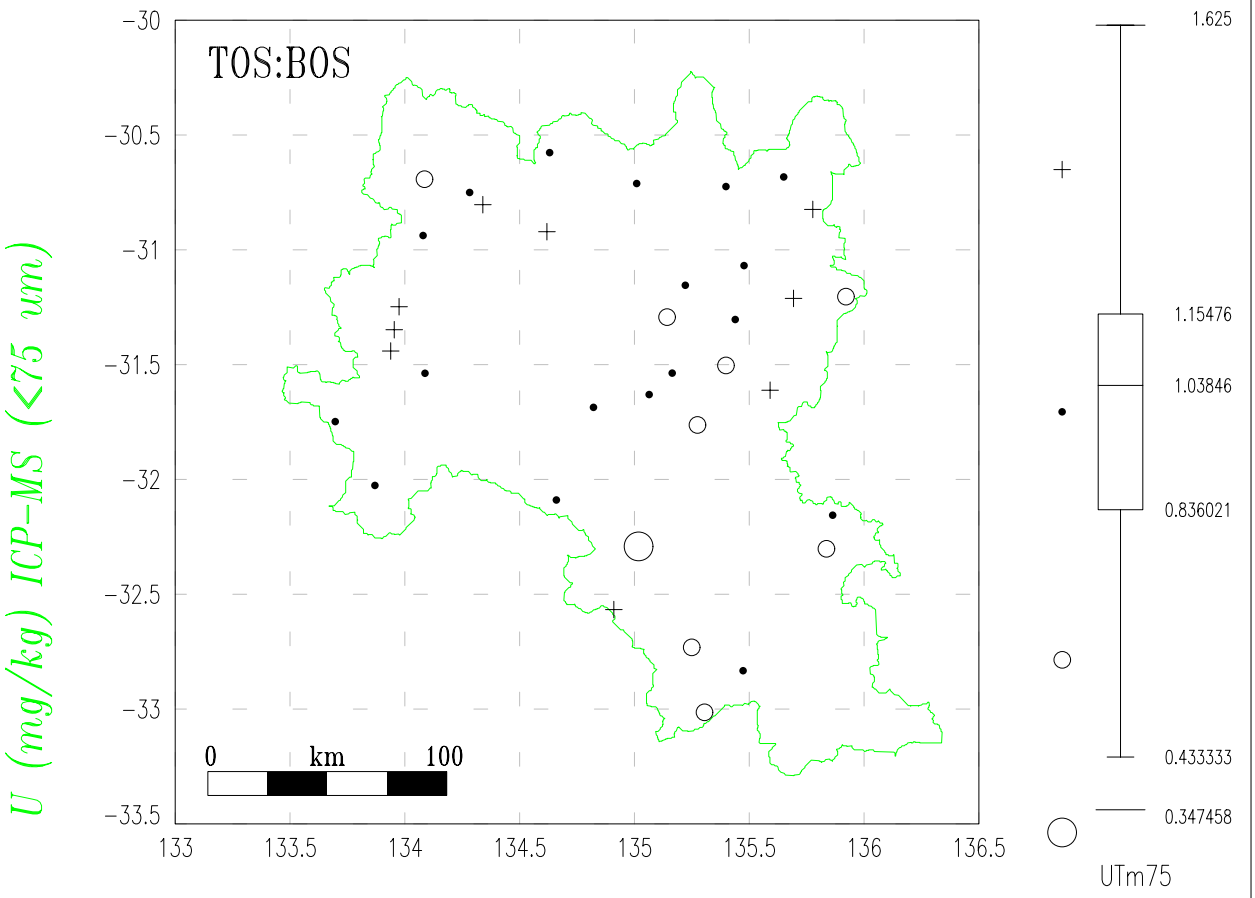
CAWLER GEOCHEMICAL SURVEY

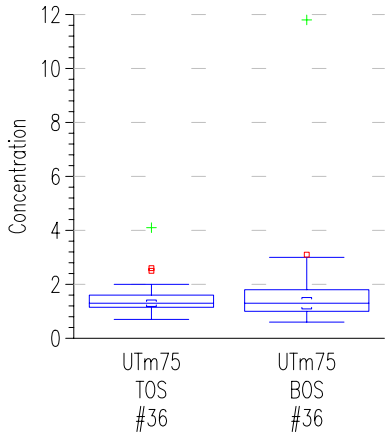
Top & Bottom Outlet Sediments (TOS & BOS)

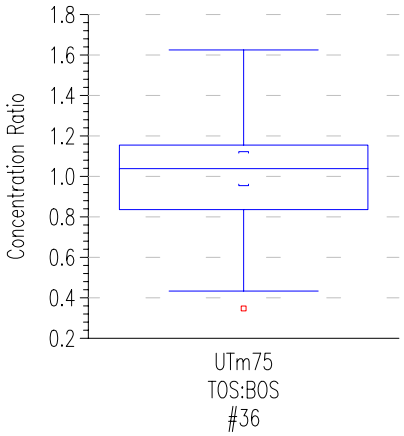
U (mg/kg) ICP-MS (<75 um)

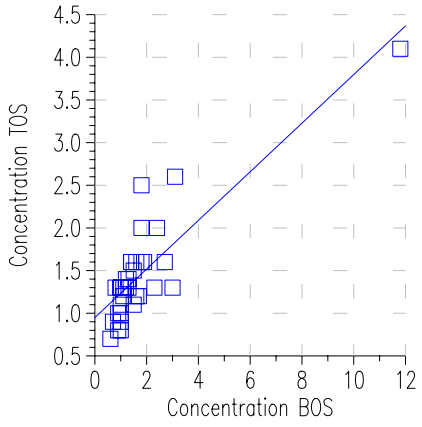


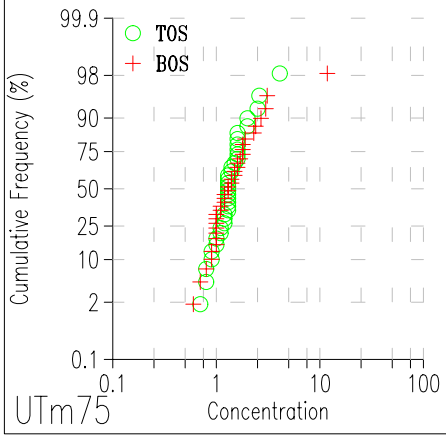
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

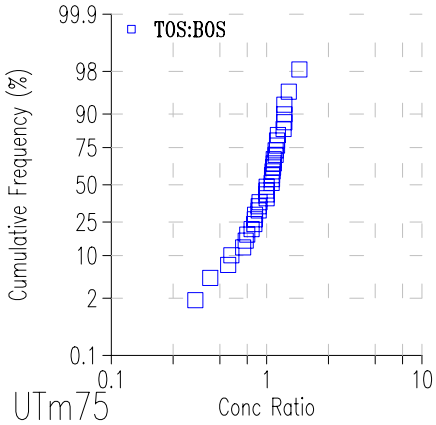


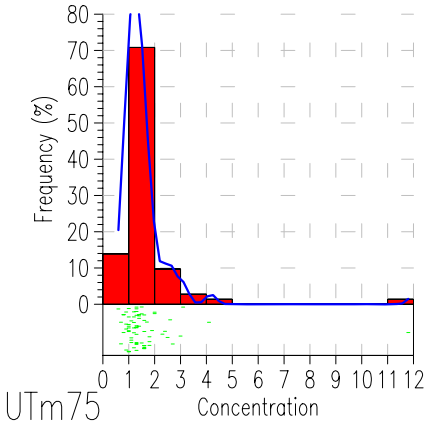






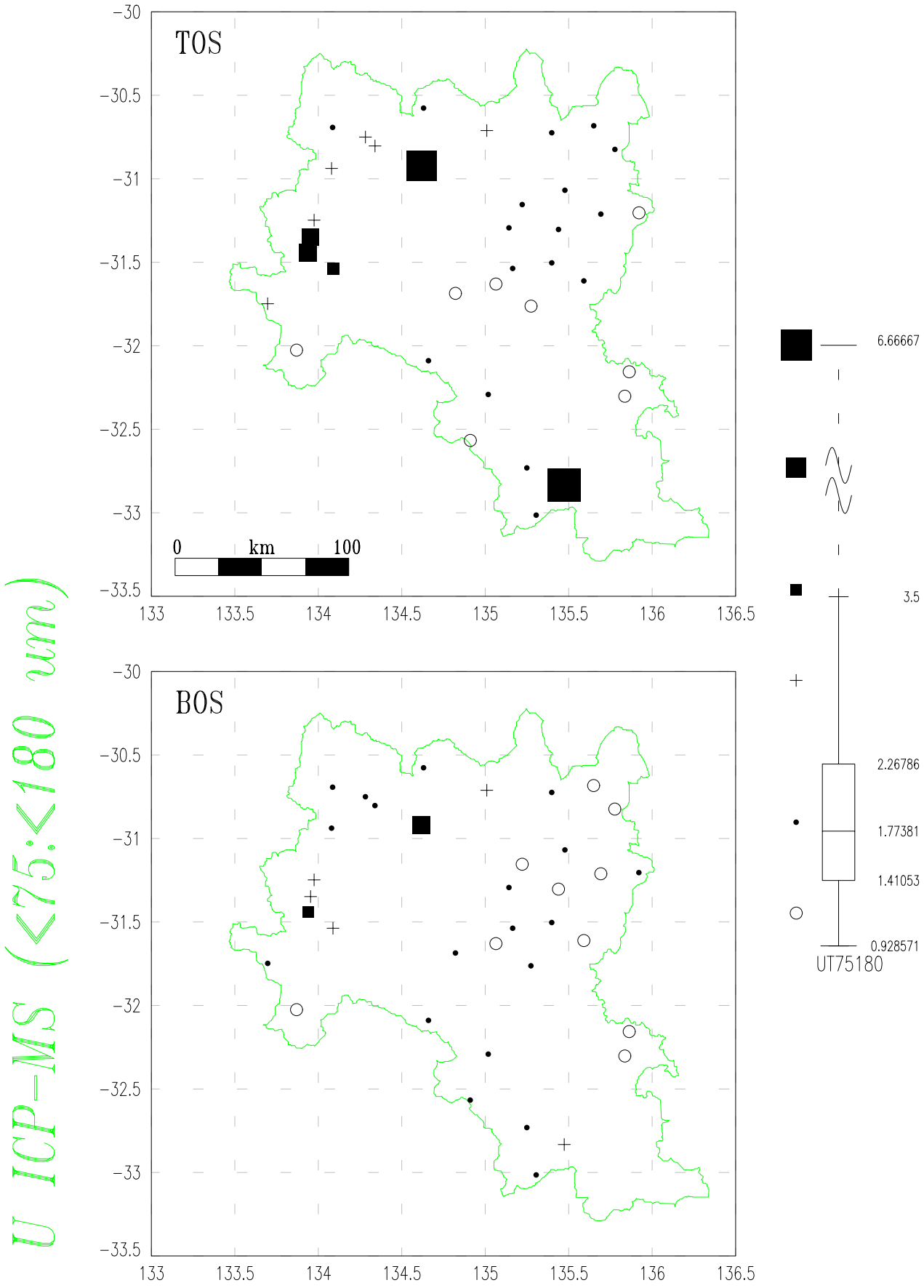






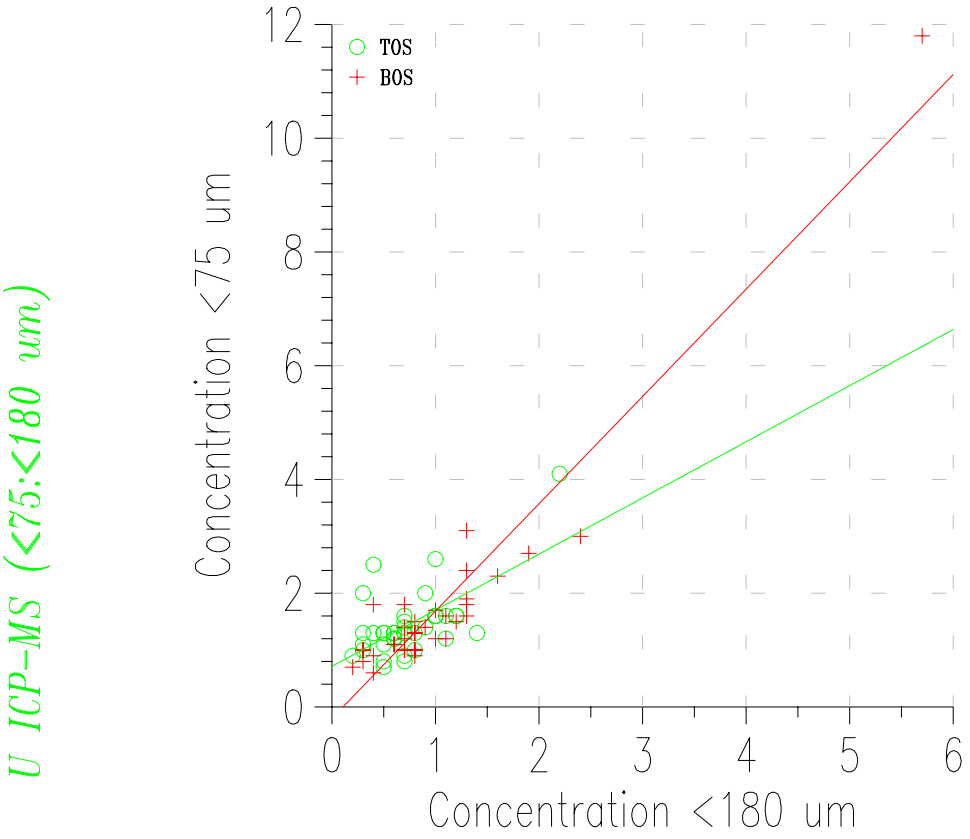
CAWLER GEOCHEMICAL SURVEY

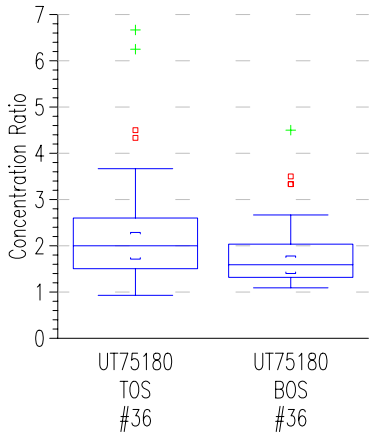
Top & Bottom Outlet Sediments (TOS & BOS)

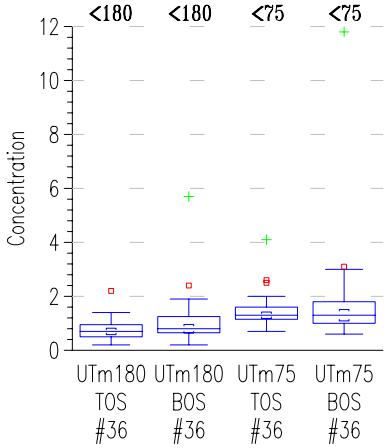


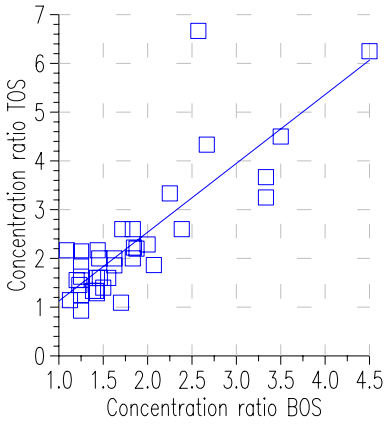
U ICP-MS (<75:<180 um)

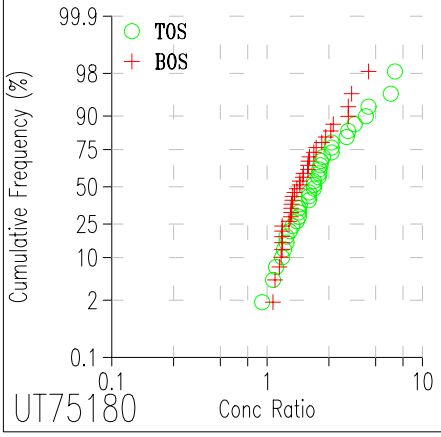
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

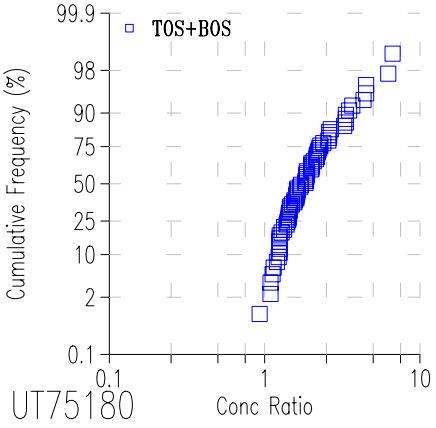


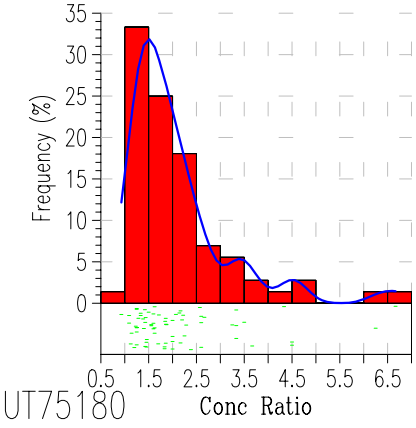




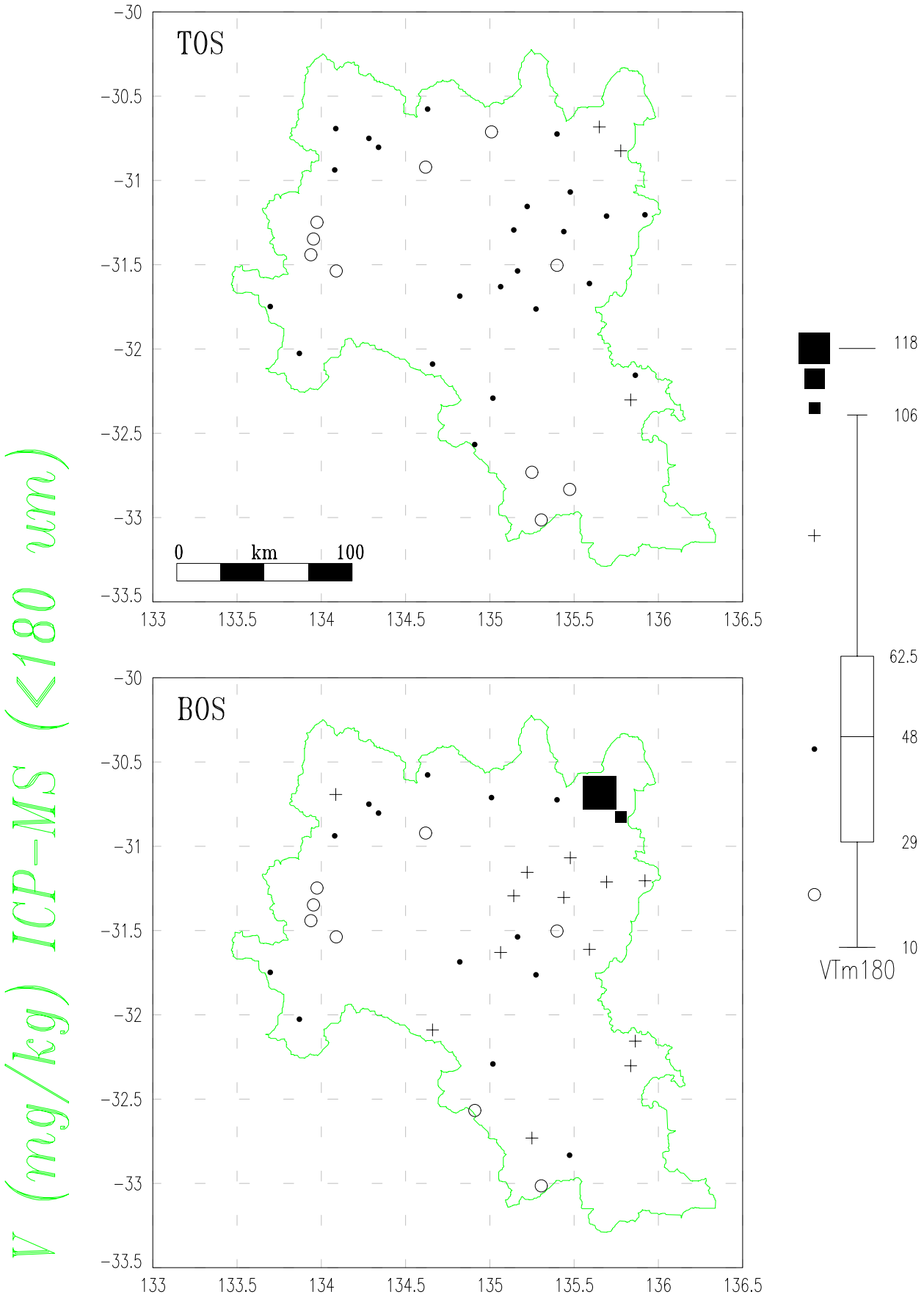




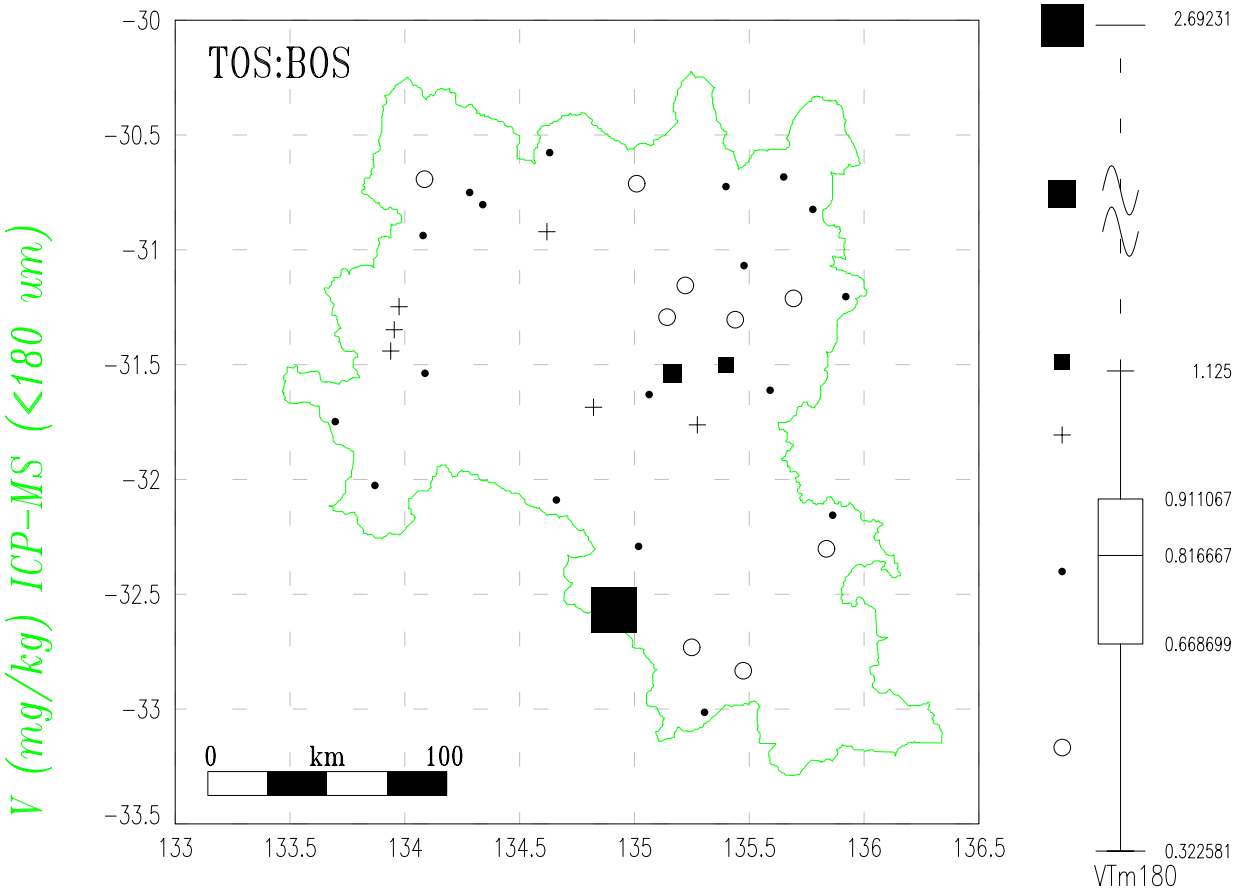


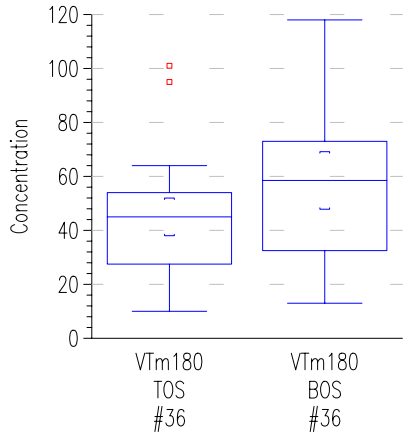


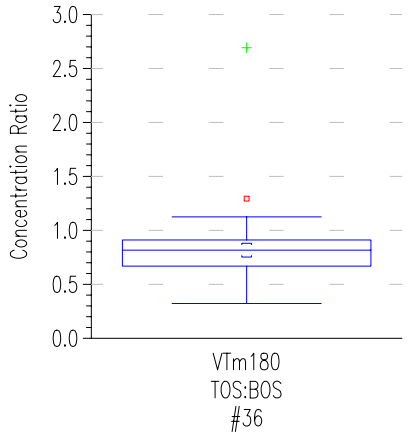
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

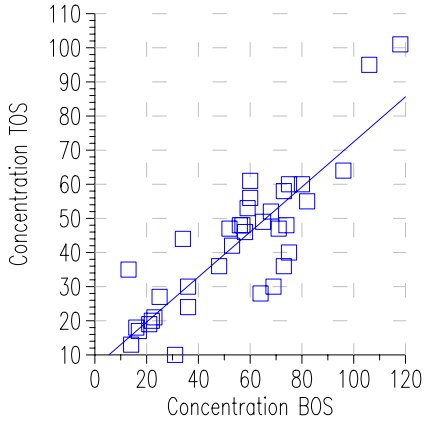


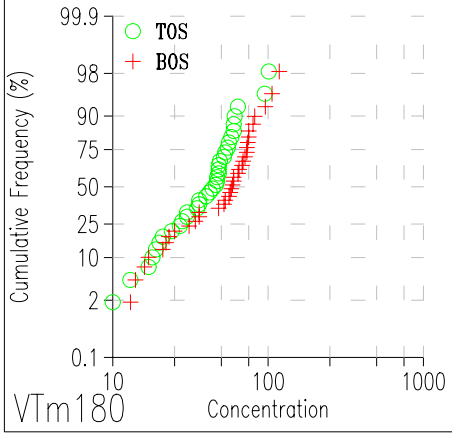
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

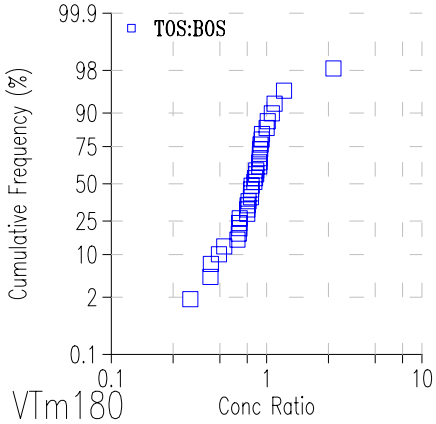


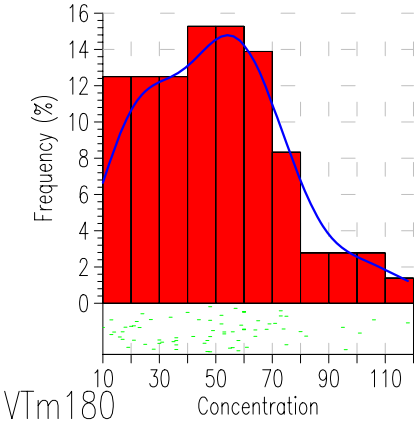




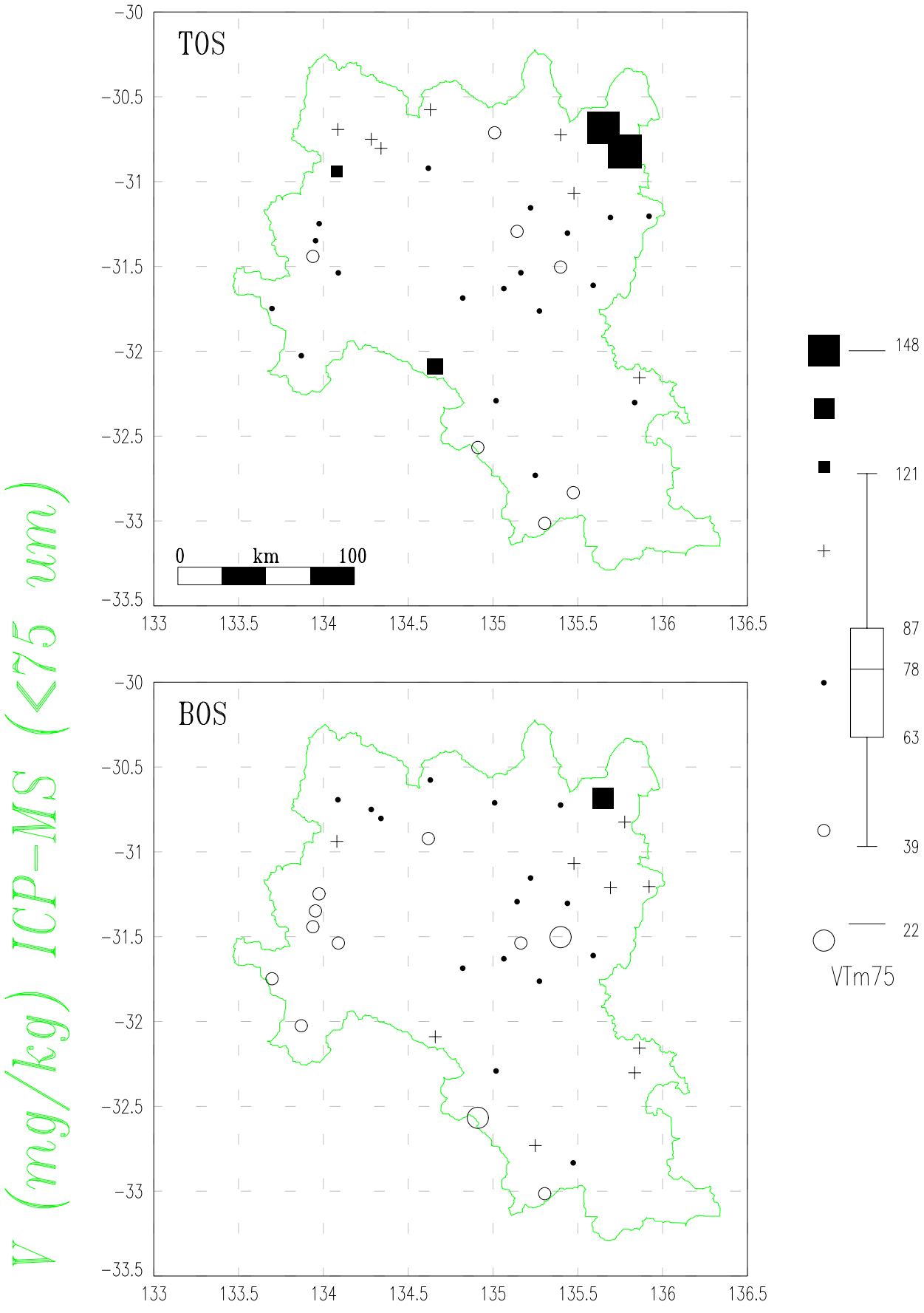




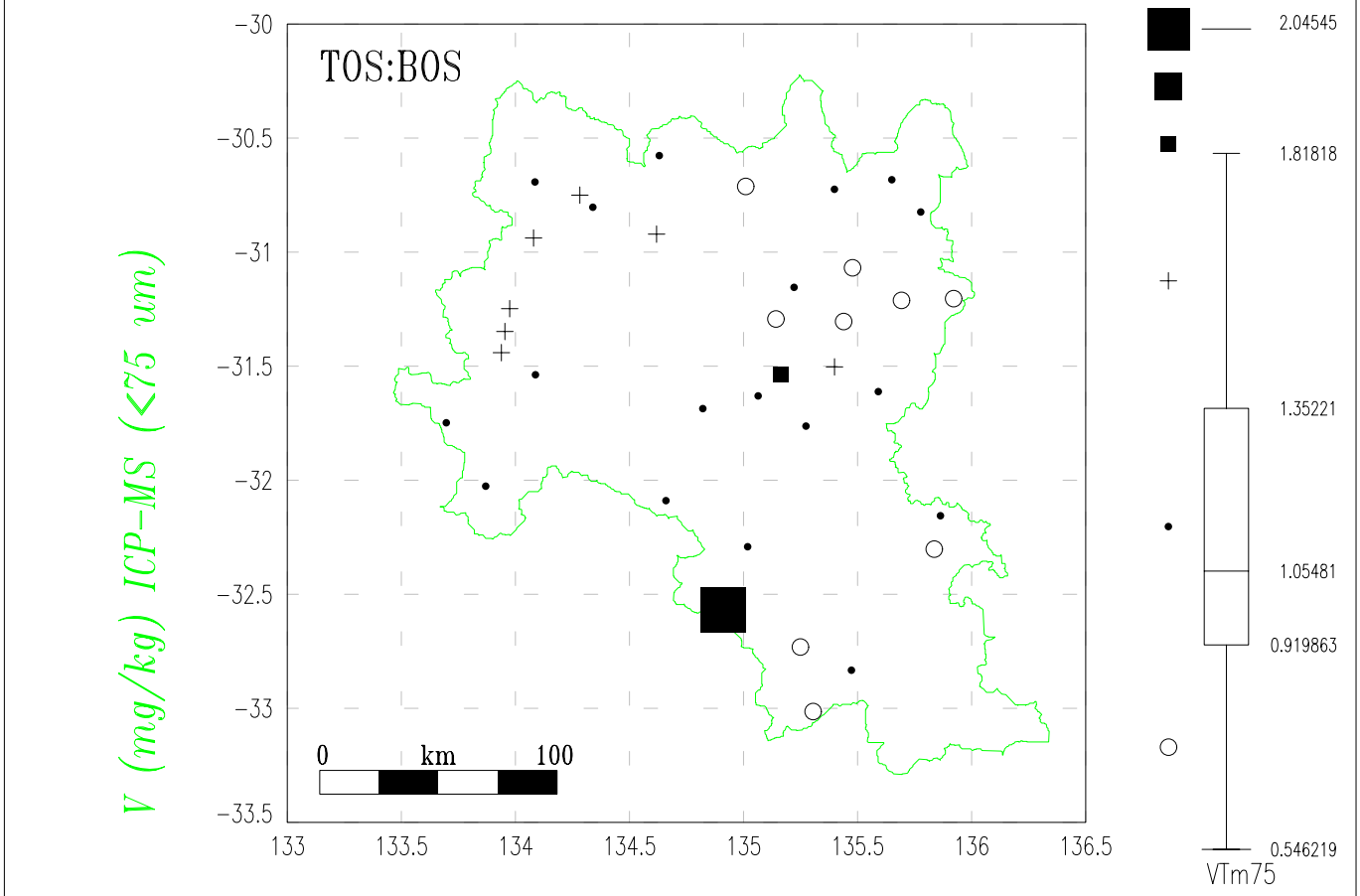


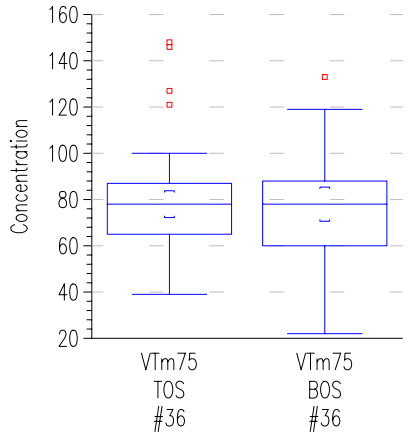


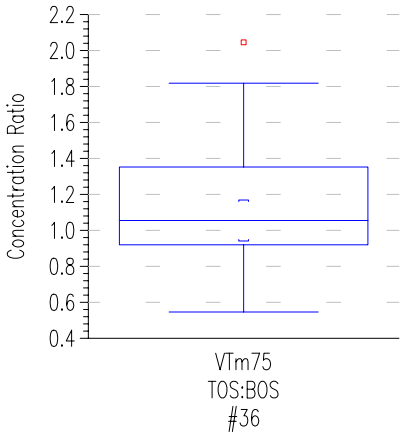
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

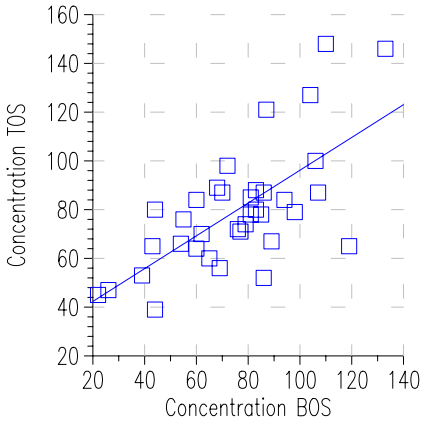


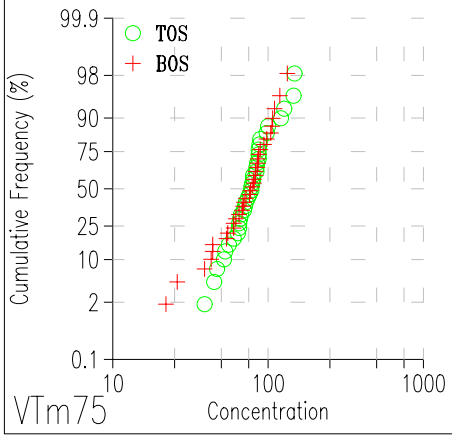
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

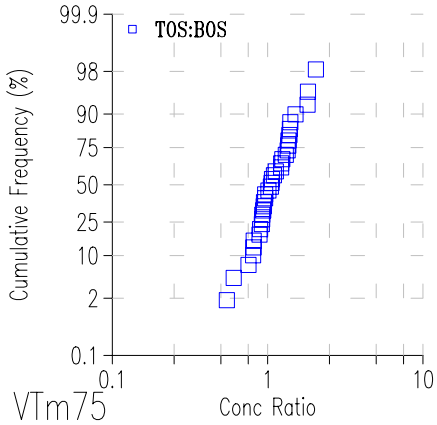


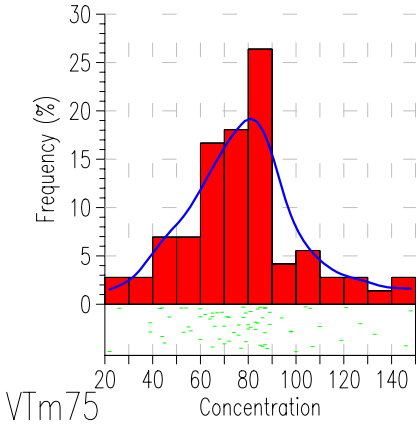






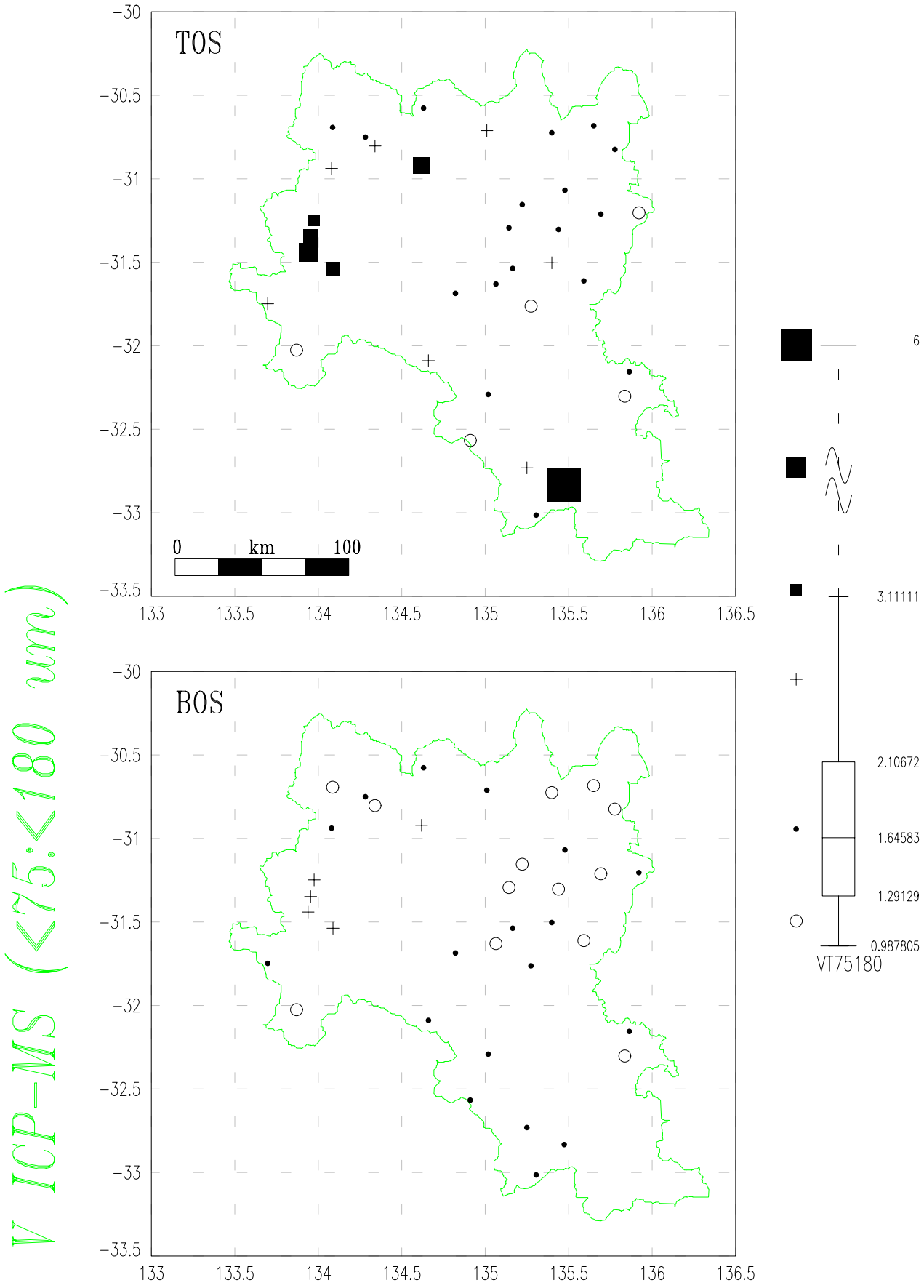






GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



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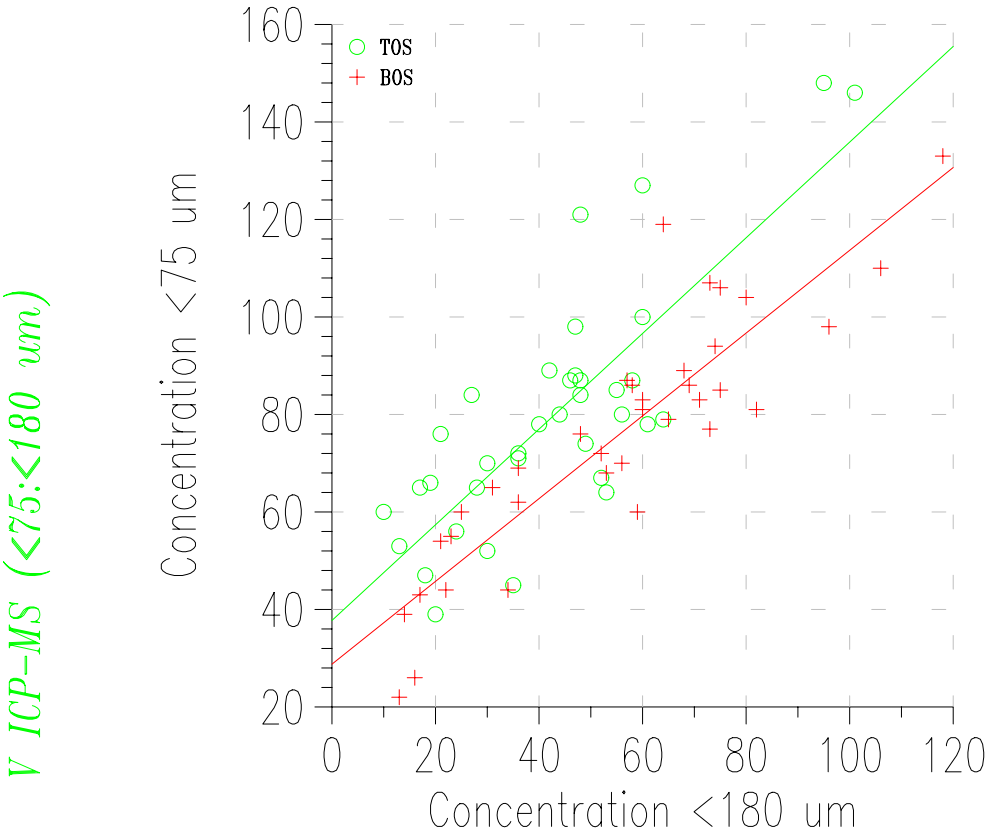
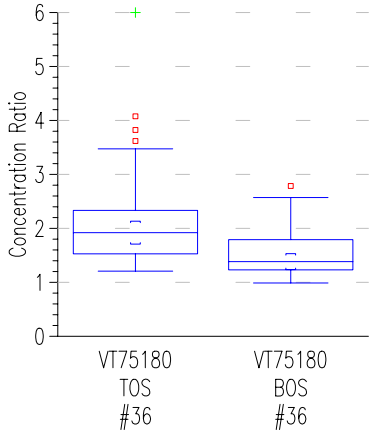
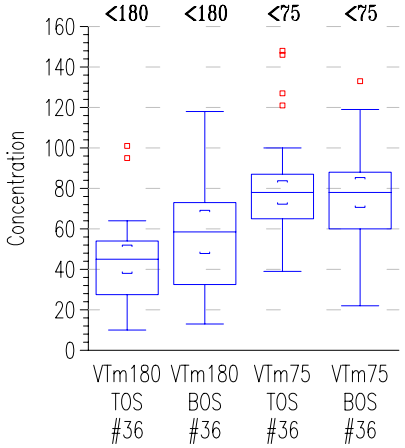
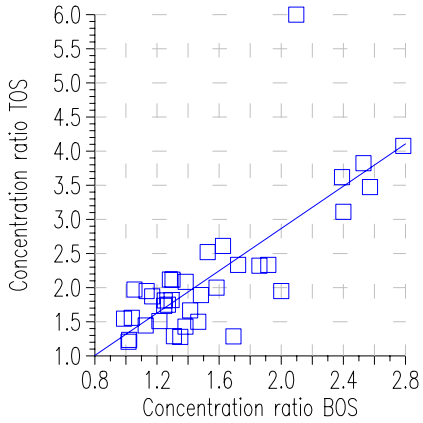
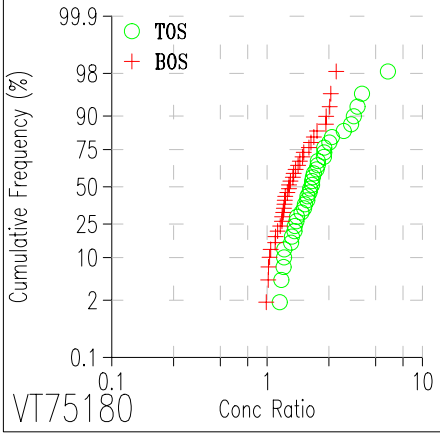
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

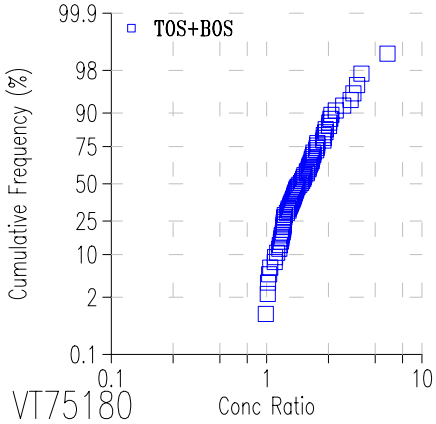


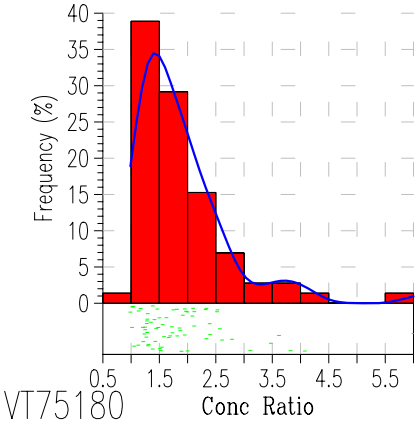






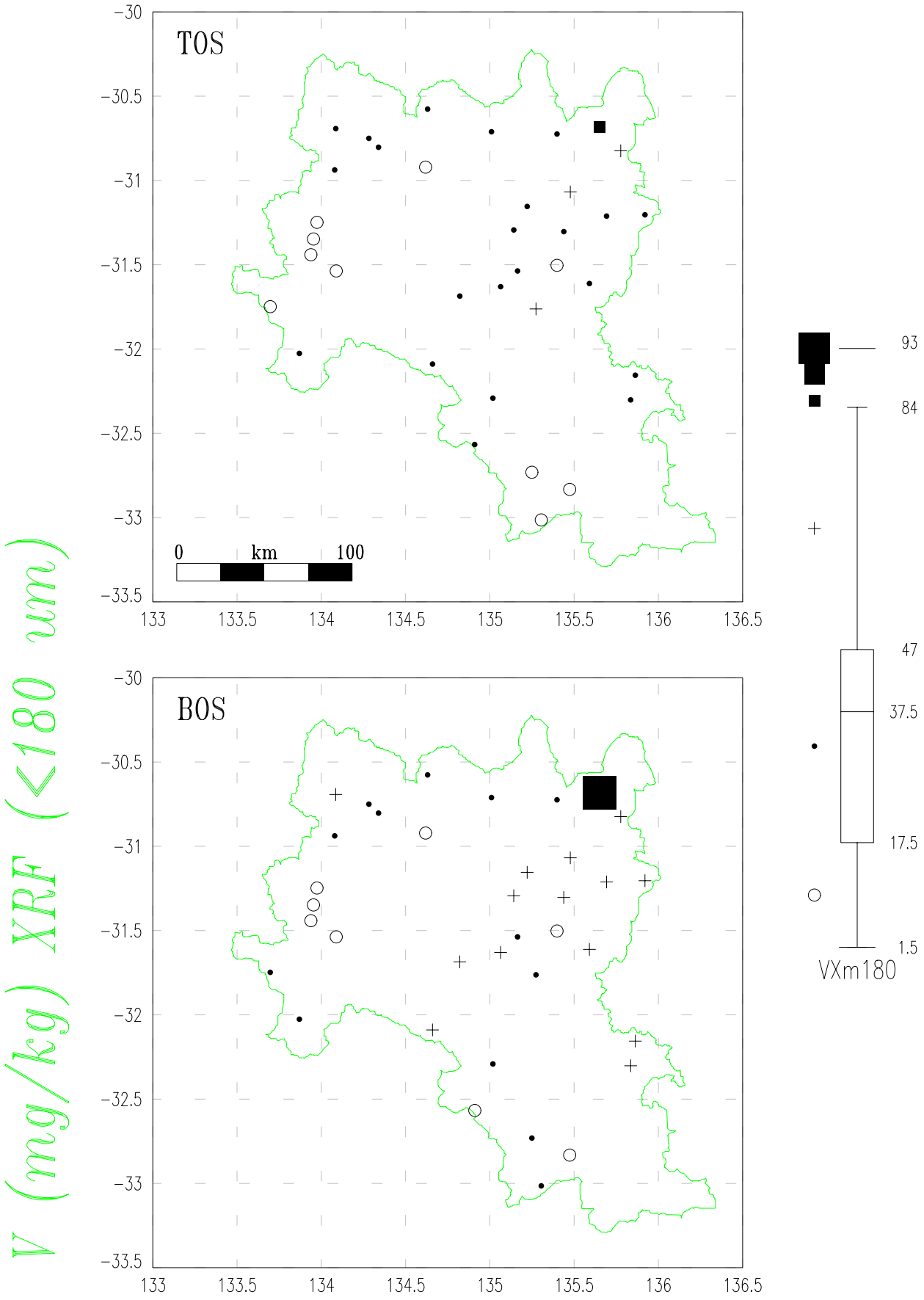






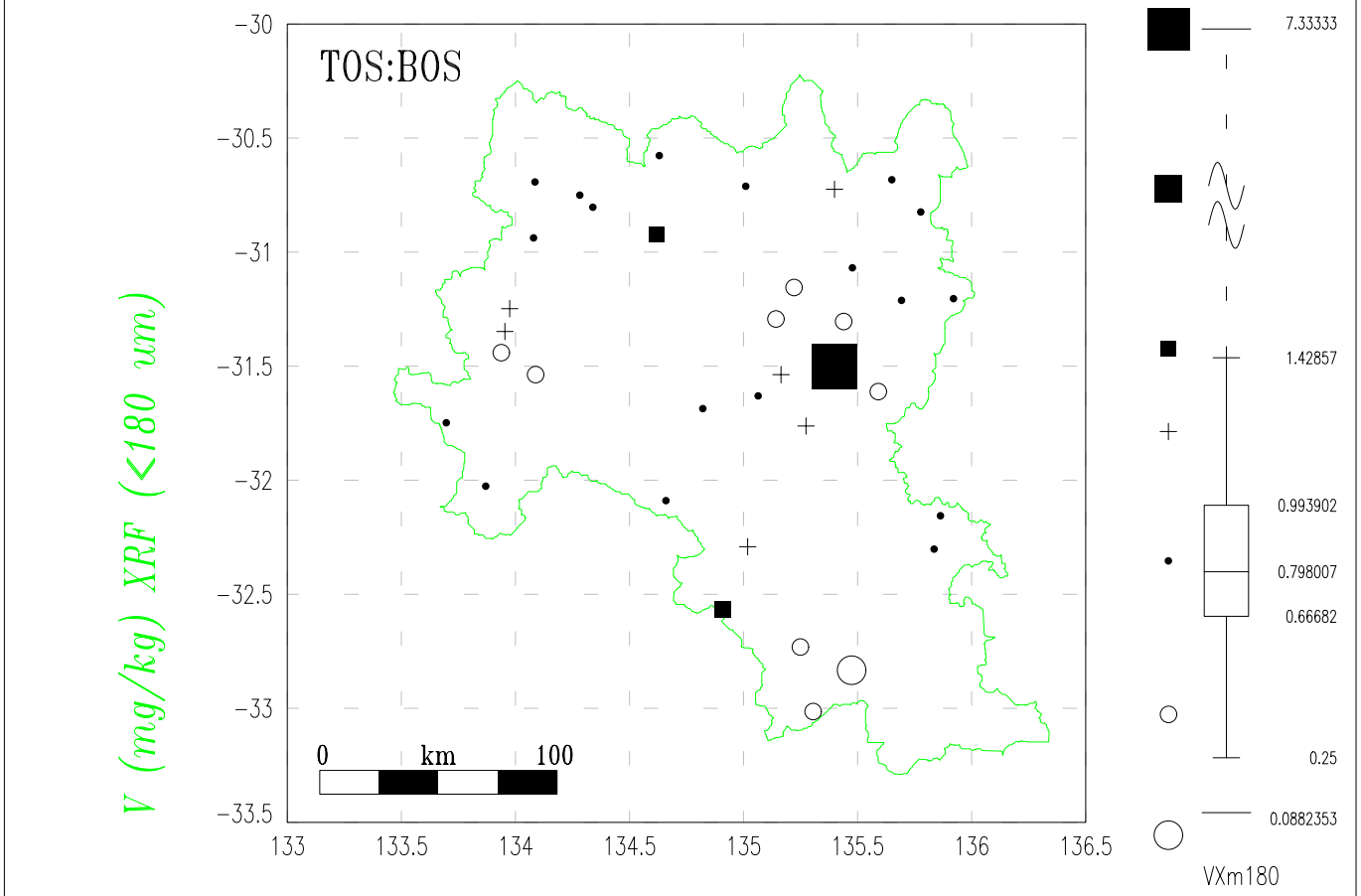
GAWLER GEOCHEMICAL SURVEY

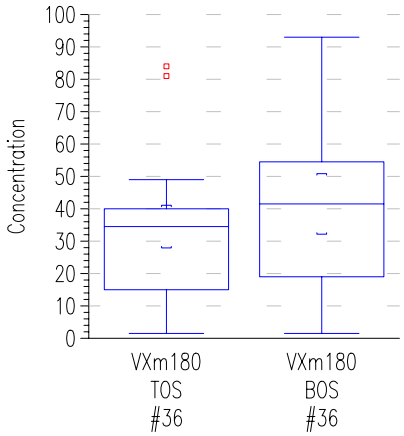
Top & Bottom Outlet Sediments (TOS & BOS)

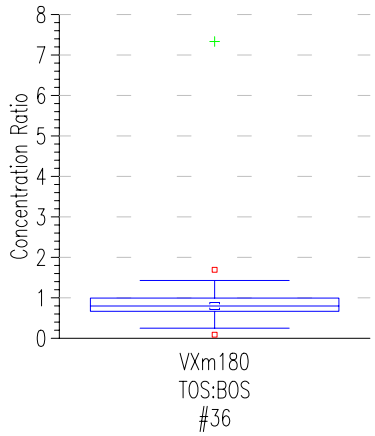


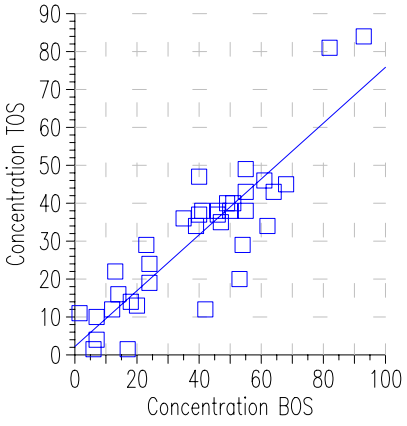
CAWLER GEOCHEMICAL SURVEY

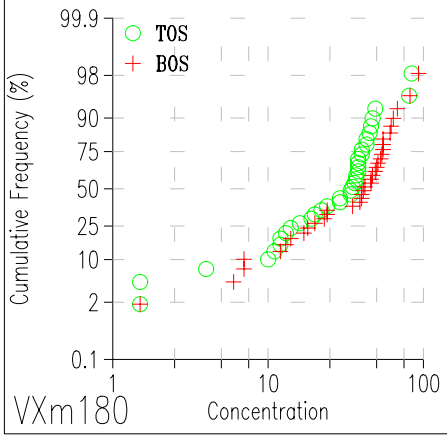
Top & Bottom Outlet Sediments (TOS & BOS)

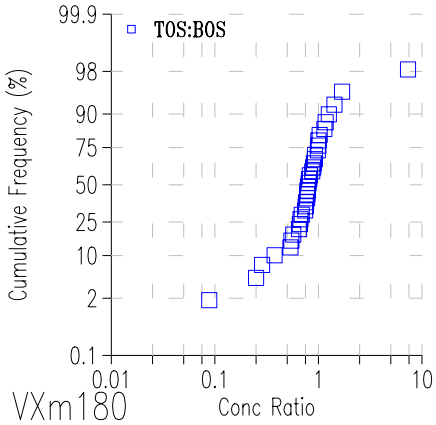


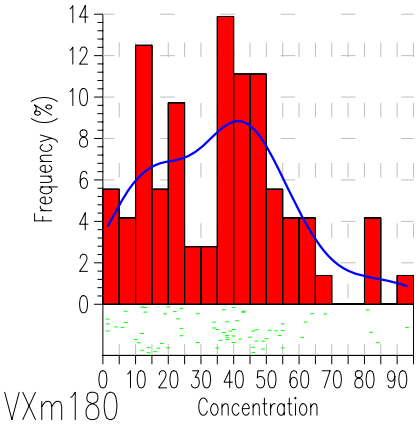






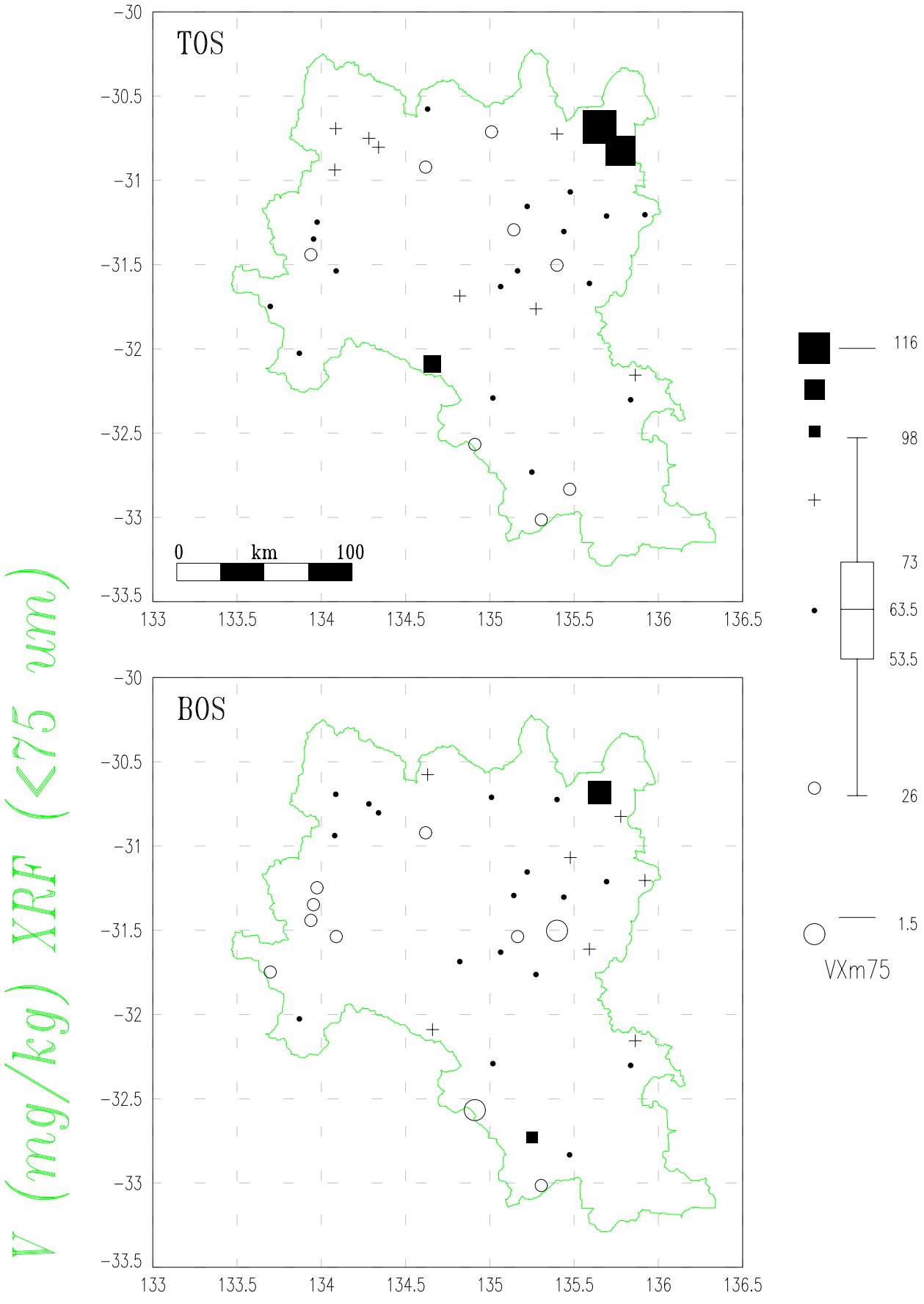




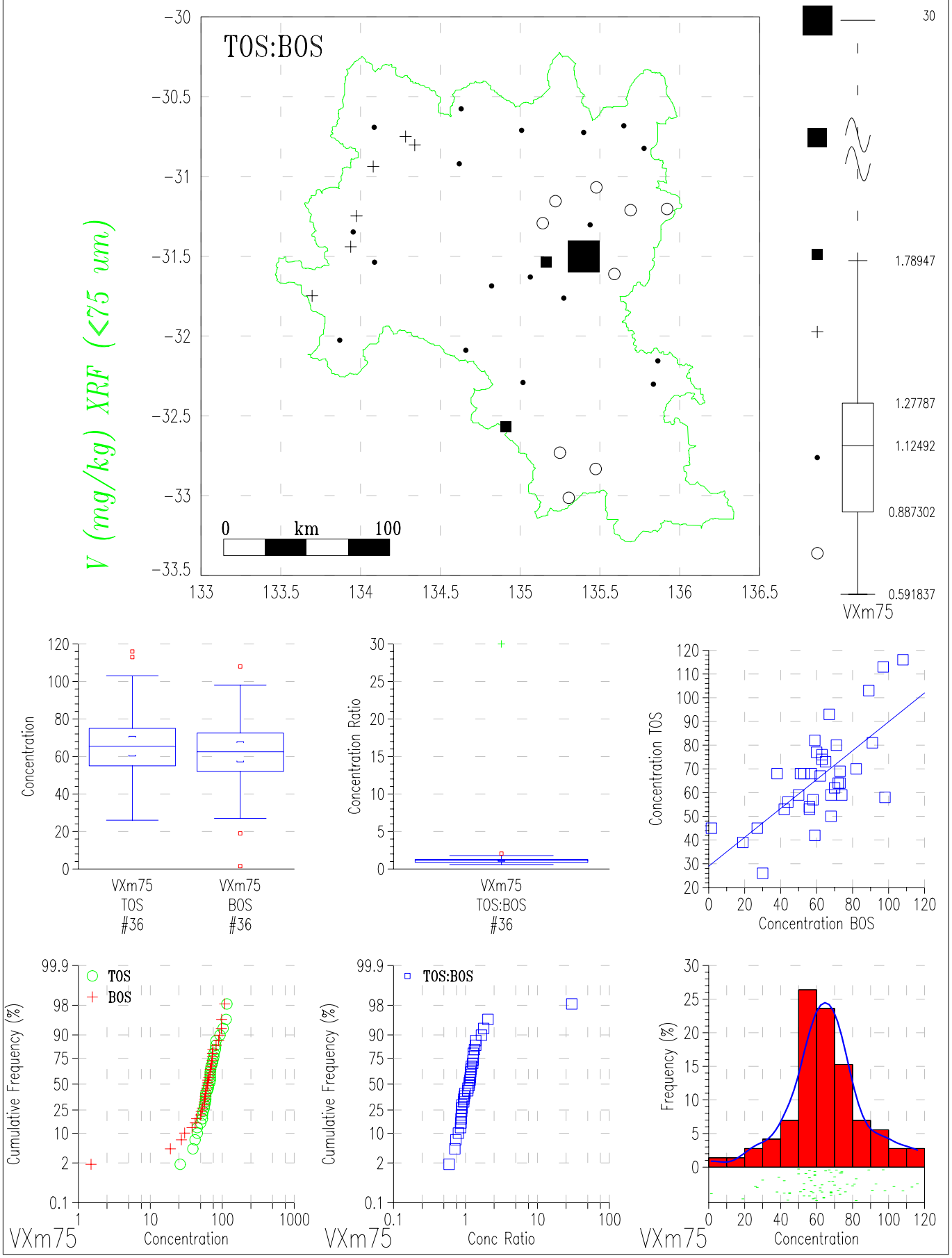


CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

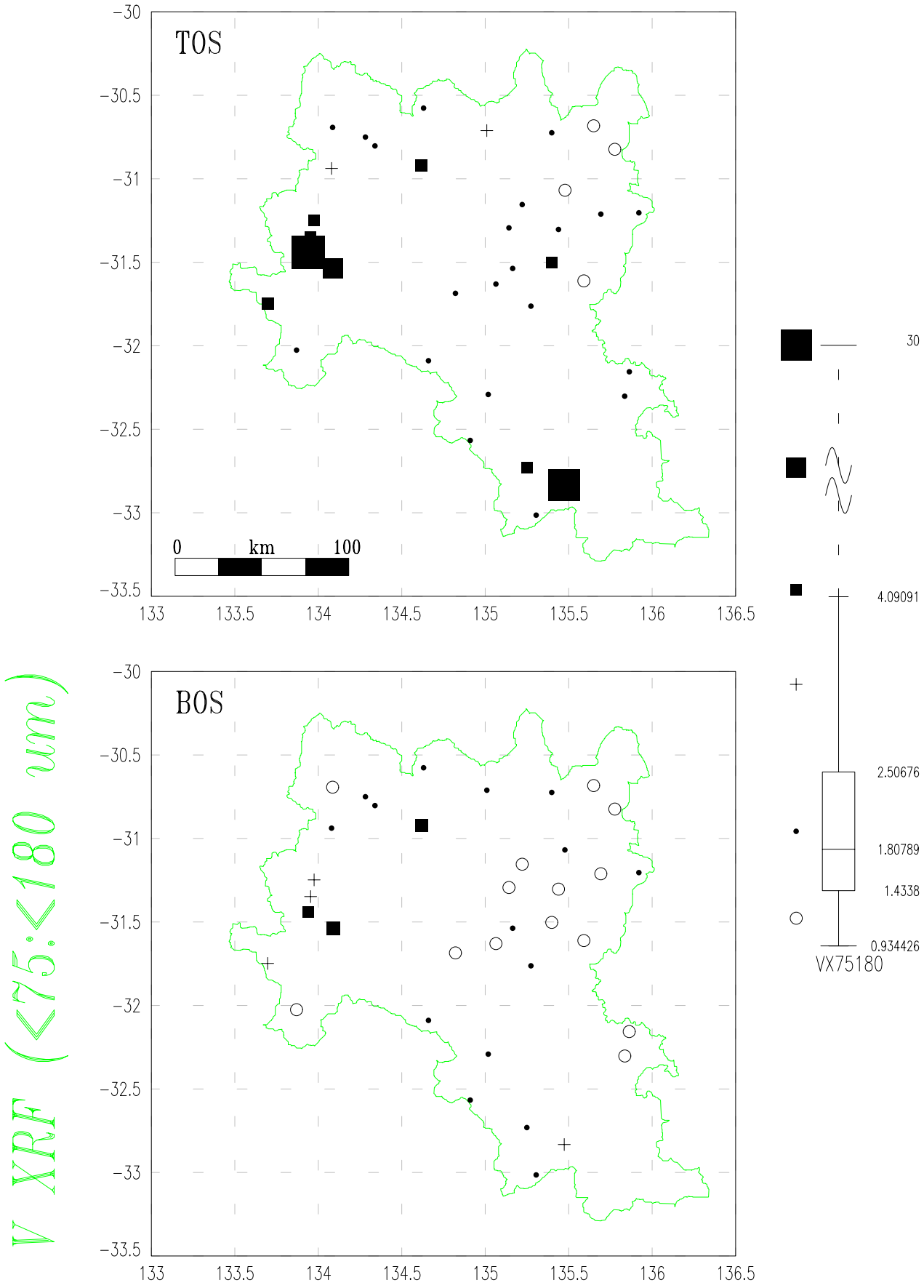


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

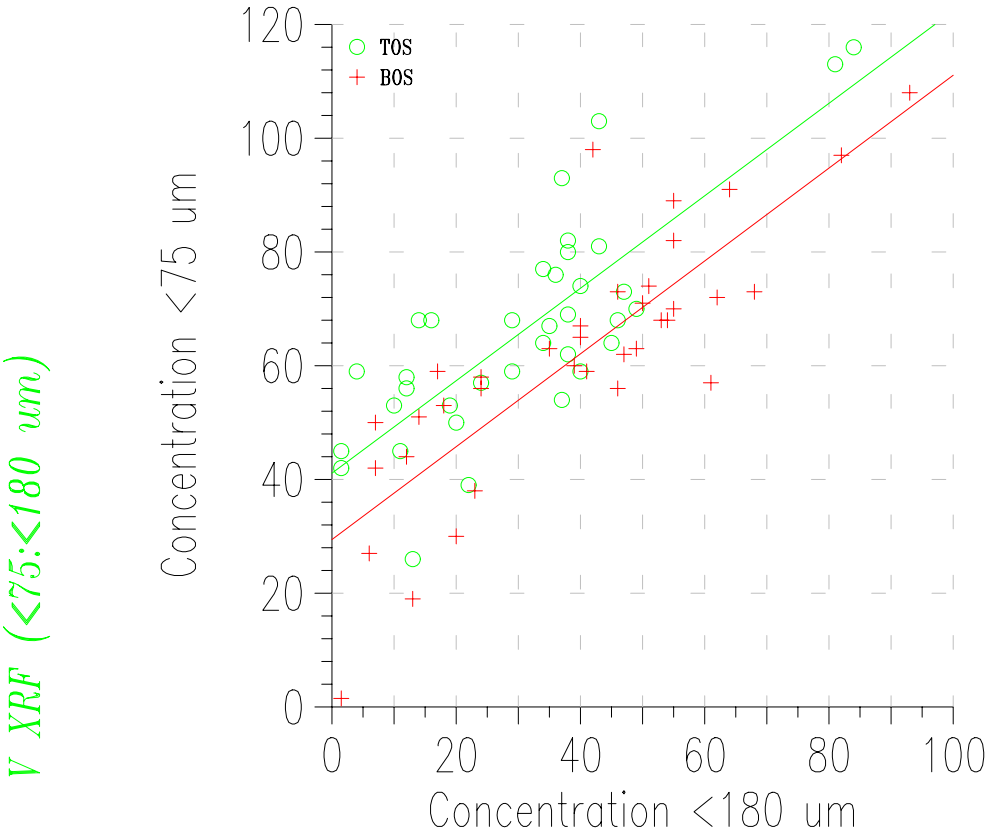


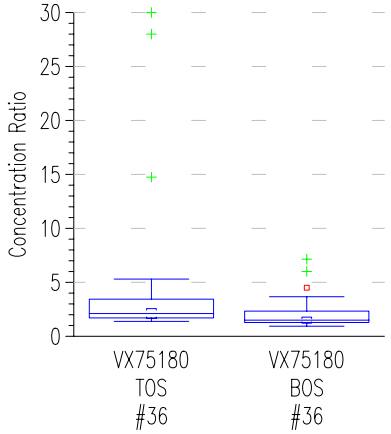
GAWLER GEOCHEMICAL SURVEY

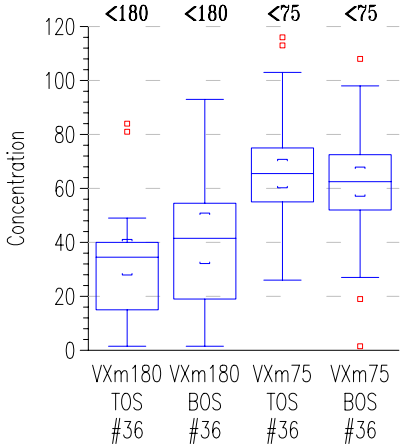
Top & Bottom Outlet Sediments (TOS & BOS)

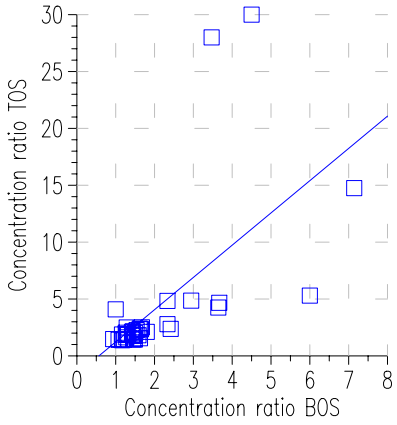


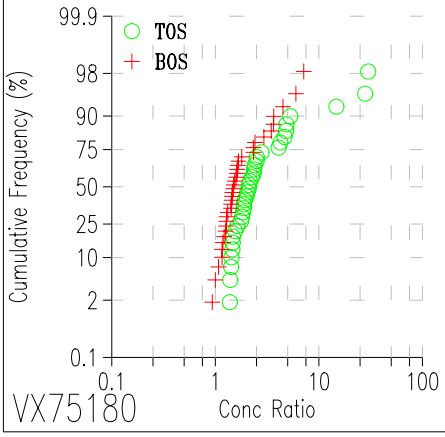
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

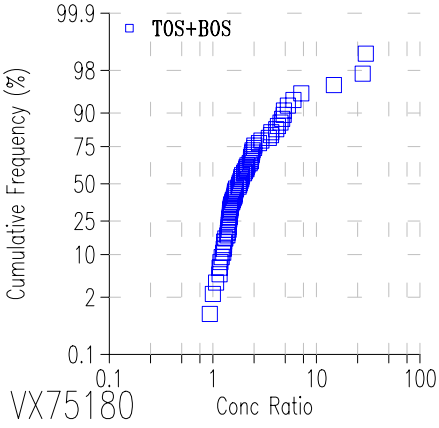


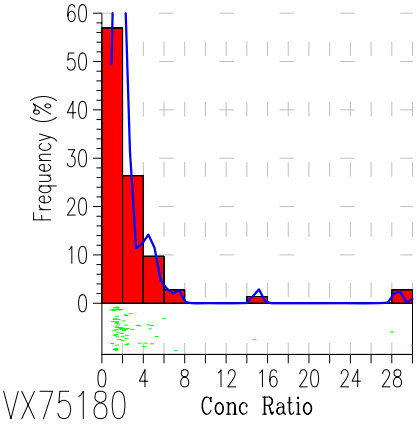






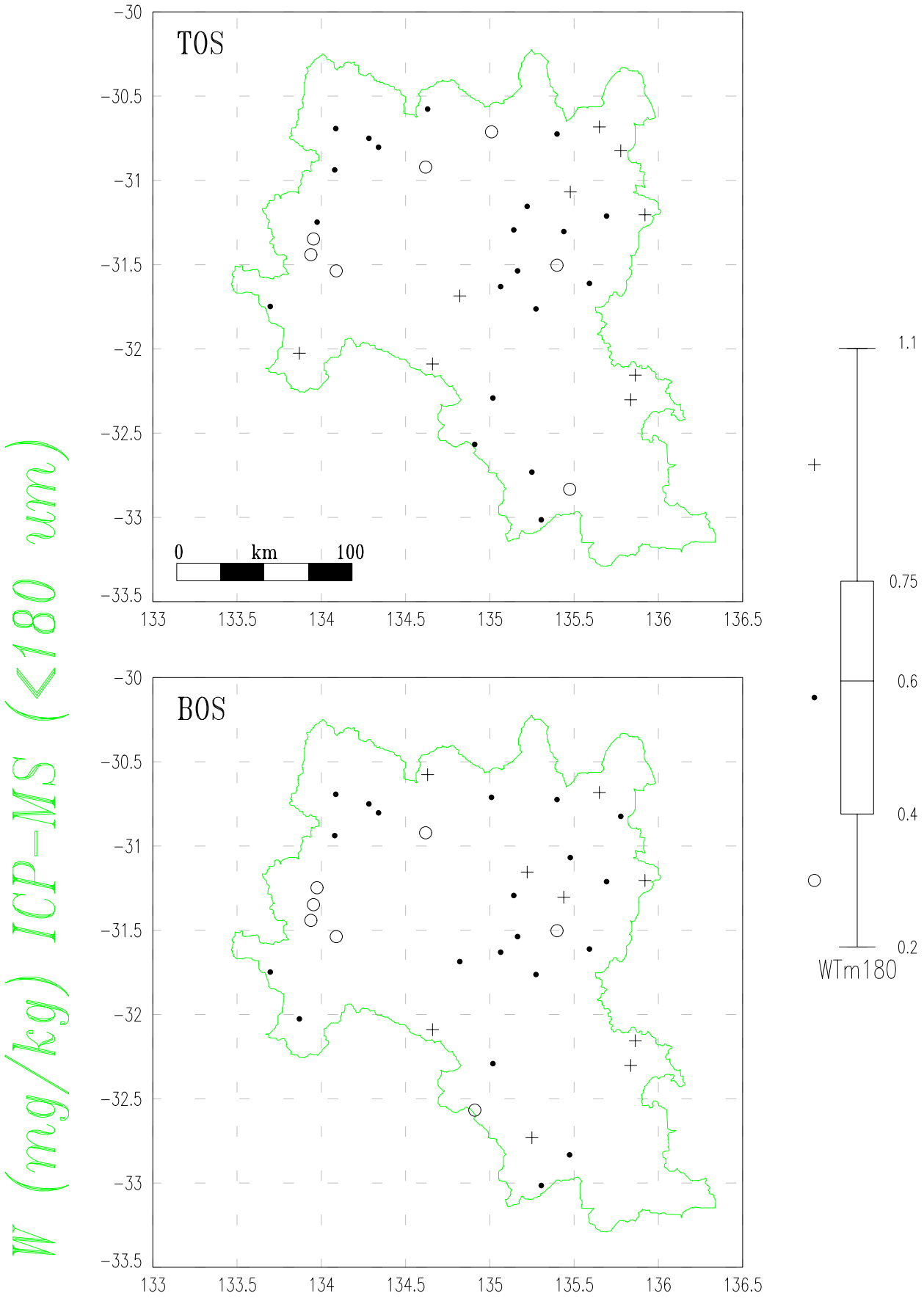




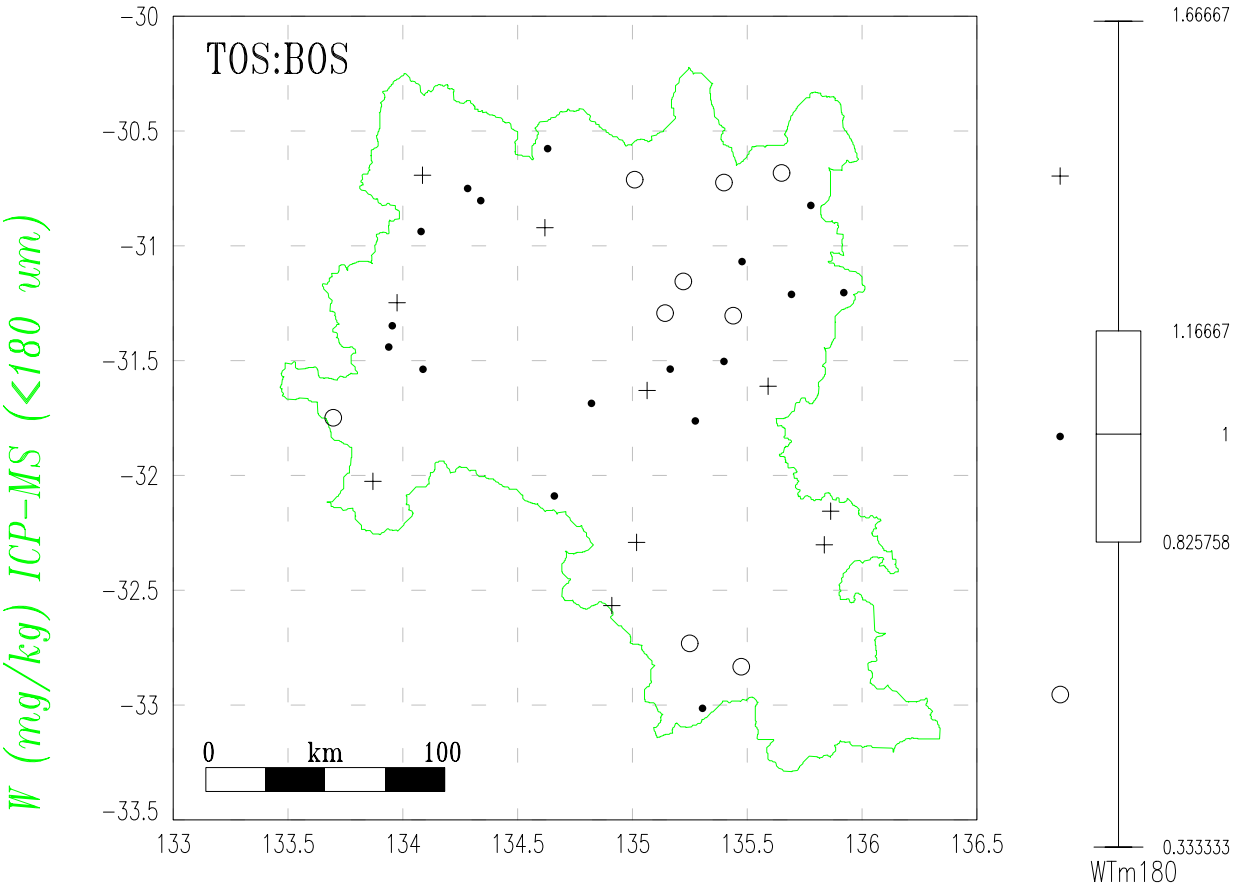


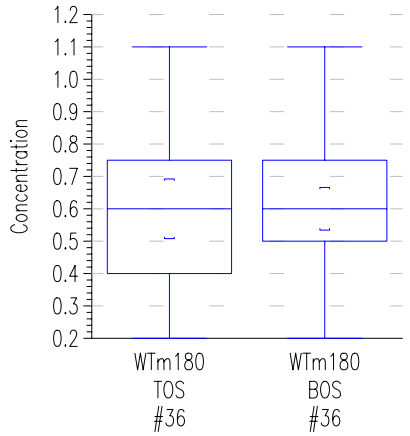
CAWLER GEOCHEMICAL SURVEY

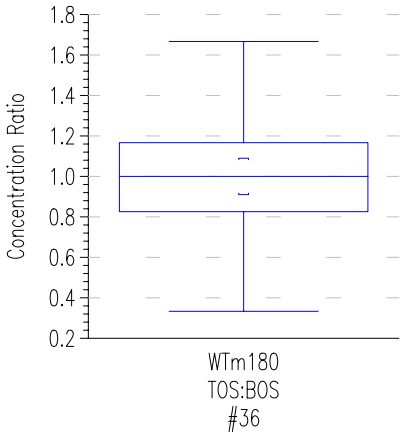
Top & Bottom Outlet Sediments (TOS & BOS)

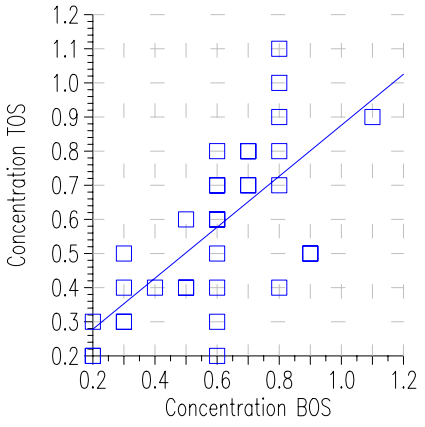


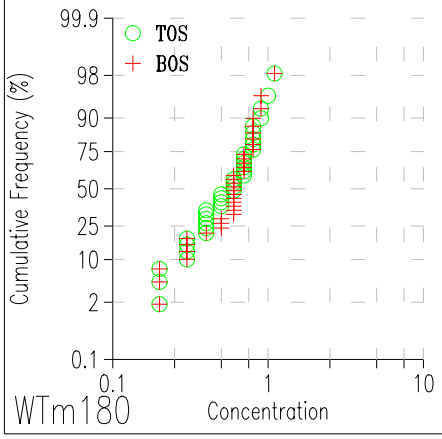
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

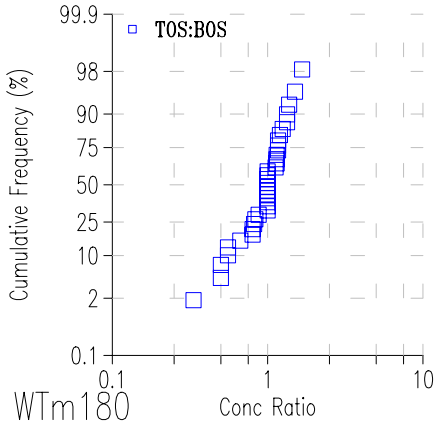


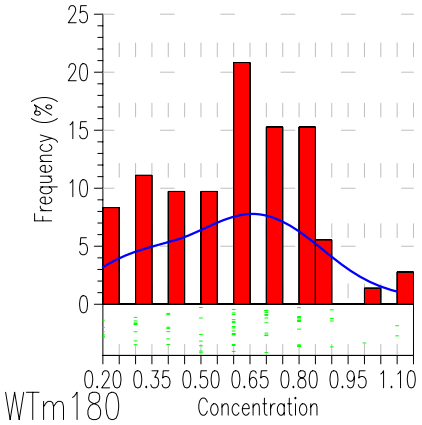






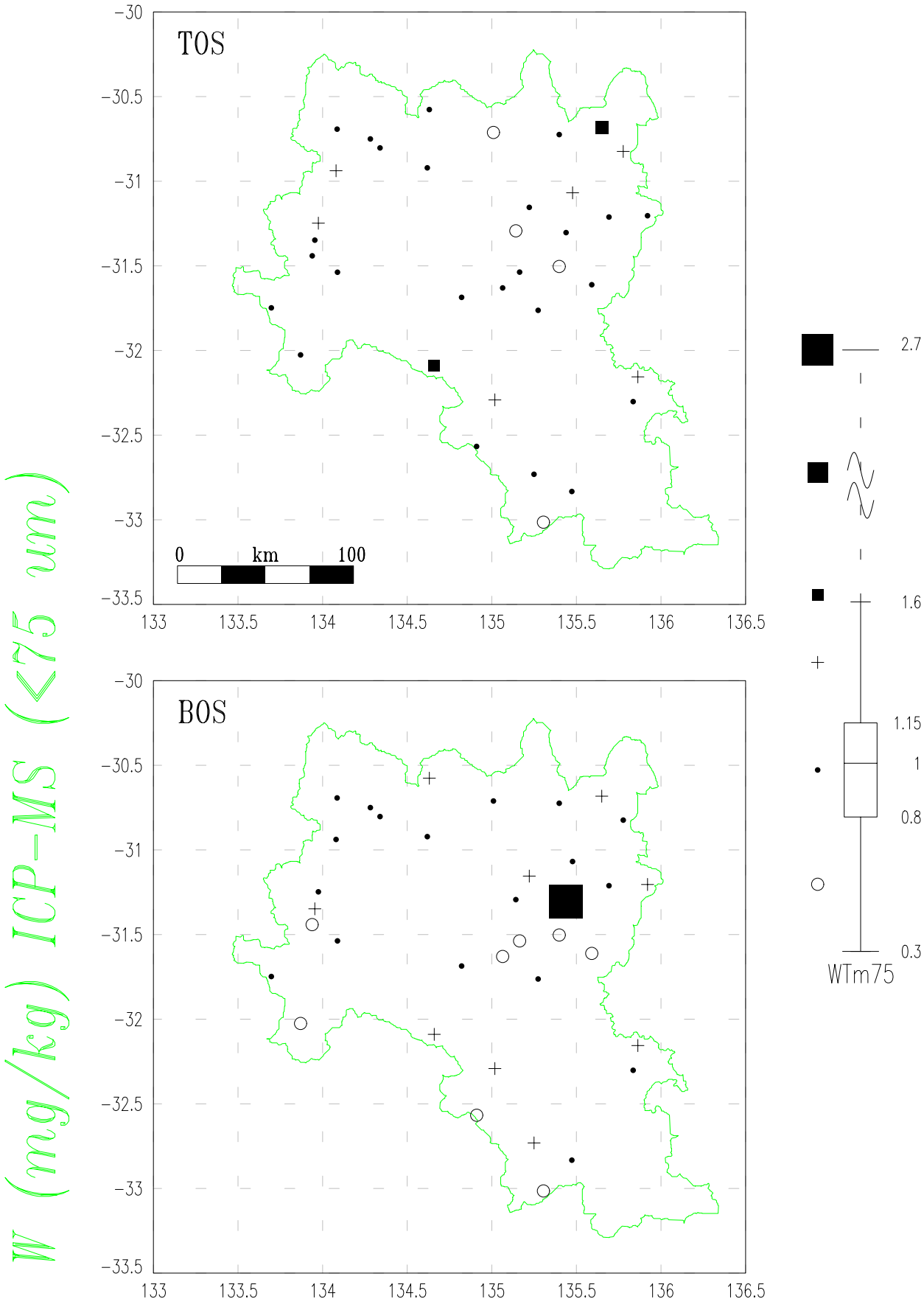




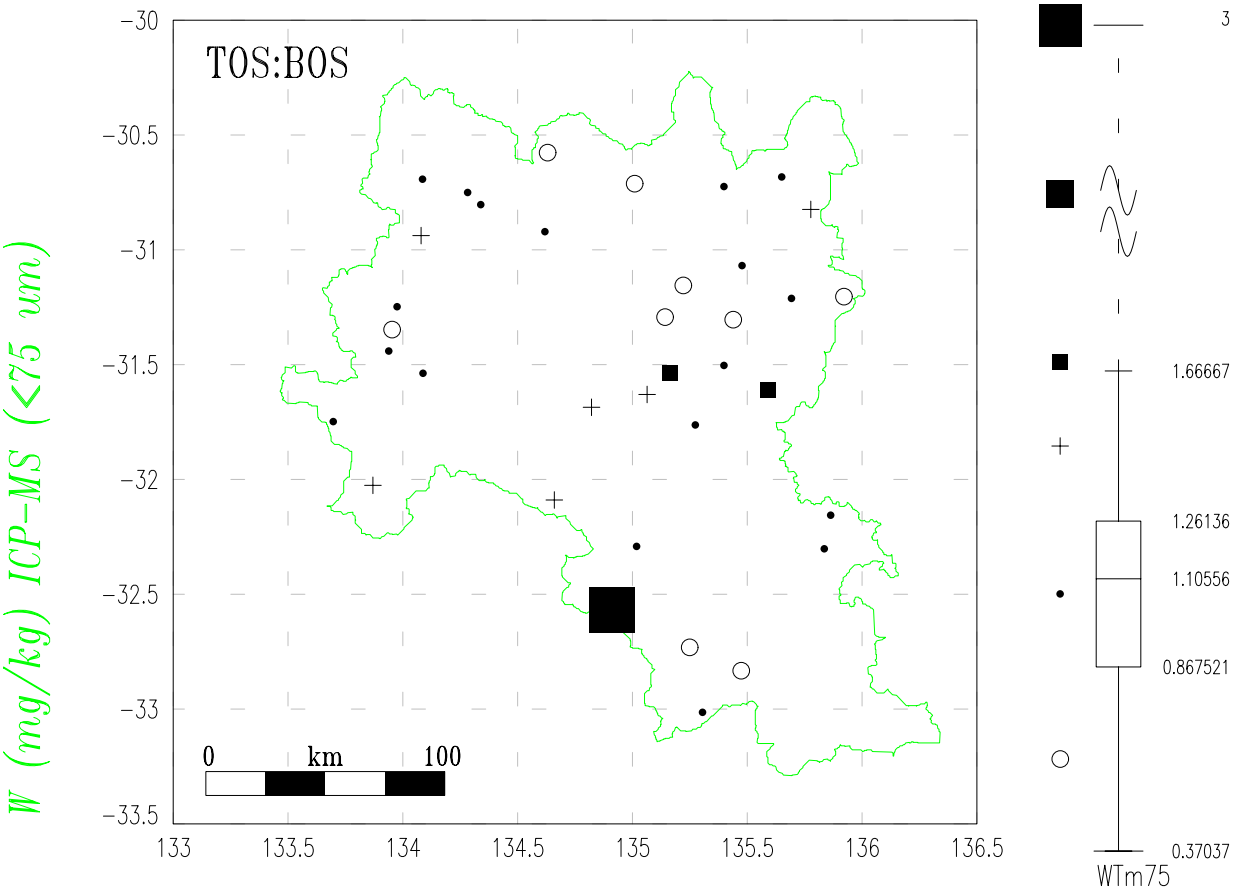


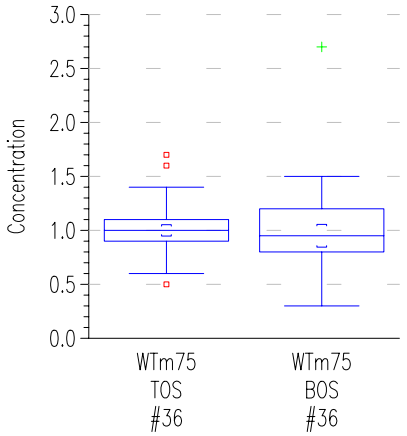
GAWLER GEOCHEMICAL SURVEY

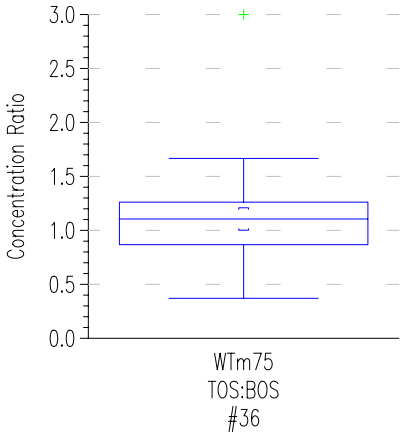
Top & Bottom Outlet Sediments (TOS & BOS)

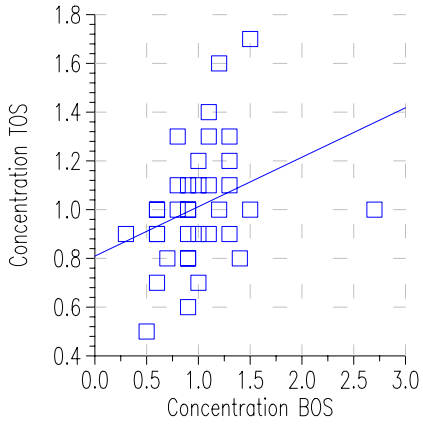


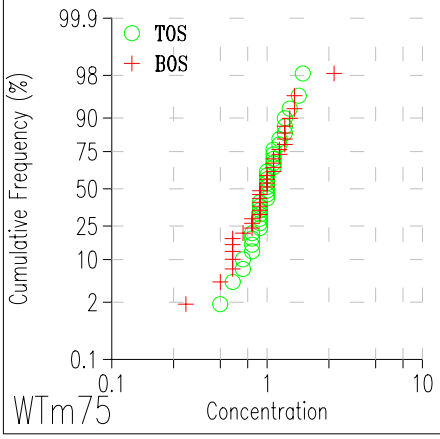
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

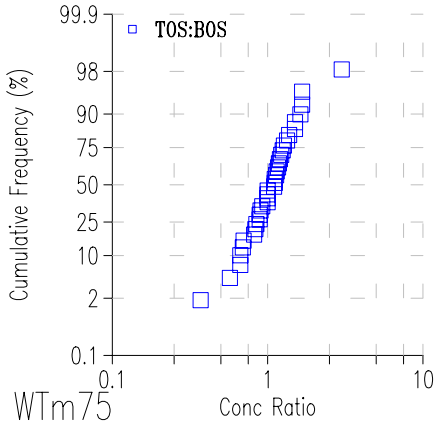


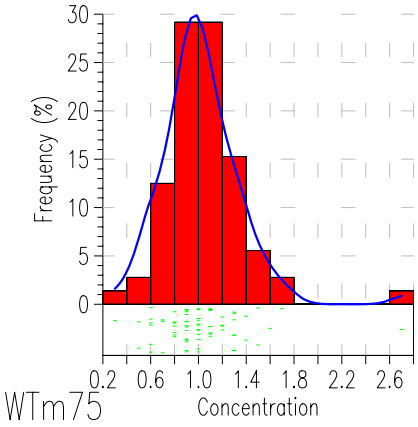






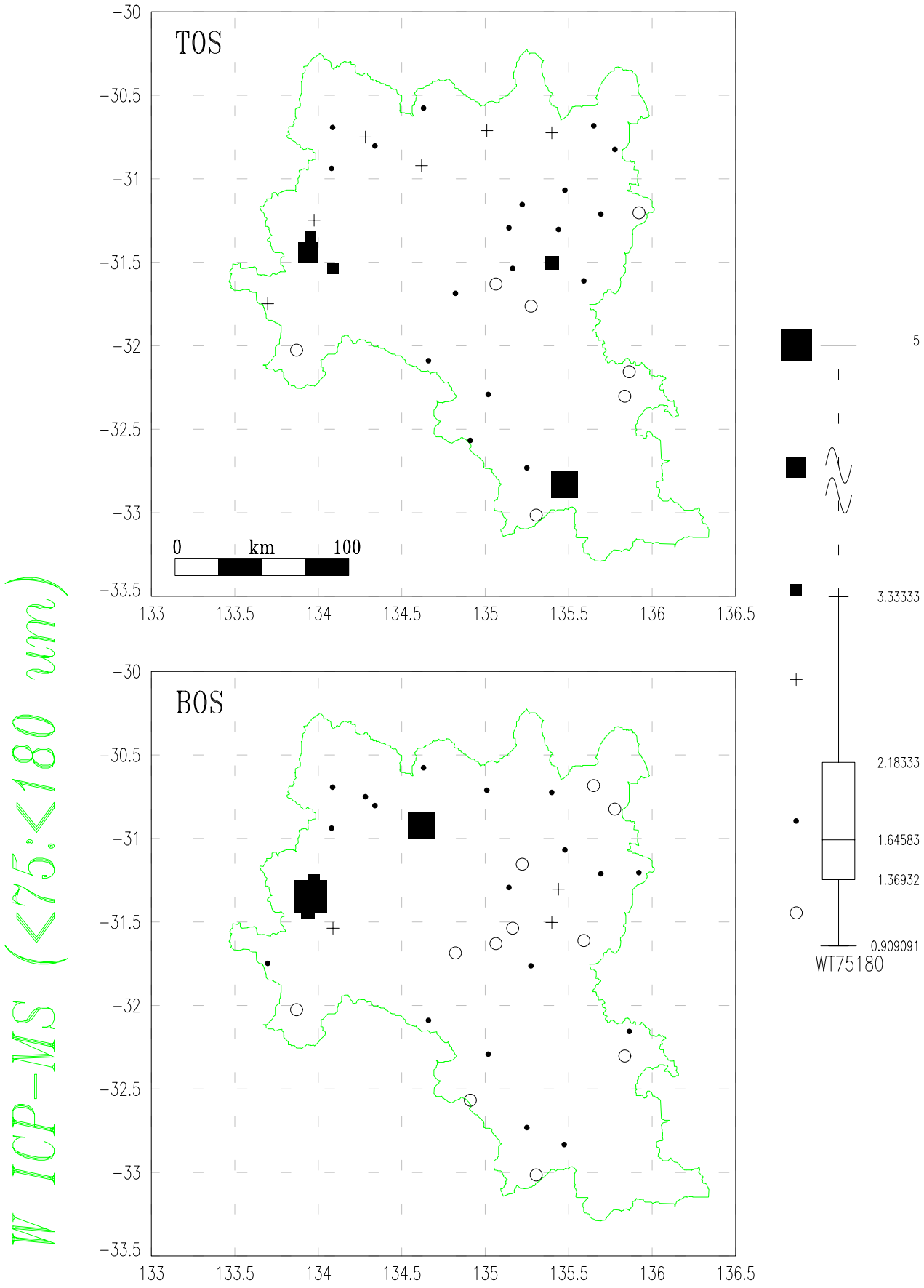






GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



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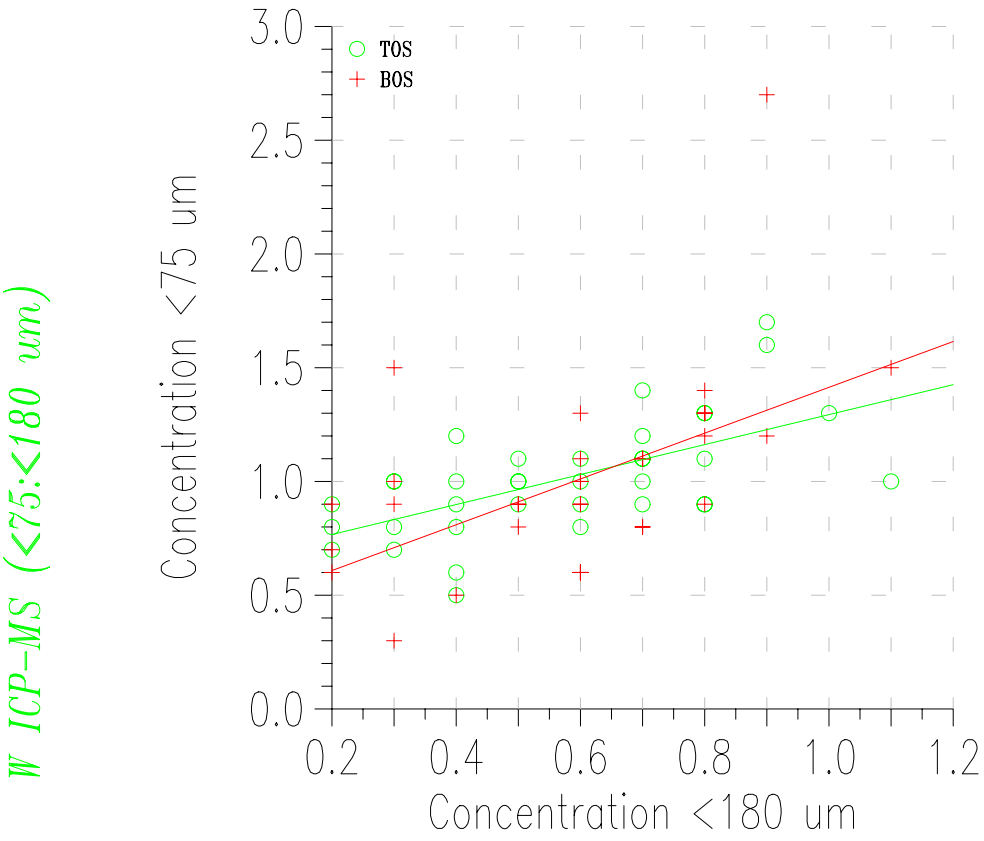
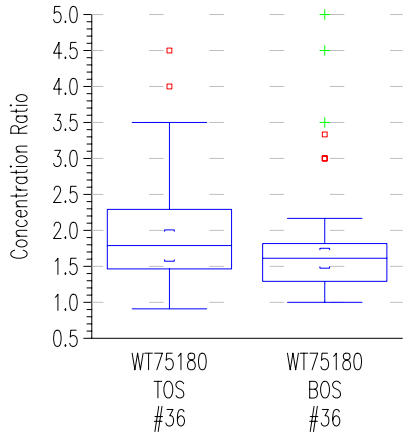
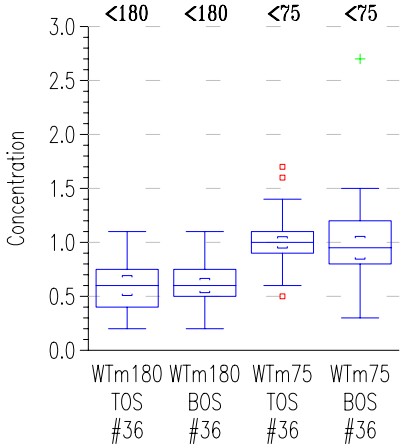
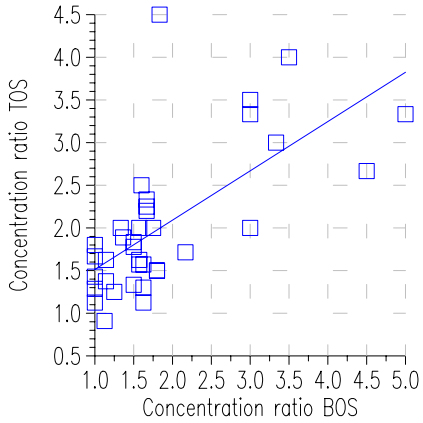
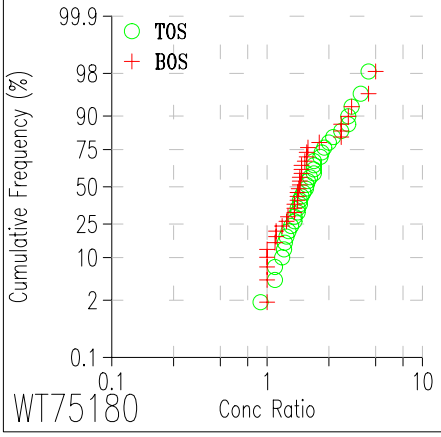
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

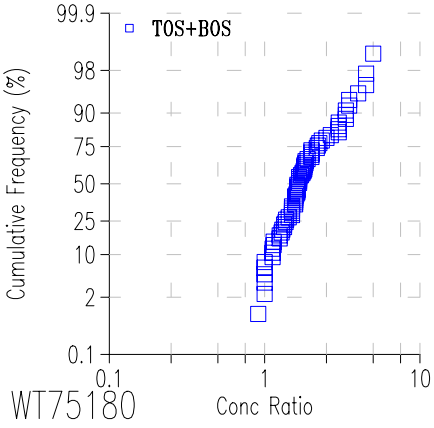


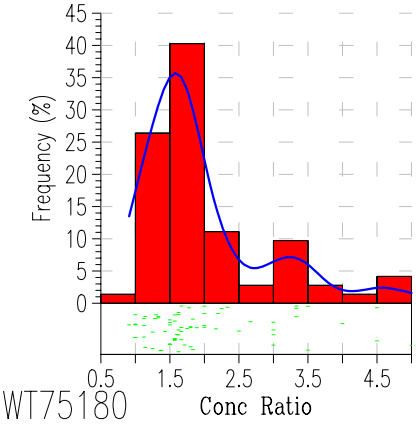






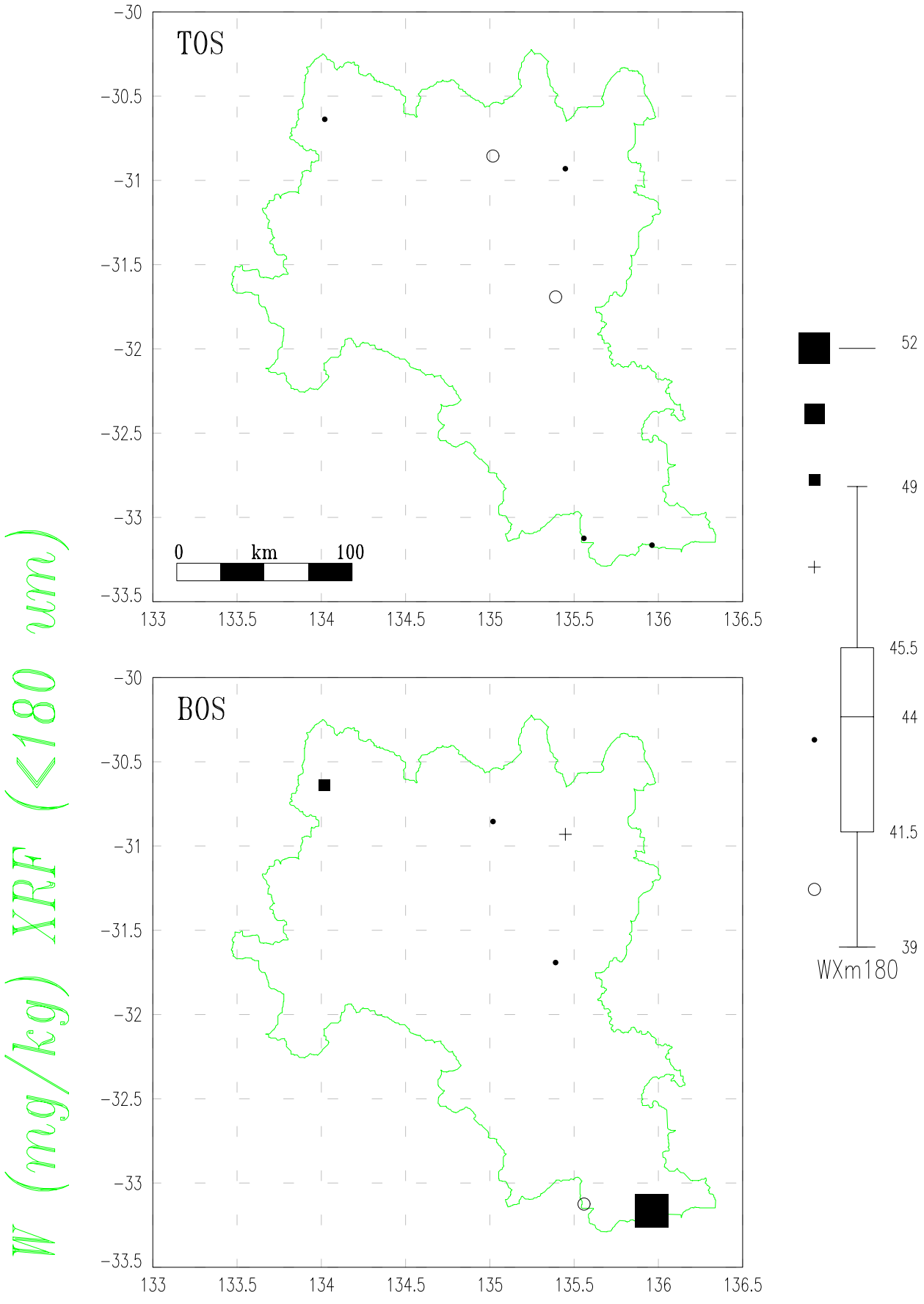




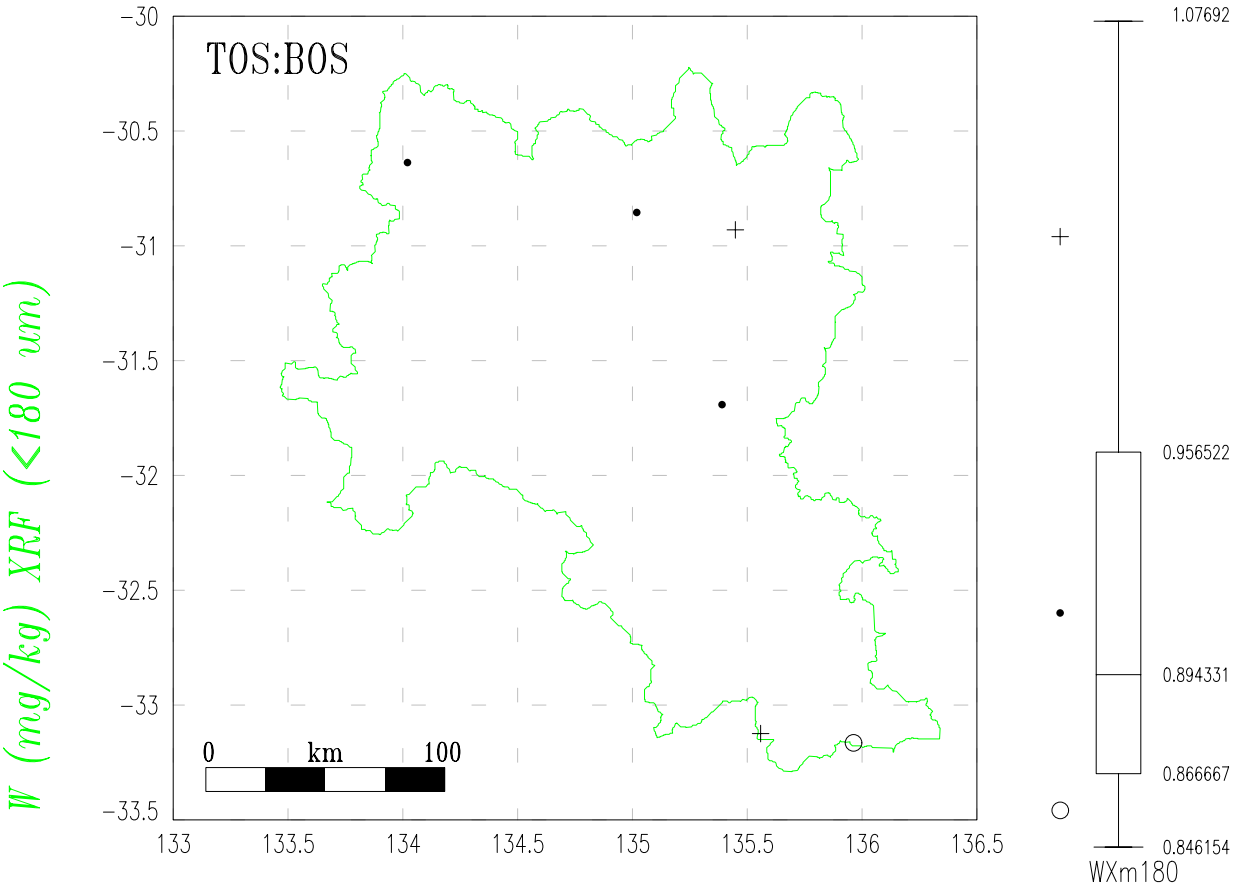


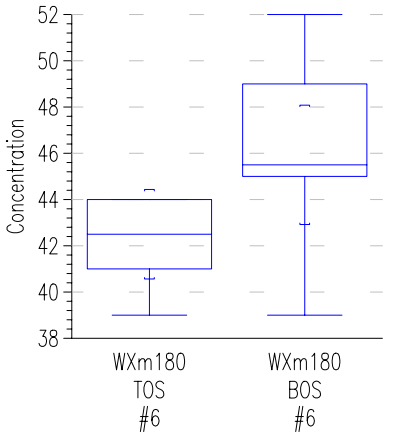
CAWLER GEOCHEMICAL SURVEY

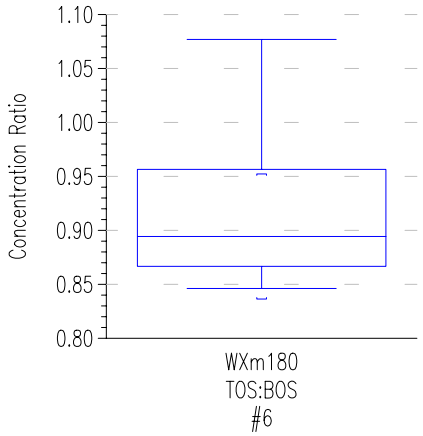
Top & Bottom Outlet Sediments (TOS & BOS)

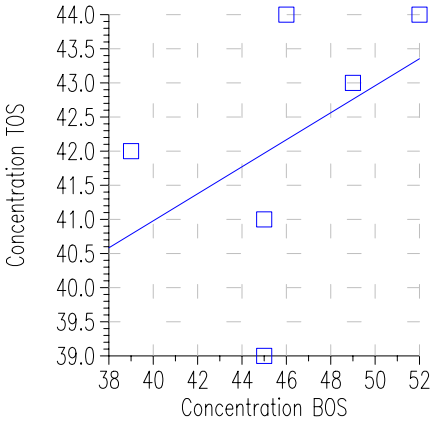


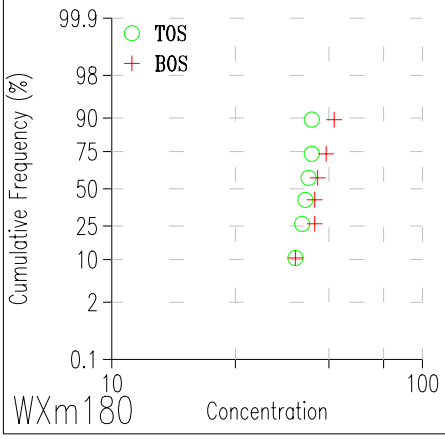
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

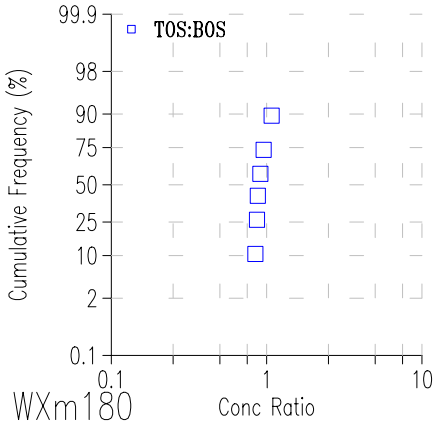


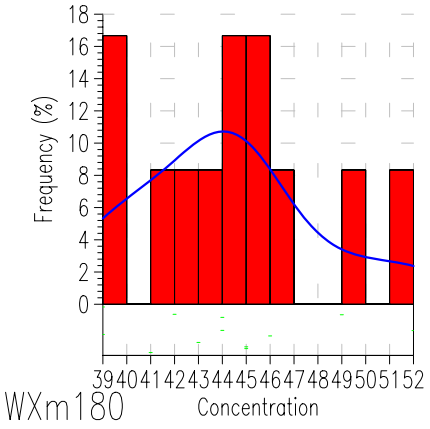






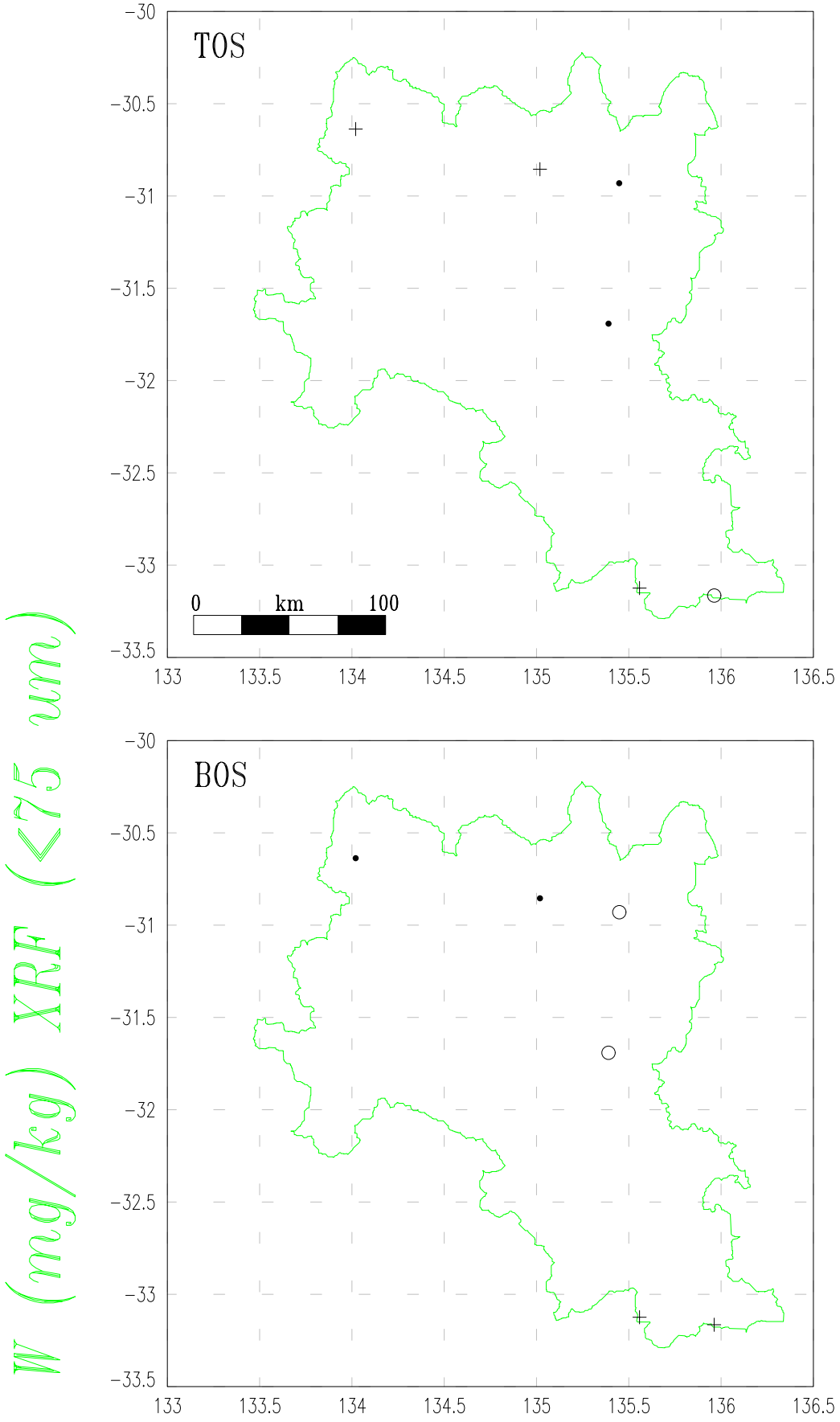






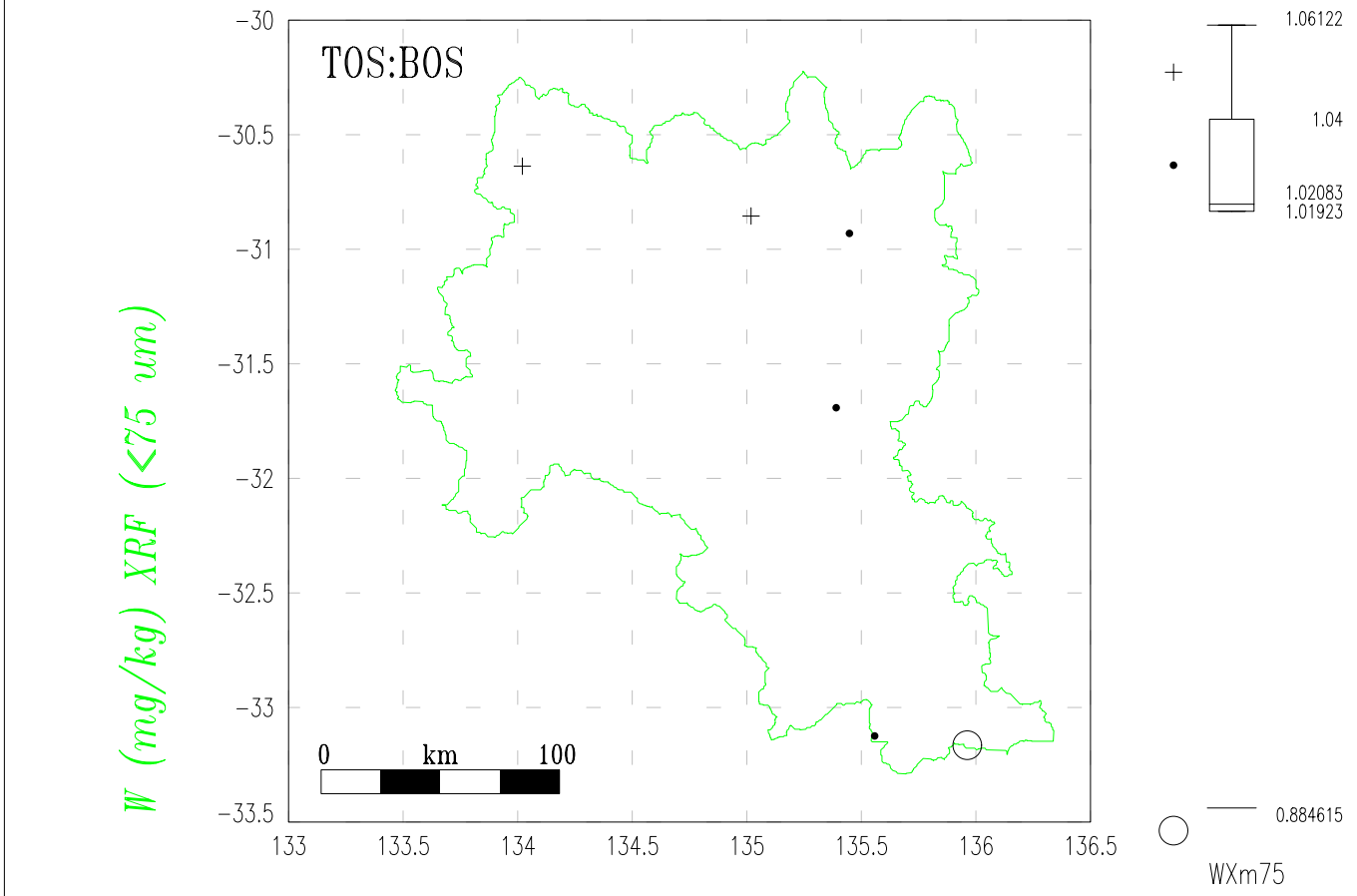
GAWLER GEOCHEMICAL SURVEY

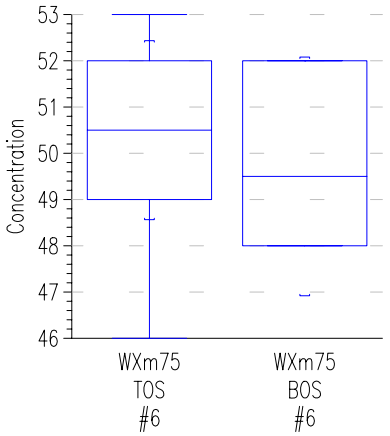
Top & Bottom Outlet Sediments (TOS & BOS)

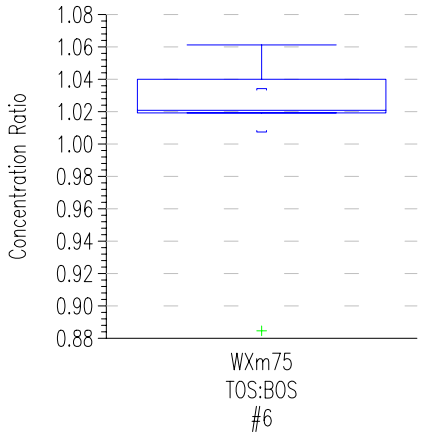


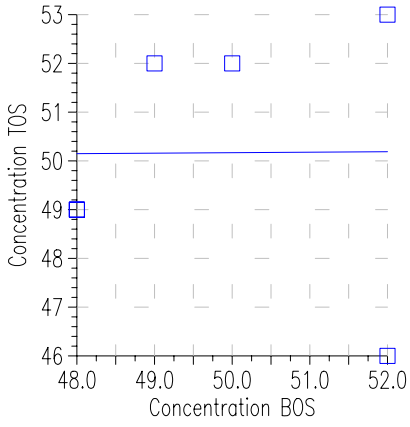
CAWLER GEOCHEMICAL SURVEY

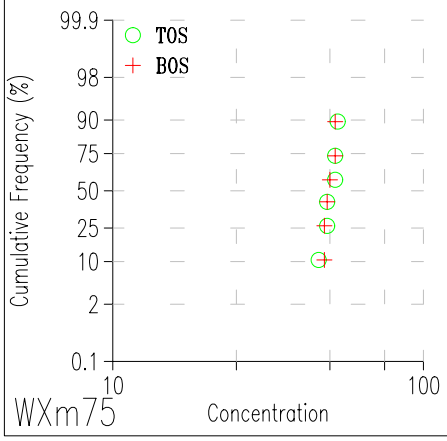
Top & Bottom Outlet Sediments (TOS & BOS)

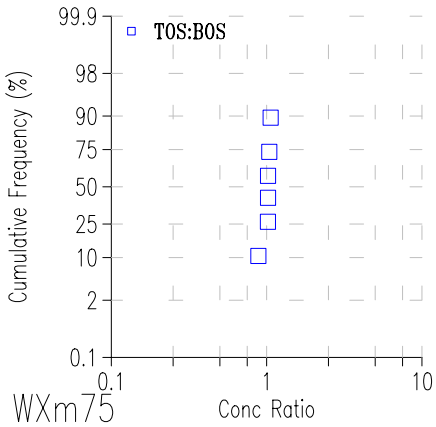


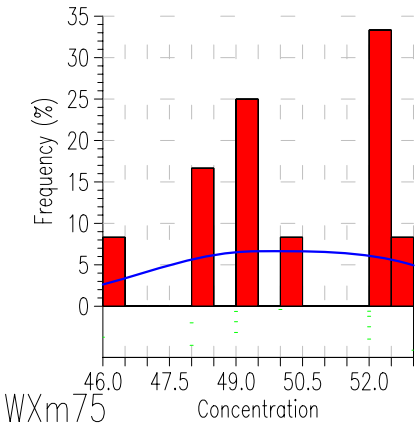




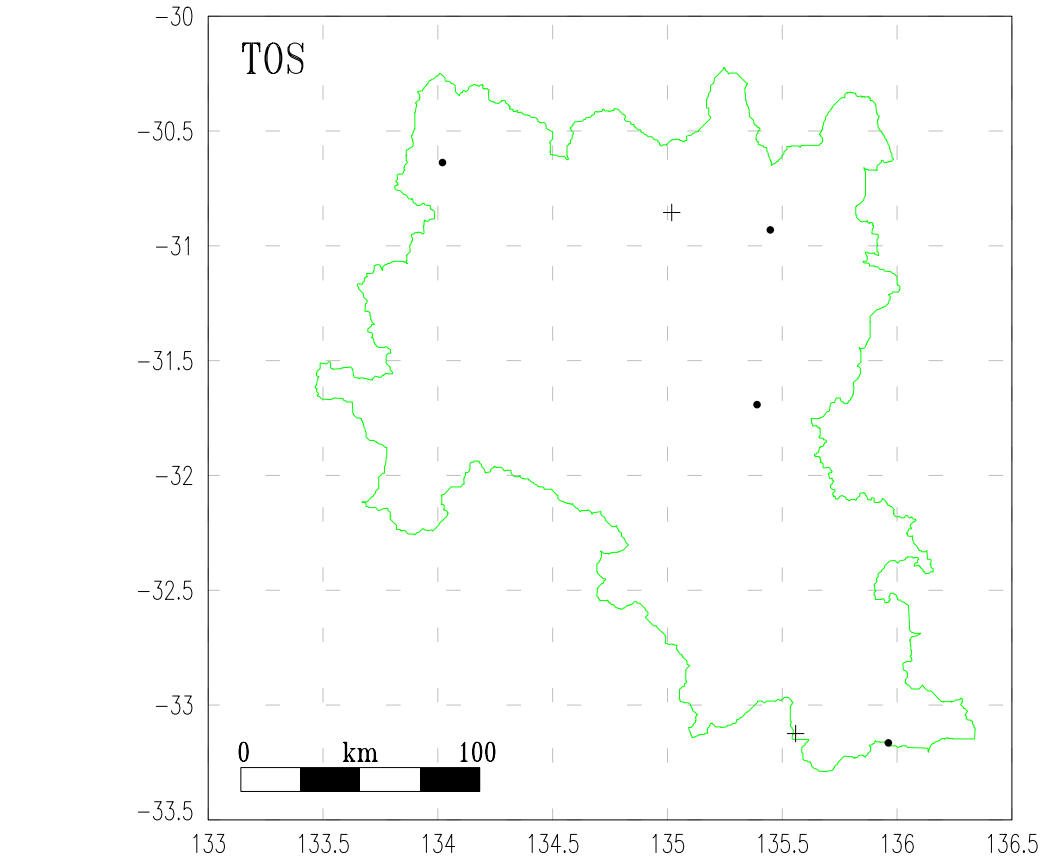


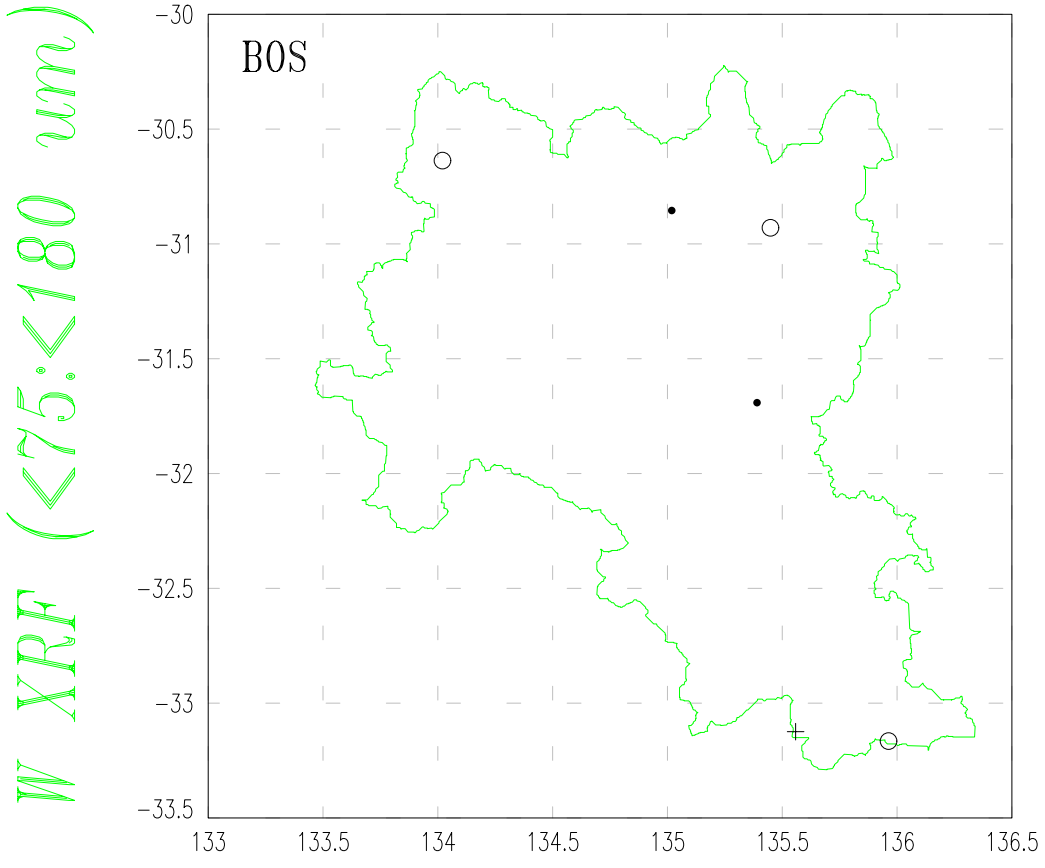






GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*





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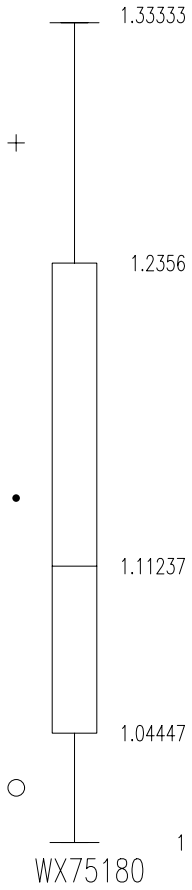

CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

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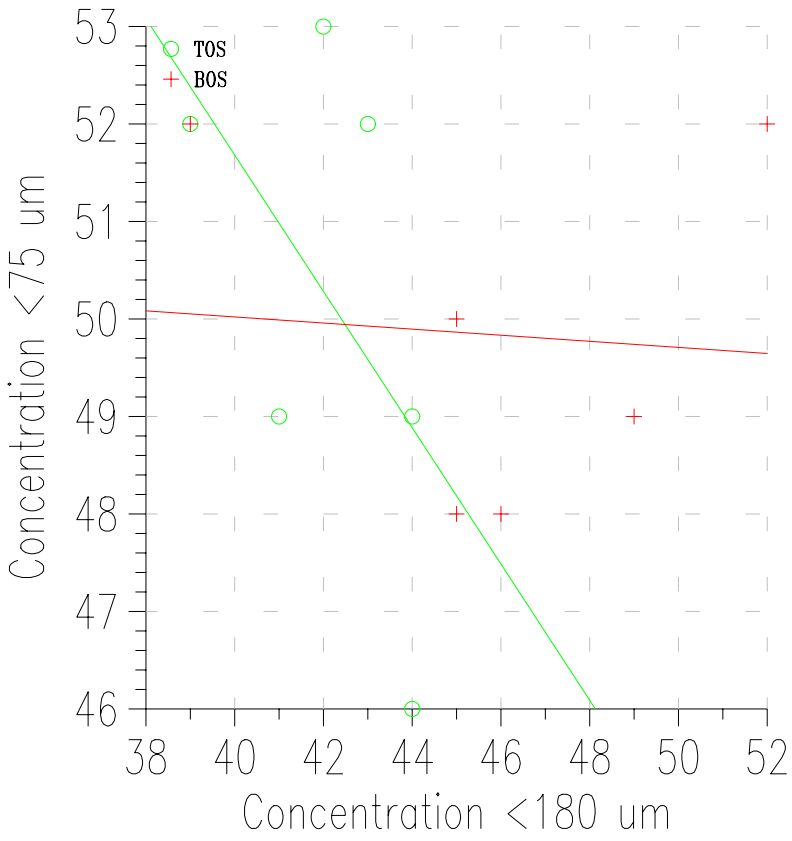
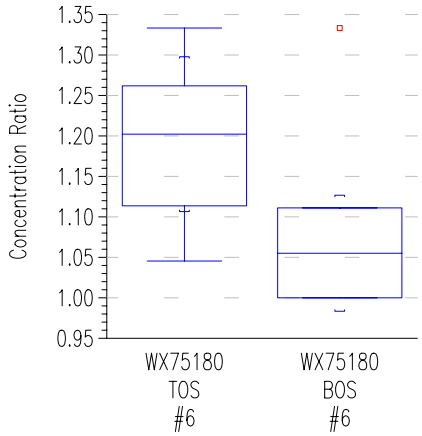
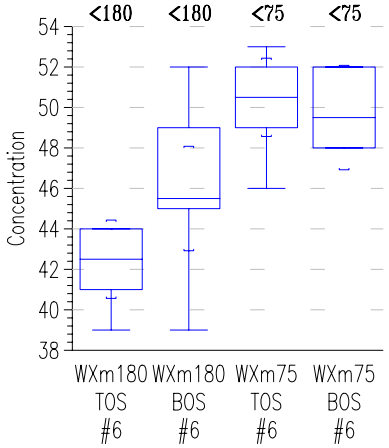
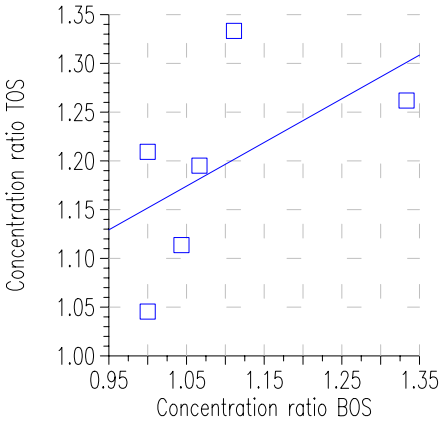
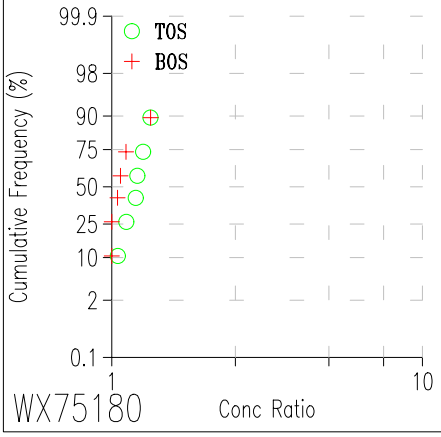
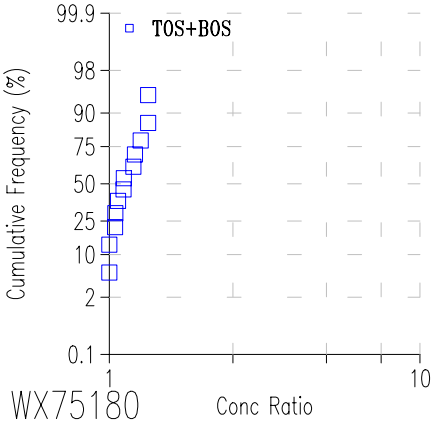


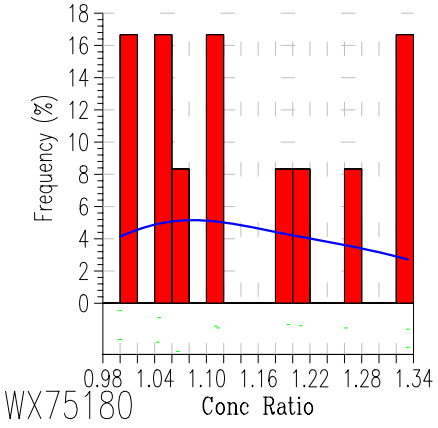






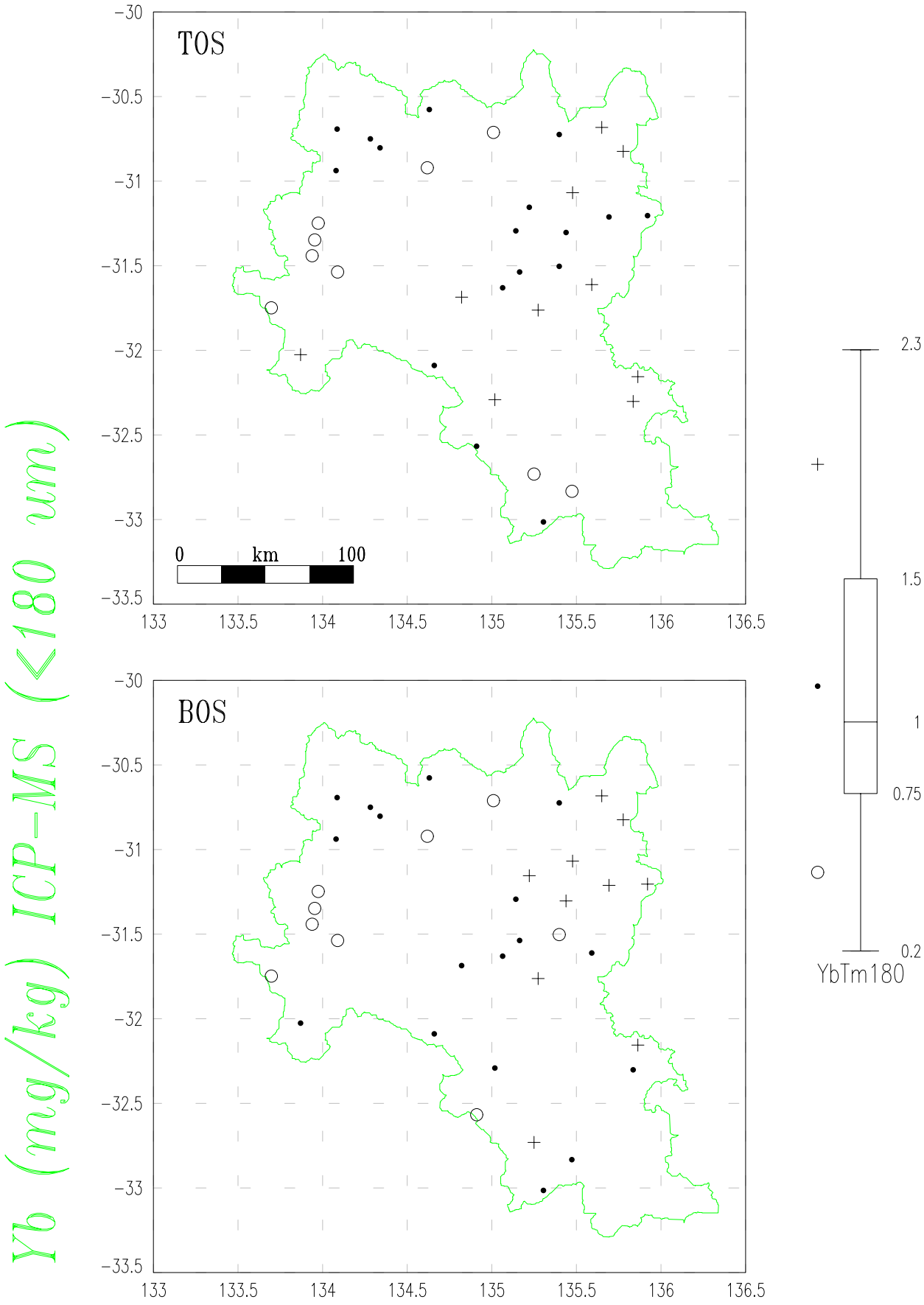




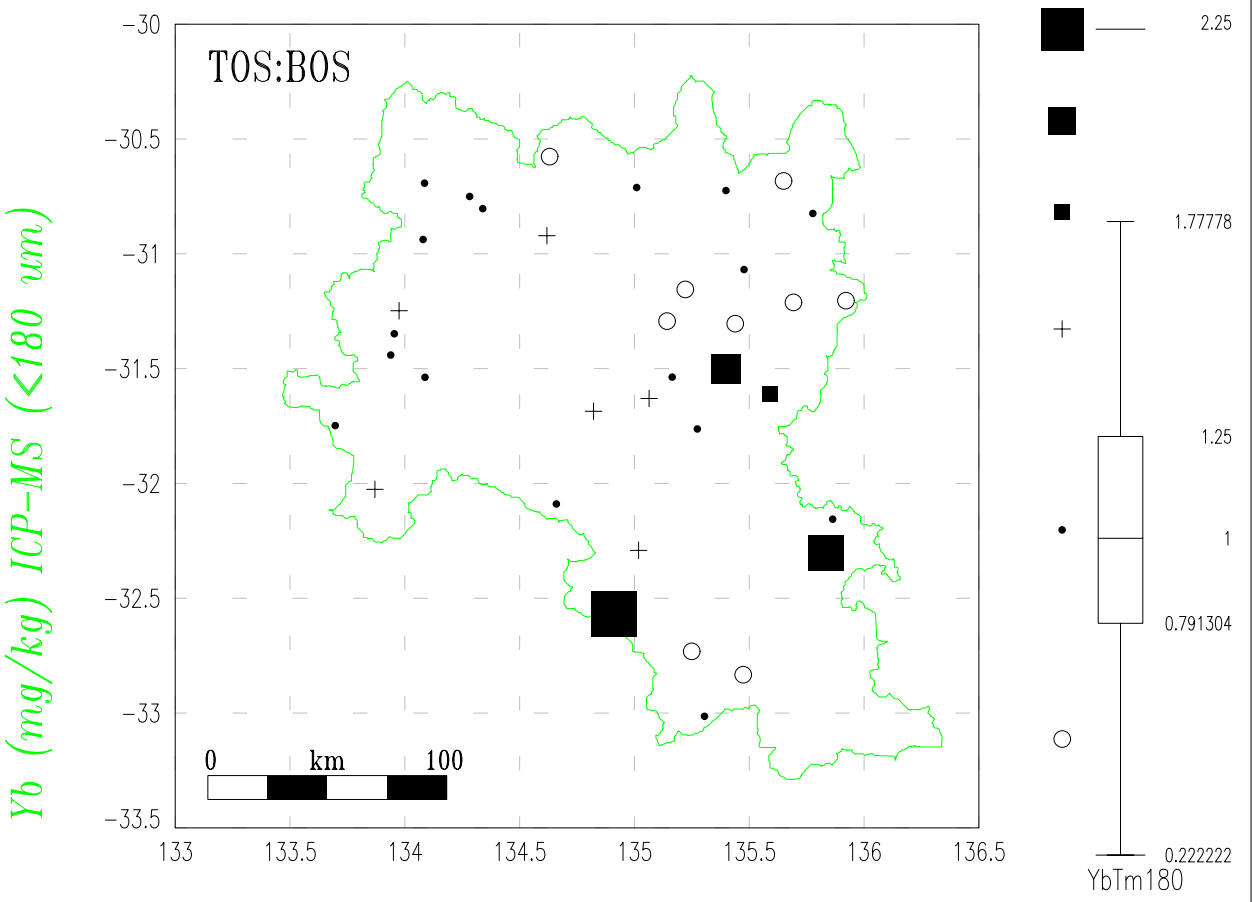


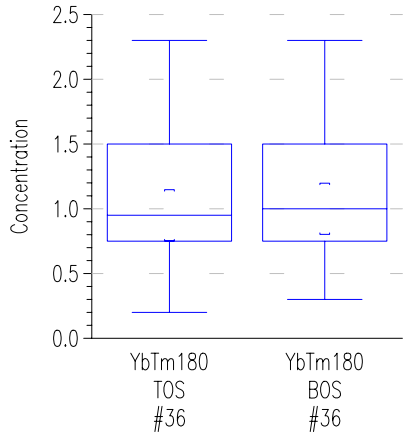
CAWLER GEOCHEMICAL SURVEY

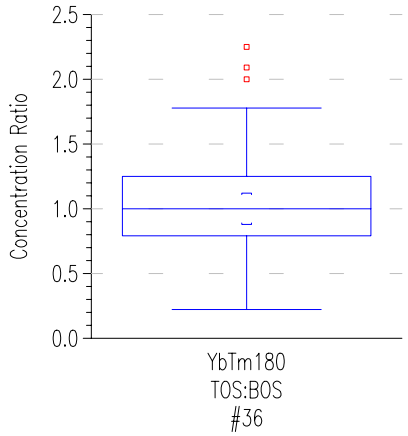
Top & Bottom Outlet Sediments (TOS & BOS)

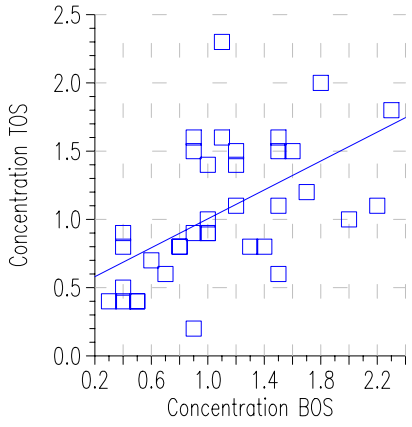


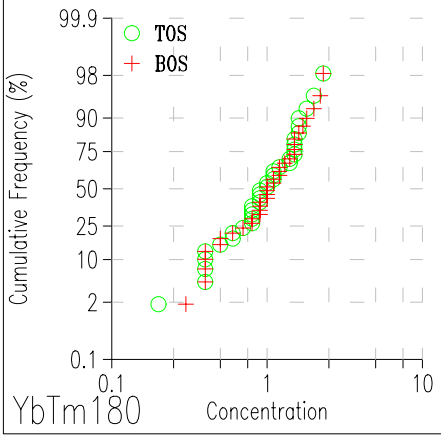
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

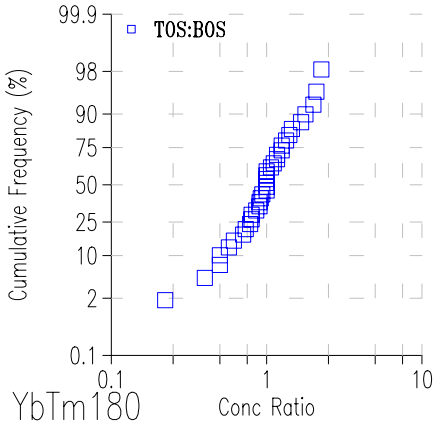


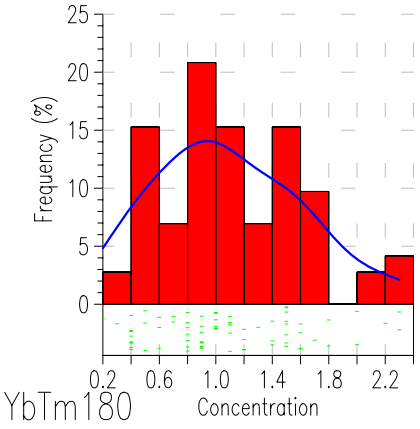






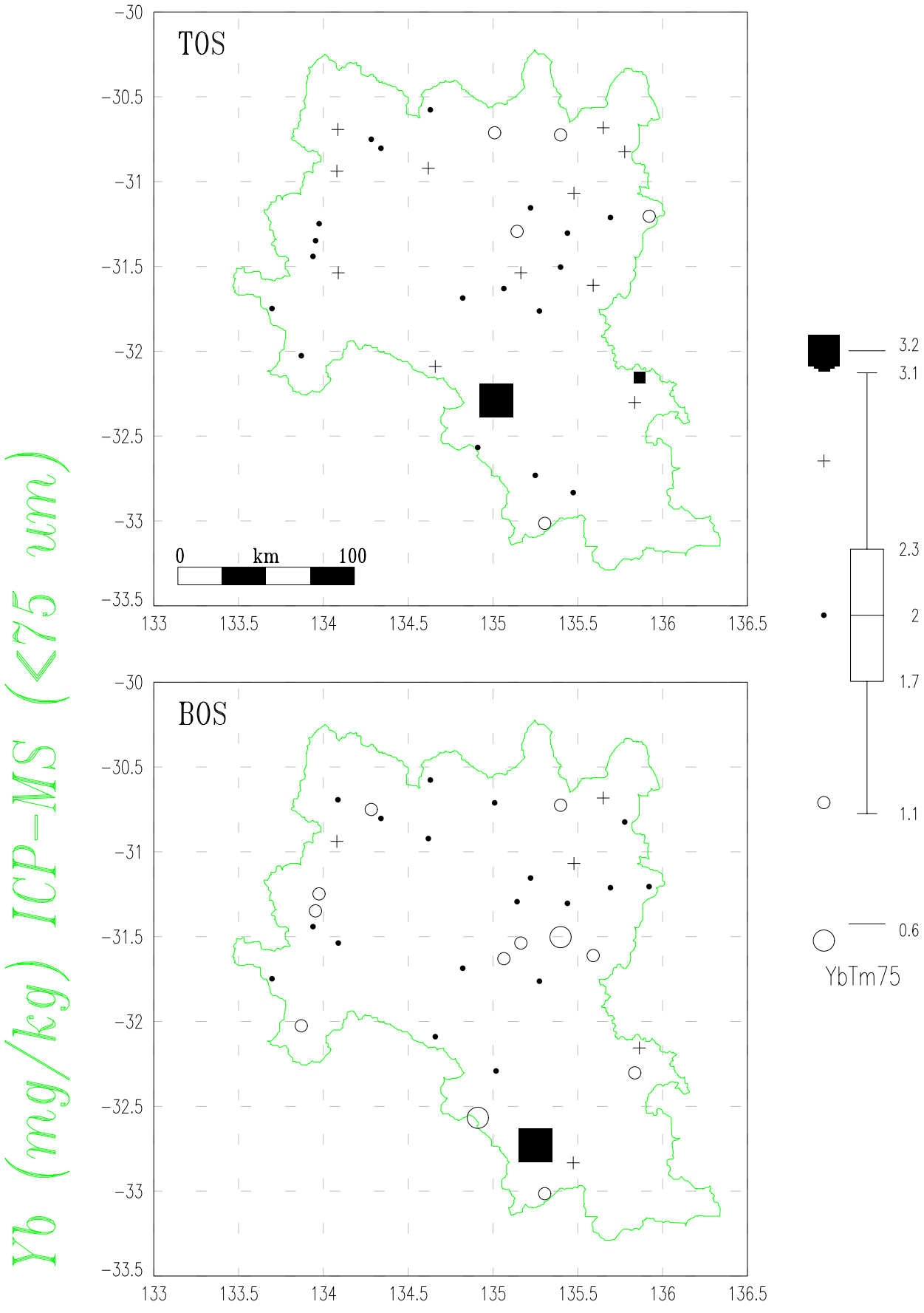






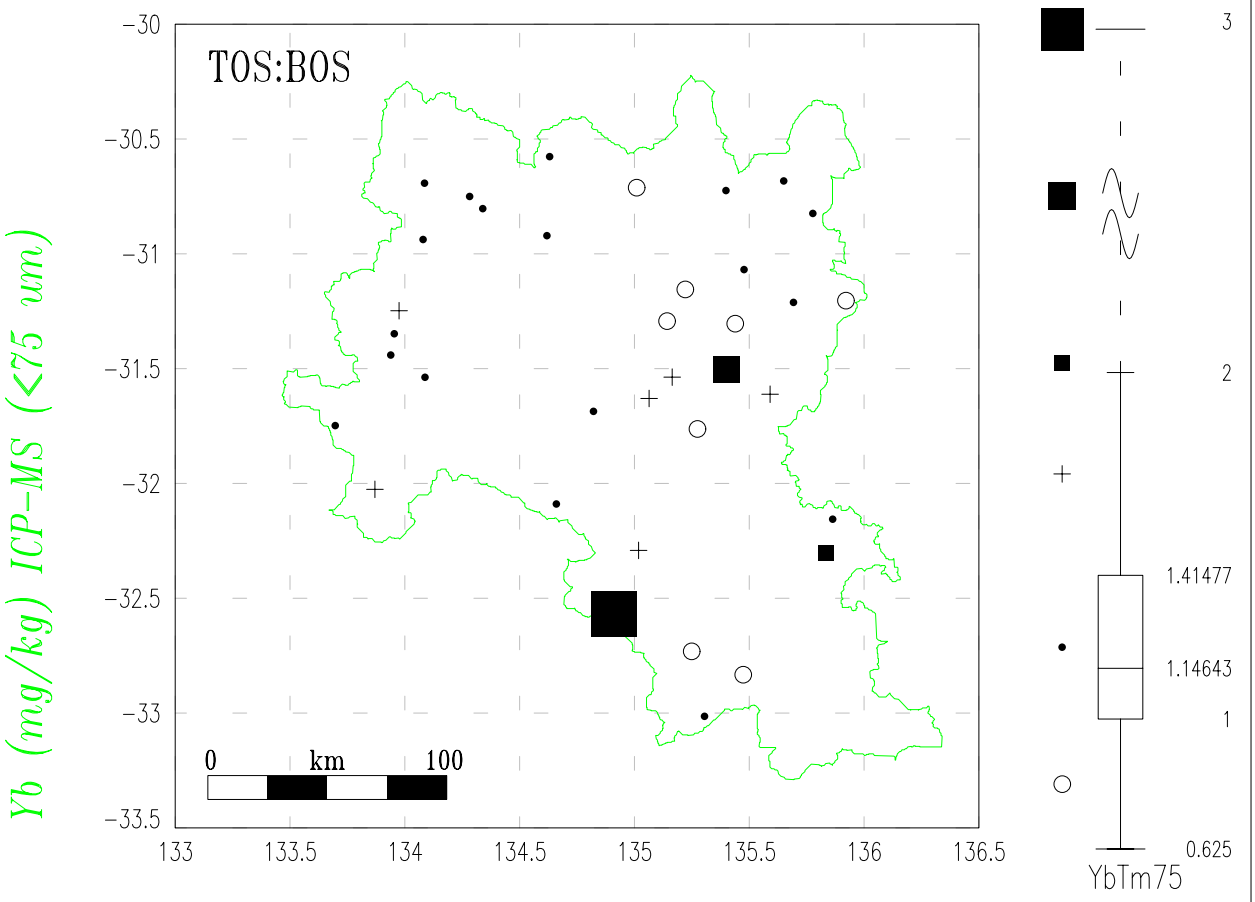
CAWLER GEOCHEMICAL SURVEY

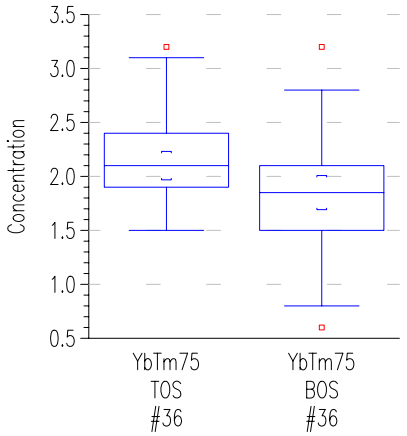
Top & Bottom Outlet Sediments (TOS & BOS)

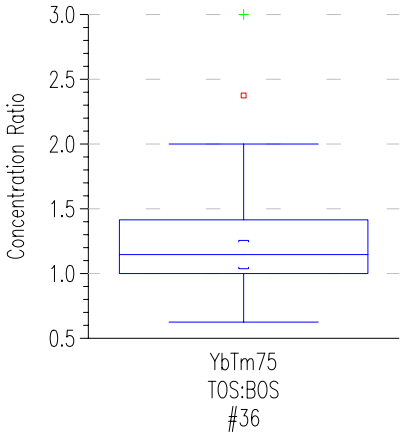


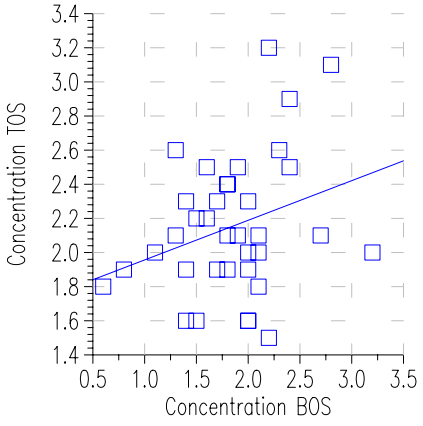
Yb (mg/kg) ICP-MS (<75 um)

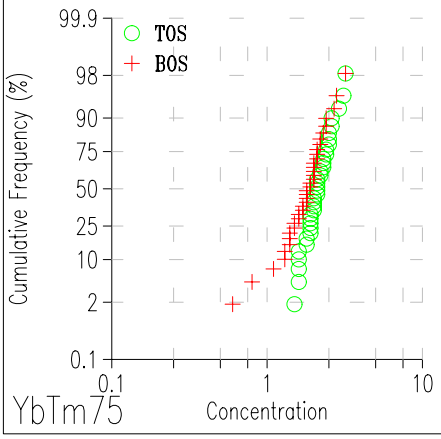
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

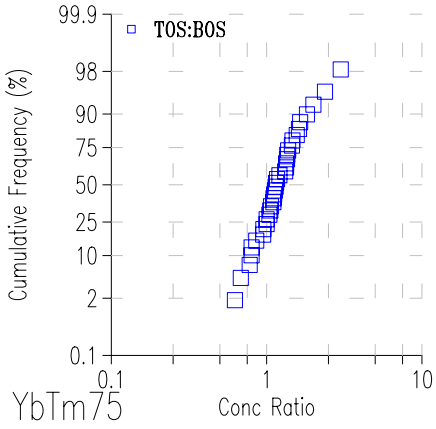


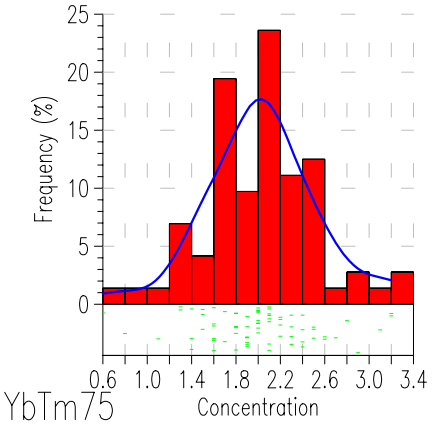






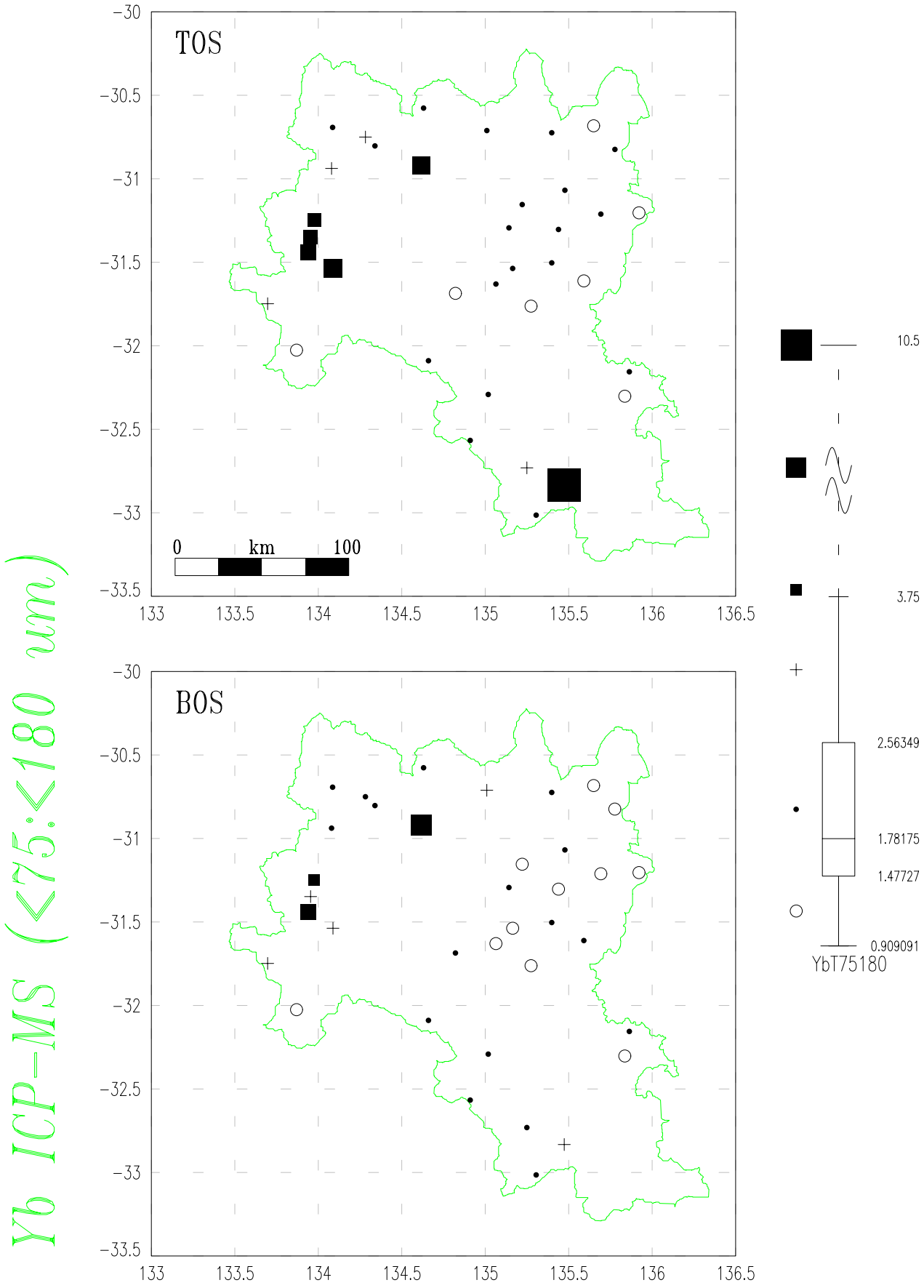






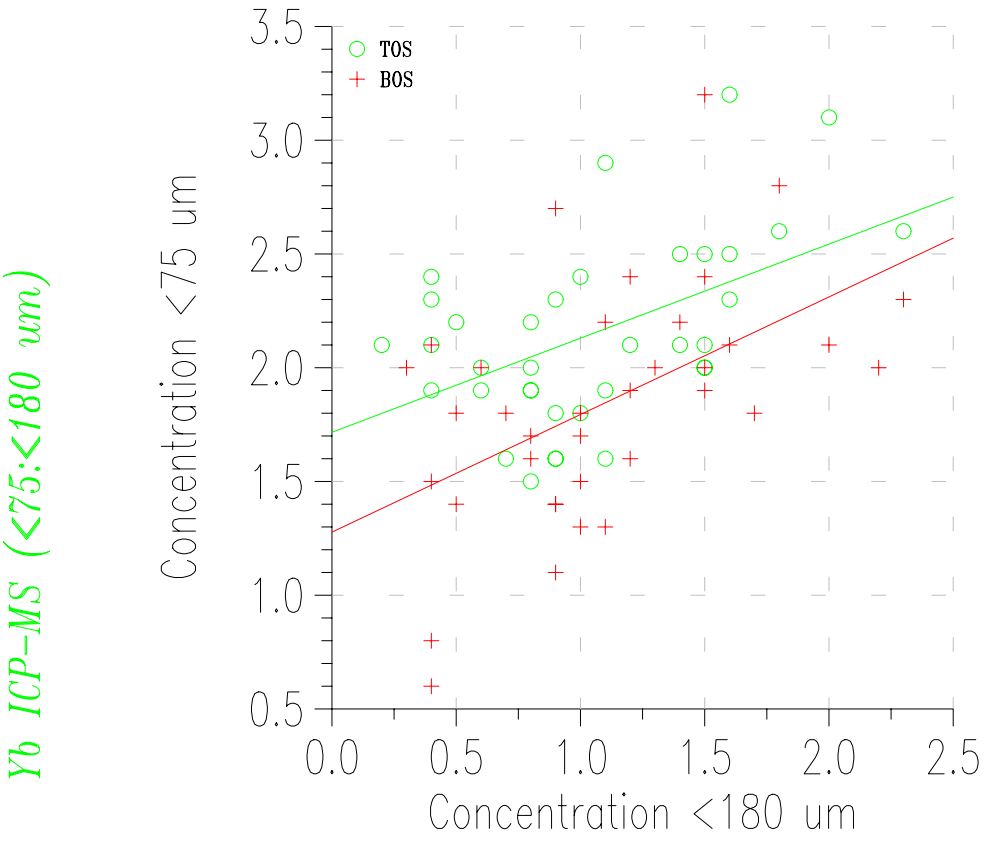
CAWLER GEOCHEMICAL SURVEY

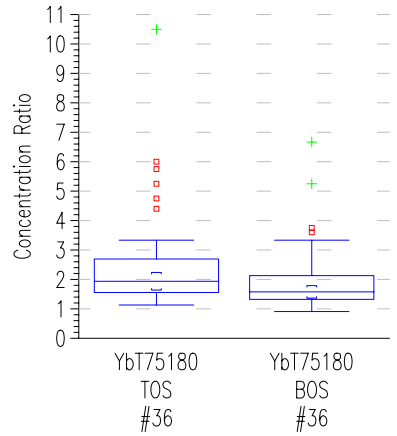
Top & Bottom Outlet Sediments (TOS & BOS)

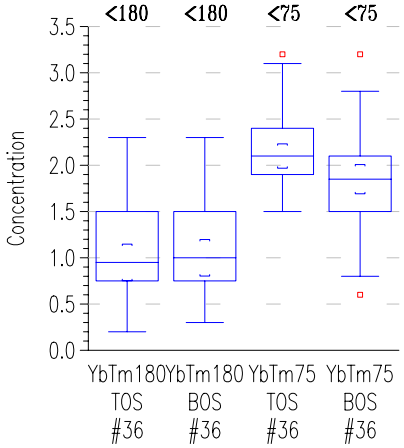


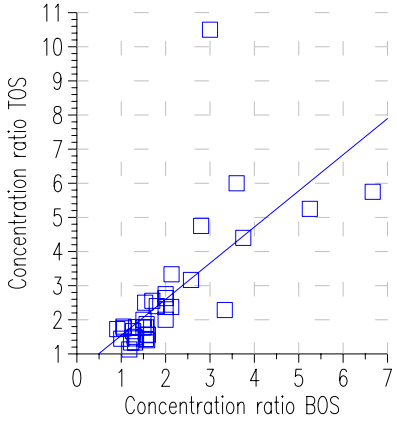
Yb ICP-MS (<75:<180 um)

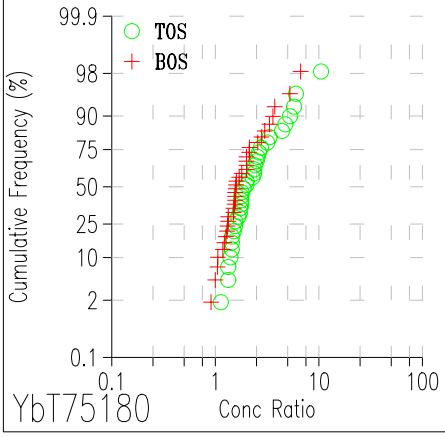
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

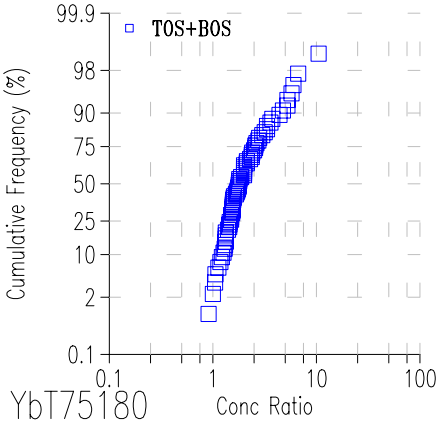


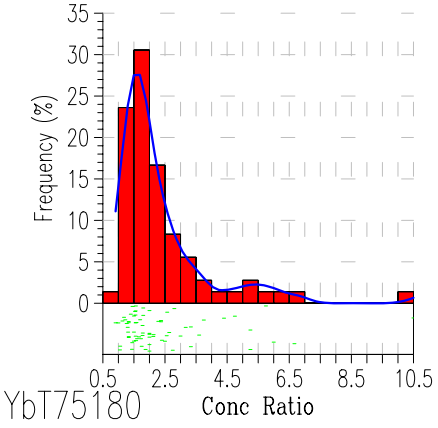






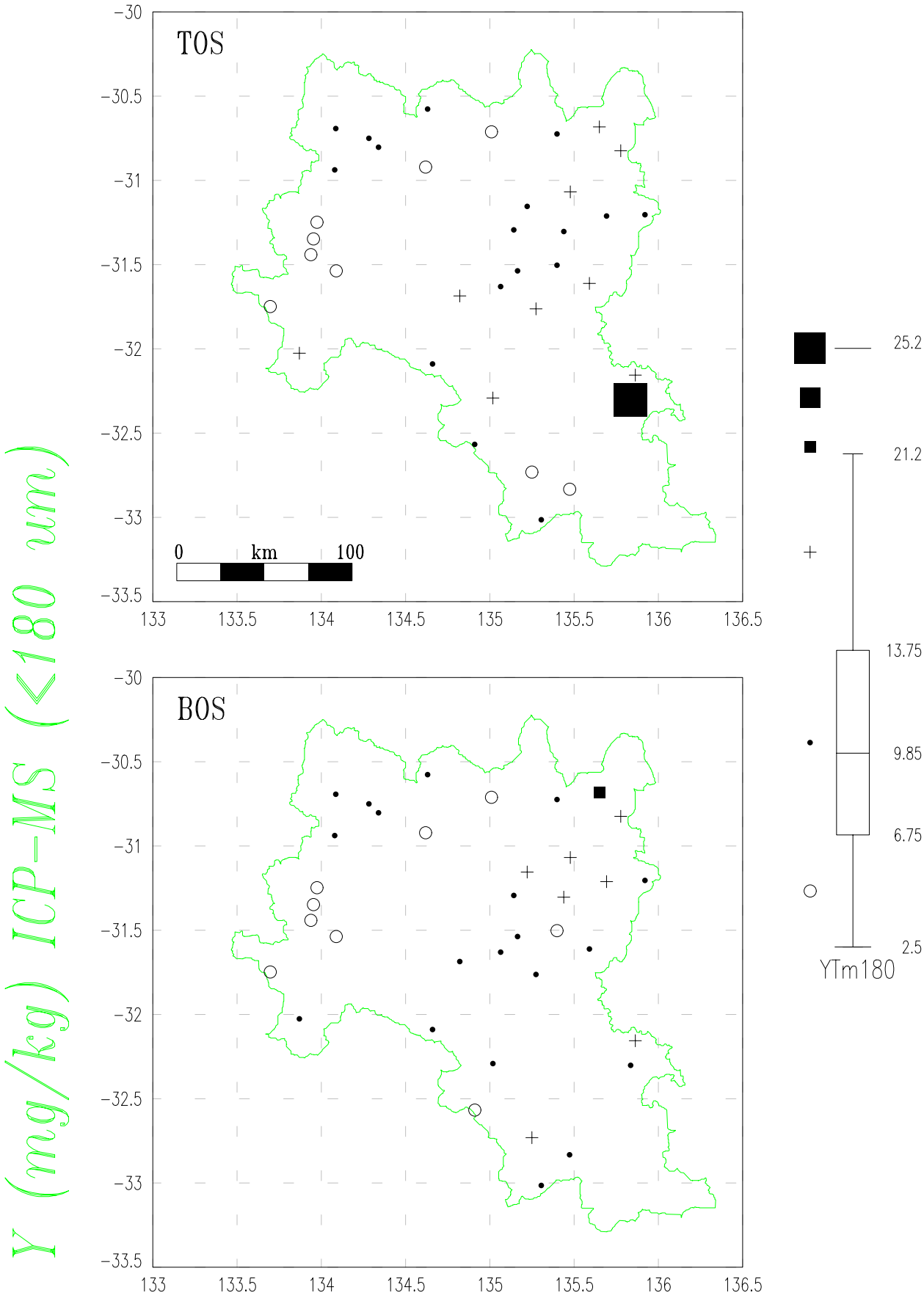






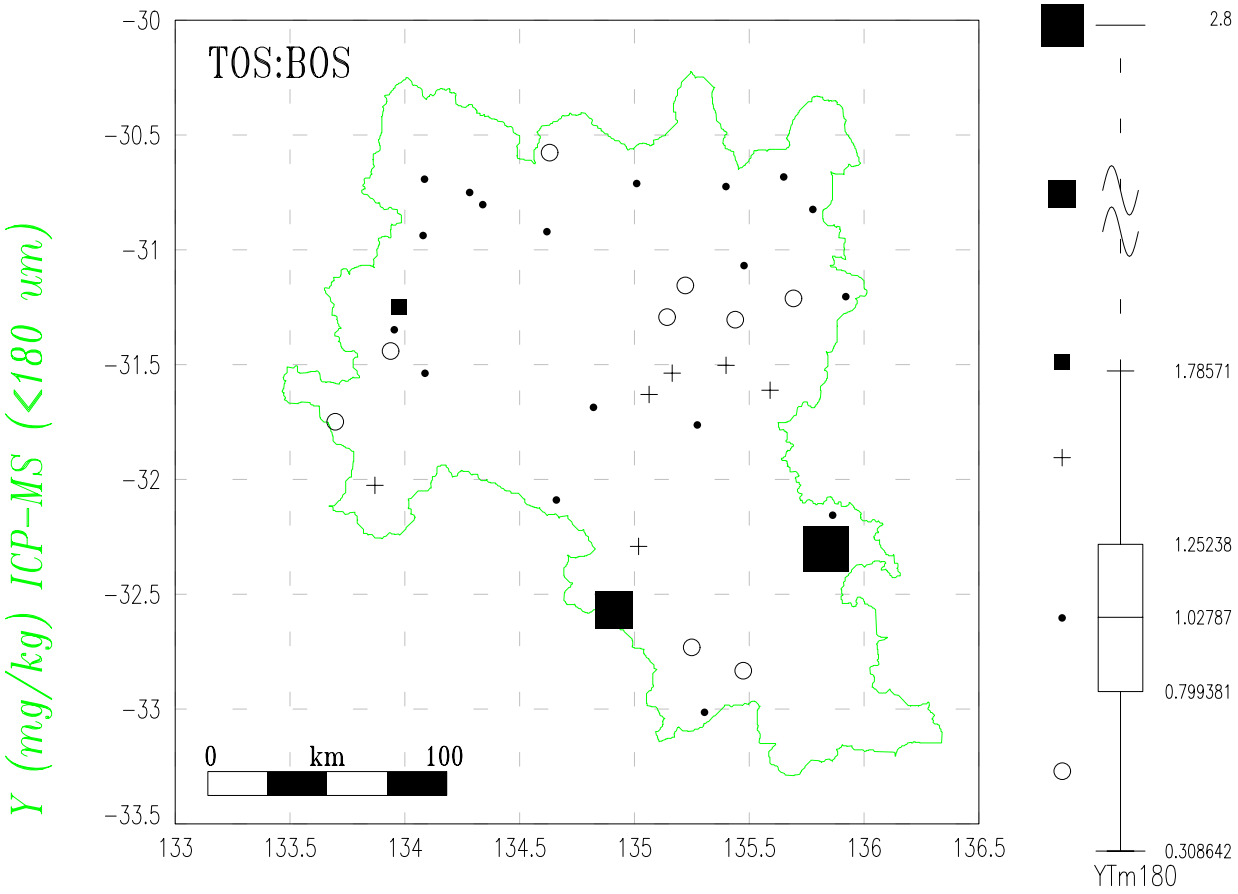
CAWLER GEOCHEMICAL SURVEY

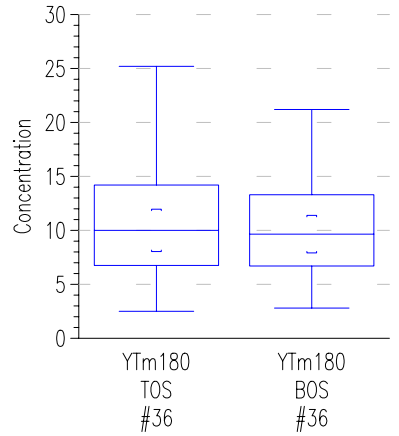
Top & Bottom Outlet Sediments (TOS & BOS)

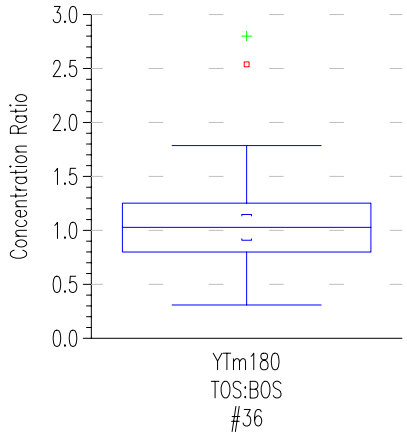


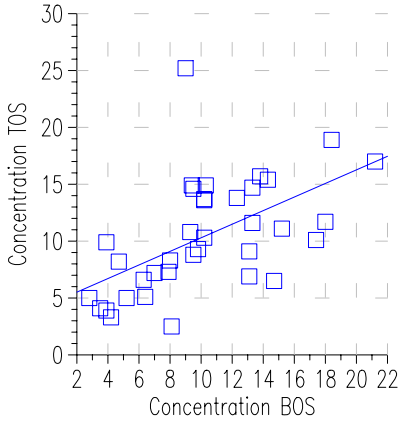
Y (mg/kg) ICP-MS (<180 um)

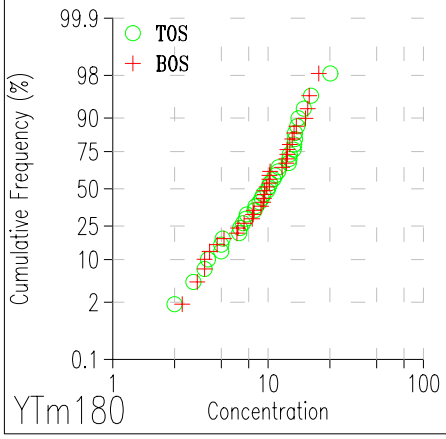
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

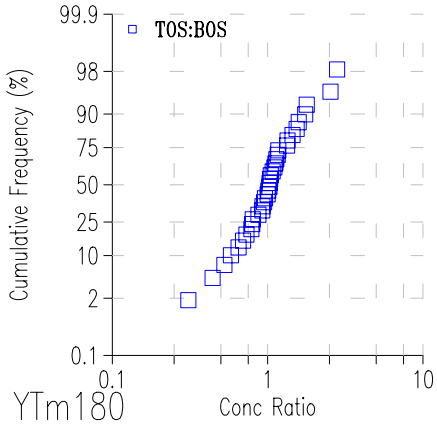


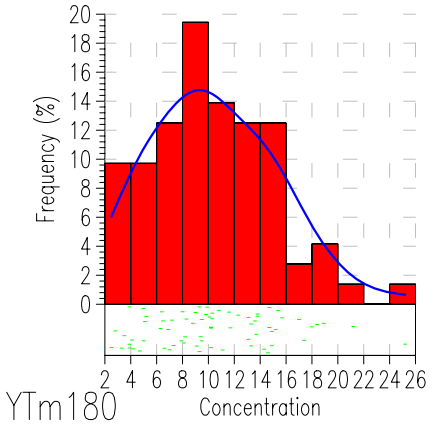






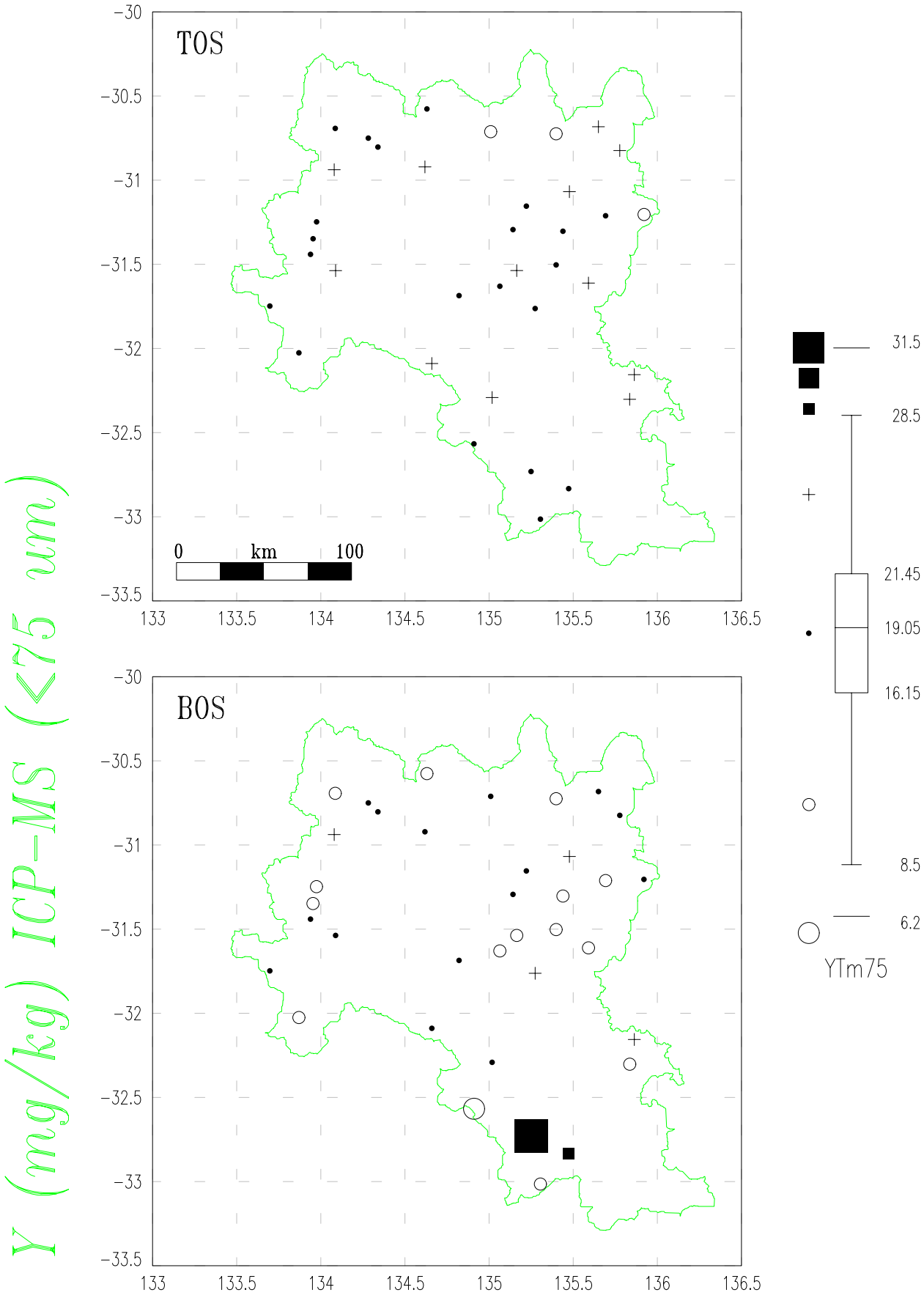






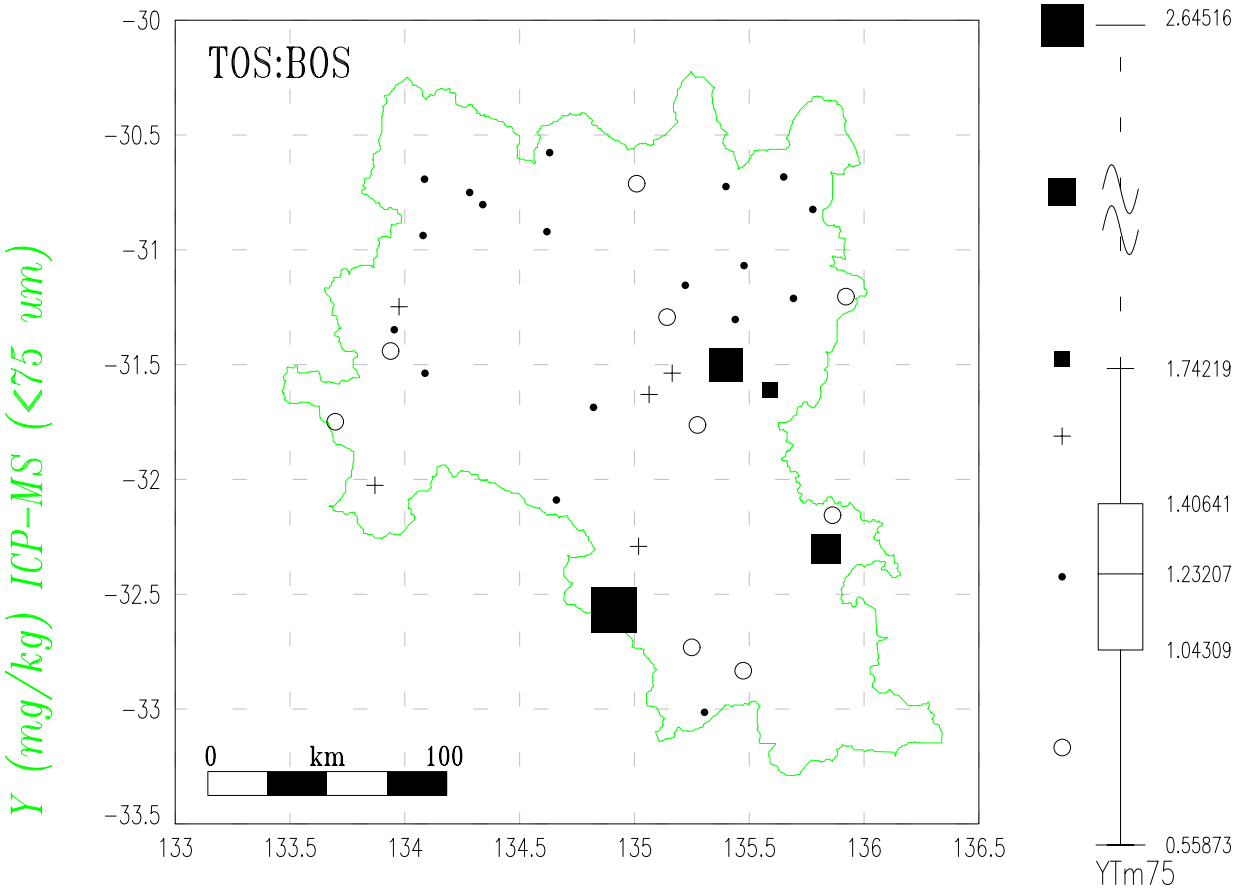
GAWLER GEOCHEMICAL SURVEY

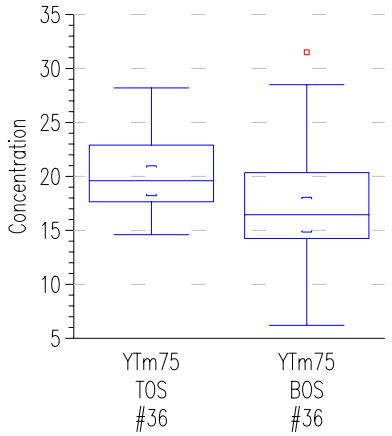
Top & Bottom Outlet Sediments (TOS & BOS)

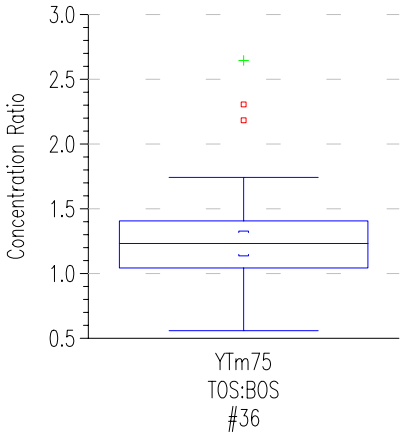


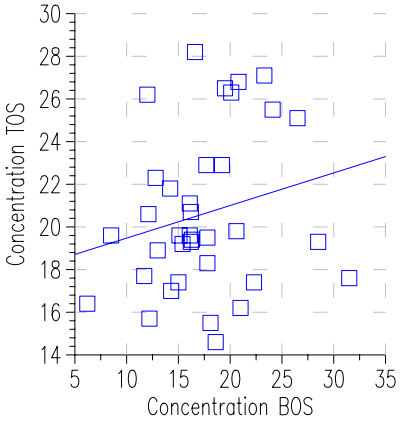
Y (mg/kg) ICP-MS (<75 um)

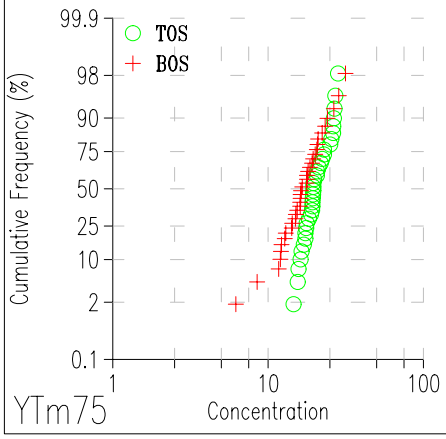
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

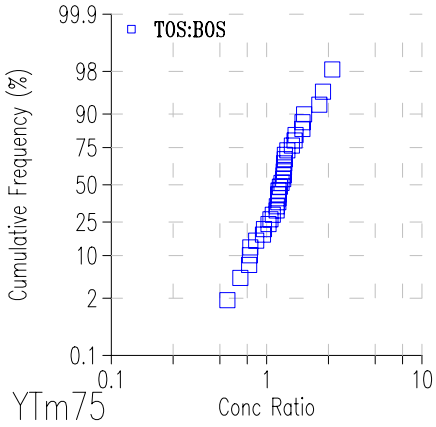


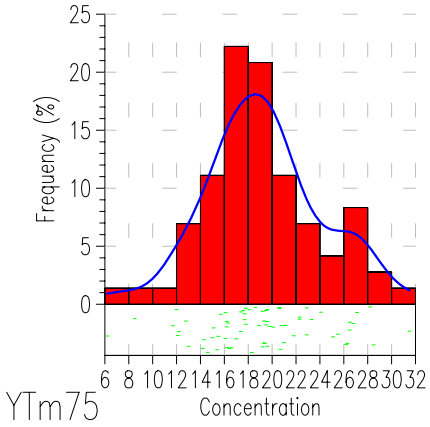




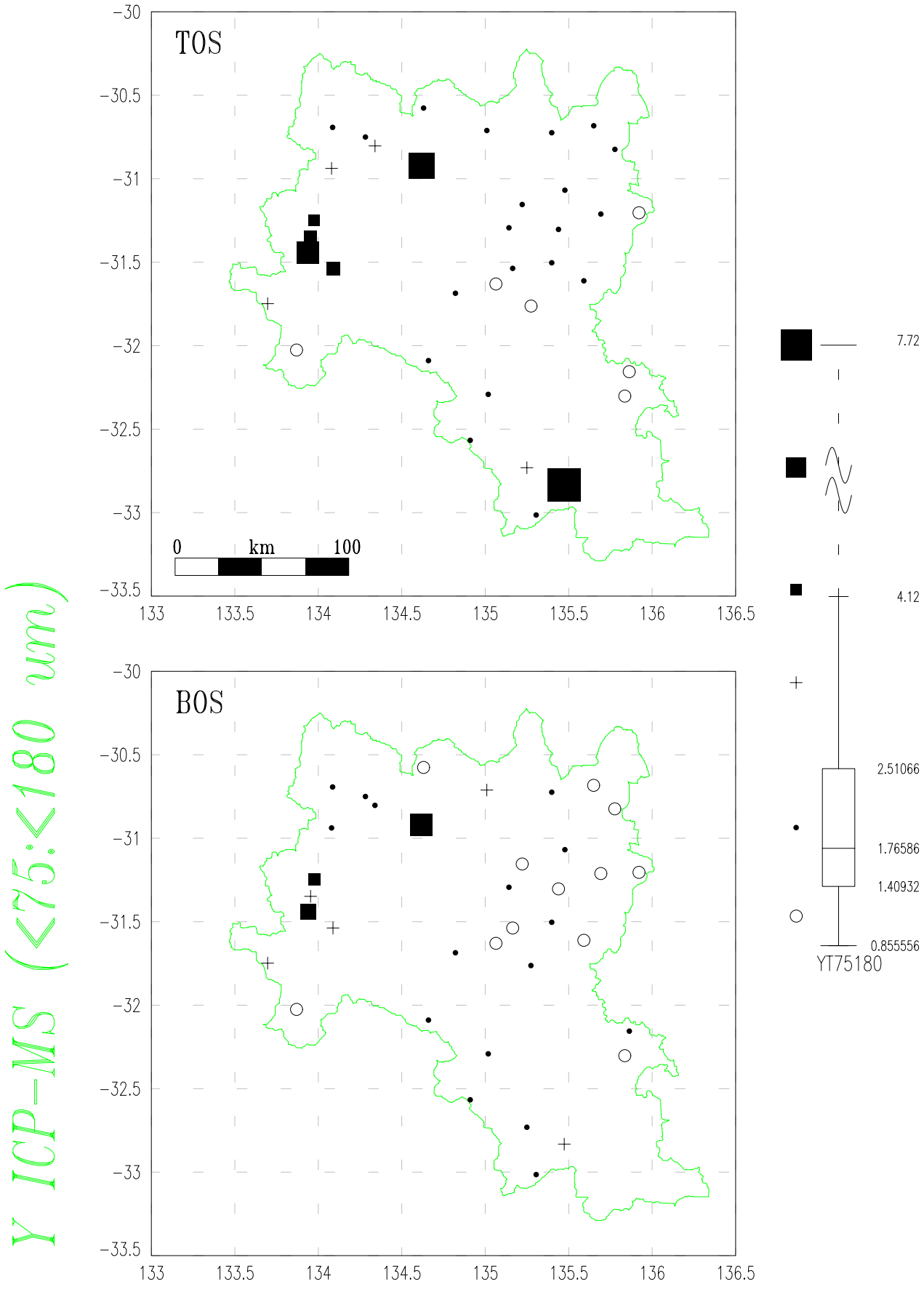




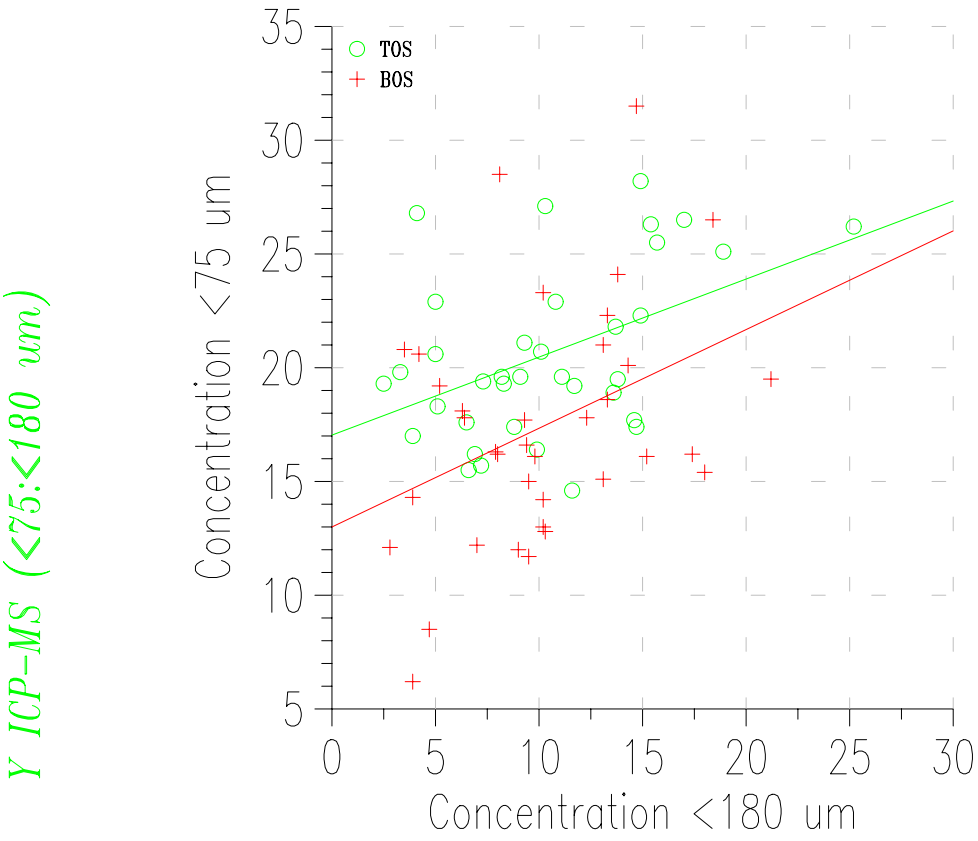


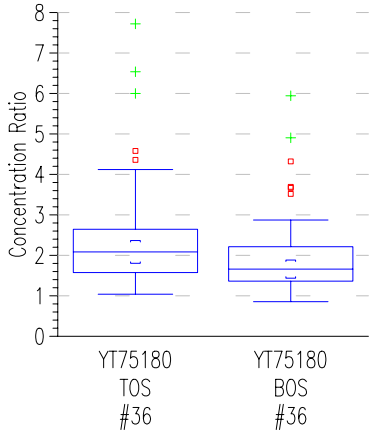


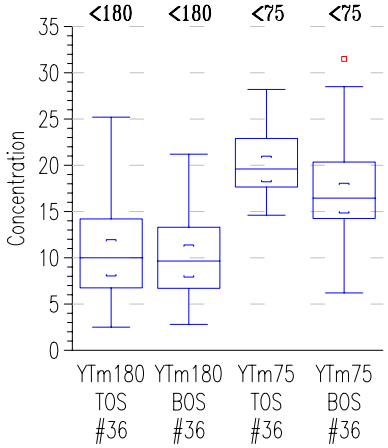
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

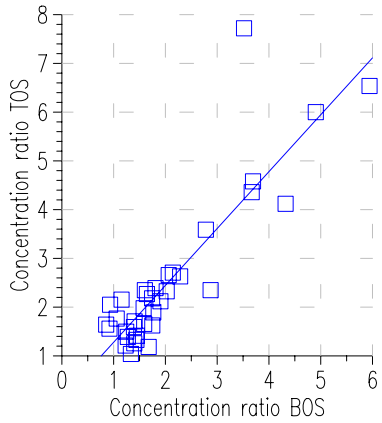


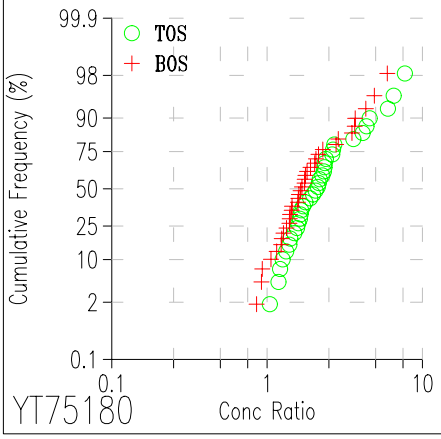
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

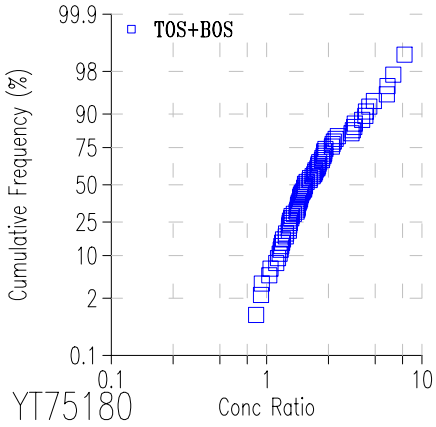


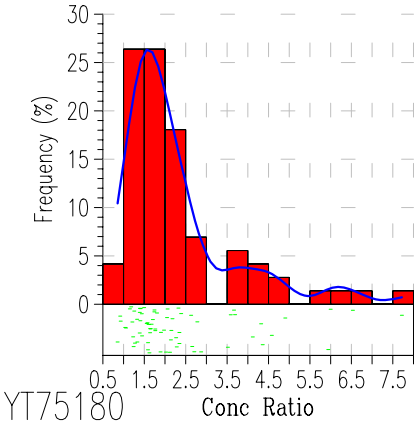






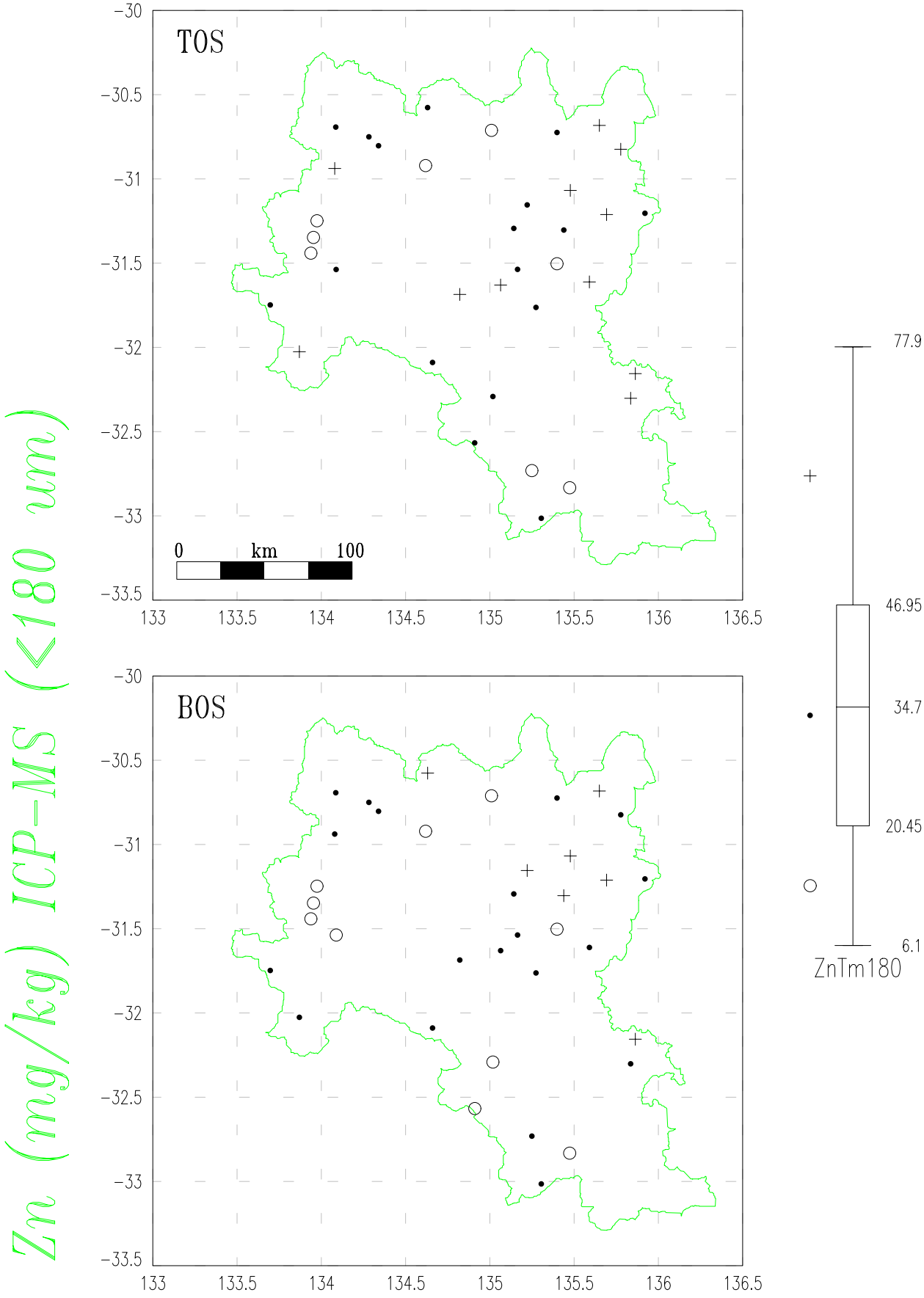






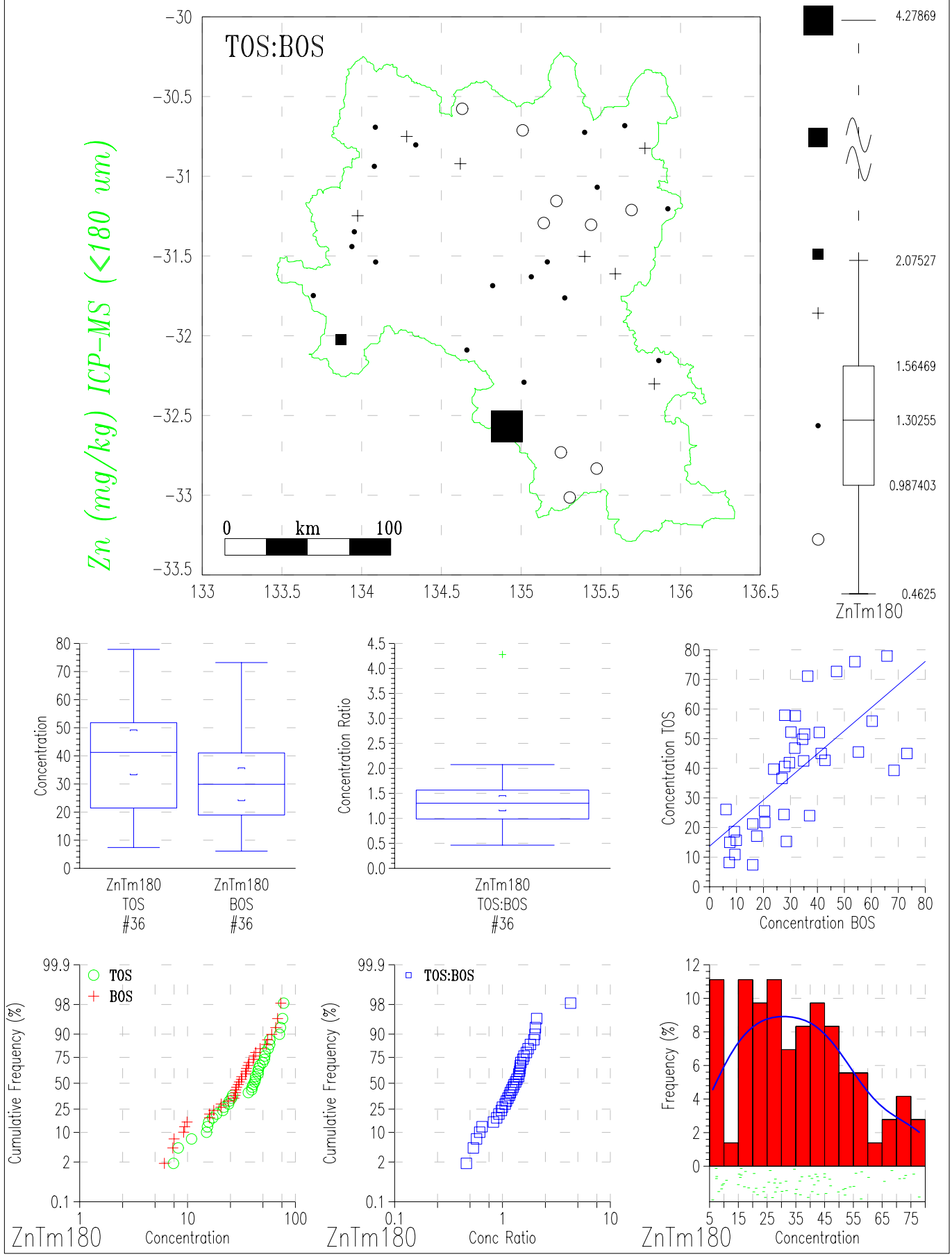
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

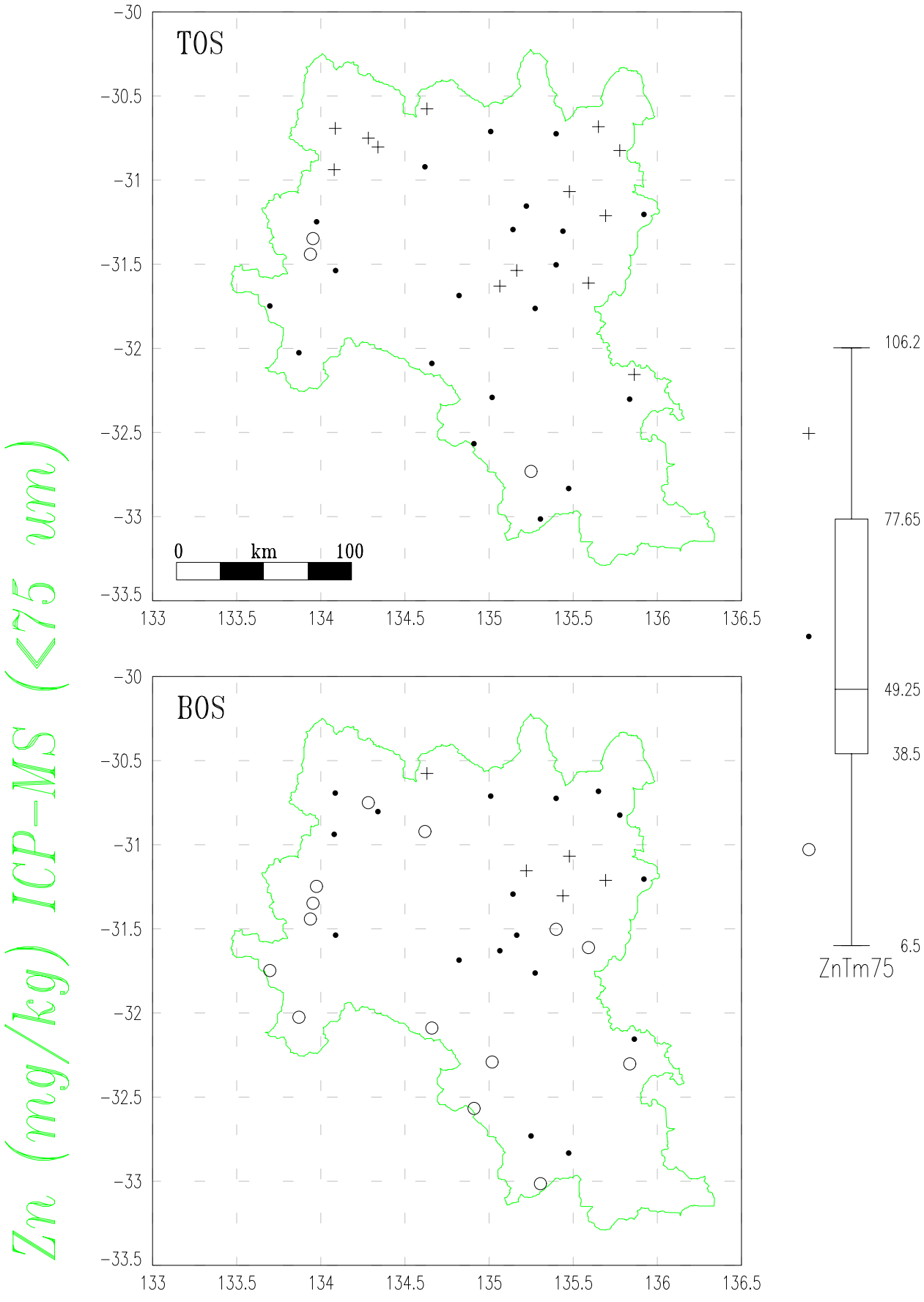


CAWLER GEOCHEMICAL SURVEY

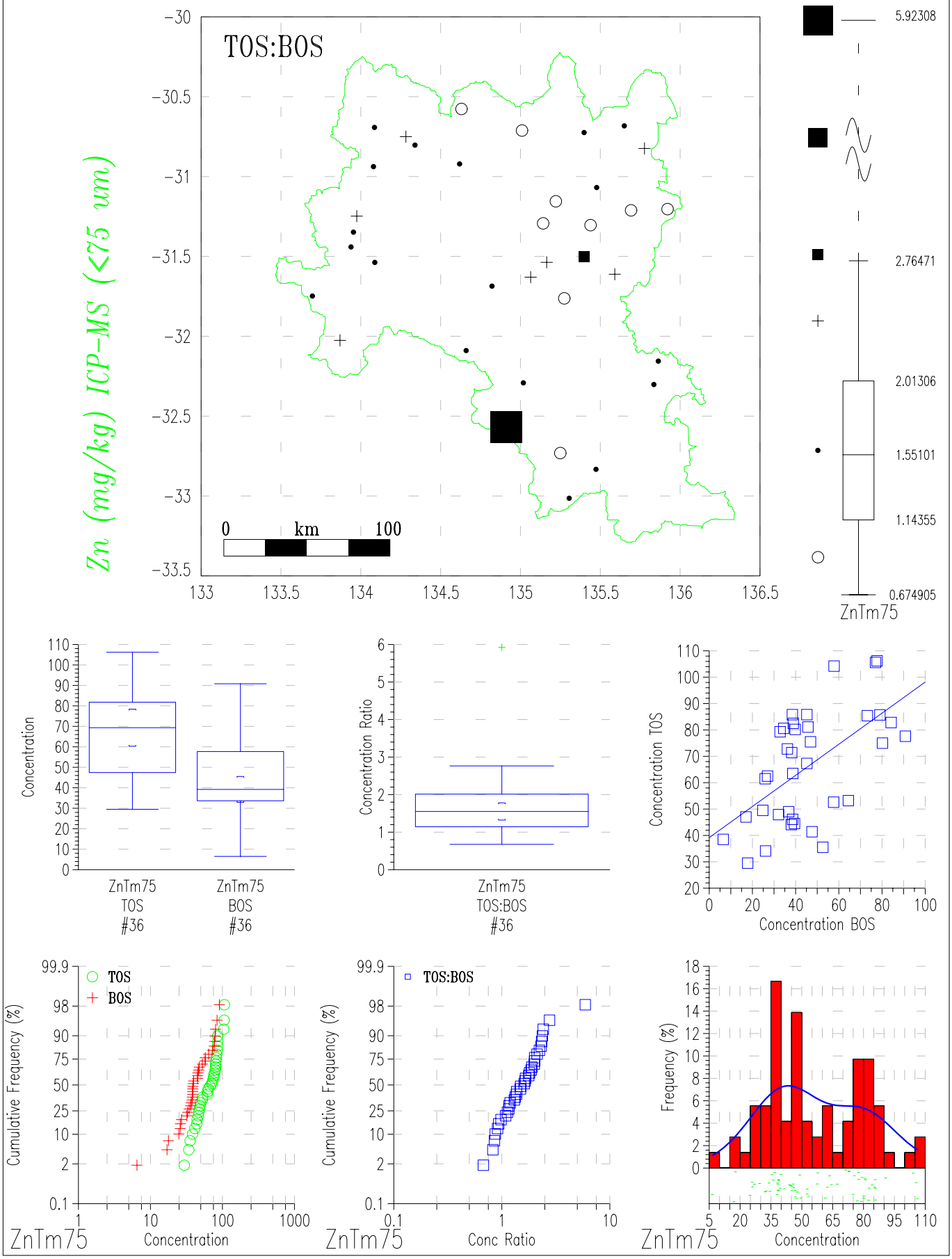
Top & Bottom Outlet Sediments (TOS & BOS)



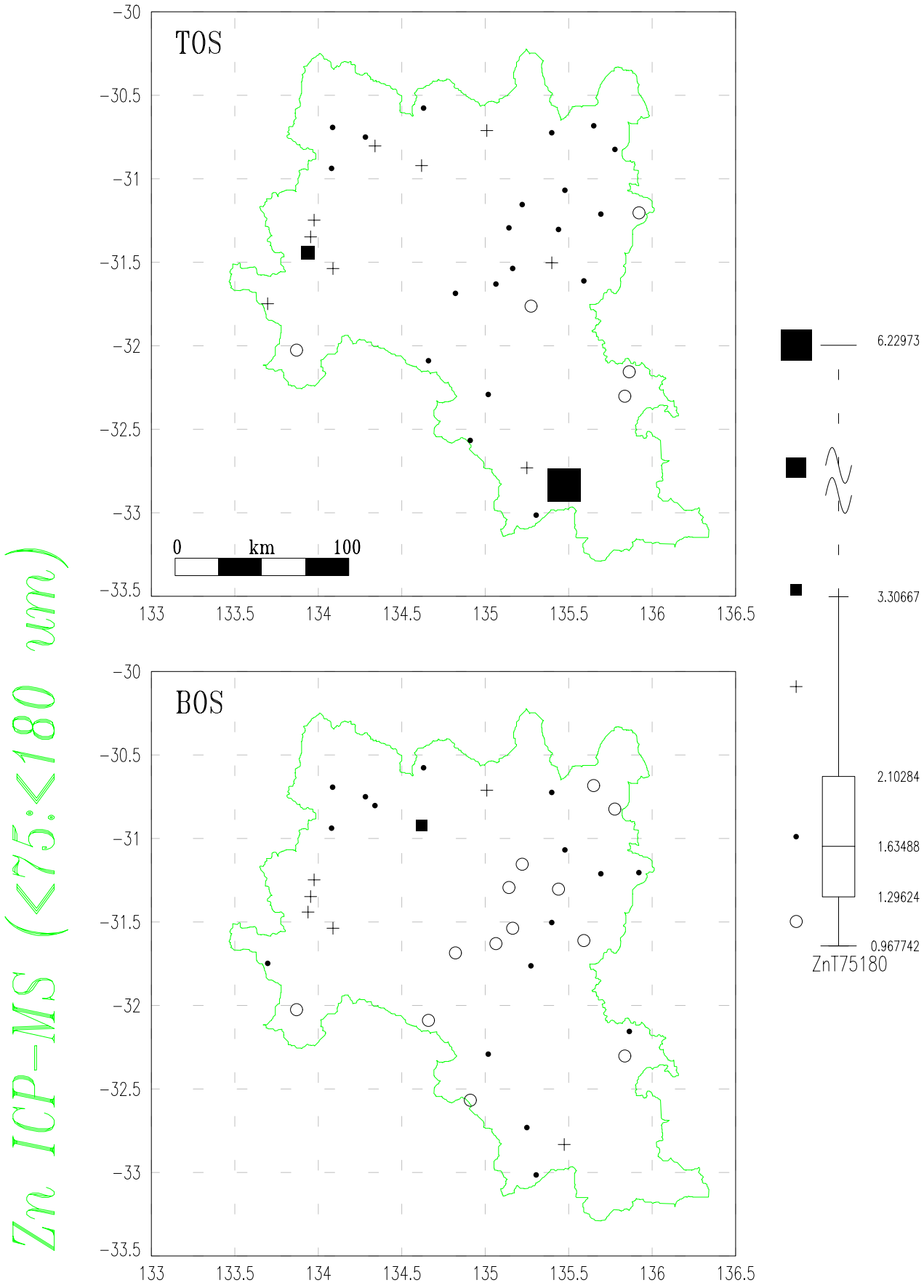
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*



GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

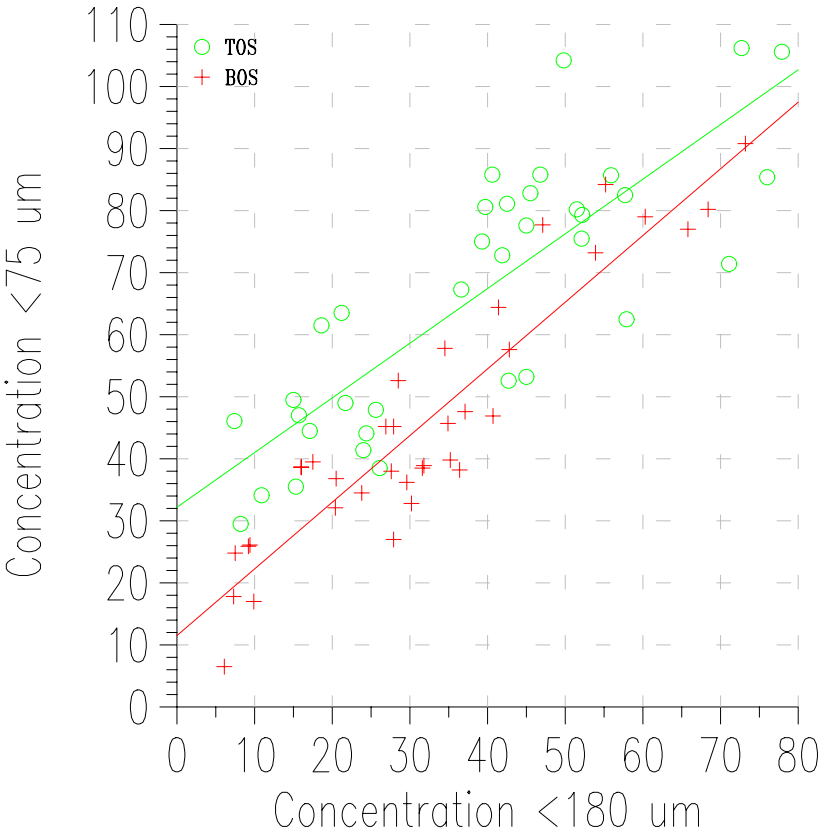


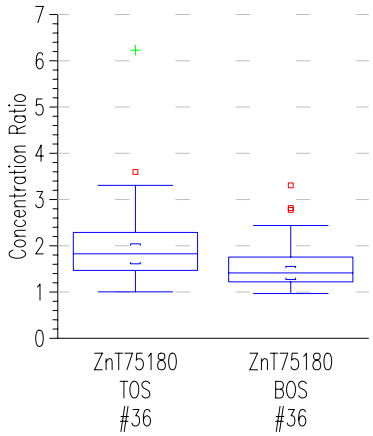
GAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

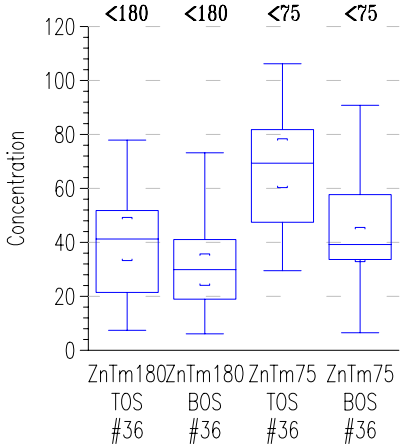


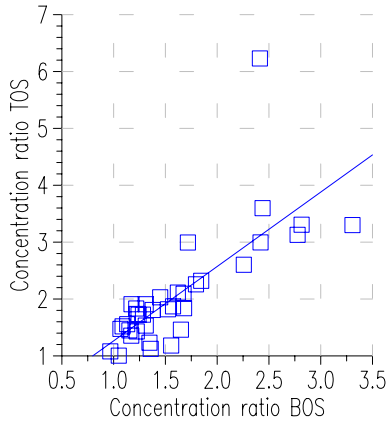
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

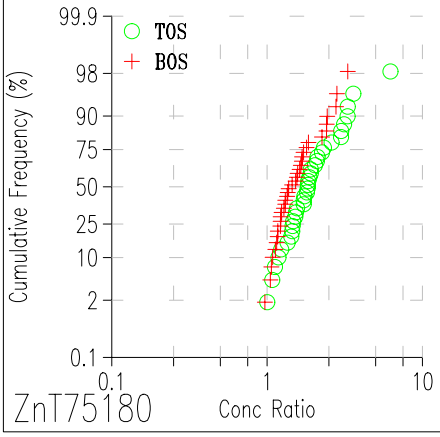
Zn ICP-MS (<75:<180 um)

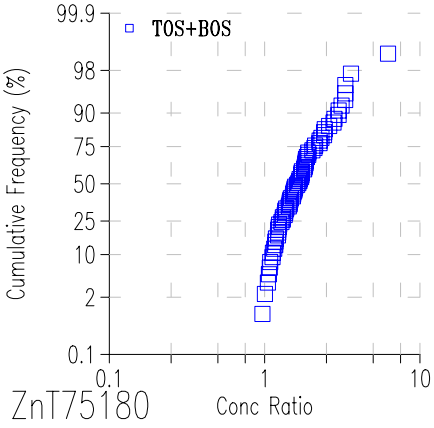


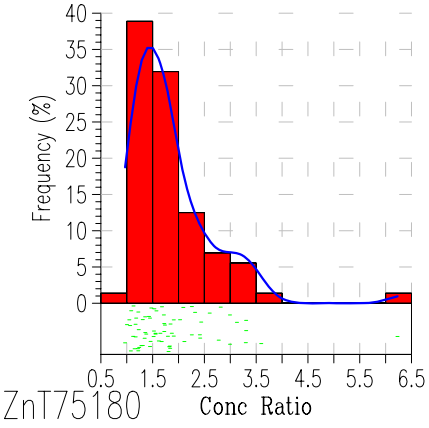






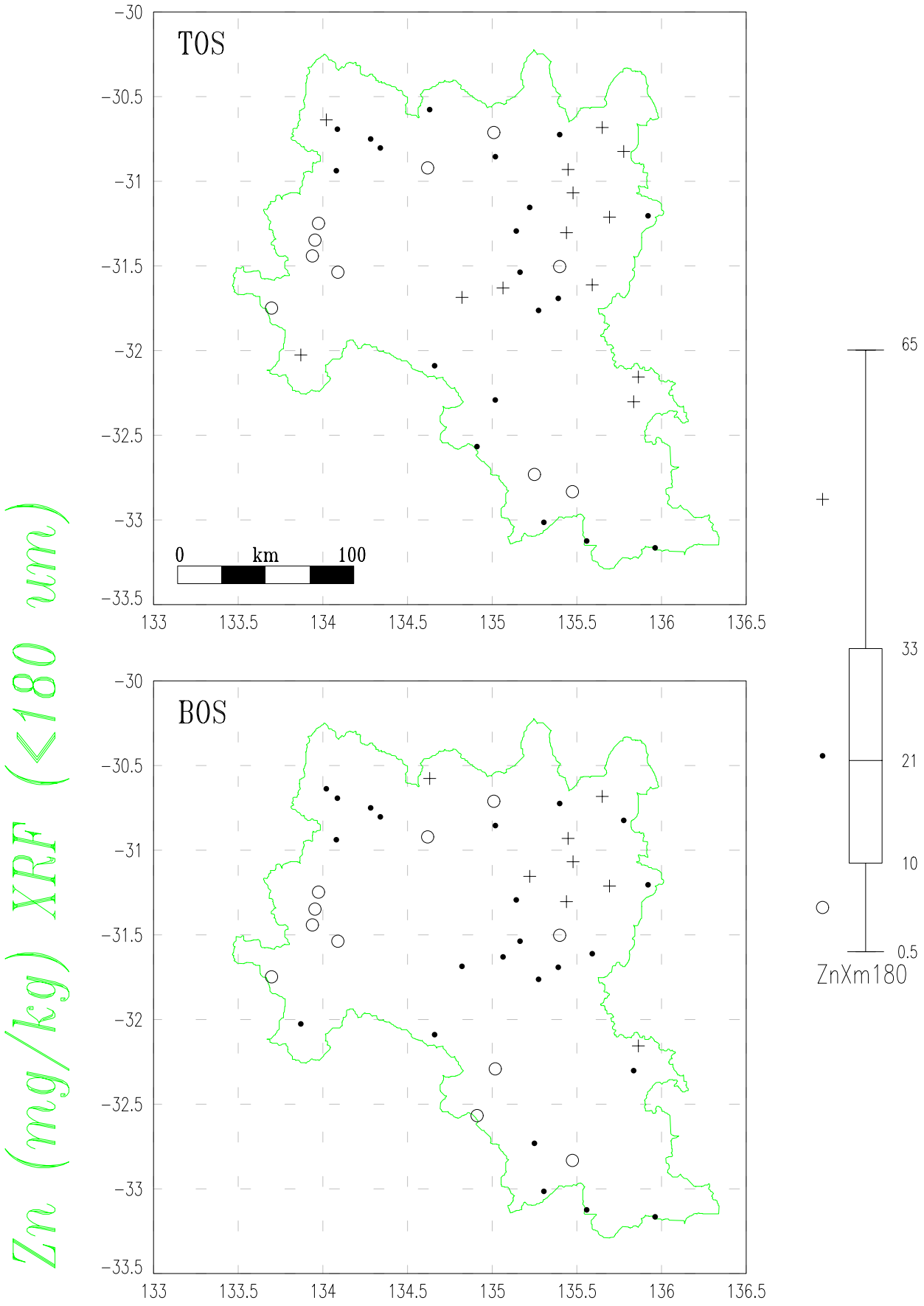




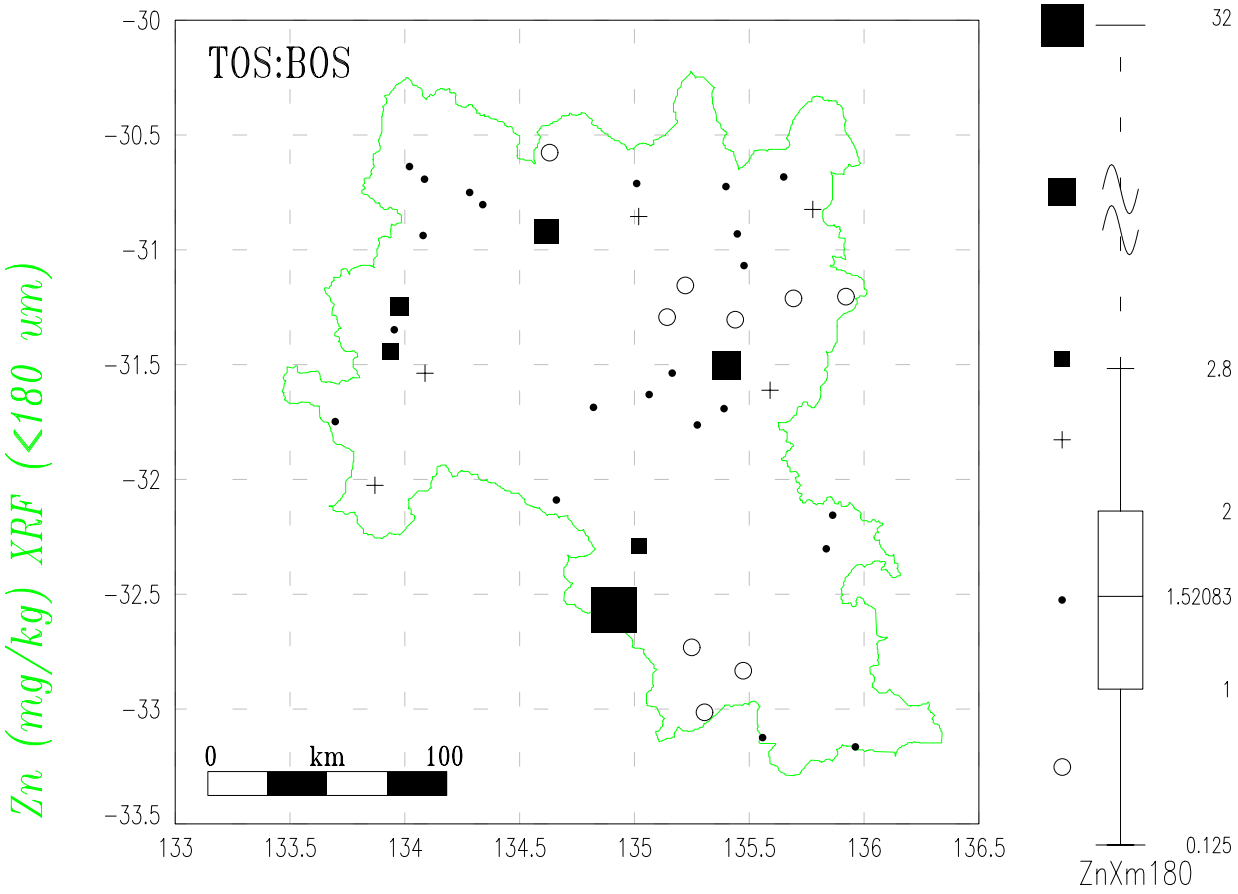


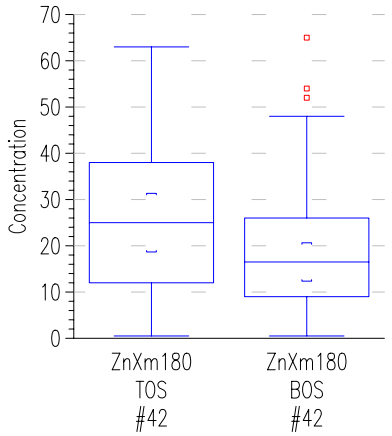
CAWLER GEOCHEMICAL SURVEY

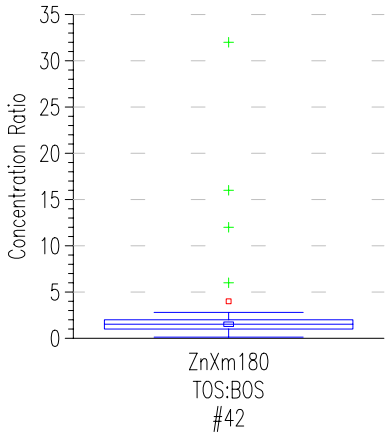
Top & Bottom Outlet Sediments (TOS & BOS)

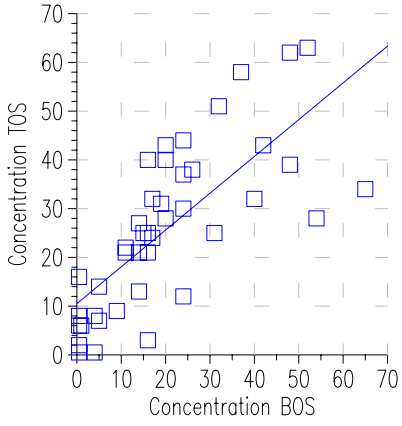


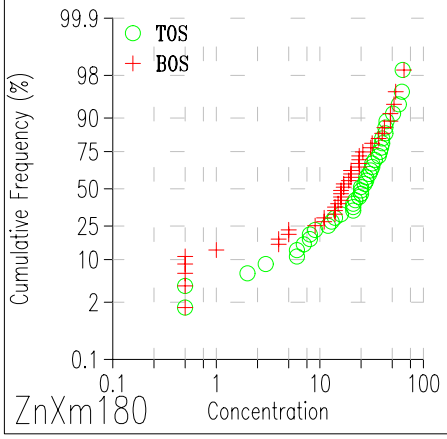
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

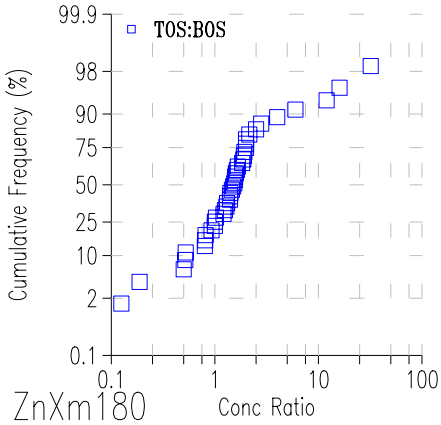


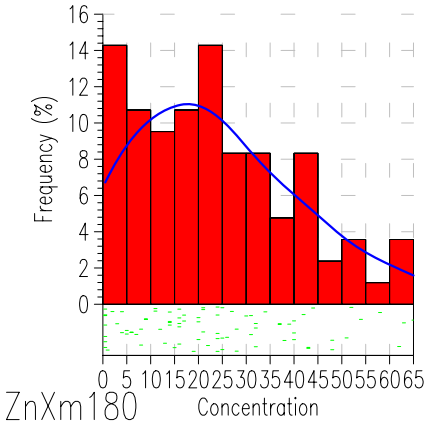






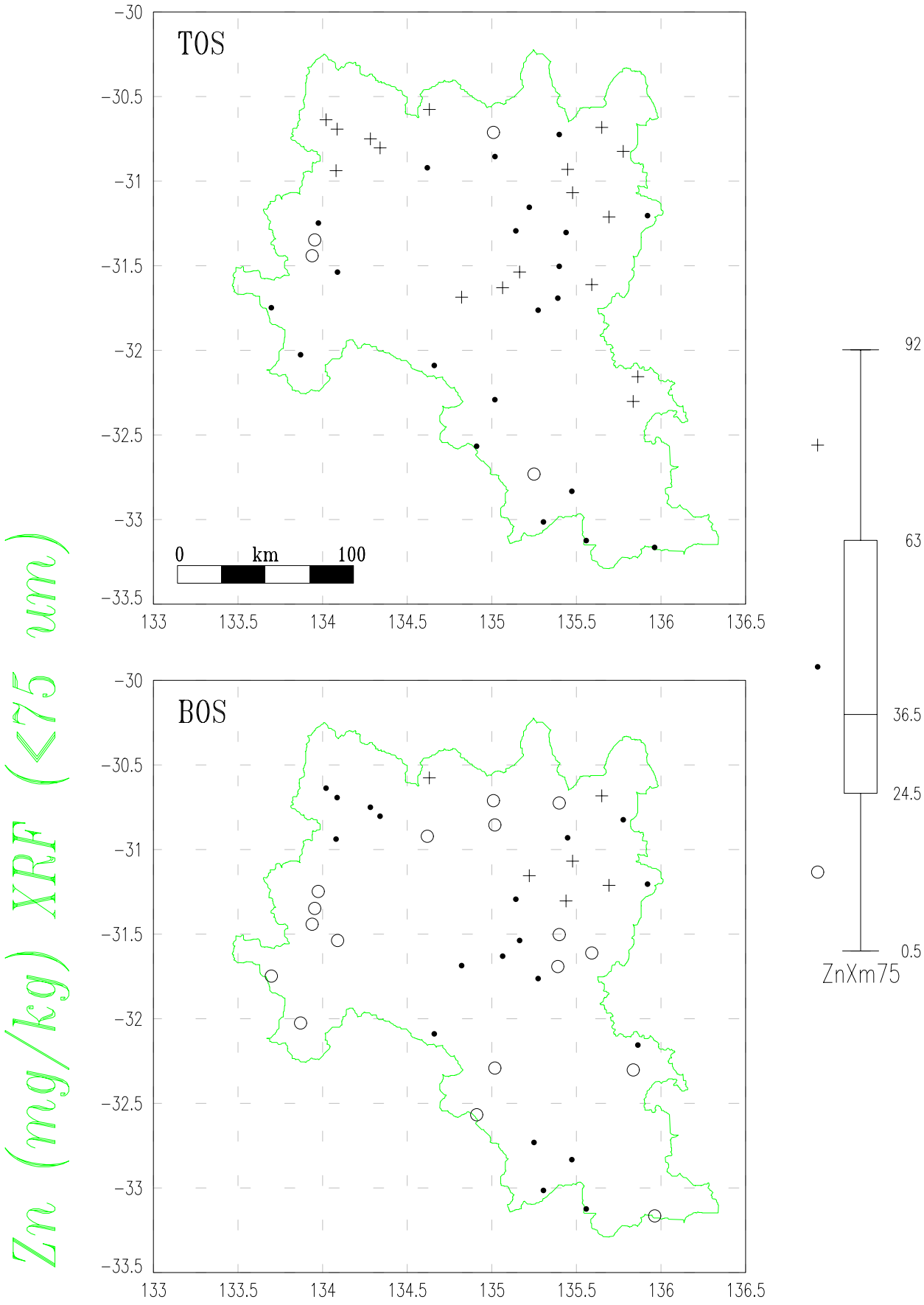




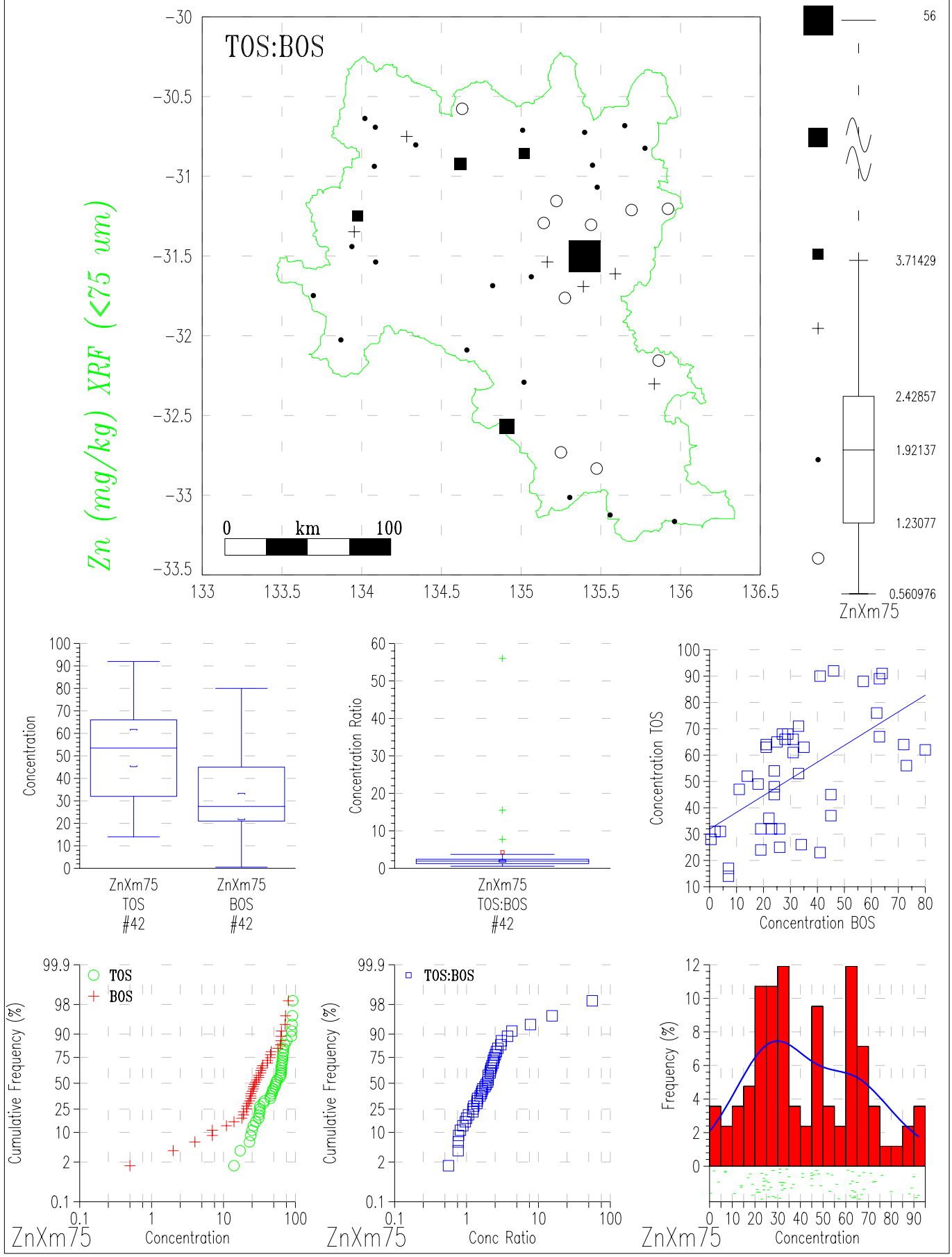


GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

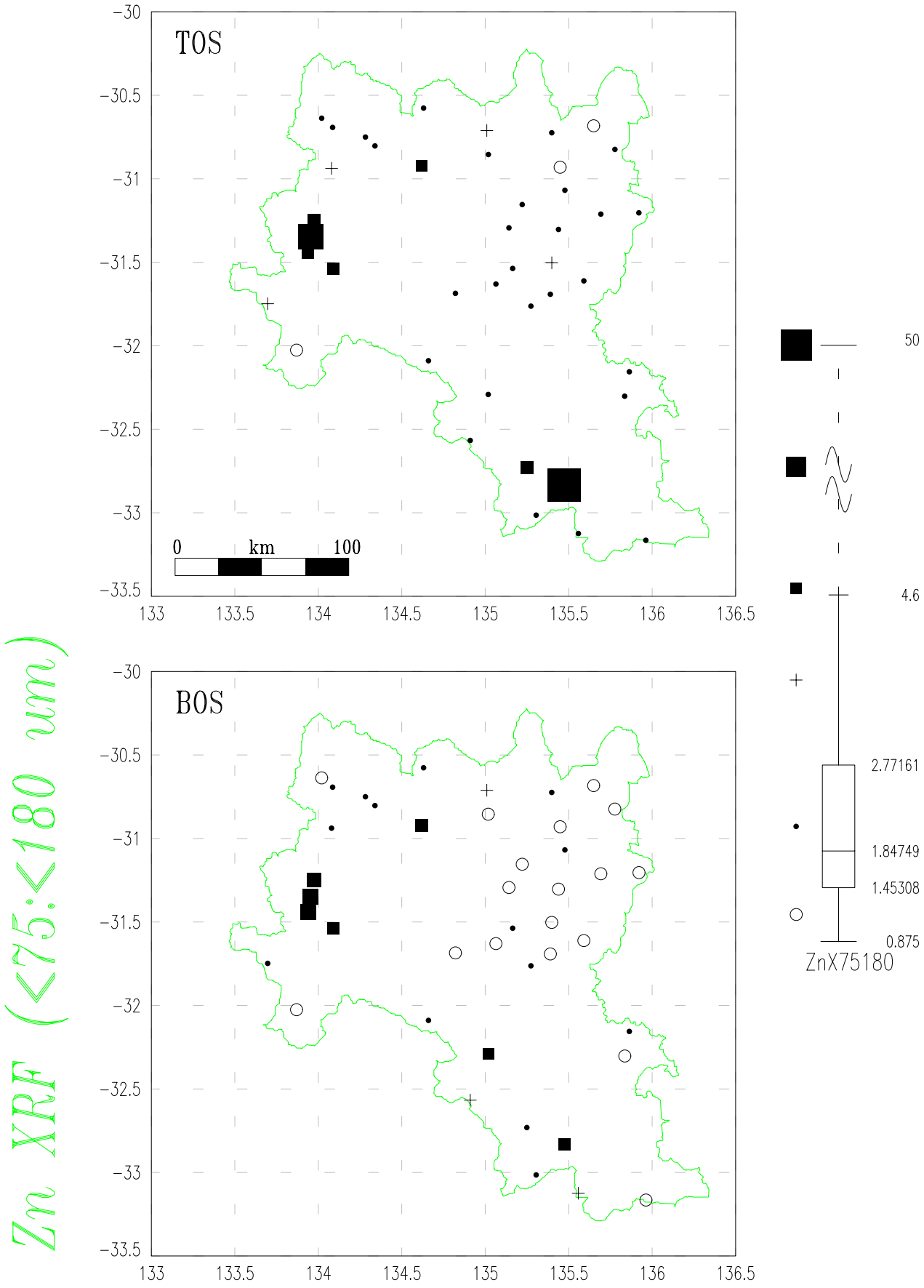


CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

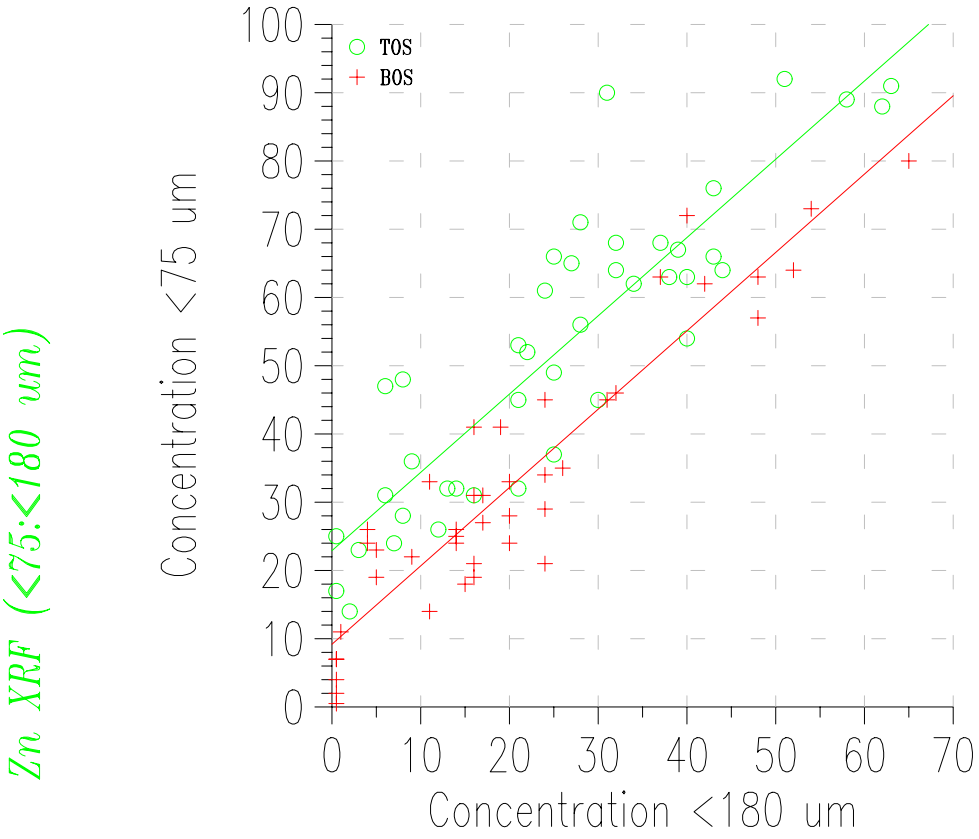


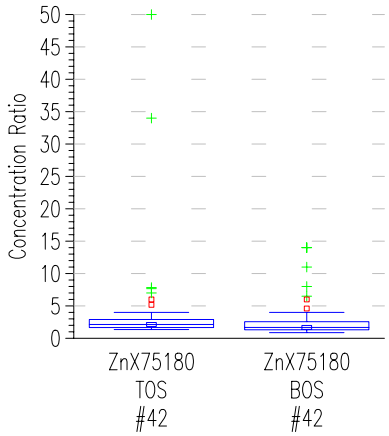
GAWLER GEOCHEMICAL SURVEY

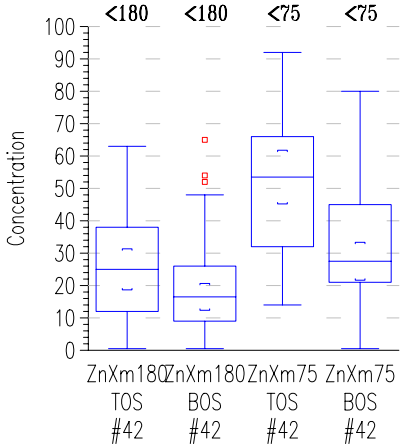
Top & Bottom Outlet Sediments (TOS & BOS)

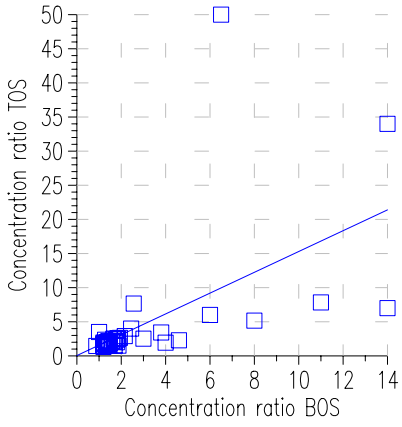


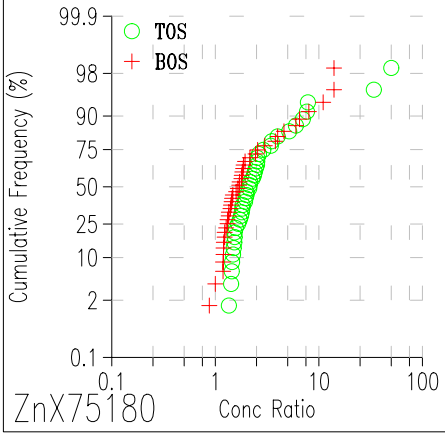
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

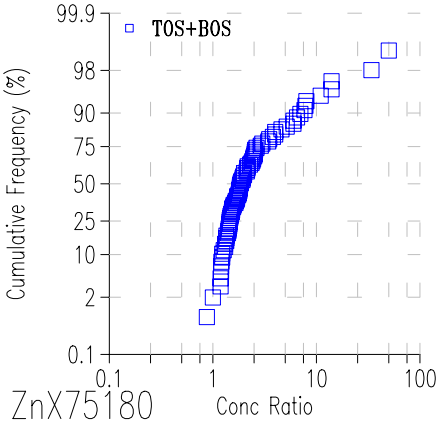


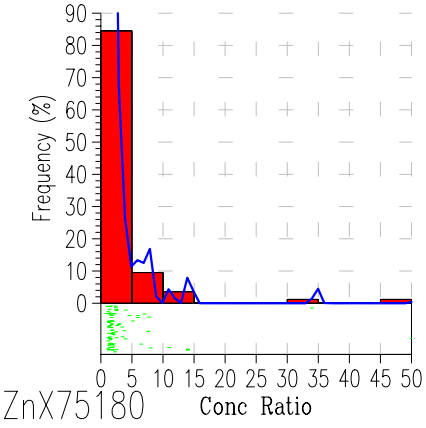






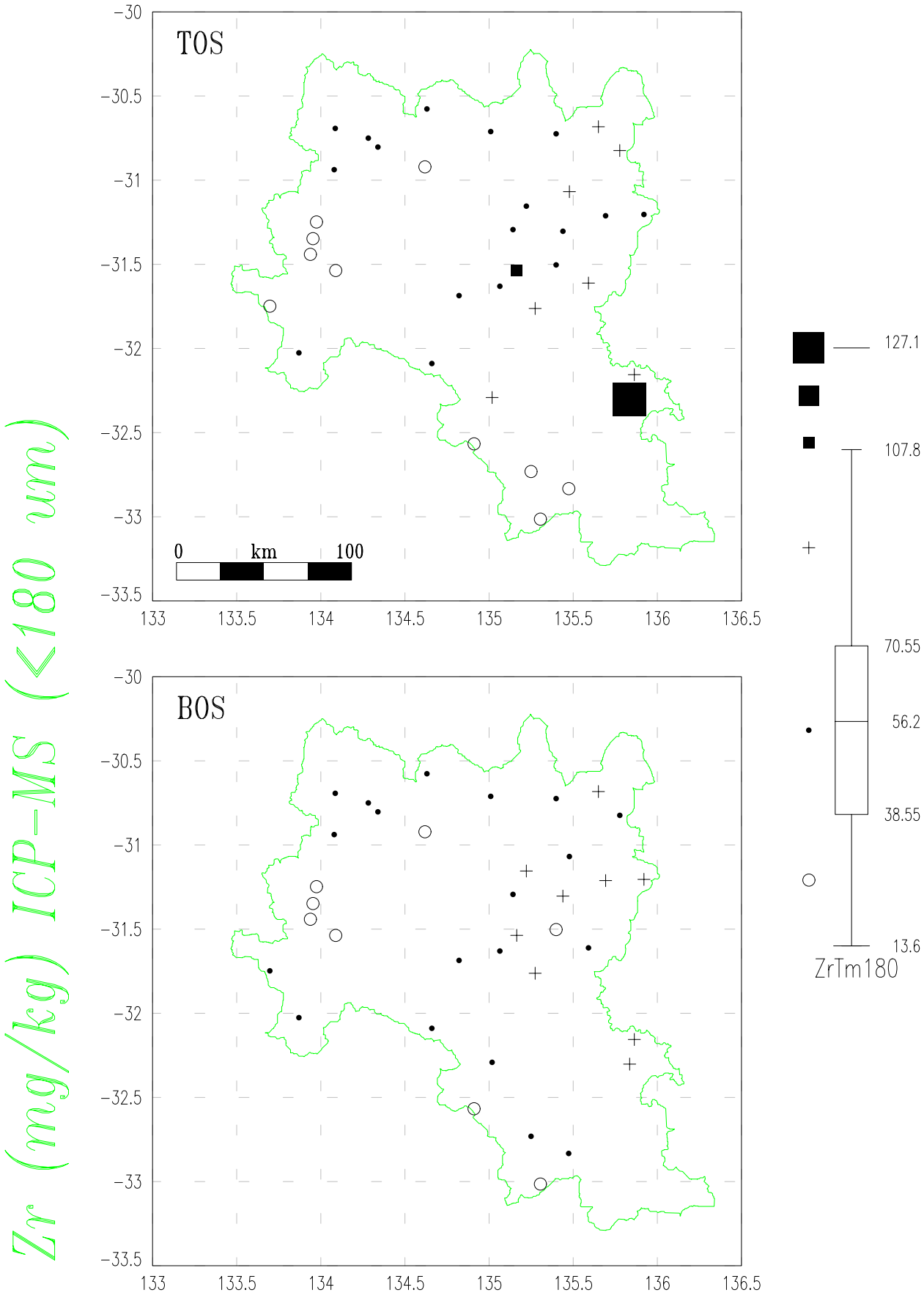




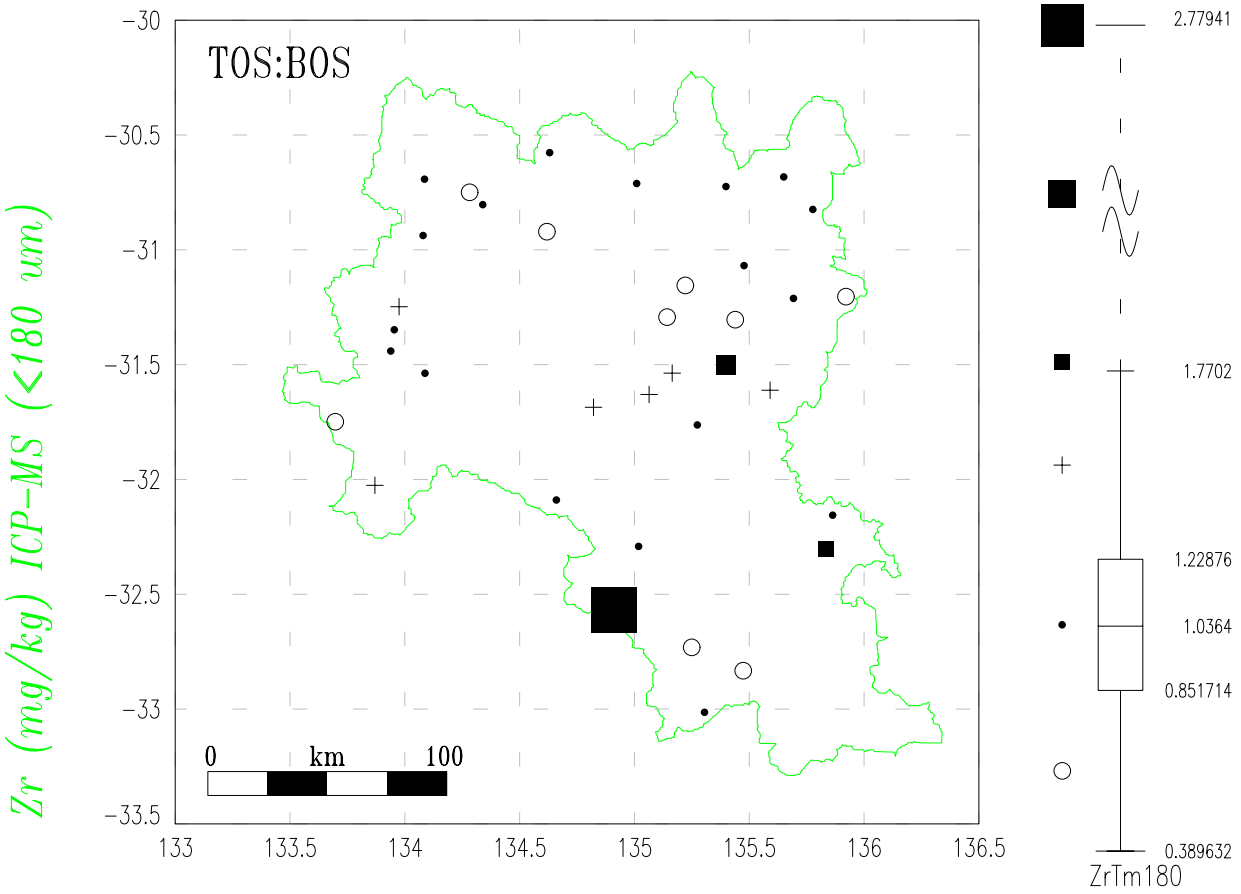


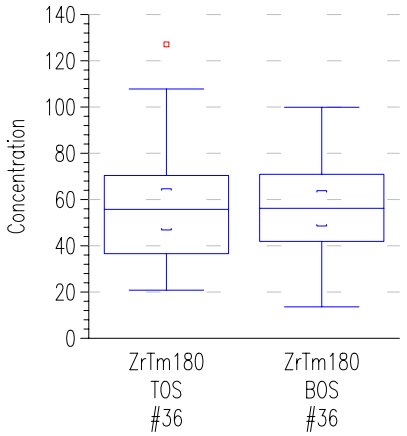
GAWLER GEOCHEMICAL SURVEY

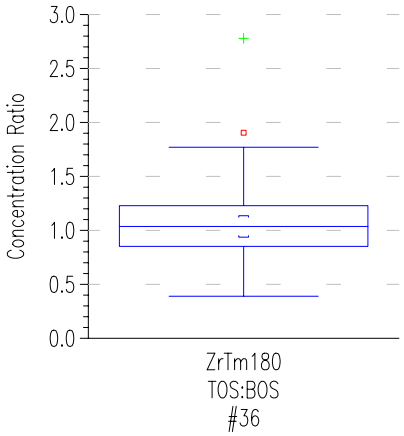
Top & Bottom Outlet Sediments (TOS & BOS)

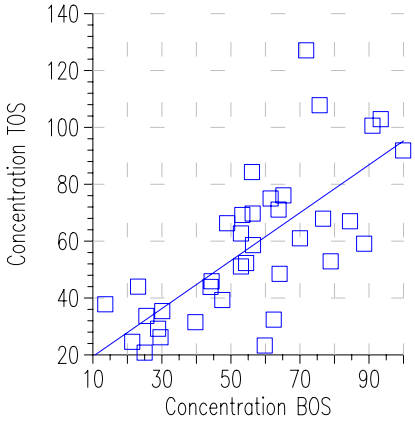


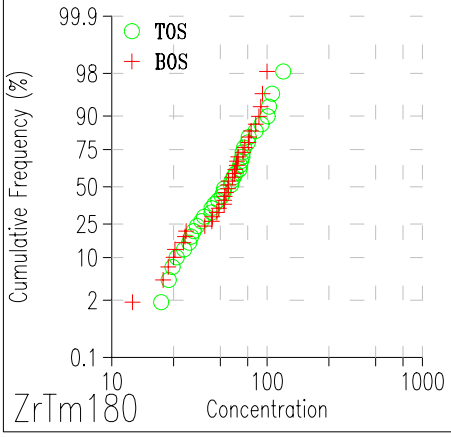
CAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

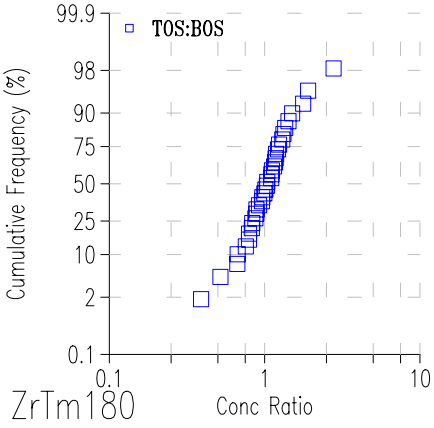


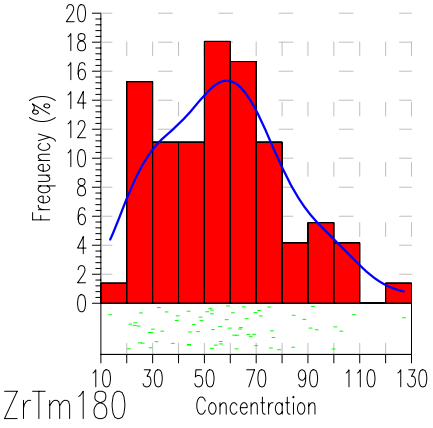






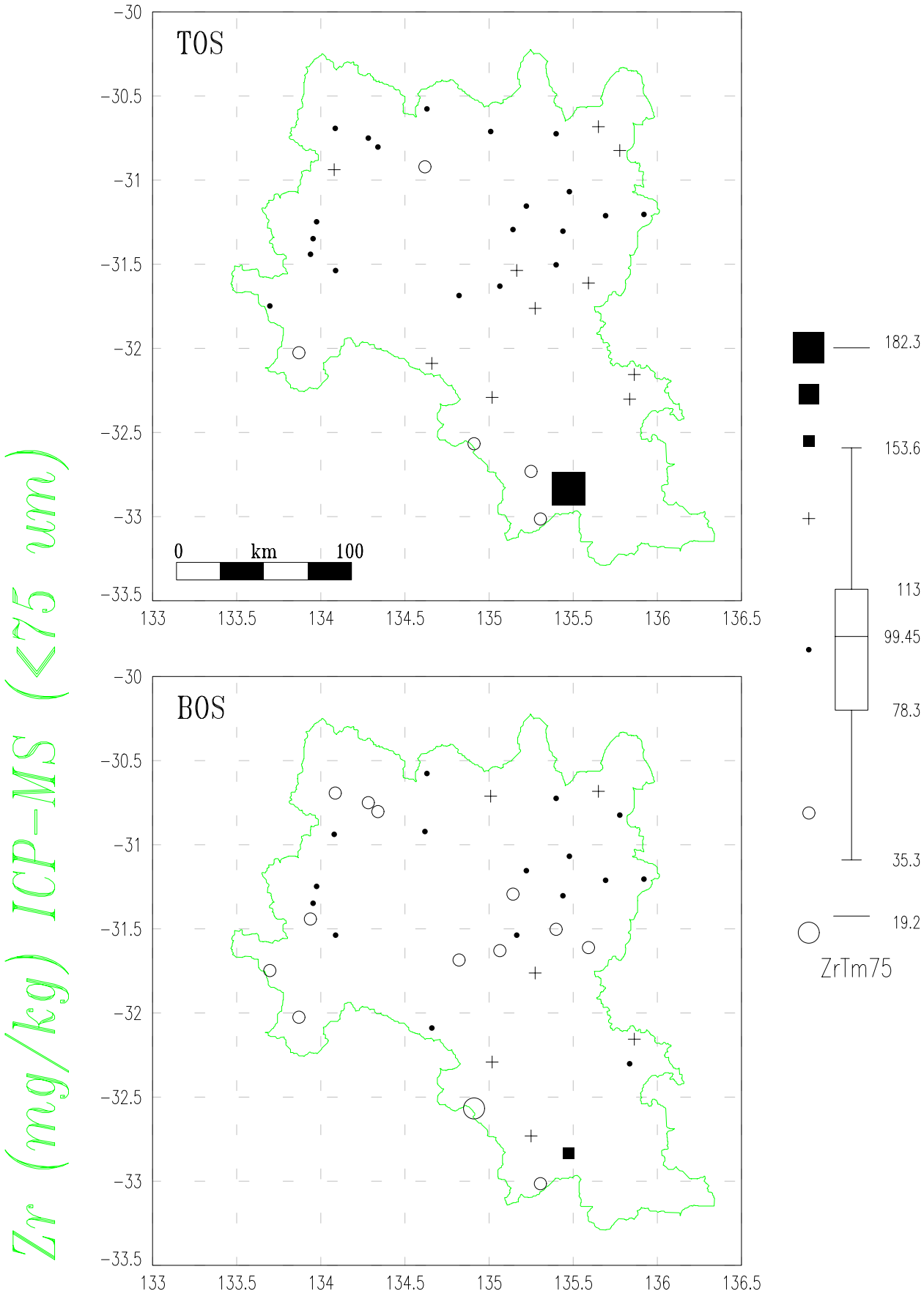




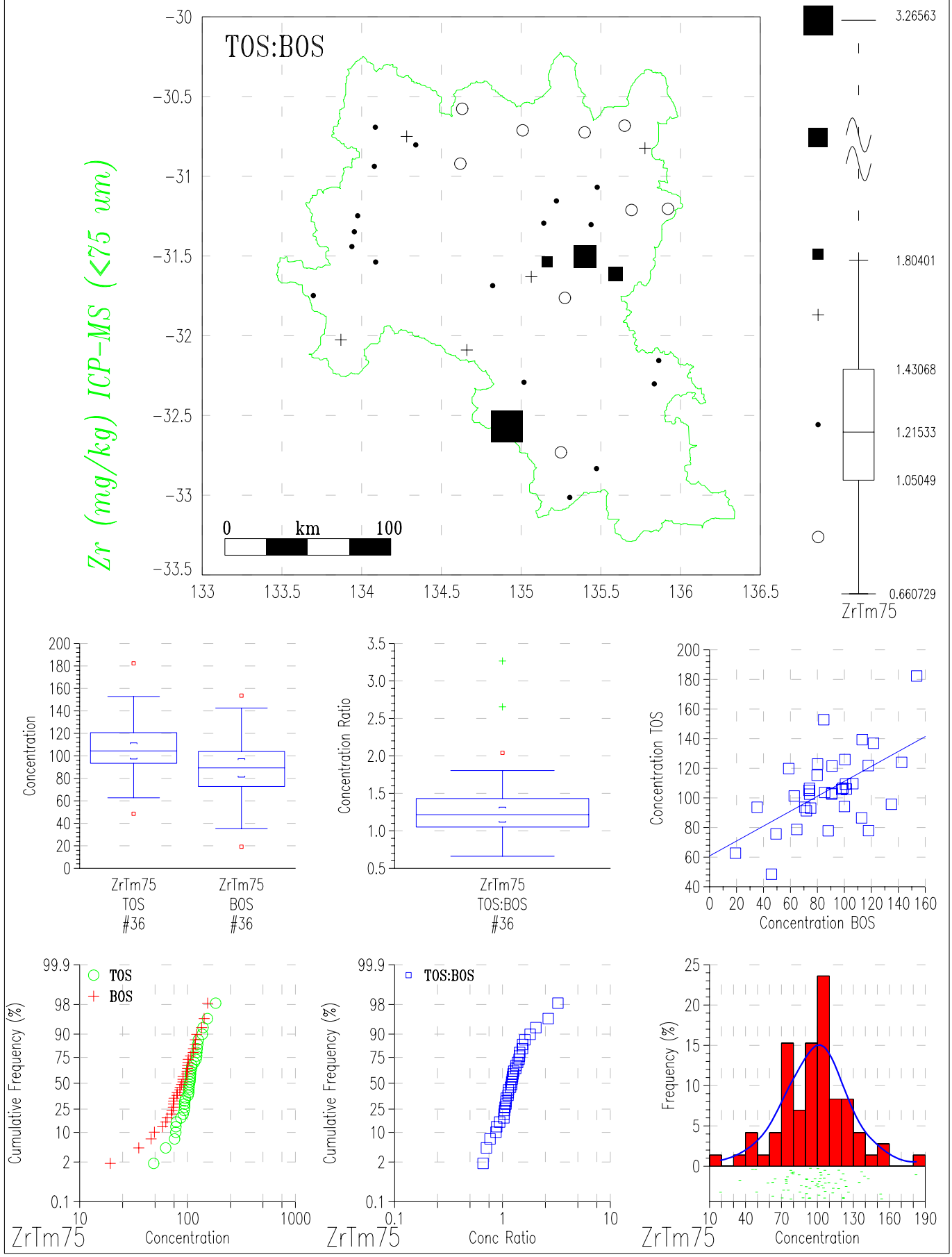


CAWLER GEOCHEMICAL SURVEY

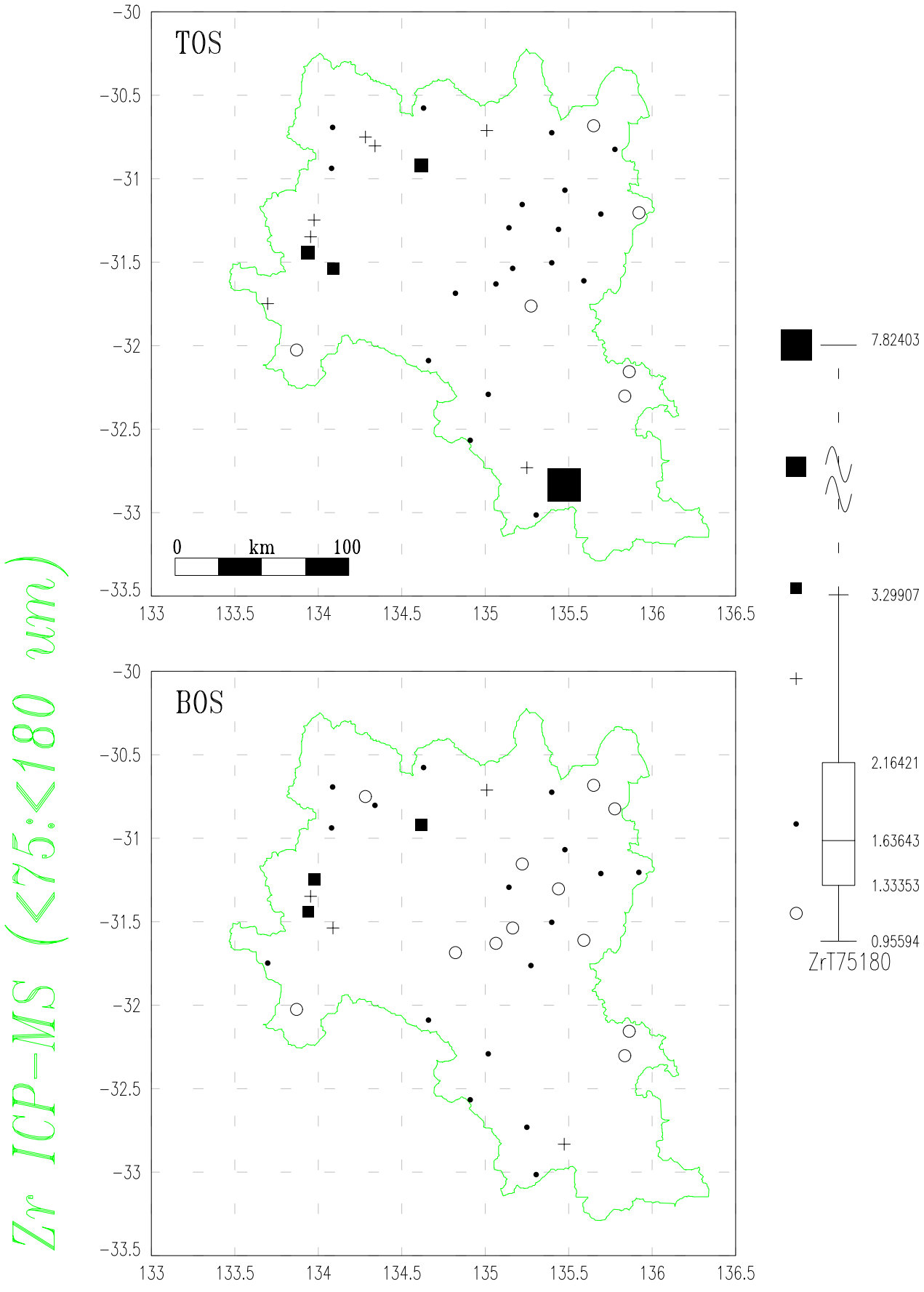
Top & Bottom Outlet Sediments (TOS & BOS)



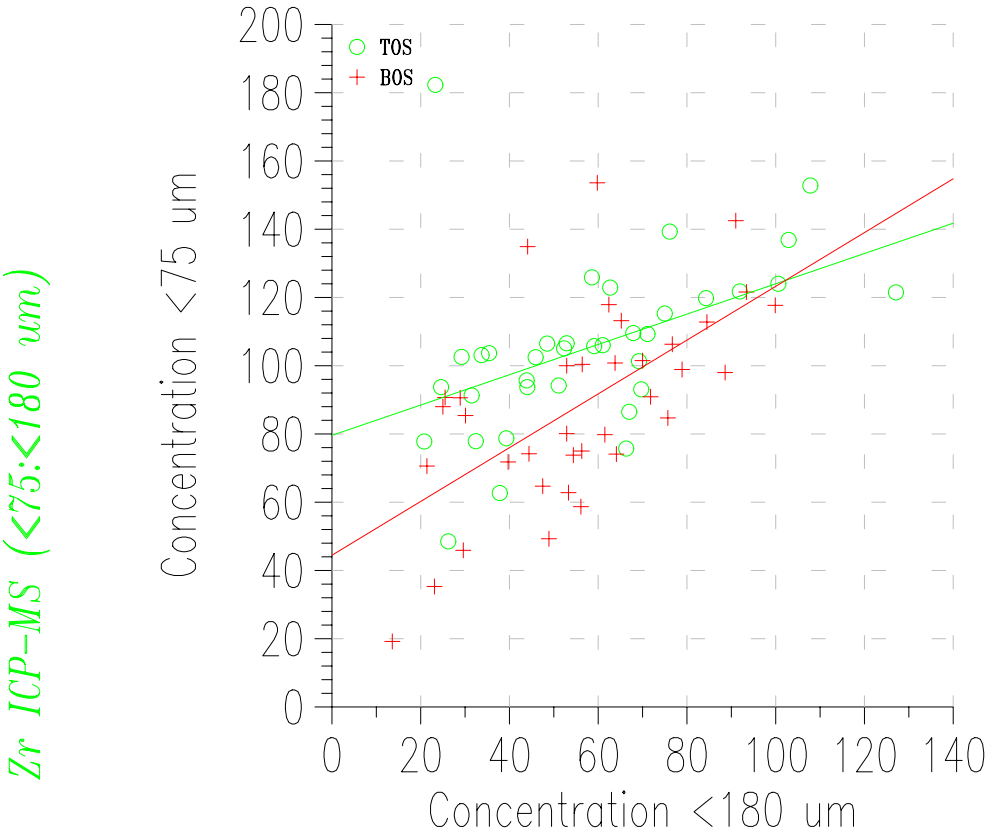
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

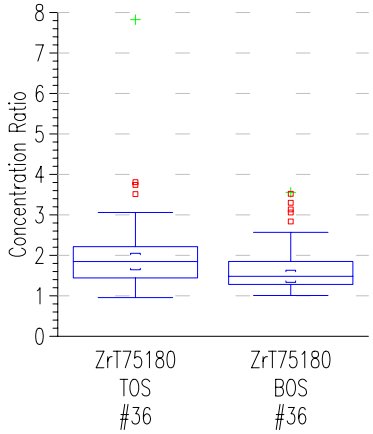


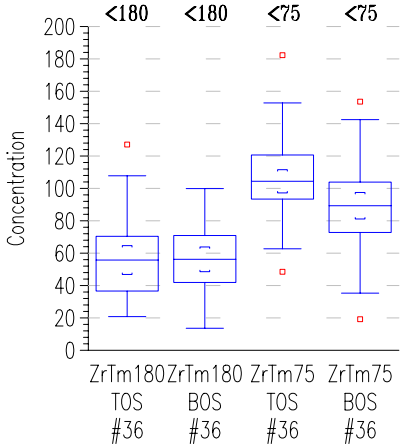
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

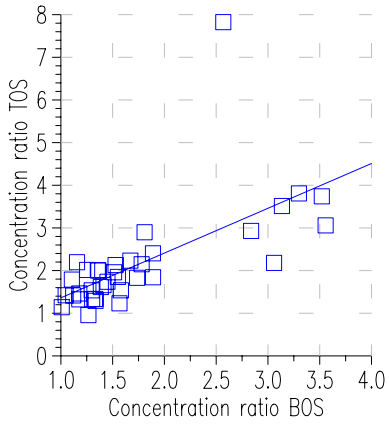


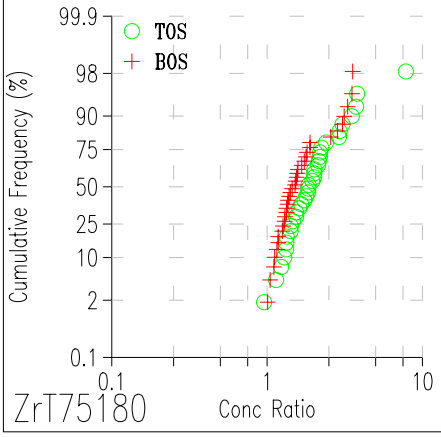
GAWLER GEOCHEMICAL SURVEY — Top & Bottom Outlet Sediments (TOS & BOS)

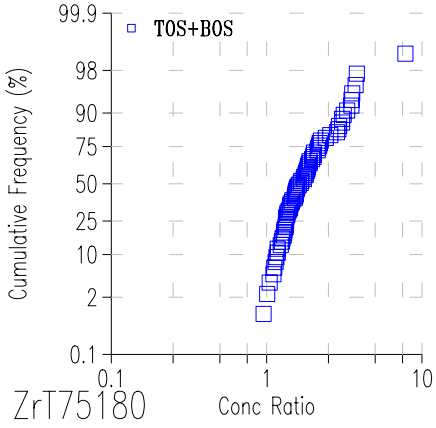


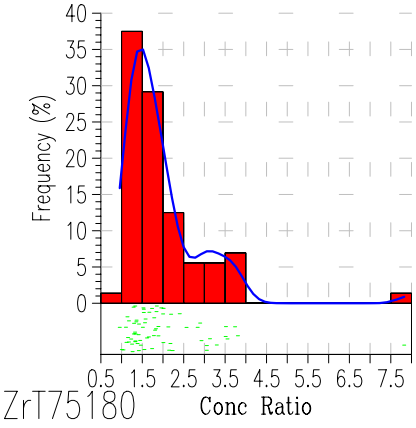






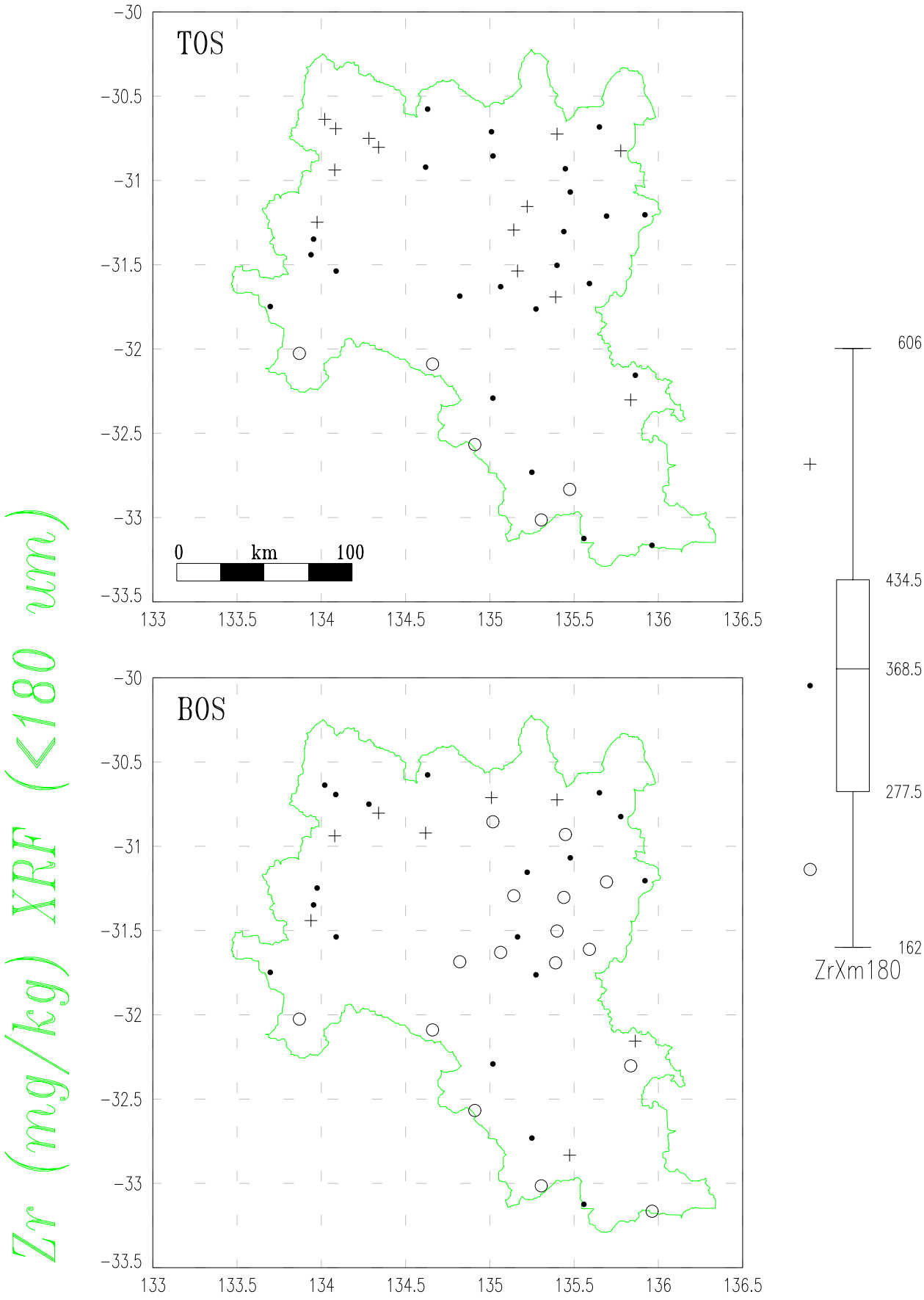




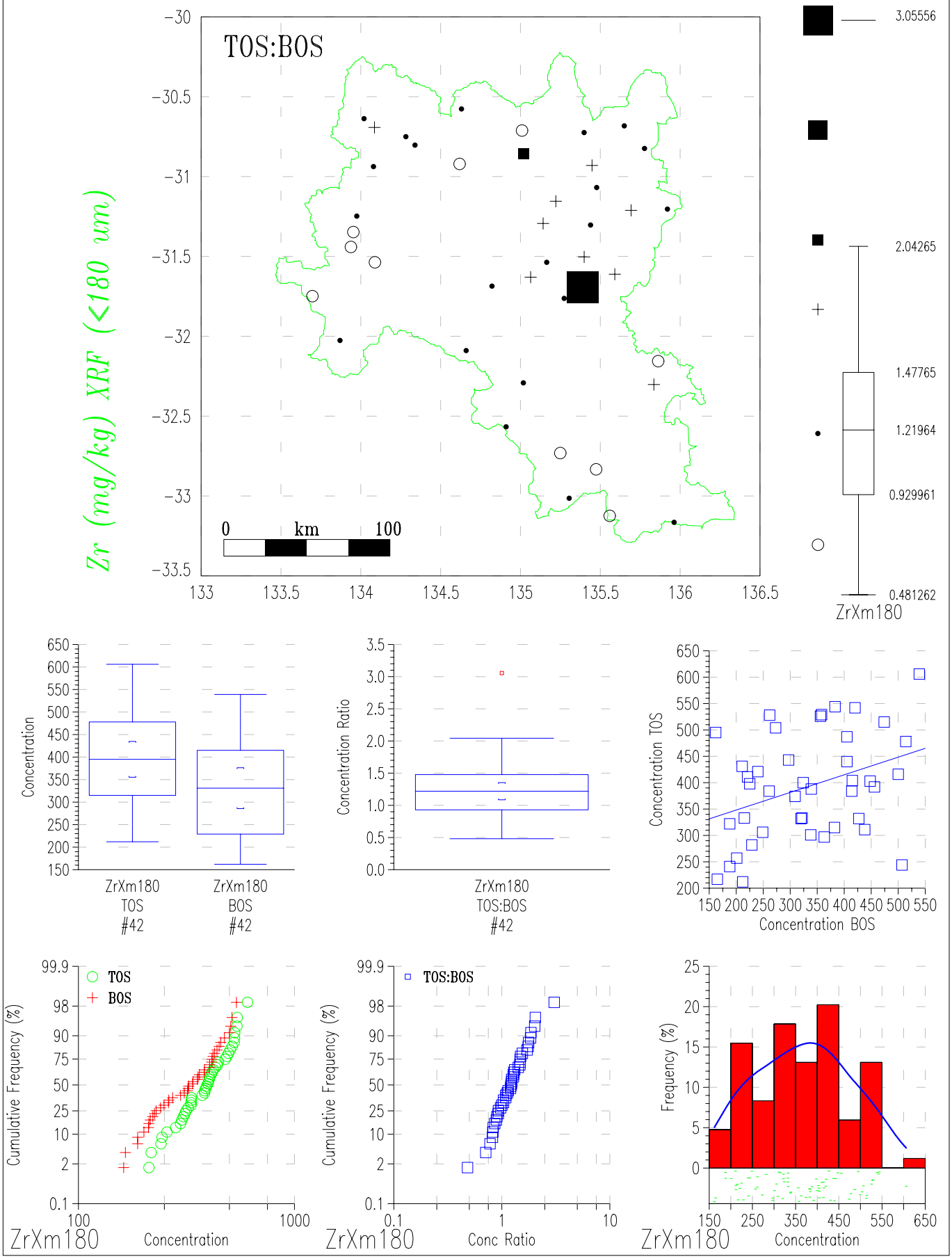


GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

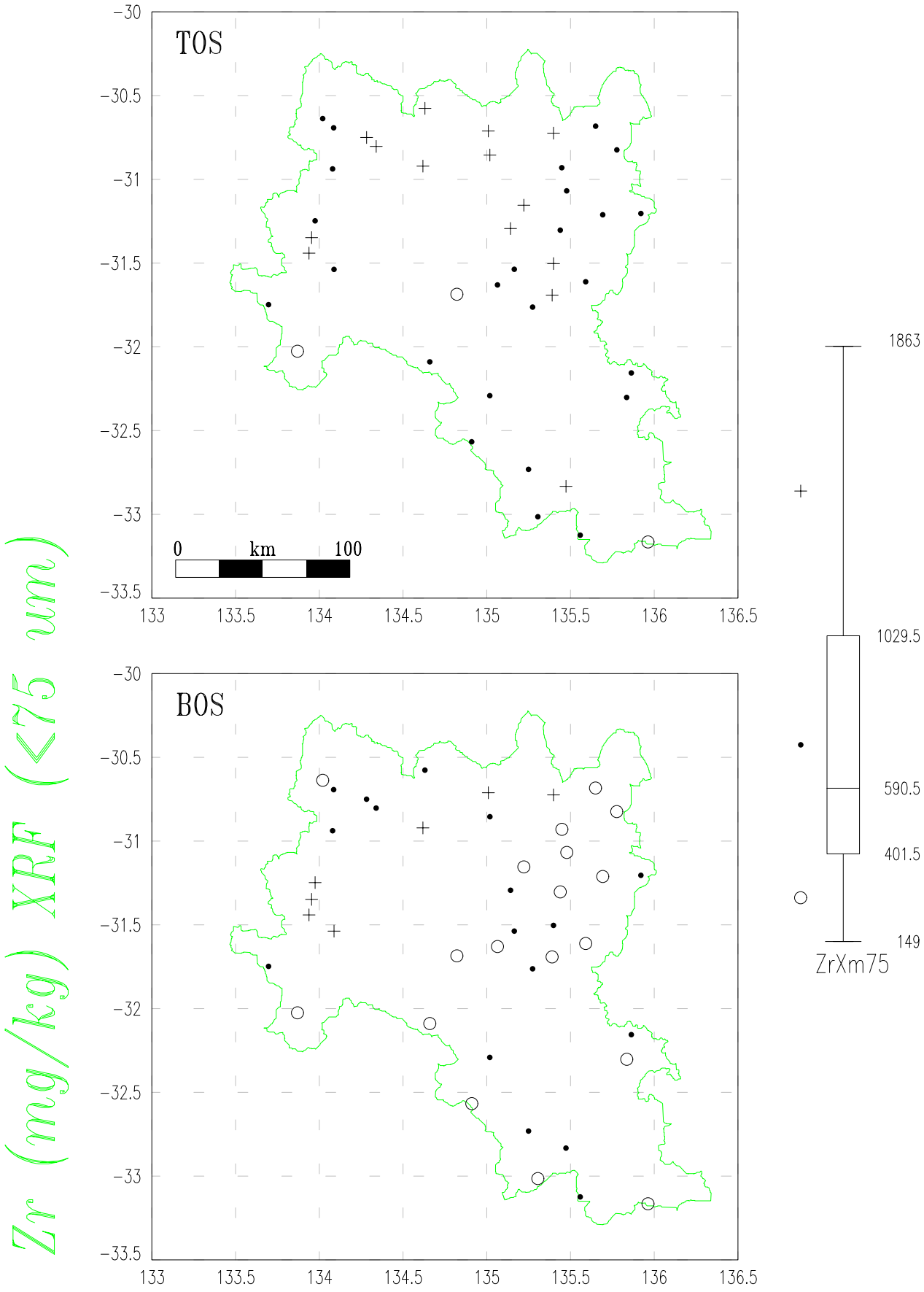


CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*



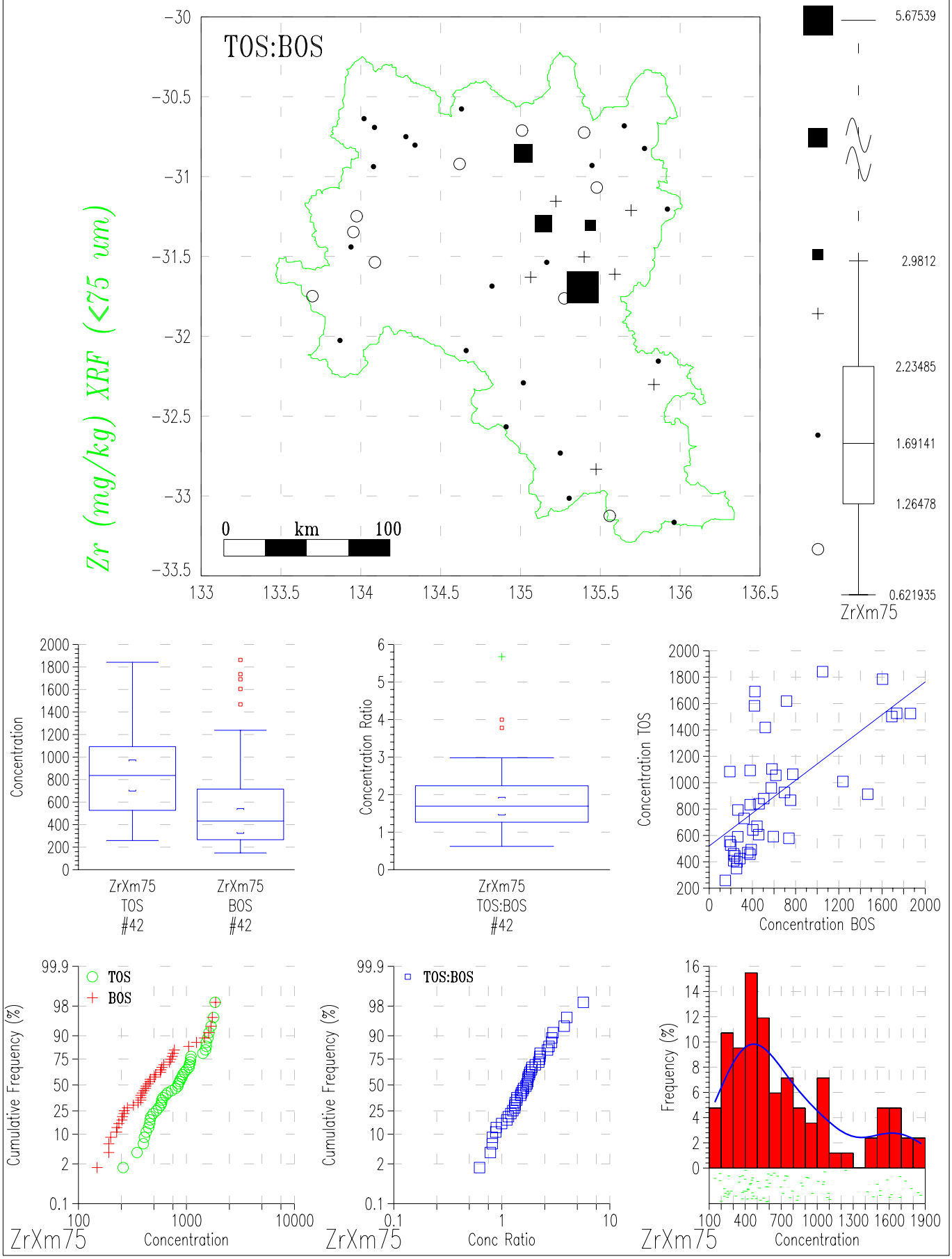
GAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)



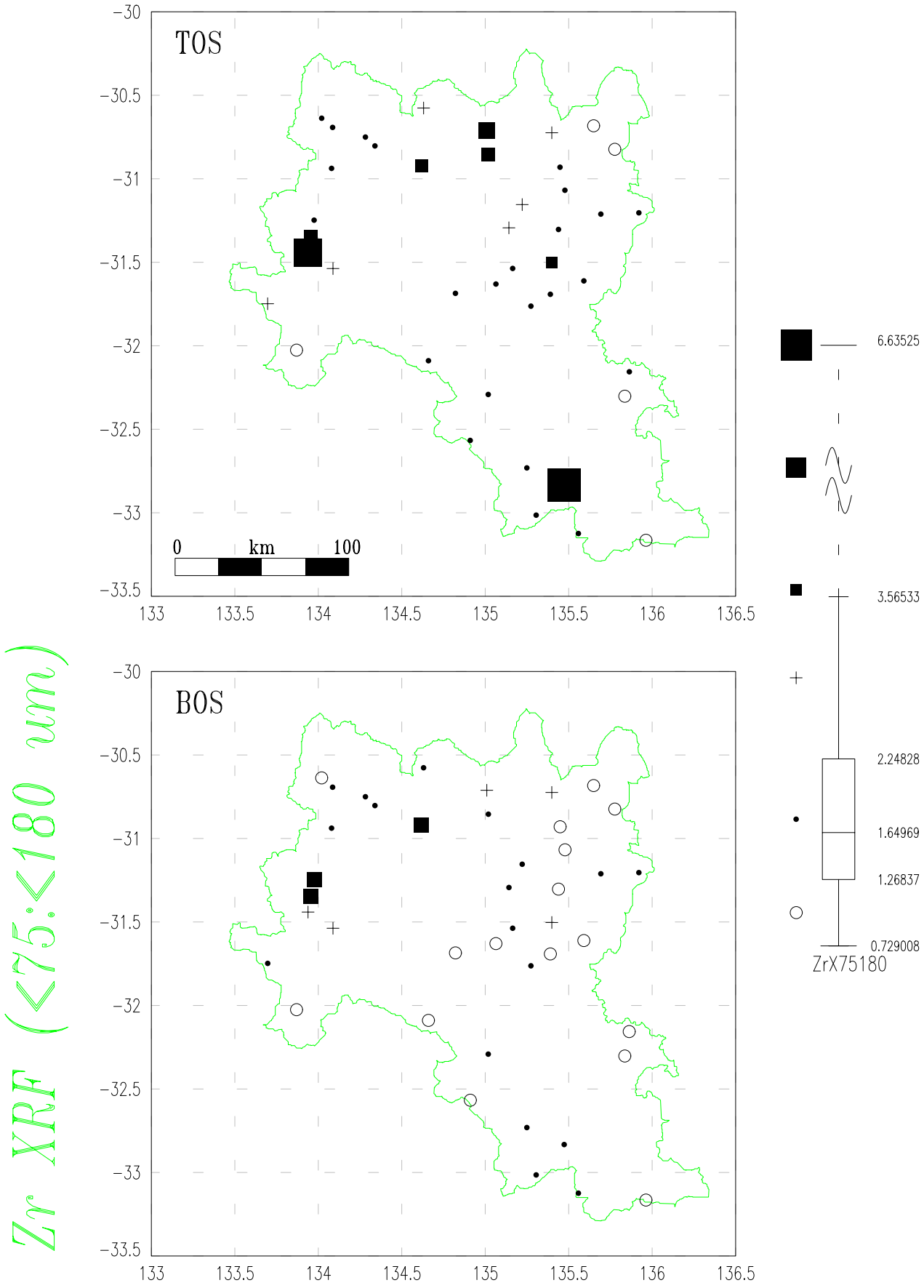
CAWLER GEOCHEMICAL SURVEY

Top & Bottom Outlet Sediments (TOS & BOS)

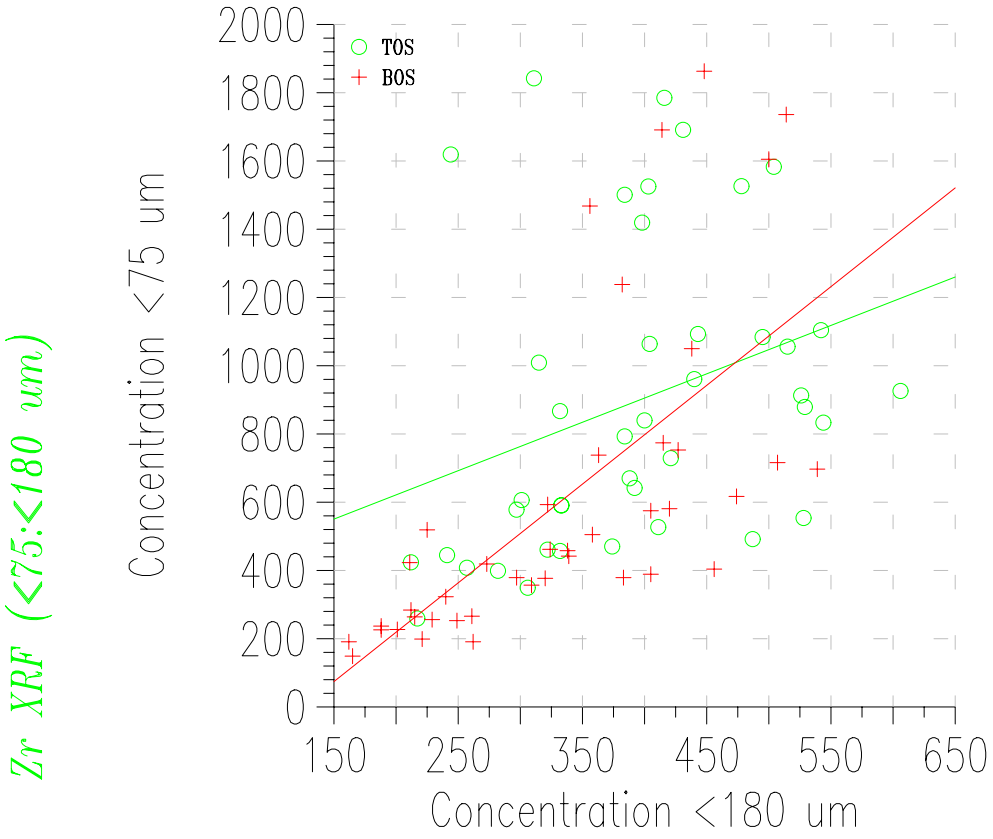


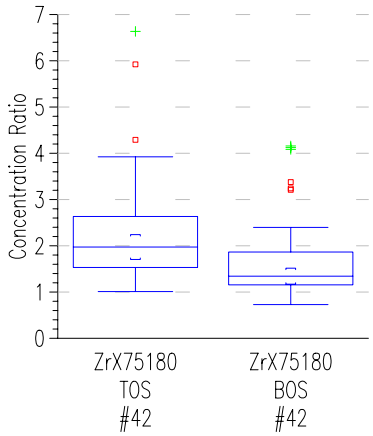
CAWLER GEOCHEMICAL SURVEY

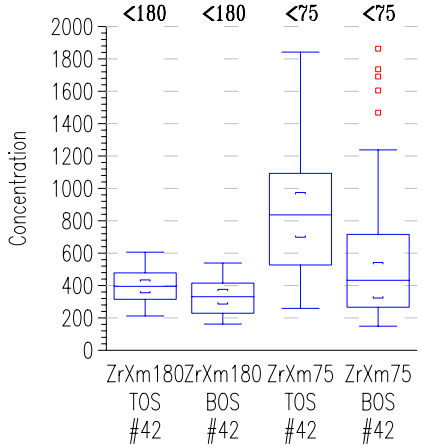
Top & Bottom Outlet Sediments (TOS & BOS)

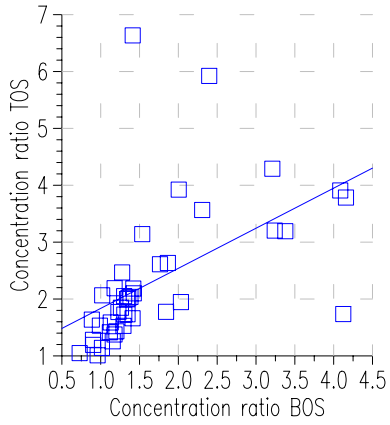


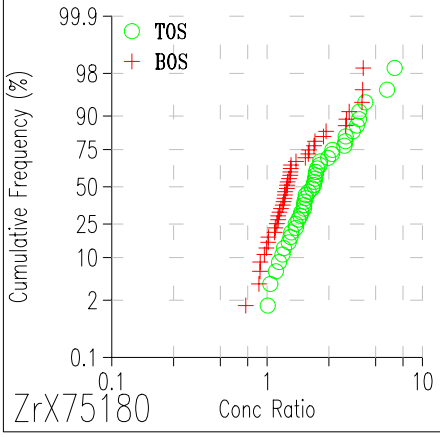
CAWLER GEOCHEMICAL SURVEY *Top & Bottom Outlet Sediments (TOS & BOS)*

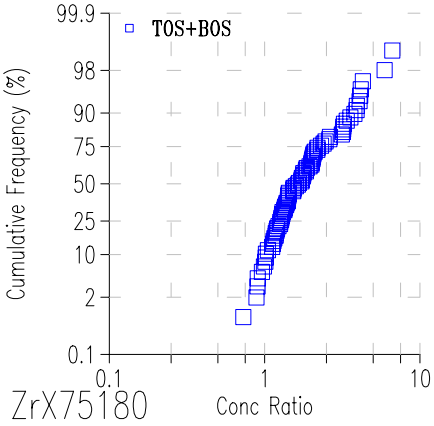


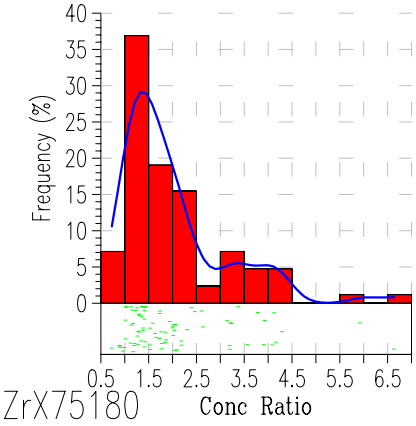












Appendix 4.2. Groundwater

Parameter codes consist of:
(1) the element or parameter:

- pH = pH, Eh = Eh (redox potential), Cond = Electric Conductivity, Temp = Temperature, DO = Dissolved Oxygen, Fe2 = Fe^{2+}, HCO3- = bicarbonate alkalinity, 18O = $\delta^{18}O$ of water, 2H = $\delta^{2}H$ (or δD) of water, 13C = $\delta^{13}C$ of bicarbonate, 18OC = $\delta^{18}O$ of bicarbonate, 34S = $\delta^{34}S$ of sulfate, 18OS = $\delta^{18}O$ of sulfate
- Chemical symbol (Ag = silver, Al = aluminium, etc.)

(2) the analytical method (capital letter):

- C: Ion chromatography (Austral National Uni Labs)
- E: Inductively coupled plasma-emission spectrometry (Austral National Uni Labs)
- M: Inductively coupled plasma-mass spectrometry (Uni Canberra Labs)

(3) the units (small letter):

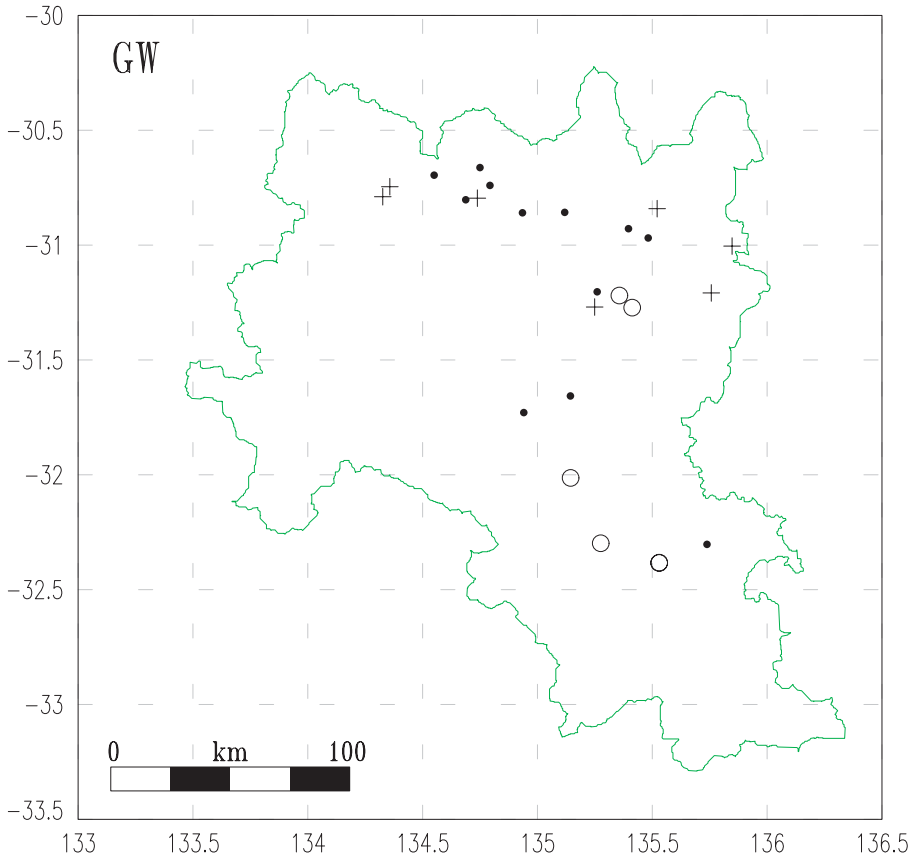
- mV: millivolt (relative to Standard Hydrogen Electrode, SHE)
- m: milligram per litre

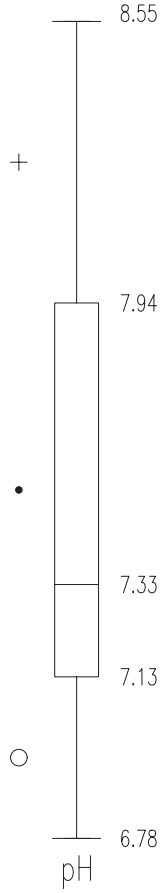
Values reported as <LLD are set to 0.5 LLD (Lower Limit of Detection)

GAWLER GEOCHEMICAL SURVEY

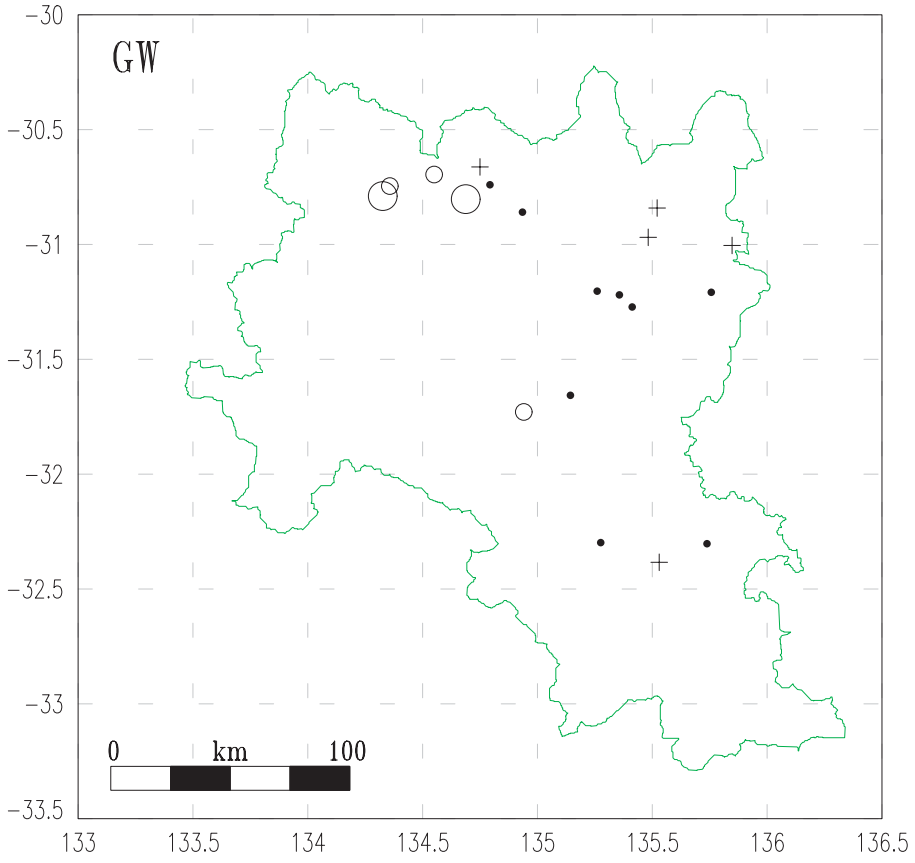
Groundwater Composition

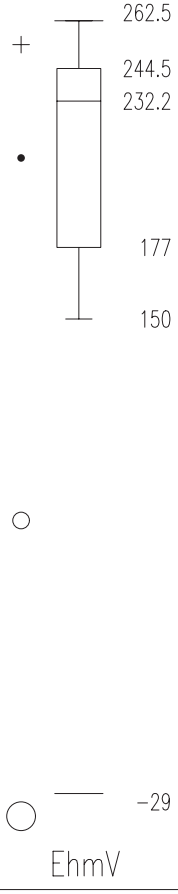
pH (pH units) Field (Bulk)





Eh (mV SHE) Field (Bulk)

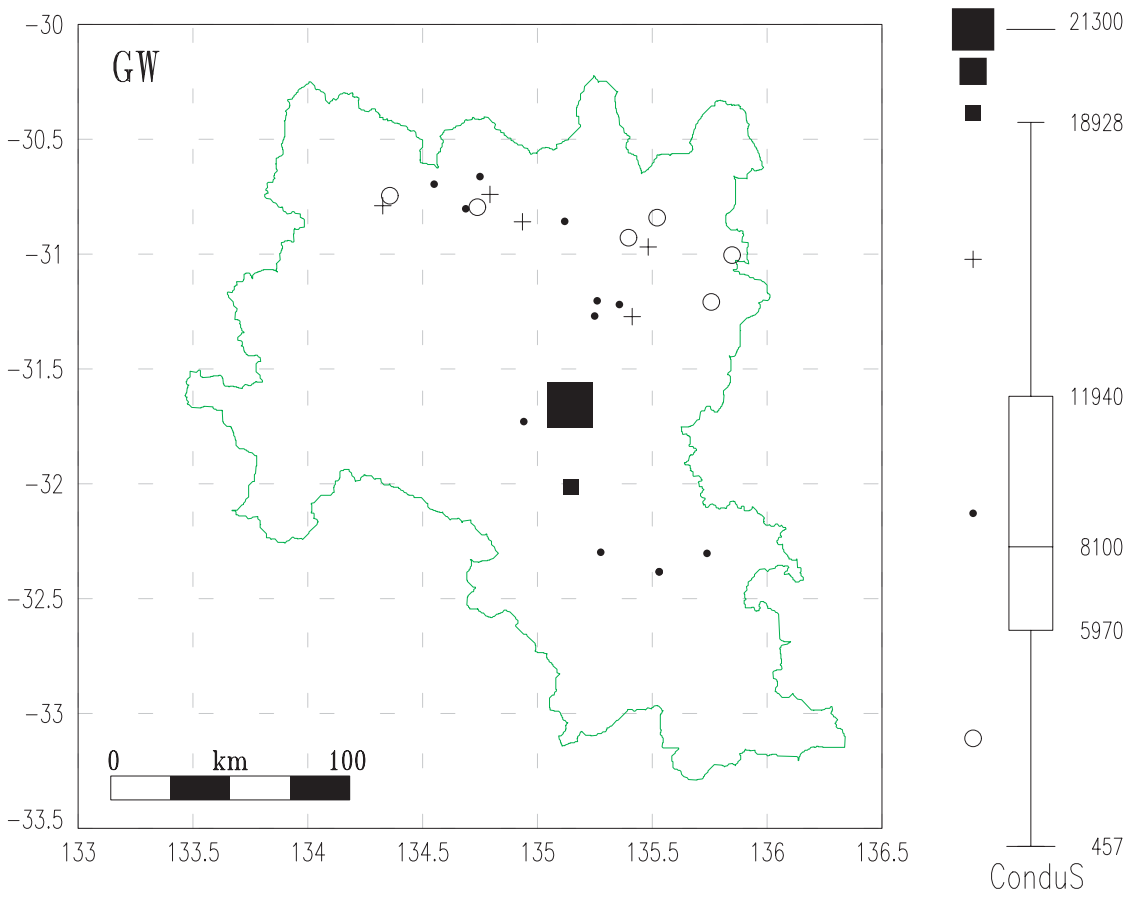




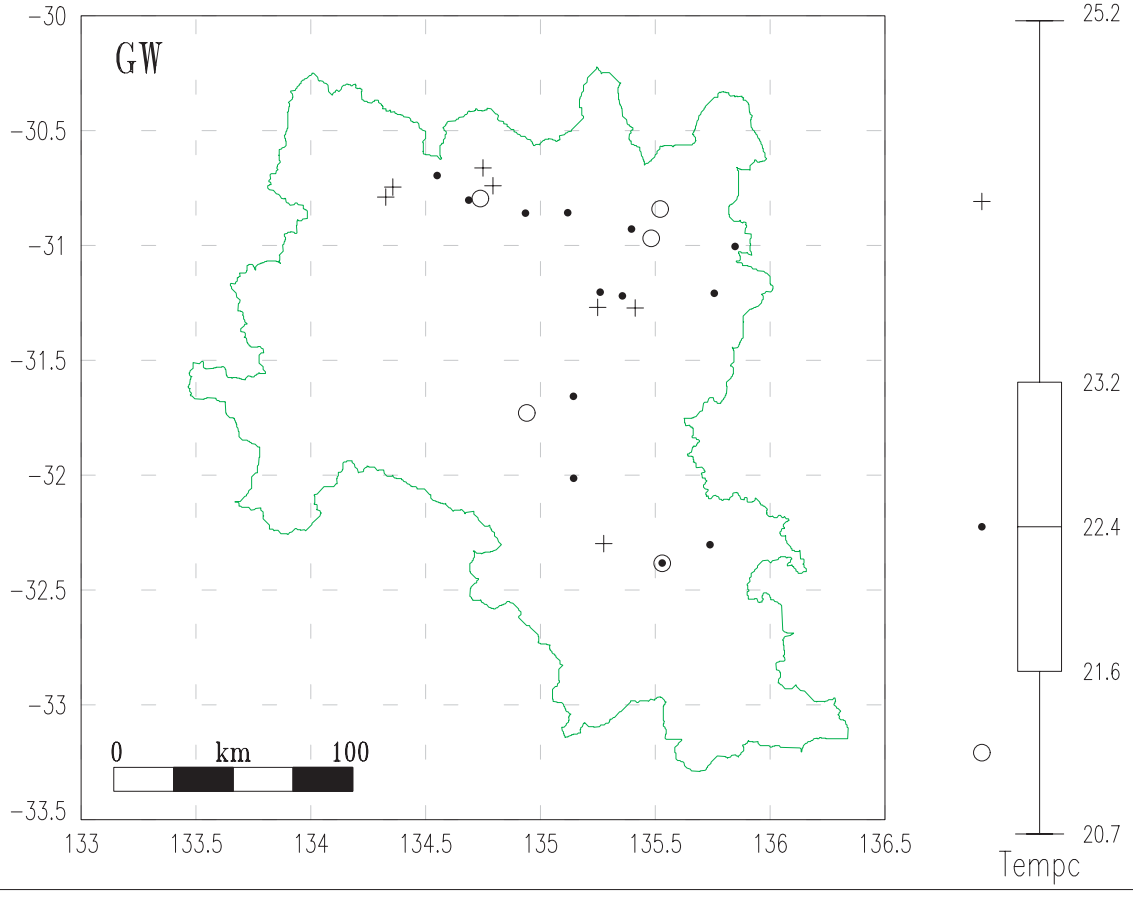
GAWLER GEOCHEMICAL SURVEY

Groundwater Composition

Electric Conductivity (uS/cm) Field (Bulk)



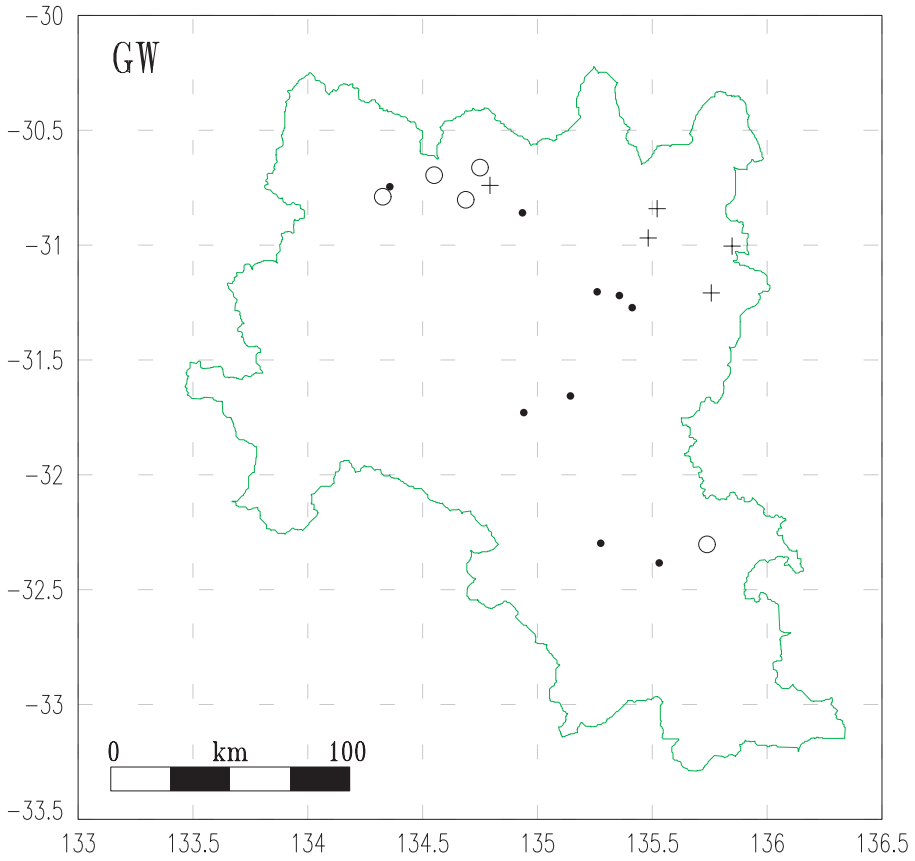
Temperature (degrees C) Field (Bulk)

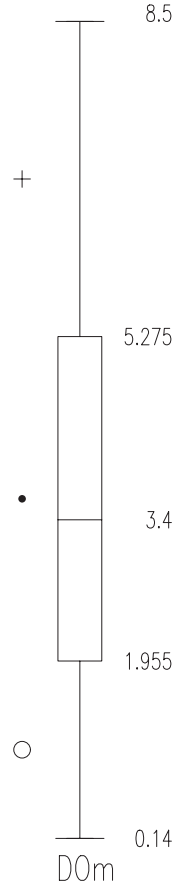


GAWLER GEOCHEMICAL SURVEY

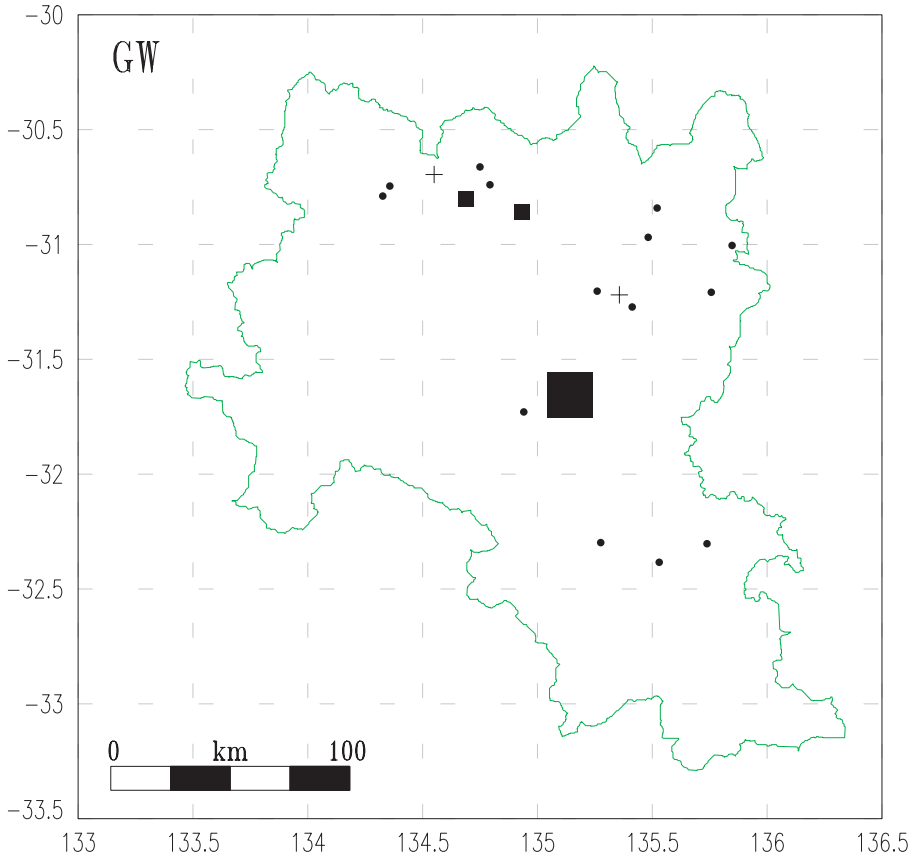
Groundwater Composition

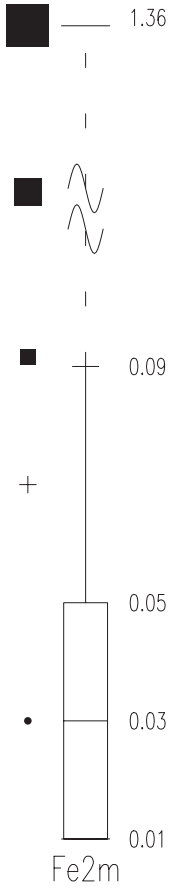
Dissolved Oxygen (mg/L) Field (Bulk)





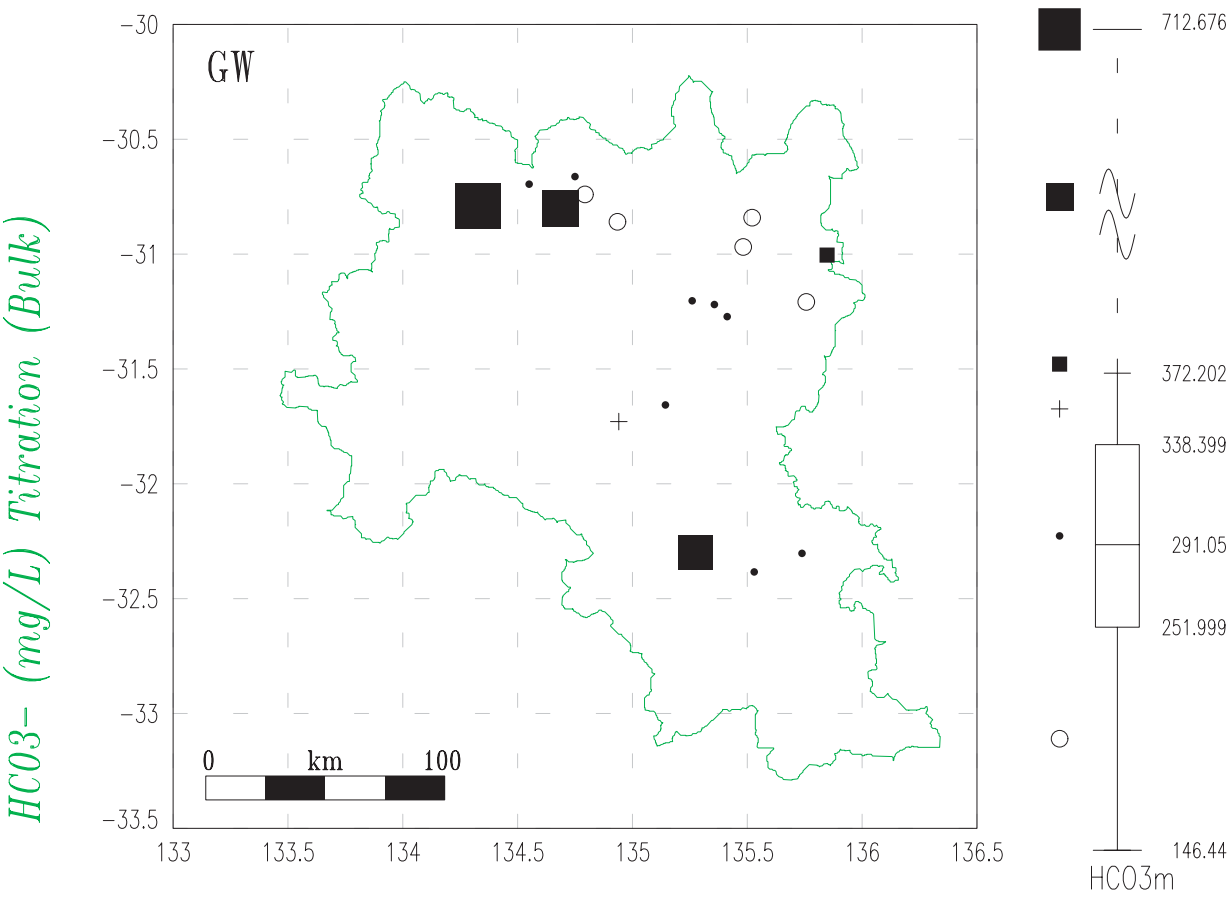
Fe2+ (mg/L) Spectrophotometry (Bulk)





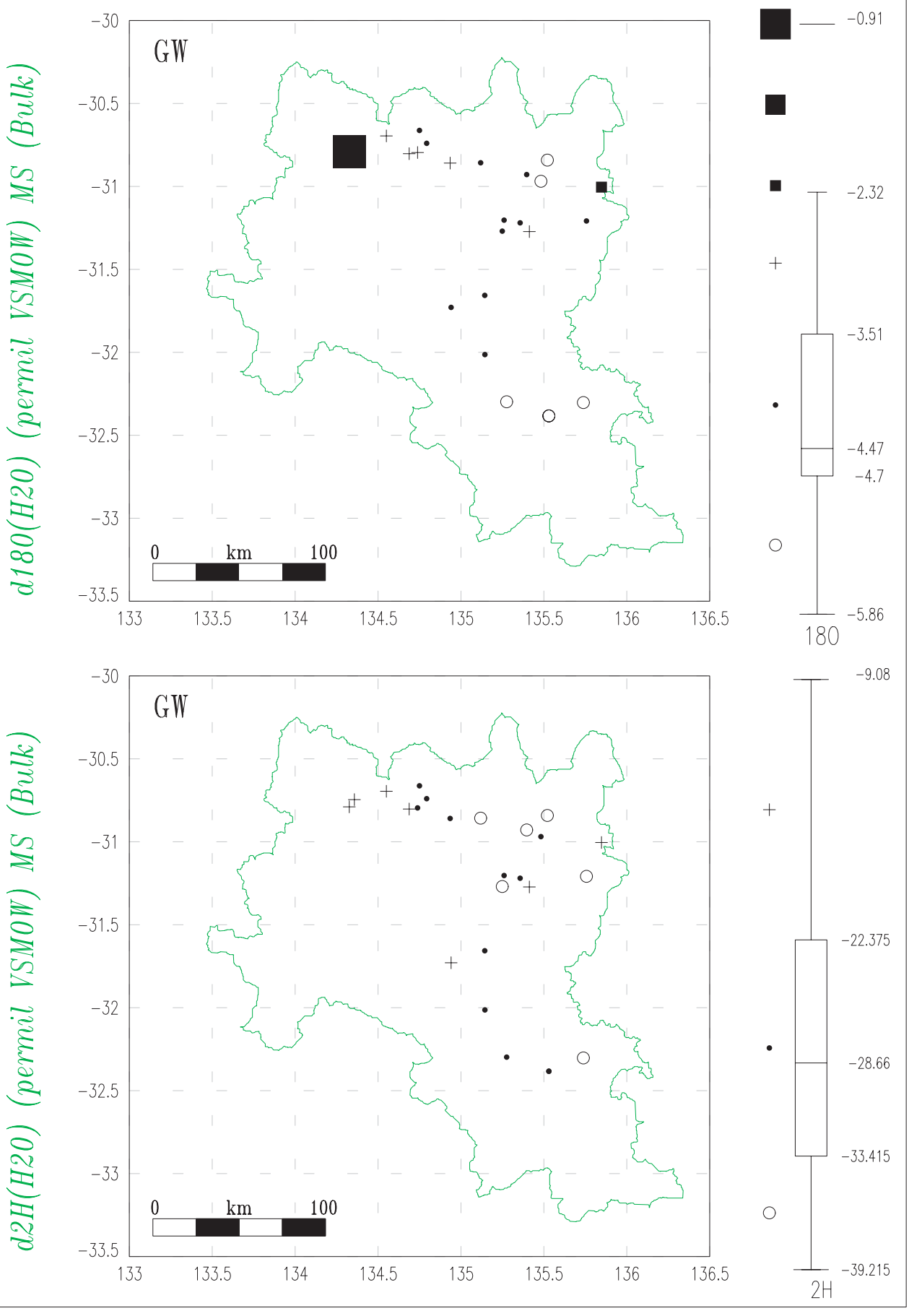
GAWLER GEOCHEMICAL SURVEY

Groundwater Composition



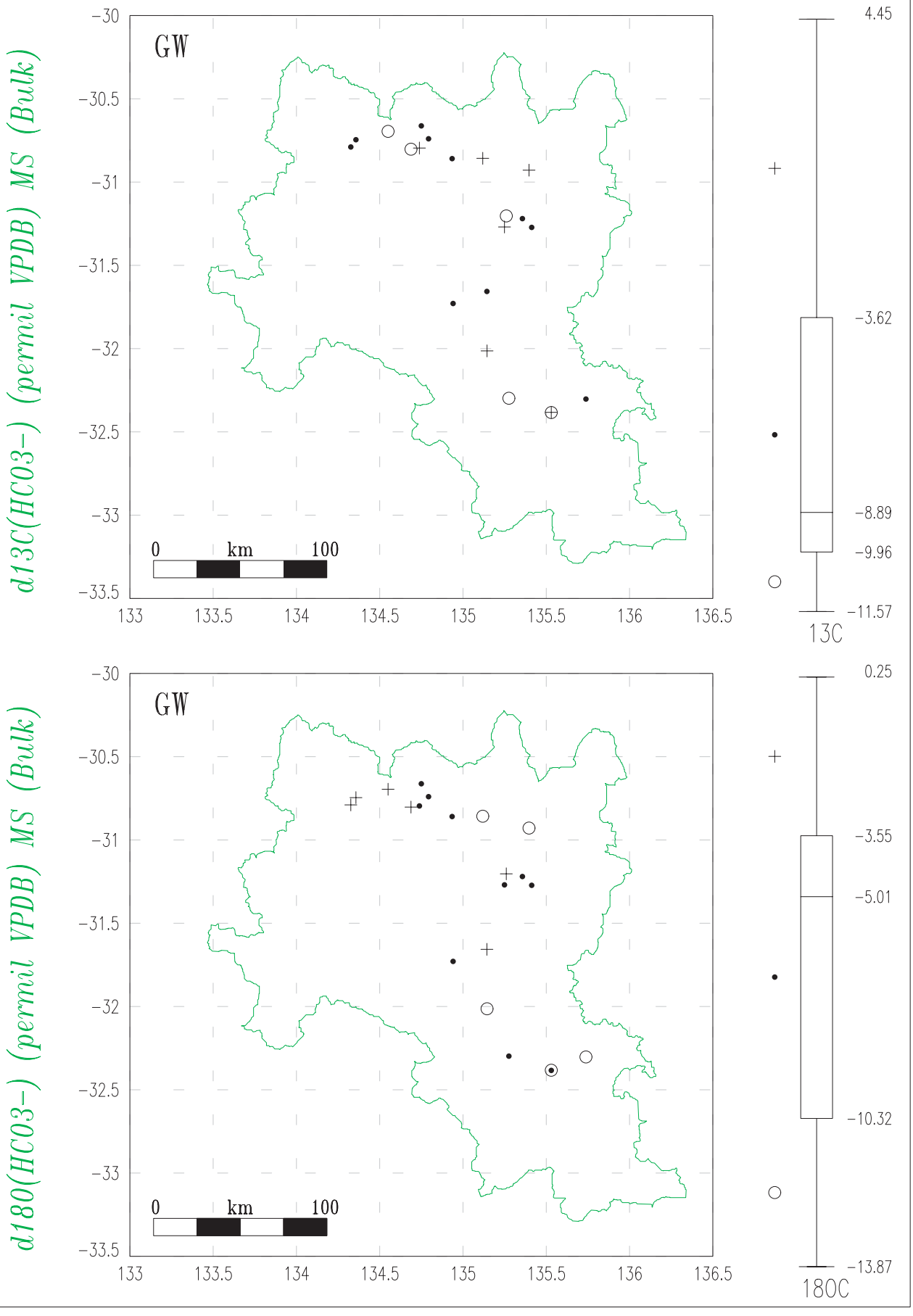
GAWLER GEOCHEMICAL SURVEY

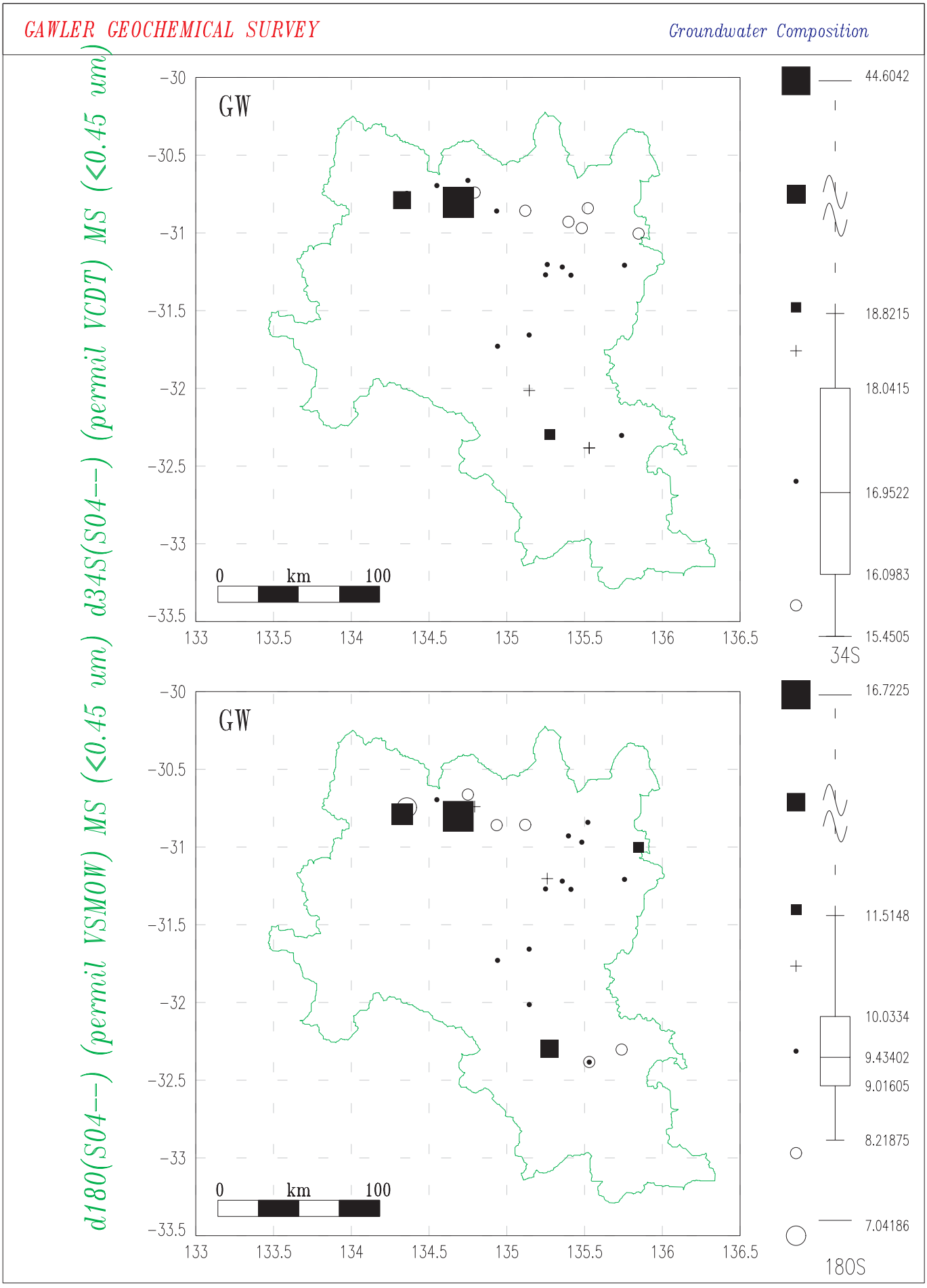
Groundwater Composition



GAWLER GEOCHEMICAL SURVEY

Groundwater Composition

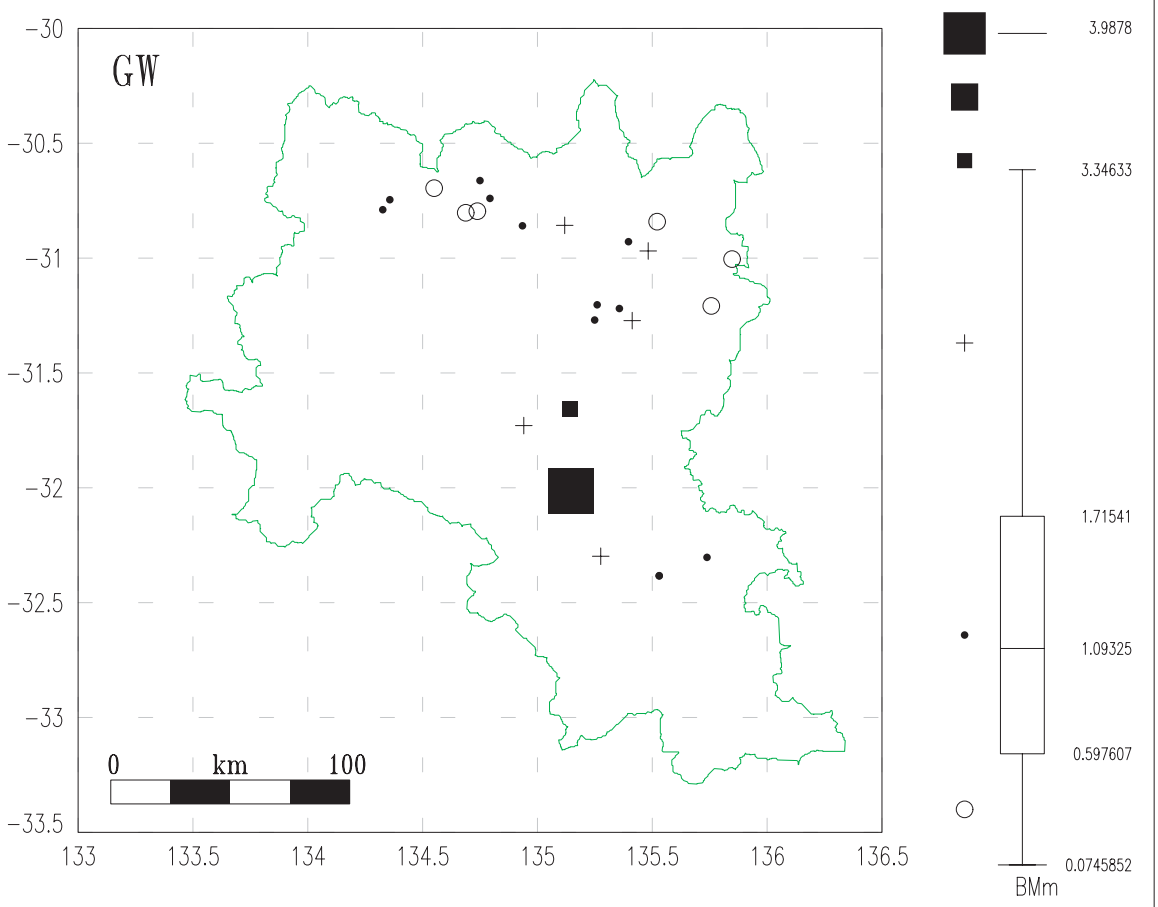



GAWLER GEOCHEMICAL SURVEY
Groundwater Composition
d180(SO4--) (permil VSMOW) MS (<0.45 um) d34S(SO4--) (permil VCDT) MS (<0.45 um)
GW
0 km 100
-30
-30.5
-31
-31.5
-32
-32.5
-33
-33.5
133
133.5
134
134.5
135
135.5
136
136.5
44.6042
18.8215
18.0415
16.9522
16.0983
15.4505
34S
16.7225
11.5148
10.0334
9.43402
9.01605
8.21875
7.04186
18OS

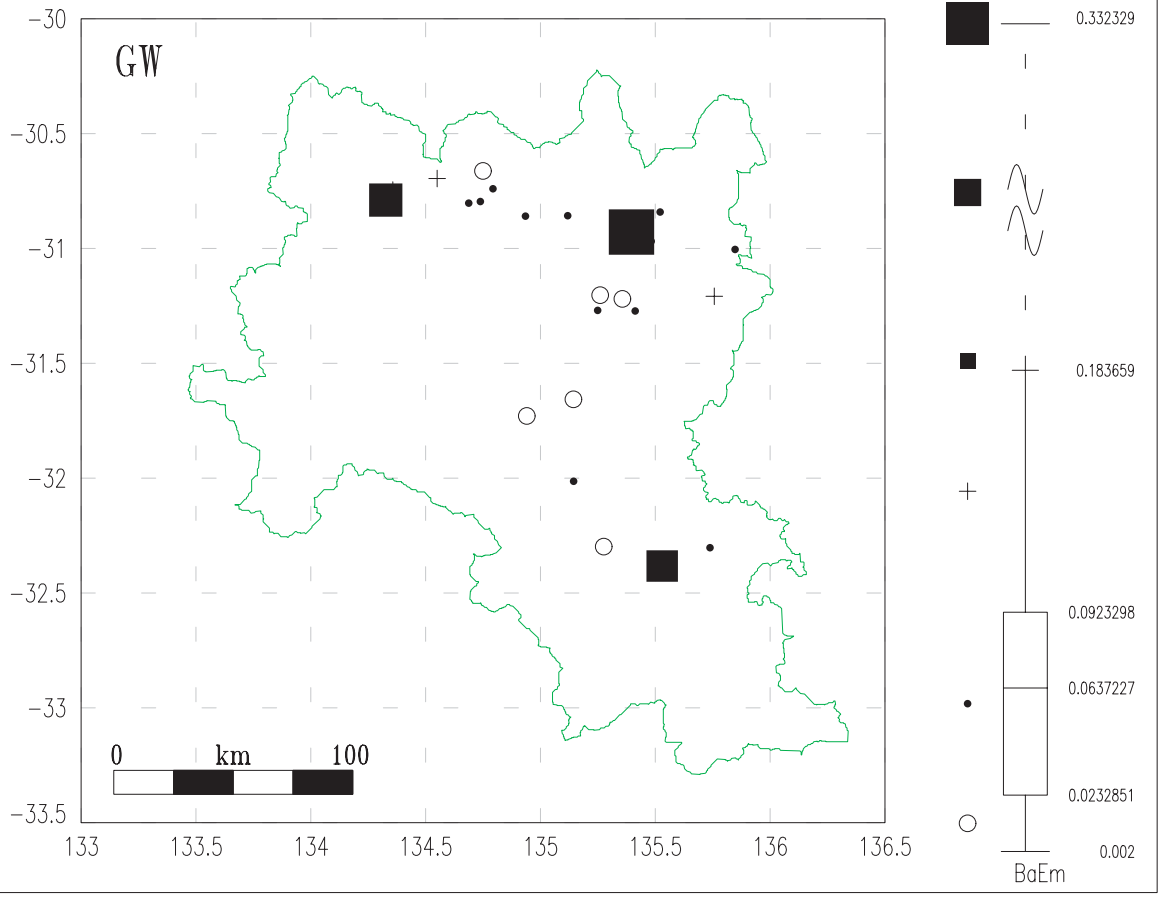
GAWLER GEOCHEMICAL SURVEY

Groundwater Composition

B (mg/L) ICP-MS (<0.45 um)



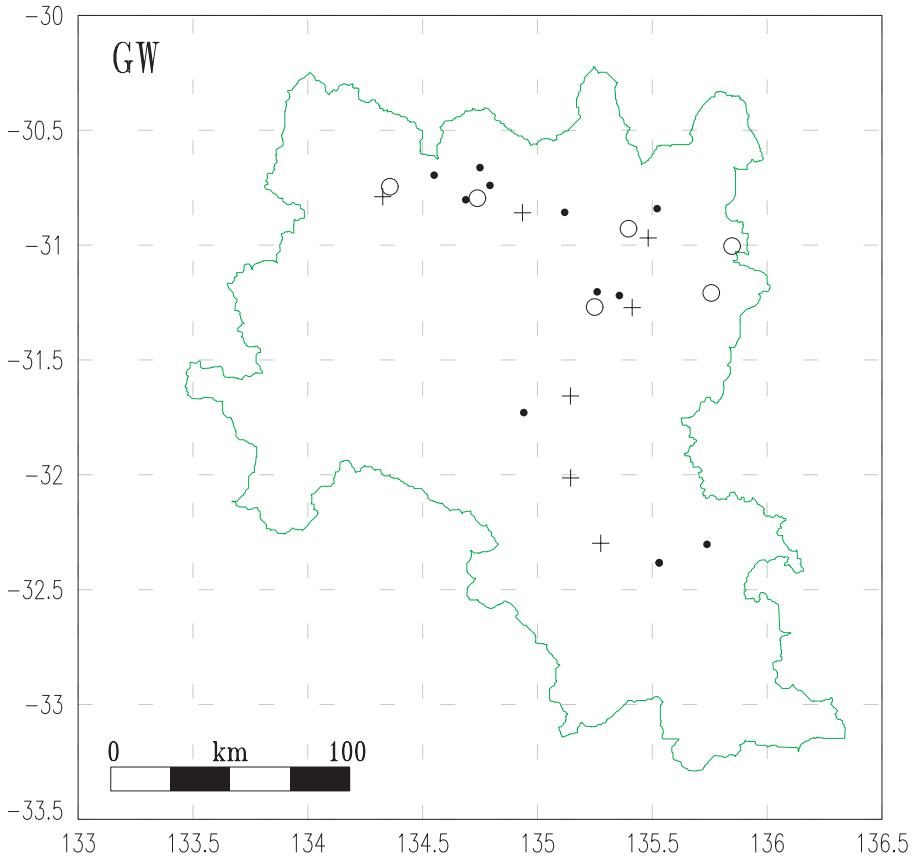
Ba (mg/L) ICP-ES (<0.45 um)

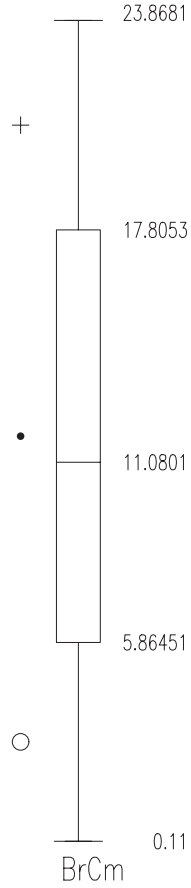


GAWLER GEOCHEMICAL SURVEY

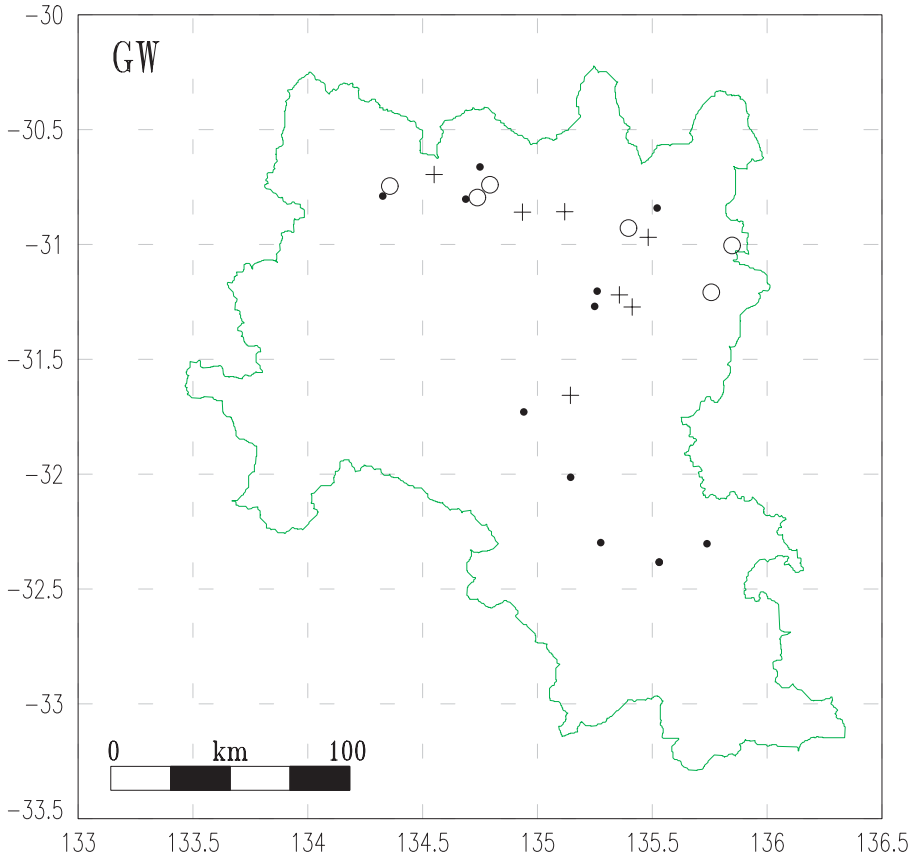
Groundwater Composition

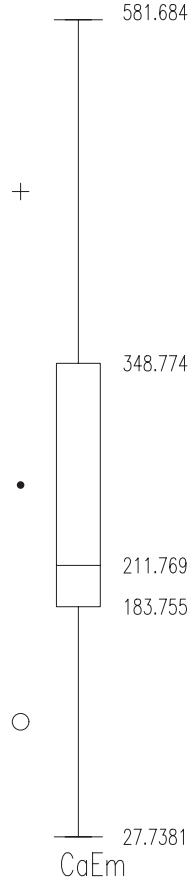
Br– (mg/L) IC (<0.45 um)





Ca (mg/L) ICP-ES (<0.45 um)

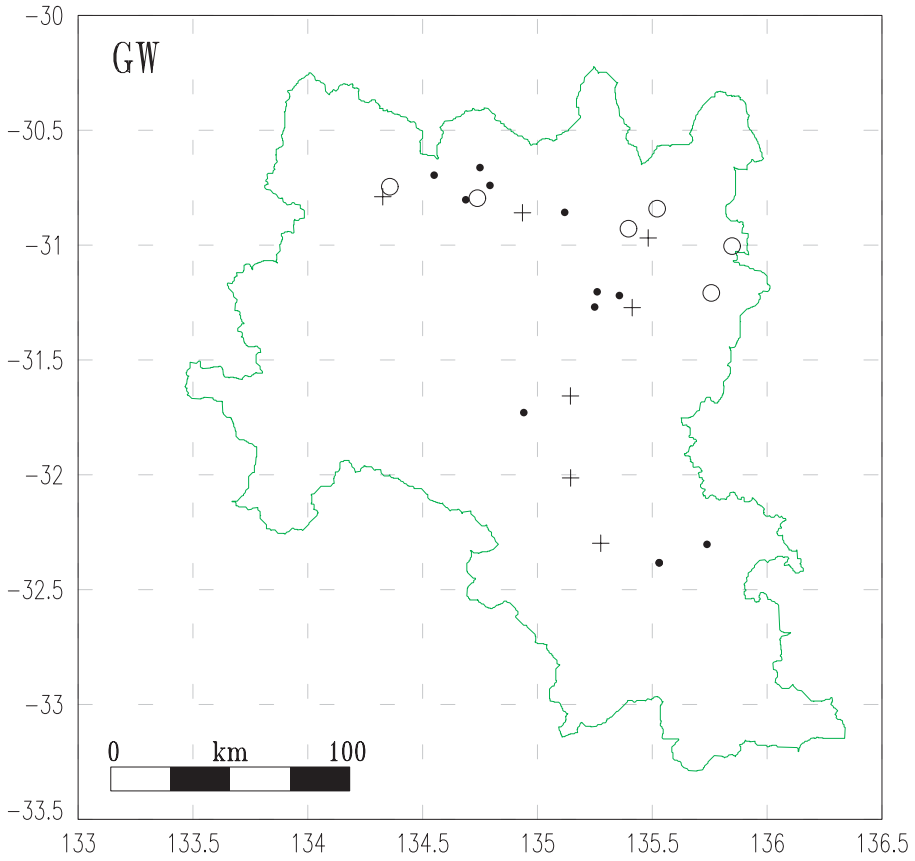


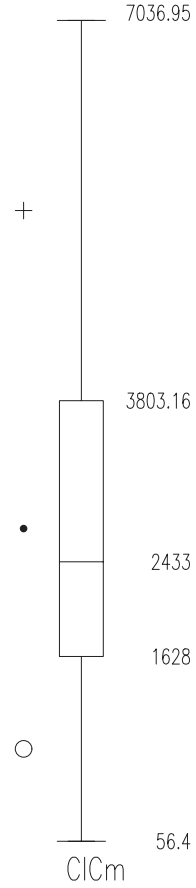


GAWLER GEOCHEMICAL SURVEY

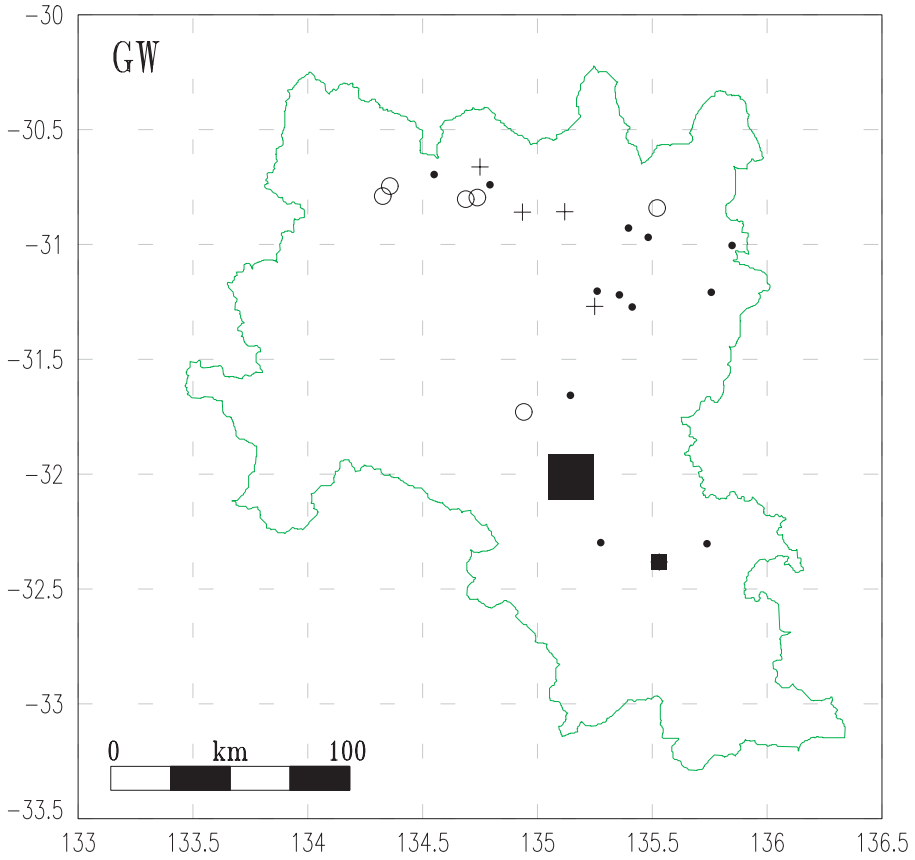
Groundwater Composition

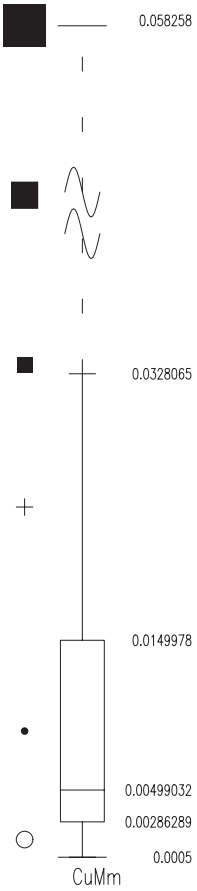
Cl- (mg/L) IC (<0.45 um)





Cu (mg/L) ICP-MS (<0.45 um)

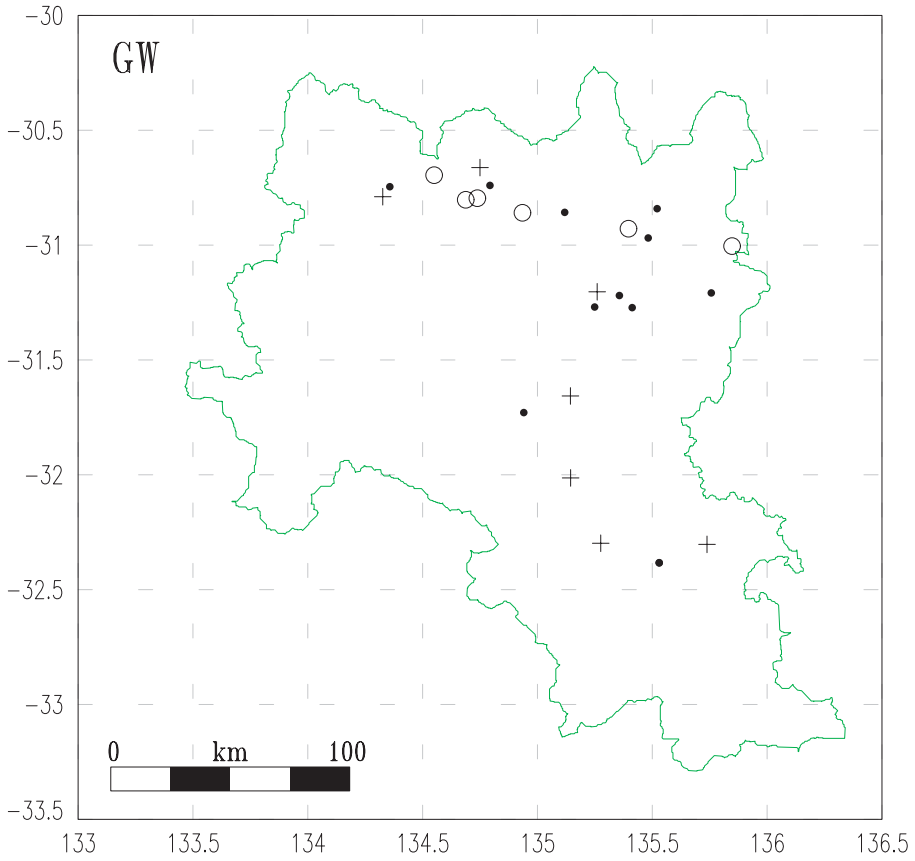


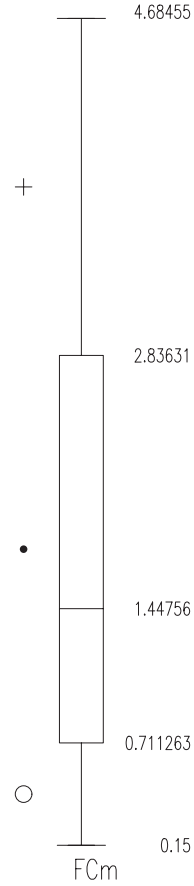


GAWLER GEOCHEMICAL SURVEY

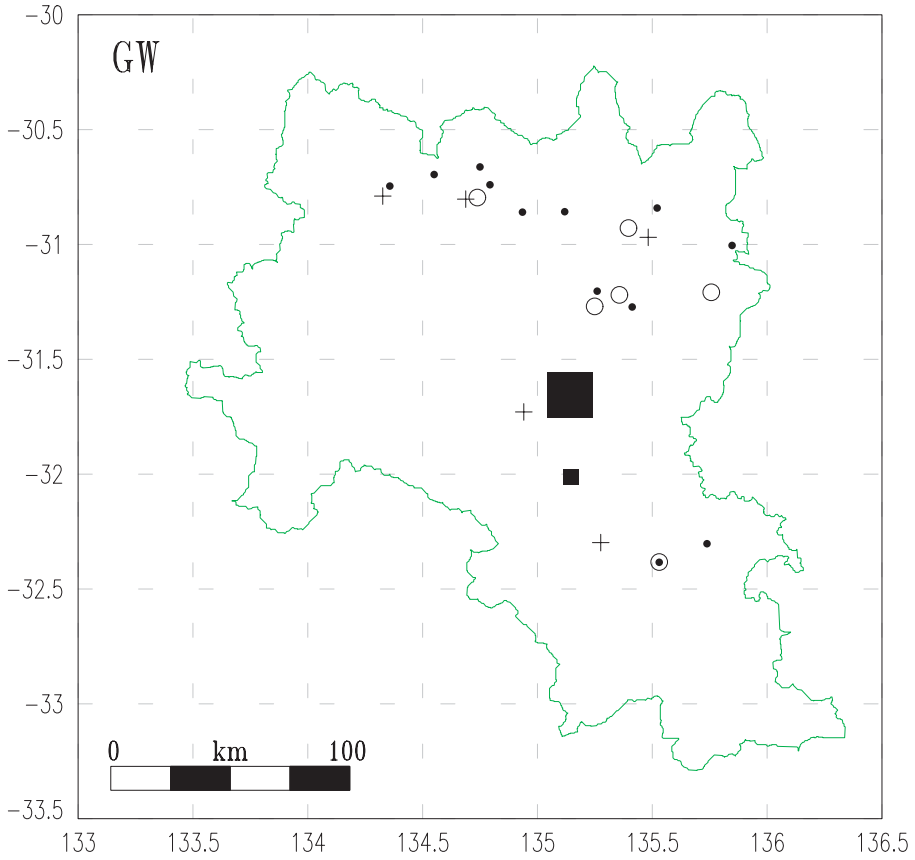
Groundwater Composition

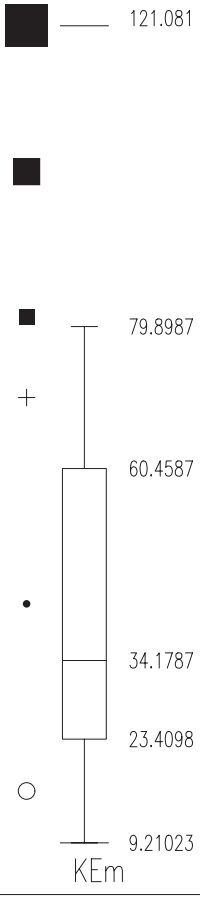
F- (mg/L) IC (<0.45 um)





K (mg/L) ICP-ES (<0.45 um)

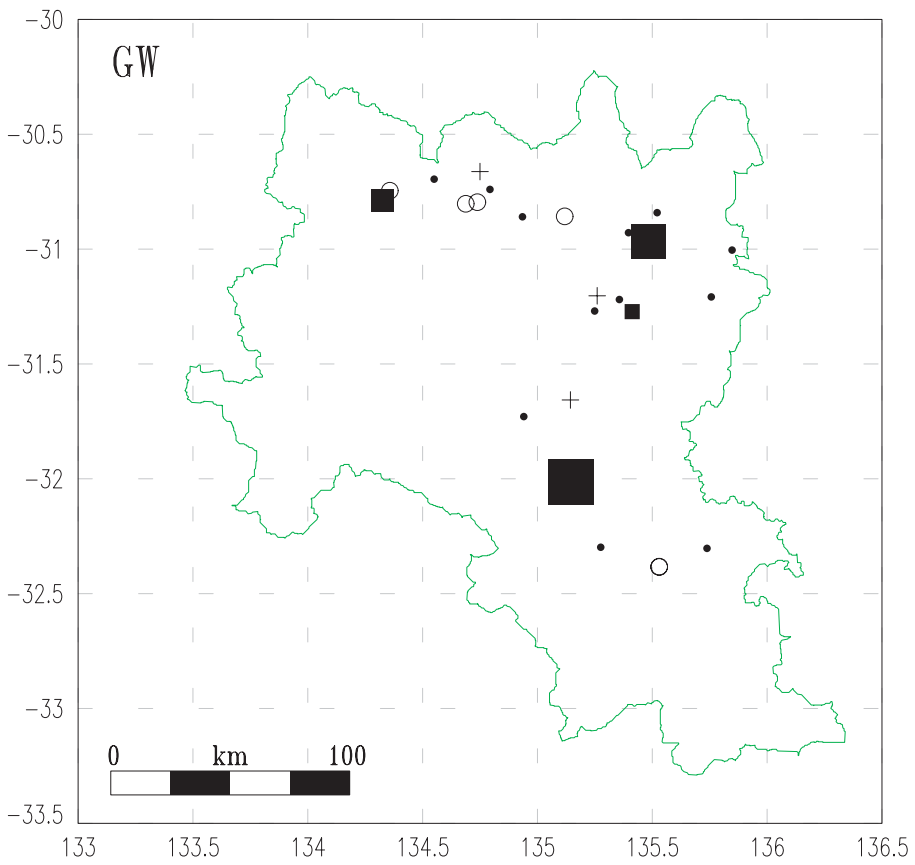


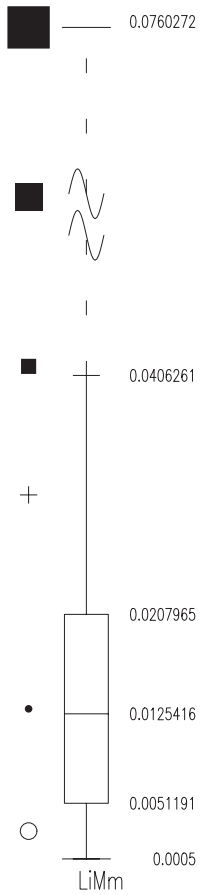


GAWLER GEOCHEMICAL SURVEY

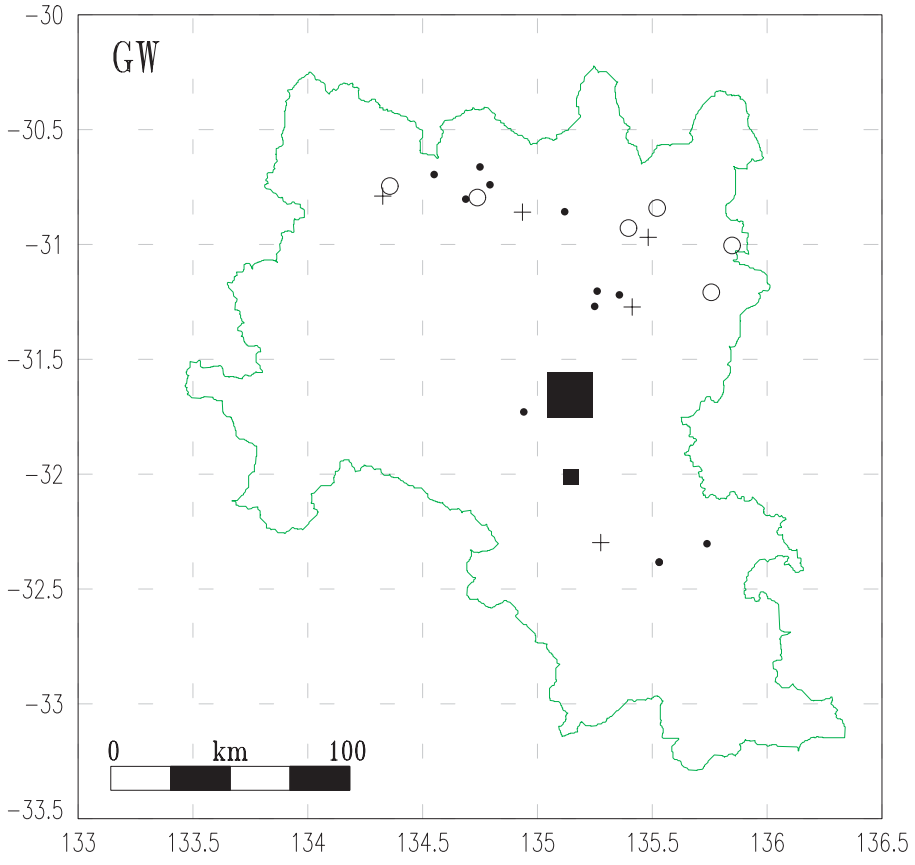
Groundwater Composition

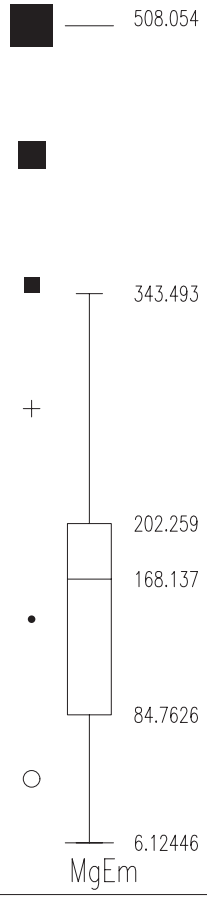
Li (mg/L) ICP-MS (<0.45 um)





Mg (mg/L) ICP-ES (<0.45 um)

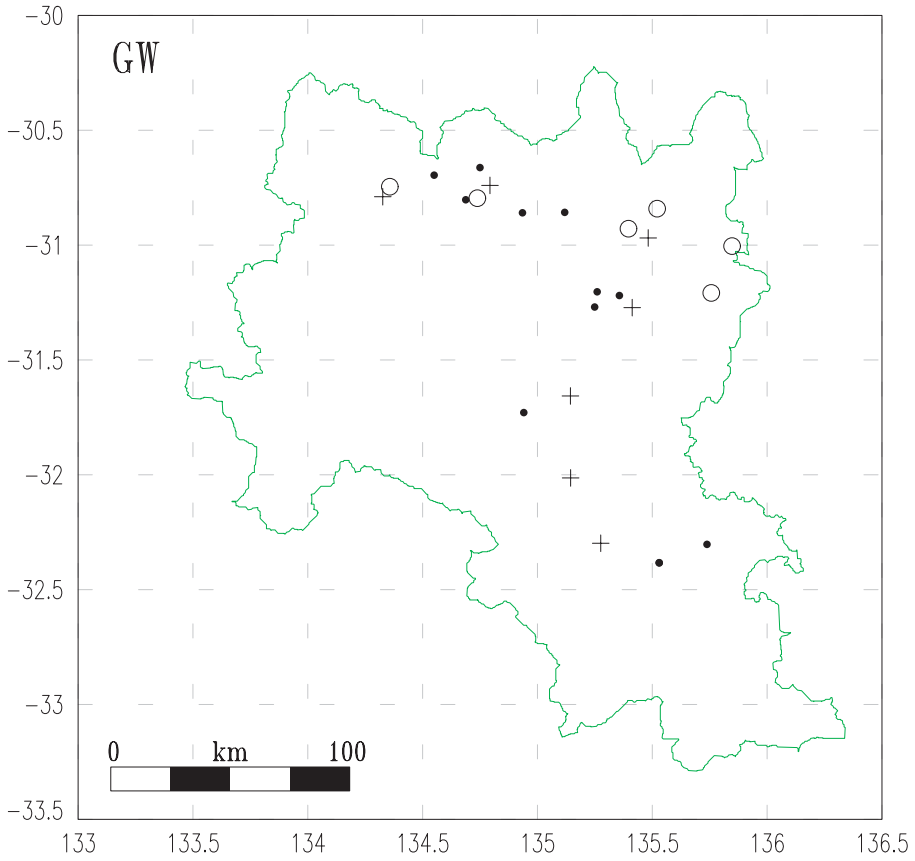


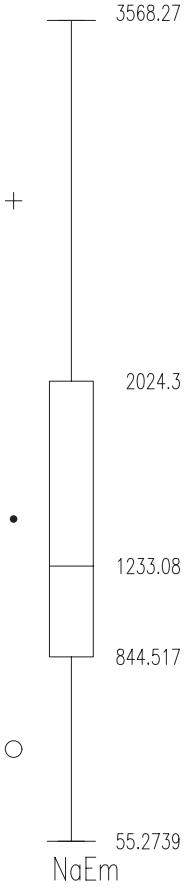


GAWLER GEOCHEMICAL SURVEY

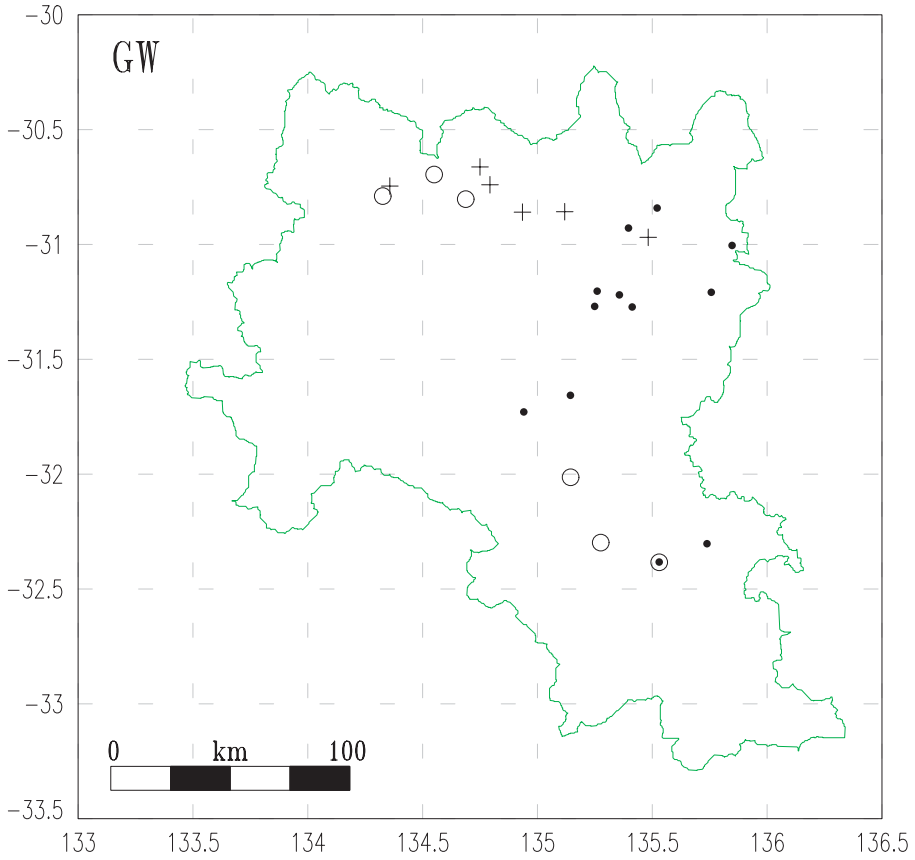
Groundwater Composition

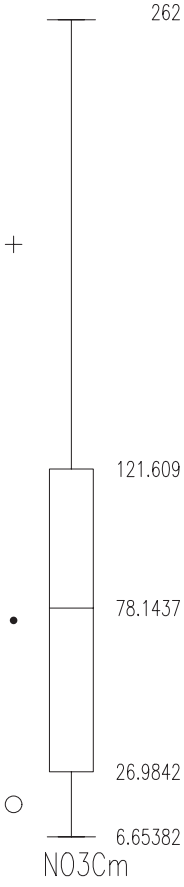
Na (mg/L) ICP-ES (<0.45 um)





NO3- (mg/L) IC (<0.45 um)

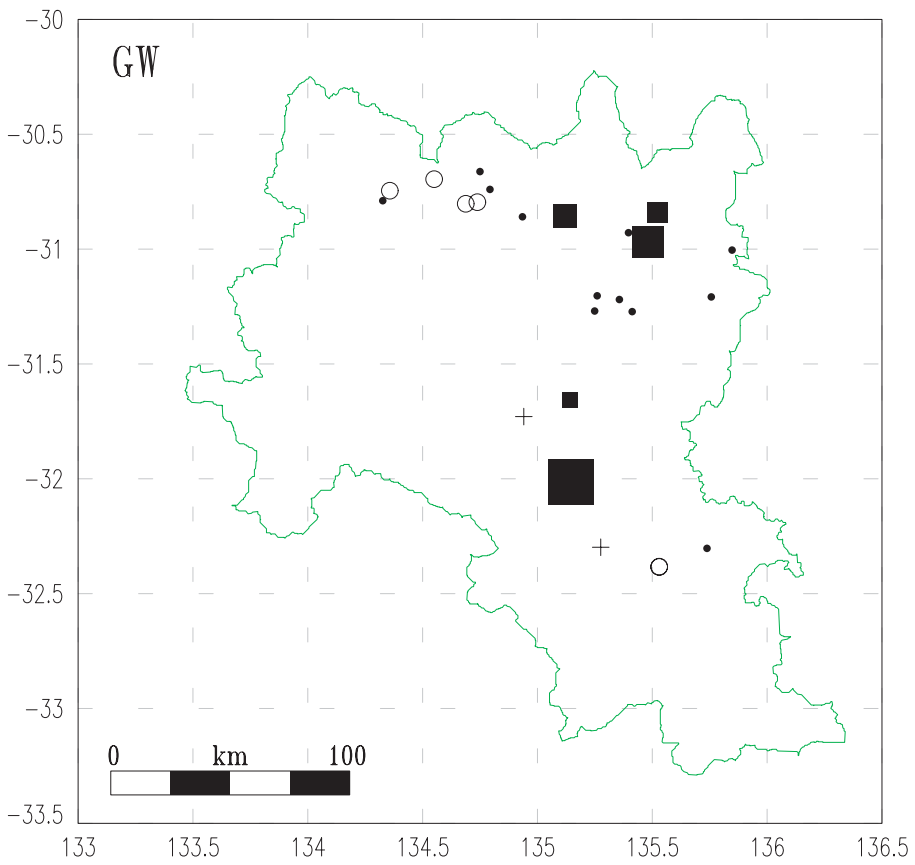


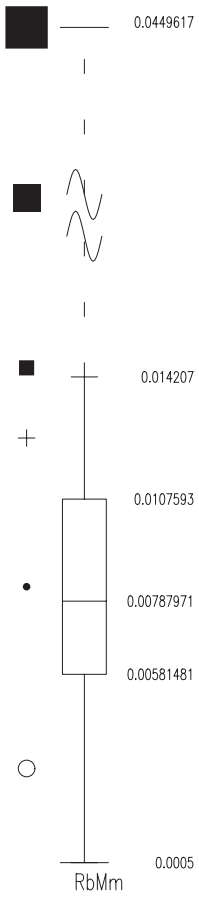


GAWLER GEOCHEMICAL SURVEY

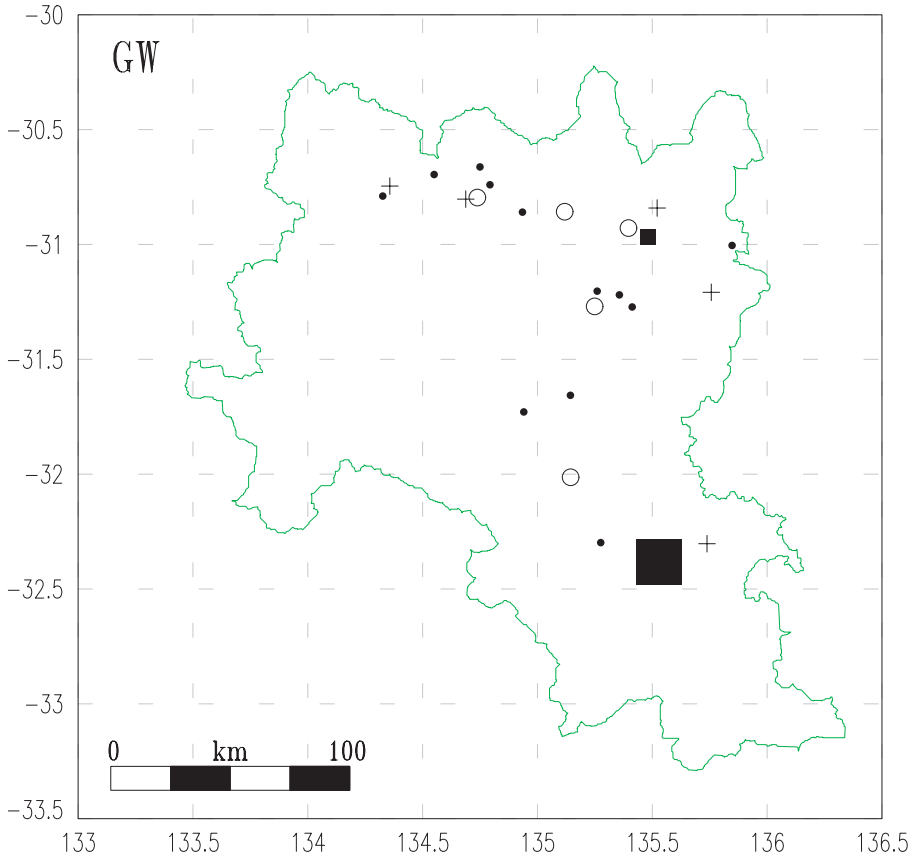
Groundwater Composition

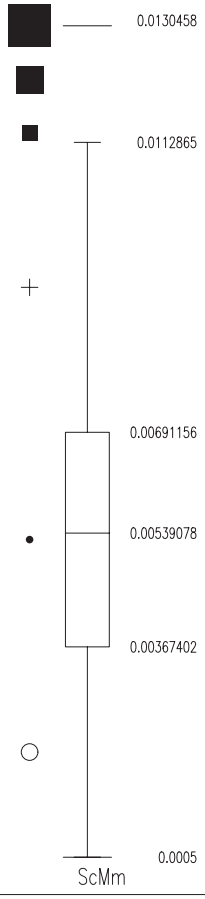
Rb (mg/L) ICP-MS (<0.45 um)





Sc (mg/L) ICP-MS (<0.45 um)

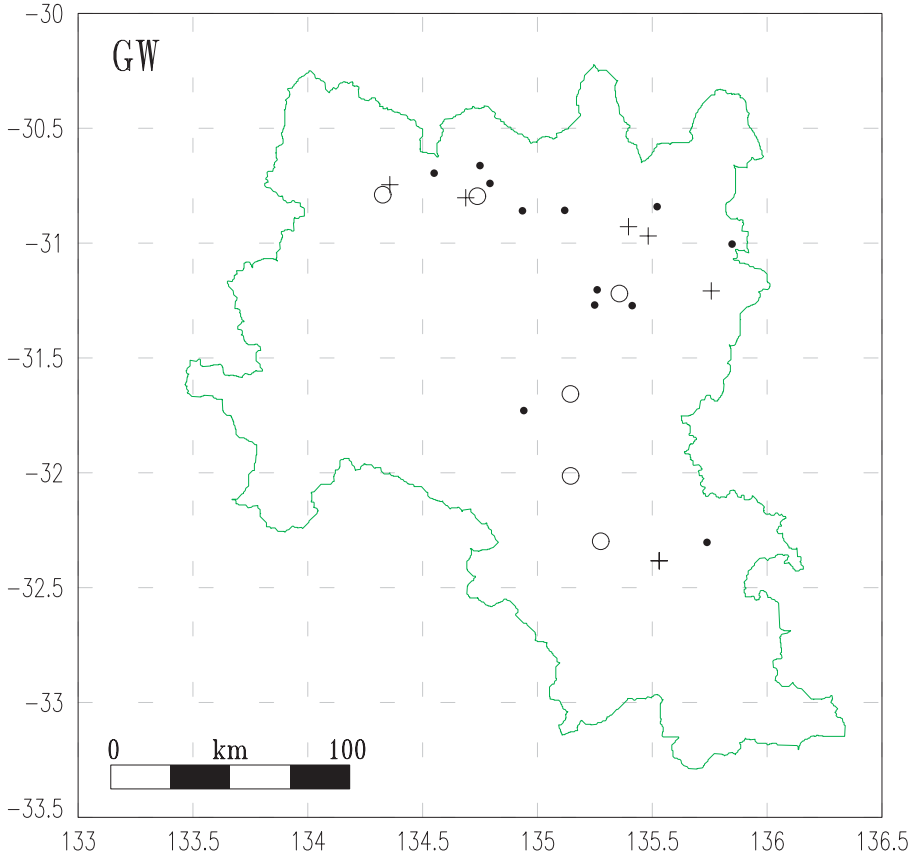


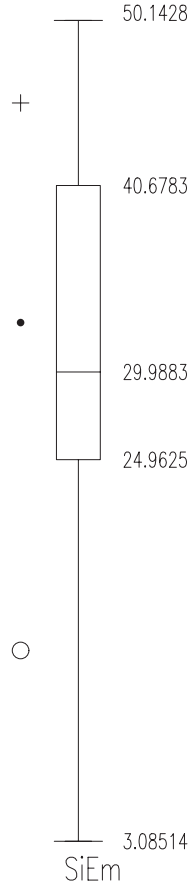


GAWLER GEOCHEMICAL SURVEY

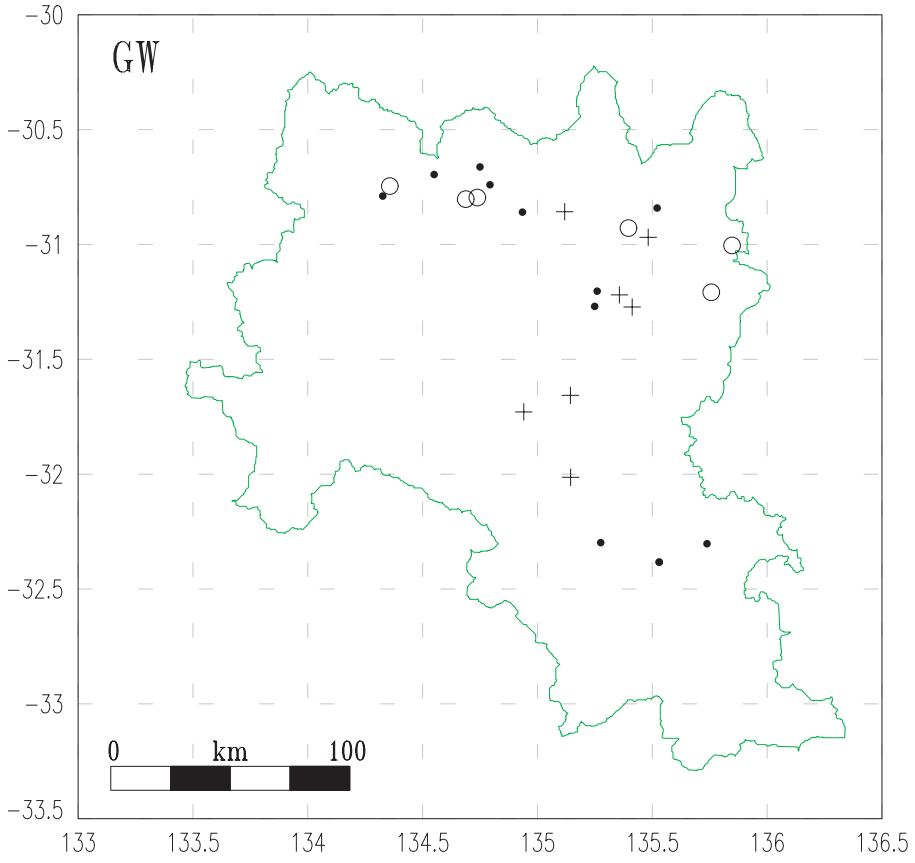
Groundwater Composition

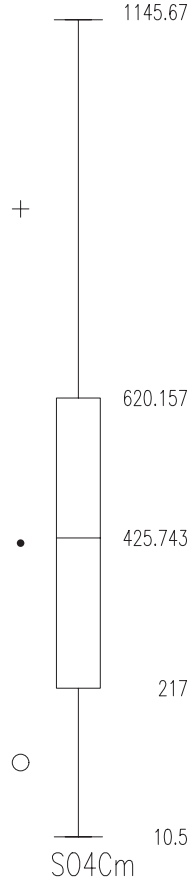
Si (mg/L) ICP-ES (<0.45 um)

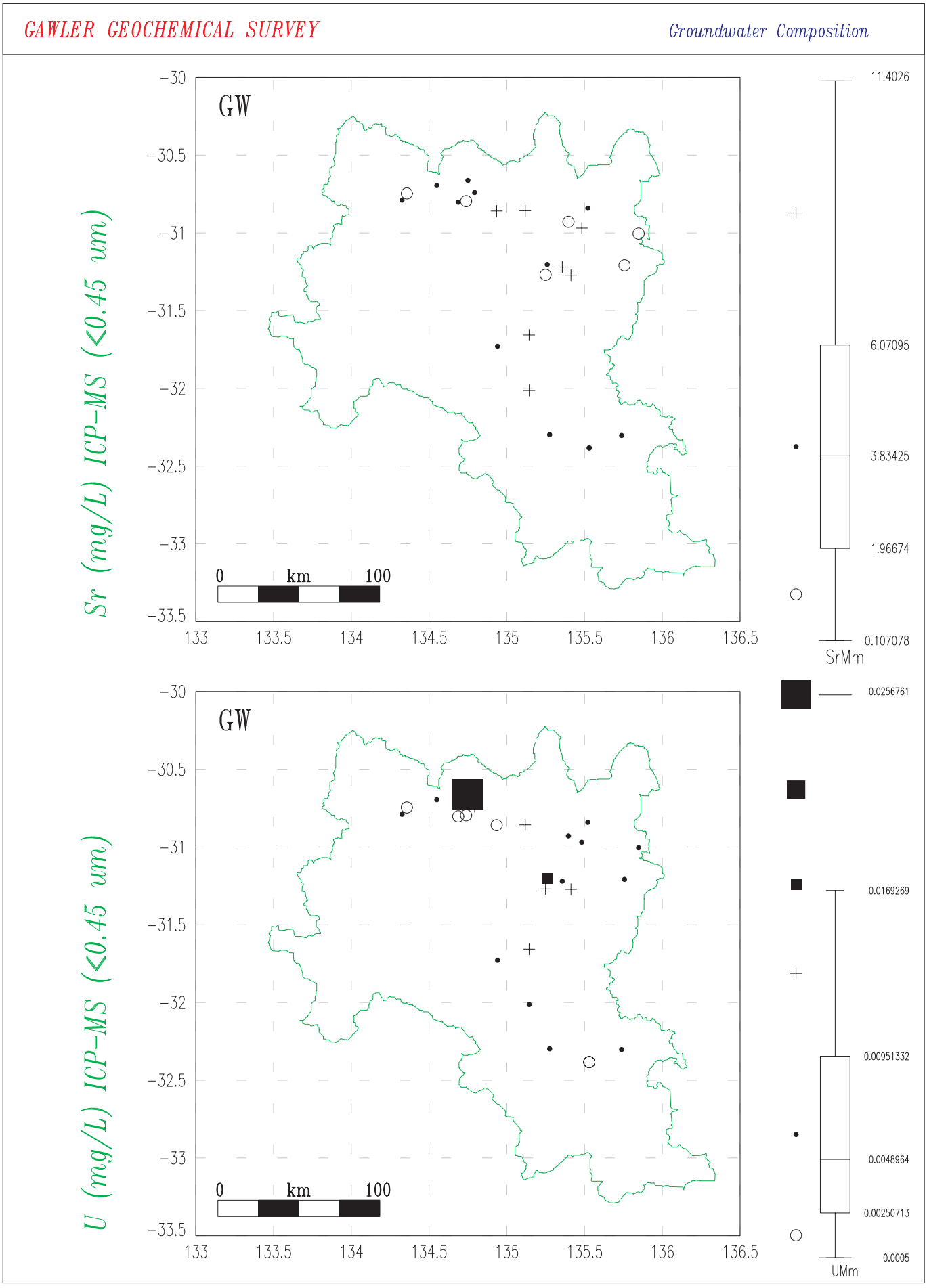




SO4-- (mg/L) IC (<0.45 um)

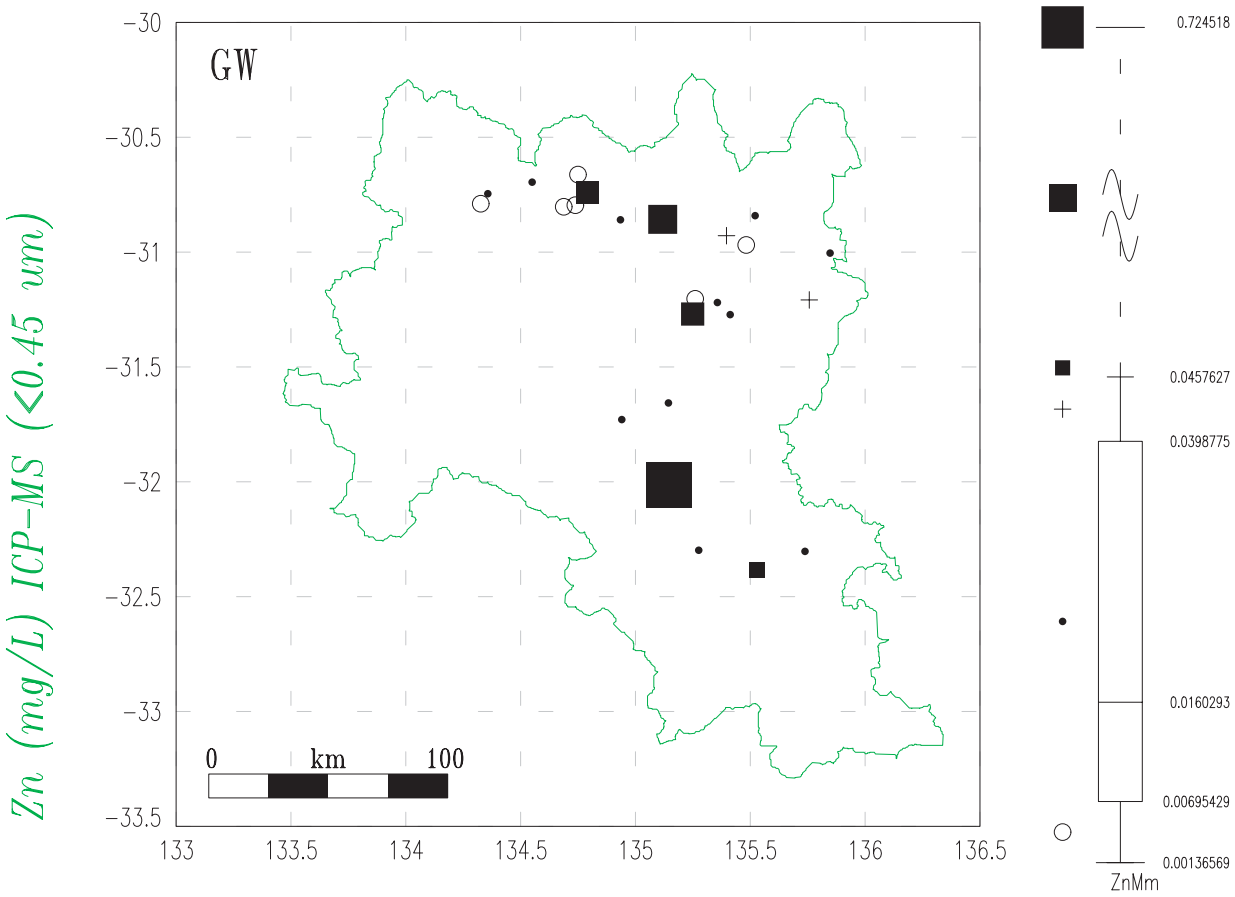





GAWLER GEOCHEMICAL SURVEY
Groundwater Composition
Sr (mg/L) ICP-MS (<0.45 um)
GW
0 km 100
-30
-30.5
-31
-31.5
-32
-32.5
-33
-33.5
133
133.5
134
134.5
135
135.5
136
136.5
11.4026
6.07095
3.83425
1.96674
0.107078
SrMm
U (mg/L) ICP-MS (<0.45 um)
GW
0 km 100
0.0256761
0.0169269
0.00951332
0.0048964
0.00250713
0.0005
UMm

GAWLER GEOCHEMICAL SURVEY

Groundwater Composition



12 APPENDIX 5. DATA

Appendix 5.1. Geographical coordinates of sampling sites

Appendix 5.1.1. Regolith sites

Latitude and longitude in decimal degrees (GDA 1994)

SITEID	LAT	LONG
2004851001	-33.12	135.56
2004851002	-30.64	134.02
2004851004	-30.85	135.02
2004851006	-30.93	135.45
2004851009	-31.69	135.39
2004851012	-33.16	135.96
2005851101	-32.57	134.91
2005851102	-33.01	135.31
2005851103	-32.83	135.47
2005851104	-32.73	135.25
2005851105	-32.16	135.86
2005851106	-32.30	135.84
2005851107	-31.76	135.27
2005851108	-31.54	135.16
2005851109	-31.63	135.06
2005851110	-31.69	134.82
2005851111	-32.29	135.02
2005851112	-32.09	134.66
2005851113	-32.03	133.87
2005851114	-31.75	133.70
2005851115	-31.54	134.09
2005851116	-31.44	133.94
2005851117	-31.35	133.95
2005851118	-31.25	133.97
2005851119	-30.94	134.08
2005851120	-30.69	134.09
2005851121	-30.75	134.28
2005851122	-30.80	134.34
2005851123	-30.92	134.62
2005851124	-30.58	134.63
2005851125	-30.71	135.01
2005851126	-31.50	135.40
2005851127	-31.61	135.59
2005851128	-31.29	135.14
2005851129	-31.15	135.22
2005851130	-31.30	135.44
2005851131	-30.72	135.40
2005851132	-30.68	135.65
2005851133	-30.82	135.78
2005851134	-31.07	135.48
2005851135	-31.21	135.69
2005851136	-31.20	135.92

Appendix 5.1.2. Groundwater sites

Latitude and longitude in decimal degrees (GDA 1994)

SiteID	SampleID	LAT	LONG
2004851003	G003	-30.80	134.74
2004851005	G005	-30.86	135.12
2004851007	G007	-30.93	135.40
2004851008	G008	-31.27	135.25
2004851010	G010	-32.01	135.14
2004851011	G011	-32.38	135.53
2005851201	201	-32.38	135.53
2005851202	202	-32.30	135.74
2005851203	203	-31.73	134.94
2005851204	204	-31.66	135.14
2005851205	205	-32.30	135.28
2005851206	206	-30.79	134.33
2005851207	207	-30.75	134.36
2005851208	208	-30.70	134.55
2005851209	209	-30.80	134.69
2005851210	210	-30.66	134.75
2005851211	211	-30.74	134.79
2005851212	212	-30.86	134.93
2005851213	213	-31.20	135.26
2005851214	214	-31.22	135.36
2005851215	215	-31.27	135.41
2005851217	217	-30.84	135.52
2005851218	218	-30.97	135.48
2005851219	219	-31.21	135.76
2005851220	220	-31.00	135.85

Appendix 5.2. XRF and ICP-MS data for multiple elements (regolith)

SampleID	Ag ICP-MS ppm	Al2O3 XRF %	As XRF ppm	Ba XRF ppm	Be ICP-MS ppm	Bi ICP-MS ppm	CaO XRF %
20048510001001A	0.12	12.302	4	260	6	0.2	7.714
20048510001001B	0.48	3.823	0.6	93	1.6	-0.1	2.084
20048510001001C	0.11	5.095	1.1	142	2.6	-0.1	2.905
20048510001001D	0.06	2.04	-0.5	63	1	-0.1	0.987
20048510001001E	0.06	1.545	-0.5	61	0.7	-0.1	0.942
20048510001001F	0.07	3.995	0.7	87	2.3	-0.1	3.656
20048510001002A	0.18	10.431	3.9	236	4.5	0.2	11.503
20048510001002B	0.15	3.362	-0.5	77	1.4	-0.1	2.593
20048510001002C	0.17	4.181	0.8	107	1.8	-0.1	3.65
20048510001002D	0.17	1.962	-0.5	53	0.7	-0.1	1.456
20048510001002E	0.75	1.305	-0.5	50	0.4	-0.1	1.08
20048510001002F	0.12	2.242	-0.5	51	1.4	-0.1	2.977
20048510002001A	0.31	17.338	4.9	341	2.2	0.3	0.662
20048510002001B	0.06	7.598	1.1	201	1.2	0.1	0.267
20048510002001C	0.14	9.617	1.8	239	1.3	0.2	0.351
20048510002001D	0.05	4.885	-0.5	192	0.6	-0.1	0.182
20048510002001E	0.06	4.963	-0.5	385	0.7	-0.1	0.212
20048510002001F	0.11	3.048	-0.5	347	0.3	-0.1	0.171
20048510002002A	0.15	10.973	5.4	345	1.4	0.2	19.804
20048510002002B	0.09	6.807	3.2	203	1	0.1	9.689
20048510002002C	0.32	7.662	3.6	279	1.4	0.1	11.073
20048510002002D	0.31	4.228	1.3	227	0.7	-0.1	5.234
20048510002002E	0.34	4.318	0.8	369	0.6	-0.1	5.619
20048510002002F	0.16	3.845	0.8	387	0.8	-0.1	6.39
20048510004001A	0.22	9.357	3	435	1.4	0.4	0.464
20048510004001B	0.28	4.25	-0.5	262	0.5	0.1	0.194
20048510004001C	0.59	4.945	-0.5	299	0.7	0.2	0.233
20048510004001D	0.04	3.918	-0.5	499	0.5	-0.1	0.17
20048510004001E	0.07	4.66	-0.5	657	0.4	-0.1	0.153
20048510004001F	0.02	3.031	-0.5	440	0.4	0.1	0.116
20048510004002A	0.06	2.888	-0.5	129	0.6	-0.1	20.349
20048510004002B	0.05	2.71	-0.5	138	0.6	-0.1	12.081
20048510004002C	0.06	2.724	-0.5	131	0.7	-0.1	14.568
20048510004002D	0.05	2.652	-0.5	166	0.5	-0.1	14.135
20048510004002E	0.06	2.527	-0.5	295	0.6	-0.1	15.008
20048510004002F	0.54	2.025	-0.5	281	0.6	-0.1	12.68
20048510006001A	0.07	16.535	3	311	2	0.3	0.714
20048510006001B	0.41	10.229	1.5	269	1.8	0.2	0.39
20048510006001C	0.12	11.614	1.3	279	1.8	0.2	0.47
20048510006001D	0.05	6.516	0.5	300	1.5	0.1	0.257
20048510006001E	0.1	4.304	-0.5	195	1.3	-0.1	0.202
20048510006001F	0.06	5.199	-0.5	203	1.5	0.1	0.289
20048510006002A	0.13	11.162	9.1	605	1.9	0.2	13.661
20048510006002B	0.1	9.112	7.9	386	1.6	0.1	10.757
20048510006002C	0.1	9.594	8.3	493	1.6	0.2	11.572
20048510006002D	0.17	6.947	5.7	561	1.2	0.1	9.442
20048510006002E	0.18	5.866	4.9	645	1.3	-0.1	11.169
20048510006002F	0.16	5.039	3.4	697	1.2	-0.1	12.293
20048510009001A	0.12	10.187	2.3	575	2	0.2	0.286
20048510009001B	0.21	4.119	-0.5	348	0.9	-0.1	0.087
20048510009001C	0.06	5.555	-0.5	425	1.4	0.1	0.131
20048510009001D	0.26	5.396	-0.5	928	1.1	0.1	0.088
20048510009001E	0.1	10.155	-0.5	2110	1.4	0.2	0.143
20048510009001F	0.14	9.372	0.8	2297	1.5	0.2	0.169

SampleID	Ag ICP-MS ppm	Al2O3 XRF %	As XRF ppm	Ba XRF ppm	Be ICP-MS ppm	Bi ICP-MS ppm	CaO XRF %
20048510009002A	0.13	4.274	4.5	176	0.4	0.1	27.399
20048510009002B	0.55	3.893	3.6	187	0.6	0.1	18.649
20048510009002C	0.27	4	4.3	177	0.7	-0.1	20.866
20048510009002D	0.13	4.672	3.2	524	0.9	0.1	10.981
20048510009002E	0.06	6.934	4	1178	1.2	0.2	10.76
20048510009002F	0.24	6.253	4.1	1341	1.7	0.2	12.005
2004851012001A	0.06	24.321	7.1	243	2.7	0.3	0.439
2004851012001B	0.08	14.079	3.5	170	1.2	0.2	0.234
2004851012001C	0.1	17.073	4.4	194	1.5	0.2	0.294
2004851012001D	0.07	10.157	2.4	129	1.1	0.1	0.177
2004851012001E	0.49	11.447	5.1	133	1.4	0.2	0.205
2004851012001F	0.05	13.879	8.3	139	1.6	0.2	0.244
2004851012002A	0.06	26.722	5.8	1632	1.9	0.3	1.34
2004851012002B	0.23	23.049	5.2	644	1.6	0.2	1.203
2004851012002C	0.12	24.284	5.5	1141	1.8	0.3	1.229
2004851012002D	0.06	21.448	4.7	939	1.7	0.2	0.757
2004851012002E	0.07	23.081	5.7	1089	1.5	0.2	0.925
2004851012002F	0.37	22.683	7.1	1568	1.6	0.3	0.939
TC06001D	0.05	6.532	-0.5	310	1.2	0.1	0.252
TC06001E	0.02	4.424	-0.5	209	1	-0.1	0.197
TC06001F	0.04	6.259	-0.5	216	1.5	0.1	0.36
TC09002D	0.2	7.096	3.1	571	0.8	0.2	12.204
TC09002E	0.11	7.002	3.5	1296	1.1	0.2	9.739
TC09002F	0.06	6.706	4.2	1643	1.2	0.1	10.211
TC12002D	0.04	21.449	5	926	1.6	0.2	0.755
TC12002E	0.12	23.535	6.2	907	1.6	0.2	0.909
TC12002F	0.07	22.949	8.6	996	1.4	0.3	1.098

A: <75 um
B: 75-180 um
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E: 0.5-1 mm
F: 1-2 mm
TC: Tungsten carbide mill

SampleID	Cd ICP-MS ppm	Ce ICP-MS ppm	Cl XRF ppm	Co XRF ppm	Cr XRF ppm	Cs ICP-MS ppm	Cu XRF ppm
20048510001001A	0.12	204.3	153	42	66	3.31	14
20048510001001B	-0.1	56.41	87	14	21	1.05	3
20048510001001C	-0.1	79.01	72	19	31	1.36	6
20048510001001D	-0.1	28.65	24	8	12	0.53	3
20048510001001E	-0.1	21.76	50	7	10	0.43	5
20048510001001F	-0.1	67.07	86	20	27	1.05	13
20048510001002A	-0.1	170.1	2313	36	62	2.86	12
20048510001002B	-0.1	42.4	662	11	17	0.82	3
20048510001002C	-0.1	55.23	839	15	24	1.05	4
20048510001002D	-0.1	25.21	394	8	14	0.53	3
20048510001002E	-0.1	17.36	263	9	12	0.36	6
20048510001002F	-0.1	49.28	479	14	19	0.59	10
20048510002001A	-0.1	93.19	76	51	100	4.32	29
20048510002001B	-0.1	38.83	47	25	58	1.82	13
20048510002001C	-0.1	44.67	61	30	65	2.25	16
20048510002001D	-0.1	20.57	38	16	35	1.13	9
20048510002001E	-0.1	19.89	54	16	29	1.09	9
20048510002001F	-0.1	12.1	69	12	22	0.69	8
20048510002002A	-0.1	54.43	5110	35	73	2.61	21
20048510002002B	-0.1	34.48	2995	22	50	1.58	12
20048510002002C	-0.1	41.82	2621	25	51	1.84	15
20048510002002D	-0.1	17.15	1507	14	31	0.97	9
20048510002002E	-0.1	17.39	1345	16	28	0.84	8
20048510002002F	-0.1	16.31	1323	12	26	0.82	8
20048510004001A	0.11	81.53	195	33	67	2.42	16
20048510004001B	-0.1	24.46	49	11	21	0.96	5
20048510004001C	-0.1	31.72	52	14	28	1.11	8
20048510004001D	-0.1	17.33	86	8	17	0.65	6
20048510004001E	-0.1	16.92	101	8	12	0.64	5
20048510004001F	-0.1	13.25	131	11	14	0.47	10
20048510004002A	-0.1	18.02	3313	11	22	0.7	7
20048510004002B	-0.1	13.4	3417	8	13	0.62	5
20048510004002C	-0.1	15.03	3369	10	22	0.65	6
20048510004002D	-0.1	10.93	3482	7	14	0.54	6
20048510004002E	-0.1	8.18	2296	6	14	0.4	4
20048510004002F	-0.1	8.13	1906	5	6	0.4	4
20048510006001A	-0.1	68.65	231	51	79	4.77	28
20048510006001B	-0.1	42.19	58	34	58	2.82	19
20048510006001C	-0.1	47.98	55	39	61	3.26	20
20048510006001D	-0.1	29.8	67	23	36	1.91	13
20048510006001E	-0.1	20.31	67	15	23	1.27	11
20048510006001F	-0.1	24.83	52	18	25	1.56	11
20048510006002A	-0.1	43.67	7968	40	59	3.03	29
20048510006002B	-0.1	34.3	6750	31	48	2.44	24
20048510006002C	-0.1	37.28	7160	34	51	2.65	25
20048510006002D	-0.1	28.88	5388	26	39	1.89	19
20048510006002E	-0.1	25.63	4832	23	30	1.57	18
20048510006002F	-0.1	24.25	4088	21	27	1.36	16
20048510009001A	-0.1	65.73	709	31	58	2.63	15
20048510009001B	-0.1	24.27	357	13	17	1.07	5
20048510009001C	-0.1	31.36	417	17	31	1.41	8
20048510009001D	-0.1	34.59	346	16	21	1.24	7
20048510009001E	-0.1	91.9	391	30	32	2.27	8
20048510009001F	-0.1	97.15	392	40	31	2.24	10

SampleID	Cd ICP-MS ppm	Ce ICP-MS ppm	Cl XRF ppm	Co XRF ppm	Cr XRF ppm	Cs ICP-MS ppm	Cu XRF ppm
20048510009002A	-0.1	24.81	5582	15	17	1.2	7
20048510009002B	-0.1	20.87	4901	12	16	1.15	6
20048510009002C	-0.1	22.01	5499	13	16	1.08	6
20048510009002D	-0.1	25.79	3984	15	20	1.19	7
20048510009002E	-0.1	49.31	3148	19	22	1.69	8
20048510009002F	-0.1	48.62	2747	21	18	1.42	8
2004851012001A	-0.1	52.43	326	61	115	6.17	18
2004851012001B	-0.1	27.14	271	39	79	3.26	10
2004851012001C	-0.1	34.12	212	46	92	4.01	11
2004851012001D	-0.1	19.63	144	29	54	2.34	8
2004851012001E	-0.1	22.32	237	41	76	2.55	10
2004851012001F	-0.1	26.23	247	53	98	2.94	12
2004851012002A	-0.1	41.89	316	73	138	6.02	19
2004851012002B	-0.1	30.63	206	58	119	4.93	15
2004851012002C	-0.1	32.94	221	64	128	5.11	16
2004851012002D	-0.1	27.88	202	57	113	4.2	15
2004851012002E	-0.1	31.01	235	64	125	4.36	15
2004851012002F	-0.1	30.06	187	77	143	3.94	16
TC06001D	-0.1	29.85	55	73	33	1.82	11
TC06001E	-0.1	21.71	127	91	20	1.36	8
TC06001F	-0.1	28.8	265	89	30	1.82	10
TC09002D	-0.1	25.21	3799	59	17	1.15	5
TC09002E	-0.1	49.18	3229	48	23	1.65	5
TC09002F	-0.1	53.43	2664	54	19	1.52	5
TC12002D	-0.1	26.56	246	78	108	4.1	14
TC12002E	-0.1	30.19	226	87	121	4.23	15
TC12002F	-0.1	31.52	249	84	133	3.78	15

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SampleID	Dy ICP-MS ppm	Er ICP-MS ppm	Eu ICP-MS ppb	Fe2O3T XRF %	Ga ICP-MS ppm	Gd ICP-MS ppm
20048510001001A	14.6	8.21	3806	4.289	11.6	16.64
20048510001001B	3.75	2.12	1023	1.283	3.5	4.19
20048510001001C	5.11	2.96	1433	1.727	4.6	5.78
20048510001001D	1.76	1.03	484	0.844	1.7	2.06
20048510001001E	1.49	0.86	419	0.907	1.2	1.69
20048510001001F	4.56	2.58	1222	2.304	3.6	5.14
20048510001002A	13.17	7.77	3396	3.635	8.9	15.15
20048510001002B	3.05	1.74	788	1.093	3	3.26
20048510001002C	4.59	2.81	1066	1.411	3.7	4.68
20048510001002D	1.62	0.93	463	0.795	1.7	1.91
20048510001002E	1.22	0.69	304	1.05	1.1	1.37
20048510001002F	3.46	1.82	926	1.65	1.9	4.13
20048510002001A	6.43	4.34	1607	6.397	20	6.04
20048510002001B	2.38	1.62	652	3.016	8.7	2.53
20048510002001C	3.4	2.41	840	3.661	10.7	3.19
20048510002001D	1.22	0.92	342	2.04	5.4	1.39
20048510002001E	1.27	0.78	387	2.04	5.1	1.25
20048510002001F	0.79	0.51	246	1.601	3.1	0.87
20048510002002A	4.11	2.64	1094	3.696	13.1	4.04
20048510002002B	2.39	1.72	624	2.477	7.6	2.47
20048510002002C	2.59	1.65	688	2.723	9.2	2.75
20048510002002D	1.2	0.73	322	1.697	4.6	1.18
20048510002002E	1.08	0.7	357	1.774	4.6	1.15
20048510002002F	1.22	0.72	358	1.638	4.5	1.2
20048510004001A	6.56	4.92	1173	4.204	11.4	5.79
20048510004001B	1.34	0.91	436	1.411	5	1.58
20048510004001C	2.02	1.44	530	1.813	4.9	2.08
20048510004001D	0.82	0.47	343	1.12	3.5	1.04
20048510004001E	0.8	0.45	442	1.028	4	0.95
20048510004001F	0.63	0.39	260	1.435	2.7	0.7
20048510004002A	1.42	1.07	335	1.245	2.8	1.36
20048510004002B	0.88	0.59	240	0.932	2.6	0.96
20048510004002C	1.04	0.75	267	1.021	2.7	1.03
20048510004002D	0.63	0.42	250	0.905	2.4	0.73
20048510004002E	0.46	0.28	247	0.79	2	0.54
20048510004002F	0.44	0.3	191	0.691	1.7	0.54
20048510006001A	4.88	3.2	1339	6.342	19.2	5.03
20048510006001B	3.09	1.98	952	3.931	11.4	3.11
20048510006001C	3.43	2.14	1014	4.469	12.9	3.62
20048510006001D	2.28	1.38	730	2.688	7.1	2.51
20048510006001E	1.63	1.02	506	1.966	4.4	1.75
20048510006001F	1.85	1.23	589	2.289	5.9	2.02
20048510006002A	3.59	2.22	965	4.24	13.5	3.79
20048510006002B	2.68	1.66	803	3.483	10.9	2.84
20048510006002C	2.98	1.92	837	3.635	11.3	3.07
20048510006002D	2.24	1.37	699	2.771	8.3	2.49
20048510006002E	2.06	1.31	628	2.411	6.6	2.27
20048510006002F	2.11	1.26	599	2.069	5.8	2.25
20048510009001A	5.71	4.08	1185	4.237	11	4.94
20048510009001B	2	1.26	447	1.575	3.7	1.88
20048510009001C	2.8	1.86	610	2.193	5.9	2.48
20048510009001D	2.88	1.67	636	2.097	4.8	2.87
20048510009001E	7.22	4.34	1722	4.981	10.9	7.34
20048510009001F	7.55	4.54	1828	6.417	11.2	7.69

SampleID	Dy ICP-MS ppm	Er ICP-MS ppm	Eu ICP-MS ppb	Fe2O3T XRF %	Ga ICP-MS ppm	Gd ICP-MS ppm
20048510009002A	1.98	1.22	540	1.746	4.8	2.17
20048510009002B	1.7	1.04	445	1.53	4.3	1.78
20048510009002C	1.79	1.04	484	1.542	4.5	1.87
20048510009002D	2.27	1.3	546	2.038	4.8	2.14
20048510009002E	4.1	2.47	916	3.357	7	3.85
20048510009002F	3.9	2.49	894	3.588	7	3.78
2004851012001A	4.02	2.67	1071	8.487	28.3	3.82
2004851012001B	2.14	1.39	530	5.012	15.7	2.01
2004851012001C	2.8	1.81	758	6.049	19.6	2.73
2004851012001D	1.49	0.97	400	3.935	11.5	1.43
2004851012001E	1.88	1.17	445	6.025	14.2	1.71
2004851012001F	2.2	1.37	543	8.409	17.9	1.99
2004851012002A	2.77	1.88	567	10.364	32.2	2.24
2004851012002B	2.1	1.38	455	8.609	27.5	1.72
2004851012002C	2.54	1.71	503	9.179	29.2	2.05
2004851012002D	2	1.35	454	8.41	25.8	1.79
2004851012002E	2.2	1.47	450	9.755	28.8	1.89
2004851012002F	2.65	1.71	592	12.528	31.2	2.22
TC06001D	2.2	1.31	761	2.449	7.1	2.56
TC06001E	1.65	0.99	509	1.604	4.5	1.75
TC06001F	2.21	1.33	656	2.356	6.8	2.23
TC09002D	2.18	1.26	481	1.95	8.5	2.14
TC09002E	4.19	2.51	954	3.382	7.4	4
TC09002F	4.43	2.72	933	4.035	7.4	4.24
TC12002D	1.98	1.38	463	8.213	25.4	1.7
TC12002E	2.29	1.52	495	9.516	28.2	1.91
TC12002F	2.41	1.65	535	11.628	30.8	2.05

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SampleID	Ge ICP-MS ppm	Hf ICP-MS ppm	Ho ICP-MS ppm	K2O XRF %	La ICP-MS ppm	Lu ICP-MS ppm
20048510001001A	1.2	18	2.88	1.68	90.16	1.02
20048510001001B	1	9.2	0.76	0.524	25.21	0.31
20048510001001C	1.1	9.9	1.05	0.689	34.57	0.4
20048510001001D	0.9	1.6	0.35	0.272	11.45	0.13
20048510001001E	0.7	1.4	0.27	0.233	8.86	0.12
20048510001001F	0.9	5.1	0.87	0.514	31.69	0.32
20048510001002A	0.9	22.8	2.68	1.518	80.8	1.05
20048510001002B	0.8	13	0.63	0.476	19.12	0.24
20048510001002C	0.8	13.5	0.92	0.595	25.71	0.4
20048510001002D	0.7	1.4	0.34	0.259	10.26	0.11
20048510001002E	0.7	1	0.23	0.203	7.01	0.1
20048510001002F	0.8	3.5	0.69	0.285	22.55	0.21
20048510002001A	1.6	24.4	1.36	2.122	45.33	0.75
20048510002001B	1.2	19	0.51	0.963	20.09	0.33
20048510002001C	1.3	17.4	0.72	1.196	22.55	0.41
20048510002001D	0.9	3.6	0.27	0.738	10	0.13
20048510002001E	0.9	3.9	0.25	1.28	11.41	0.14
20048510002001F	0.9	2.5	0.16	1.014	6.18	0.09
20048510002002A	1	11	0.82	1.307	29.37	0.42
20048510002002B	0.9	13.3	0.51	0.891	19.07	0.29
20048510002002C	0.9	12.7	0.51	0.972	25.13	0.27
20048510002002D	0.9	3.2	0.23	0.708	9.32	0.11
20048510002002E	0.8	4.6	0.24	1.083	9.26	0.14
20048510002002F	0.8	4.3	0.25	0.864	8.48	0.16
20048510004001A	1.3	57.7	1.46	1.947	41	1
20048510004001B	0.9	8.2	0.26	1.098	13.11	0.15
20048510004001C	1.4	12.9	0.42	1.232	16.36	0.23
20048510004001D	1.1	1.6	0.18	1.461	8.34	0.05
20048510004001E	0.9	2.5	0.15	2.308	8.73	0.04
20048510004001F	0.9	2.5	0.14	1.484	7.35	0.04
20048510004002A	0.5	12.9	0.32	0.623	11.8	0.2
20048510004002B	0.8	5.3	0.21	0.659	7.24	0.08
20048510004002C	0.6	8.1	0.22	0.643	8.87	0.11
20048510004002D	0.7	2.2	0.13	0.825	5.34	0.03
20048510004002E	0.5	1.5	0.11	1.128	3.94	0.01
20048510004002F	0.5	1.7	0.09	0.845	3.82	0.02
20048510006001A	1.8	13.2	1.01	2.572	34.07	0.48
20048510006001B	1.3	9.4	0.63	1.695	21.67	0.3
20048510006001C	1.4	10.4	0.69	1.883	24.05	0.33
20048510006001D	1.2	3.7	0.48	1.206	16.65	0.17
20048510006001E	1.2	2.9	0.33	0.82	10.07	0.11
20048510006001F	1.3	3.7	0.38	0.893	14.02	0.16
20048510006002A	1.2	6.7	0.71	1.148	23.76	0.31
20048510006002B	1.1	5.7	0.56	0.997	18.51	0.22
20048510006002C	1.1	5.7	0.62	1.029	19.77	0.28
20048510006002D	0.9	3.5	0.43	0.833	15.88	0.19
20048510006002E	0.9	3.4	0.43	0.661	13.67	0.17
20048510006002F	0.8	3.2	0.41	0.541	12.96	0.16
20048510009001A	1.2	31.6	1.24	2.641	34.19	0.7
20048510009001B	0.9	9.7	0.39	1.306	13.23	0.19
20048510009001C	1	14.8	0.59	1.626	17.62	0.31
20048510009001D	0.9	3.7	0.55	2.382	18.42	0.21
20048510009001E	1.3	6.4	1.39	5.334	51.5	0.62
20048510009001F	1.2	7.5	1.49	4.685	55.21	0.64

SampleID	Ge ICP-MS ppm	Hf ICP-MS ppm	Ho ICP-MS ppm	K2O XRF %	La ICP-MS ppm	Lu ICP-MS ppm
20048510009002A	0.7	5.1	0.38	0.791	14.41	0.18
20048510009002B	0.9	6	0.33	0.889	11.49	0.19
20048510009002C	0.7	5.8	0.36	0.849	12.82	0.15
20048510009002D	0.8	3.1	0.47	1.654	15.38	0.2
20048510009002E	0.8	4.6	0.82	3.241	27.74	0.36
20048510009002F	0.7	4.8	0.82	2.809	26.62	0.37
2004851012001A	2	10.7	0.84	1.05	26.1	0.44
2004851012001B	1.5	10.8	0.41	0.625	13.64	0.24
2004851012001C	1.5	9.5	0.59	0.746	17.66	0.3
2004851012001D	1.2	4	0.31	0.421	9.14	0.18
2004851012001E	1.3	5.9	0.38	0.462	11.46	0.2
2004851012001F	1.3	6.7	0.44	0.53	12.58	0.25
2004851012002A	2	7.7	0.52	0.641	15.43	0.35
2004851012002B	1.8	7.6	0.44	0.533	12.14	0.25
2004851012002C	1.9	7.5	0.54	0.568	13.4	0.26
2004851012002D	1.8	6.2	0.46	0.455	10.34	0.26
2004851012002E	1.8	6.6	0.47	0.44	11.87	0.26
2004851012002F	1.8	7.1	0.57	0.392	11.79	0.28
TC06001D	1.2	3.5	0.47	1.208	16.79	0.18
TC06001E	1.1	2.9	0.38	0.834	12.59	0.13
TC06001F	1.2	4.7	0.42	1.043	14.9	0.19
TC09002D	0.9	3.2	0.4	1.591	14.85	0.18
TC09002E	0.6	4.5	0.84	3.347	27.06	0.35
TC09002F	0.6	5	0.9	3.123	28.65	0.38
TC12002D	1.6	6	0.4	0.457	10.81	0.23
TC12002E	1.7	6.4	0.44	0.454	11.38	0.25
TC12002F	1.9	6.1	0.48	0.398	11.59	0.28

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F: 1-2 mm
TC: Tungsten carbide mill

SampleID	MgO XRF %	MLOI Calculate %	MnO XRF %	Mo ICP-MS ppm	Na2O XRF %	Nb ICP-MS ppm
20048510001001A	1.173	20.927	0.054	1	0.26	10.7
20048510001001B	0.364	4.513	0.014	1	0.096	3.6
20048510001001C	0.478	8.564	0.022	1	0.112	4.3
20048510001001D	0.207	2.889	0.006	0.7	0.063	1.3
20048510001001E	0.173	3.436	0.005	0.7	0.059	1.1
20048510001001F	0.475	13.498	0.021	3	0.088	3.2
20048510001002A	1.214	19.87	0.028	0.8	0.54	10.7
20048510001002B	0.381	4.476	0.005	0.5	0.179	3.9
20048510001002C	0.483	6.489	0.008	0.3	0.223	5.5
20048510001002D	0.233	2.883	-0.005	0.6	0.113	1.2
20048510001002E	0.175	1.401	-0.005	1.2	0.091	0.9
20048510001002F	0.343	6.125	0.014	1.4	0.131	2
20048510002001A	1.131	10.976	0.095	0.9	0.261	17.9
20048510002001B	0.483	4.517	0.034	0.4	0.12	9.6
20048510002001C	0.623	5.931	0.047	0.7	0.154	10.3
20048510002001D	0.315	3.015	0.021	0.5	0.12	4.4
20048510002001E	0.268	2.273	0.019	-0.1	0.189	3.6
20048510002001F	0.159	1.842	0.011	2	0.139	2.2
20048510002002A	2.087	25.936	0.031	0.8	0.56	9.7
20048510002002B	1.143	13.145	0.016	0.5	0.359	7.8
20048510002002C	1.275	14.684	0.02	1.3	0.361	8.4
20048510002002D	0.636	7.15	0.008	0.6	0.256	3.7
20048510002002E	0.592	6.842	0.008	1.1	0.295	3.8
20048510002002F	0.608	7.807	0.007	0.9	0.25	3.4
20048510004001A	0.532	5.613	0.062	1	0.556	22.8
20048510004001B	0.216	2.239	0.015	0.9	0.347	5.9
20048510004001C	0.257	2.6	0.023	0.5	0.377	7.7
20048510004001D	0.147	1.796	0.01	0.3	0.418	2.3
20048510004001E	0.117	0.937	0.008	0.8	0.584	1.2
20048510004001F	0.101	1.946	0.008	2.4	0.386	1.1
20048510004002A	0.94	20.12	0.011	0.5	0.493	5.7
20048510004002B	0.702	10.229	0.005	0.9	0.495	3.2
20048510004002C	0.77	13.724	0.007	1.6	0.494	4.3
20048510004002D	0.578	11.643	0.005	0.2	0.548	2
20048510004002E	0.391	11.092	-0.005	0.5	0.492	0.8
20048510004002F	0.358	10.444	-0.005	0.6	0.405	1
20048510006001A	2.038	12.367	0.088	0.6	0.366	13
20048510006001B	1.225	7.985	0.052	0.7	0.241	8.2
20048510006001C	1.396	9.041	0.06	-0.1	0.272	9.6
20048510006001D	0.769	5.103	0.033	0.6	0.16	5.1
20048510006001E	0.529	2.286	0.022	0.4	0.099	3.4
20048510006001F	0.649	4.66	0.027	2.3	0.12	4.4
20048510006002A	2.563	25.682	0.029	0.7	0.803	7.8
20048510006002B	2.162	18.092	0.02	0.7	0.675	6.6
20048510006002C	2.251	22.394	0.022	-0.1	0.694	6.4
20048510006002D	1.706	14.627	0.016	0.5	0.51	4.5
20048510006002E	1.627	15.965	0.014	0.6	0.453	4.2
20048510006002F	1.499	15.357	0.012	0.2	0.402	3.5
20048510009001A	0.629	6.009	0.054	0.3	0.703	19.5
20048510009001B	0.244	0.735	0.015	-0.1	0.331	5.1
20048510009001C	0.333	3.112	0.024	1	0.412	9.7
20048510009001D	0.23	0.311	0.018	0.5	0.576	4.8
20048510009001E	0.278	0.927	0.035	1.1	1.371	9.8
20048510009001F	0.272	1.4	0.04	2	1.378	11

SampleID	MgO XRF %	MLOI Calculate %	MnO XRF %	Mo ICP-MS ppm	Na2O XRF %	Nb ICP-MS ppm
20048510009002A	1.025	25.54	0.012	0.8	0.724	4.1
20048510009002B	0.816	17.309	0.008	-0.1	0.679	3.9
20048510009002C	0.881	19.72	0.01	0.9	0.738	3.8
20048510009002D	0.631	11.25	0.009	1.6	0.798	3.8
20048510009002E	0.538	9.25	0.015	1.5	1.152	6.1
20048510009002F	0.508	10.498	0.015	1.6	1.082	6.6
2004851012001A	0.614	17.53	0.034	1.3	0.222	15.8
2004851012001B	0.351	7.699	0.018	0.9	0.137	10
2004851012001C	0.427	11.977	0.022	1.4	0.147	11.5
2004851012001D	0.271	5.819	0.012	0.3	0.095	6.7
2004851012001E	0.293	8.087	0.016	1.5	0.119	7.5
2004851012001F	0.336	8.869	0.02	1.4	0.157	9.3
2004851012002A	0.564	18.822	0.01	0.7	0.272	14.4
2004851012002B	0.481	12.851	0.008	1.3	0.194	12.7
2004851012002C	0.507	15.998	0.008	1.4	0.206	13.4
2004851012002D	0.419	11.597	0.006	1.4	0.187	12.1
2004851012002E	0.434	13.565	0.006	1.7	0.195	13.2
2004851012002F	0.422	13.279	0.007	2.6	0.188	15
TC06001D	0.76	4.358	0.032	0.8	0.16	5.2
TC06001E	0.531	3.973	0.021	0.5	0.105	3.6
TC06001F	0.779	5.081	0.032	0.8	0.151	5.1
TC09002D	0.626	2.902	0.01	12.3	0.77	4.7
TC09002E	0.517	8.991	0.012	0.7	1.148	6
TC09002F	0.481	8.847	0.016	0.5	1.13	6.9
TC12002D	0.419	12.332	0.006	2	0.192	12
TC12002E	0.444	13.211	0.006	2.3	0.203	13.9
TC12002F	0.428	13.768	0.007	2.6	0.198	14.4

A: <75 um
B: 75-180 um
C: <180 um
D: 180-500 um
E: 0.5-1 mm
F: 1-2 mm
TC: Tungsten carbide mill

SampleID	Nd ICP-MS ppm	Ni XRF ppm	P2O5 XRF %	Pb ICP-MS ppm	Pr ICP-MS ppm	Rb XRF ppm	Sb ICP-MS ppm
20048510001001A	93.71	27	0.099	18.6	25.57	96.8	7
20048510001001B	24.65	4	0.032	6	6.67	28.3	0.3
20048510001001C	34.39	8	0.044	7.8	9.41	40.4	0.4
20048510001001D	11.78	3	0.023	2.9	3.24	15.4	3.5
20048510001001E	9.54	3	0.021	2.5	2.63	11.9	5.3
20048510001001F	31.14	11	0.051	6	8.49	29.2	2.7
20048510001002A	83.76	23	0.054	14.2	22.7	85.6	0.7
20048510001002B	19.04	2	0.02	4.6	5.22	23.6	5
20048510001002C	25.71	5	0.022	5.6	7.05	31.5	0.6
20048510001002D	10.73	-2	0.013	2.6	2.93	14.4	2.9
20048510001002E	7.67	4	0.015	2.4	2.09	9.7	3.8
20048510001002F	23.56	7	0.019	3.2	6.53	16.2	0.4
20048510002001A	39	31	0.104	22.7	11.26	102.8	0.5
20048510002001B	17.06	11	0.049	11.7	4.95	44.4	2.4
20048510002001C	19.79	16	0.059	13.5	5.77	56.8	1.1
20048510002001D	9.29	6	0.032	7.3	2.62	29.9	3.2
20048510002001E	9	6	0.031	9.2	2.46	41.9	0.4
20048510002001F	5.31	4	0.021	6.3	1.49	31.3	3.8
20048510002002A	26.93	14	0.05	12.8	7.55	59.6	0.4
20048510002002B	16.36	7	0.034	9.4	4.65	36.3	2.9
20048510002002C	20.13	9	0.04	10.5	5.45	42.1	0.5
20048510002002D	8.21	4	0.024	6.4	2.27	25.9	1.2
20048510002002E	8.33	3	0.023	7.9	2.28	34.6	2.5
20048510002002F	7.78	3	0.022	6.6	2.24	28.3	1.4
20048510004001A	36.03	13	0.107	21.4	10.13	72	0.8
20048510004001B	11.74	-2	0.044	9.5	3.39	37.9	5.9
20048510004001C	14.95	-2	0.051	10.5	4.23	41.5	2.6
20048510004001D	8.18	-2	0.031	8.9	2.48	45.1	8
20048510004001E	7.84	-2	0.032	11.7	2.27	58	4.8
20048510004001F	5.75	4	0.032	7.9	1.72	39.3	0.9
20048510004002A	8.35	-2	0.04	5.4	2.32	22.4	5.2
20048510004002B	6.45	-2	0.031	5	1.85	21.9	2.4
20048510004002C	6.8	-2	0.034	5.2	1.96	22.1	0.5
20048510004002D	5.3	-2	0.029	5.1	1.49	24.3	0.3
20048510004002E	3.87	-2	0.029	6	1.07	28.5	3
20048510004002F	3.71	-2	0.025	4.7	1.09	22.7	0.3
20048510006001A	29.83	27	0.107	20.4	8.38	96.7	0.6
20048510006001B	20.47	14	0.067	14.5	5.62	62.2	2.6
20048510006001C	22.82	17	0.076	15.9	6.29	70.8	0.4
20048510006001D	16.73	9	0.045	10.6	4.57	42.1	2.7
20048510006001E	10.53	7	0.033	7.7	2.94	27.6	0.7
20048510006001F	12.17	7	0.039	9.1	3.41	31.6	7.3
20048510006002A	20.99	14	0.113	13.2	5.87	55	1.5
20048510006002B	17.54	11	0.093	11.5	4.87	45	0.6
20048510006002C	18.65	11	0.094	12.1	5.16	47.5	3.2
20048510006002D	15.47	8	0.073	9.4	4.2	34.6	2.1
20048510006002E	13.34	5	0.068	8.6	3.71	27.9	1
20048510006002F	13.29	4	0.063	7.6	3.59	22.8	0.4
20048510009001A	29.68	11	0.077	17.9	8.49	91.6	1.5
20048510009001B	12.46	-2	0.033	7.1	3.59	44.6	0.4
20048510009001C	15.58	2	0.044	9.8	4.3	56	3.3
20048510009001D	18.57	-2	0.032	8.1	5.31	77.7	5.7
20048510009001E	49.52	2	0.049	21.4	13.99	184.5	5.6
20048510009001F	52.56	-2	0.053	19.9	14.94	169	2.5

SampleID	Nd ICP-MS ppm	Ni XRF ppm	P2O5 XRF %	Pb ICP-MS ppm	Pr ICP-MS ppm	Rb XRF ppm	Sb ICP-MS ppm
20048510009002A	13.58	-2	0.073	5.6	3.77	26.4	2.9
20048510009002B	11.83	-2	0.062	4.8	3.2	29	2.9
20048510009002C	12.1	-2	0.065	4.6	3.34	27.5	4.7
20048510009002D	14	-2	0.05	6.1	3.95	53.7	3.2
20048510009002E	25.99	-2	0.052	10.3	7.32	106.4	0.8
20048510009002F	24.79	-2	0.054	10.6	7.1	95.9	1.4
2004851012001A	23.75	35	0.057	20.5	6.65	88.3	0.7
2004851012001B	12.27	18	0.038	11.5	3.45	48.4	3.2
2004851012001C	15.22	23	0.04	14.2	4.34	60	0.5
2004851012001D	8.87	12	0.029	8.2	2.54	33.5	3.1
2004851012001E	10.38	15	0.032	10.9	2.87	36.7	2.4
2004851012001F	11.97	18	0.035	13.6	3.32	42.1	6.9
2004851012002A	13.47	37	0.024	14.8	3.79	68.9	2.7
2004851012002B	10.99	30	0.022	12.1	3	55.3	0.6
2004851012002C	11.82	33	0.021	13	3.28	60.9	1.5
2004851012002D	9.61	28	0.018	11.1	2.7	47.6	3.7
2004851012002E	10.44	30	0.018	12.4	3.03	48.5	1.1
2004851012002F	11.3	29	0.018	14.8	2.99	44.2	0.5
TC06001D	17.14	10	0.047	10.5	4.7	41.7	2.9
TC06001E	11.02	6	0.033	8.1	3.12	28.1	0.3
TC06001F	14.33	9	0.047	9.8	3.99	37.6	2.7
TC09002D	13.71	-2	0.053	6.7	3.81	50.2	11.2
TC09002E	25.39	-2	0.053	11.2	7.19	109.9	2.9
TC09002F	27.13	-2	0.055	12.5	7.78	106.2	4.6
TC12002D	9.38	28	0.018	11.2	2.58	47.9	2.8
TC12002E	9.54	30	0.019	12.1	2.76	49.5	0.8
TC12002F	11	29	0.018	14.4	2.91	45.4	0.5

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SampleID	Sc XRF ppm	SiO2 XRF %	Sm ICP-MS ppm	Sn ICP-MS ppm	SO3 XRF %	Sr XRF ppm	Ta ICP-MS ppm
20048510001001A	13	50.234	18.67	2.2	0.438	259.3	0.7
20048510001001B	5	86.832	4.95	-0.5	0.133	68.8	-0.1
20048510001001C	8	79.81	6.76	0.9	0.178	102.4	0.1
20048510001001D	2	92.472	2.31	0.7	0.071	36.5	-0.1
20048510001001E	2	92.51	1.91	0.6	0.057	32.5	-0.1
20048510001001F	6	74.964	6.18	1.5	0.17	108.6	-0.1
20048510001002A	15	49.776	17.22	1.8	0.387	324	0.6
20048510001002B	4	86.924	3.74	0.5	0.11	71.4	-0.1
20048510001002C	7	82.341	5.24	0.7	0.14	106.3	0.3
20048510001002D	2	92.058	2.1	-0.5	0.066	44	-0.1
20048510001002E	-2	94.508	1.51	0.6	0.049	33.4	-0.1
20048510001002F	3	85.904	4.72	1	0.096	81	-0.1
20048510002001A	16	59.395	8.09	3.2	0.201	106.1	1.1
20048510002001B	9	82.138	3.48	1.3	0.075	45.6	0.5
20048510002001C	10	77.459	4.35	1.6	0.1	58.5	0.6
20048510002001D	5	88.274	2.02	0.9	0.051	33.1	0.1
20048510002001E	3	88.368	1.55	0.7	0.049	47.8	-0.1
20048510002001F	2	91.747	1.07	1	0.035	34.9	-0.1
20048510002002A	18	33.998	5.68	1.9	0.291	350.4	0.5
20048510002002B	13	64.388	3.44	1.2	0.148	175.4	0.3
20048510002002C	13	60.096	4.27	1.5	0.176	203.5	0.5
20048510002002D	8	79.533	1.87	1.1	0.083	101.6	-0.1
20048510002002E	7	78.938	1.58	1.1	0.083	116.3	0.1
20048510002002F	7	78.057	1.82	0.8	0.089	116.7	-0.1
20048510004001A	10	75.408	7.8	2.6	0.088	115.7	1.3
20048510004001B	3	89.685	2.34	0.9	0.035	57.7	0.2
20048510004001C	5	87.82	2.8	2.6	0.041	65.3	0.3
20048510004001D	-2	90.641	1.21	0.9	0.034	65.6	-0.1
20048510004001E	-2	89.921	1.52	0.6	0.032	90.3	-0.1
20048510004001F	-2	91.24	1.03	1.1	0.04	63.4	-0.1
20048510004002A	13	25.035	1.54	0.7	27.24	2480.7	0.1
20048510004002B	6	55.082	1.05	-0.5	16.337	1164.3	-0.1
20048510004002C	9	45.794	1.41	-0.5	19.407	1535.5	0.1
20048510004002D	6	49.236	0.91	0.6	18.764	1341.4	-0.1
20048510004002E	8	47.953	0.6	-0.5	20.086	1295.9	-0.1
20048510004002F	7	55.125	0.67	0.5	16.957	1175.1	-0.1
20048510006001A	15	57.666	6.35	3.4	0.136	119	0.7
20048510006001B	11	73.45	4.19	1.5	0.074	73.5	0.3
20048510006001C	14	69.878	4.6	3.6	0.083	85.1	0.5
20048510006001D	7	82.779	3.39	1.1	0.051	50	0.1
20048510006001E	4	89.422	2.15	0.9	0.038	34.5	-0.1
20048510006001F	6	85.455	2.6	1.3	0.044	40.3	0.1
20048510006002A	18	38.926	4.54	1.6	0.175	257.2	0.3
20048510006002B	16	53.24	3.54	1.3	0.129	196.4	0.2
20048510006002C	15	47.28	3.95	1.3	0.142	211.8	0.2
20048510006002D	11	62.006	3.25	1.1	0.112	158.9	-0.1
20048510006002E	12	60.776	2.93	1	0.113	161.2	-0.1
20048510006002F	13	61.836	2.81	0.9	0.118	161.4	-0.1
20048510009001A	9	73.725	6.15	2.2	0.081	95.6	1
20048510009001B	4	91.102	2.5	0.6	0.041	36.1	-0.1
20048510009001C	4	85.894	3.2	1.2	0.049	50	0.5
20048510009001D	3	88.459	3.86	1	0.054	45.4	-0.1
20048510009001E	4	76.064	9.92	1.7	0.098	93.4	0.4
20048510009001F	5	75.491	10.62	2.1	0.12	109.2	0.6

SampleID	Sc XRF ppm	SiO2 XRF %	Sm ICP-MS ppm	Sn ICP-MS ppm	SO3 XRF %	Sr XRF ppm	Ta ICP-MS ppm
20048510009002A	12	18.07	2.59	0.7	19.409	372.3	-0.1
20048510009002B	11	43.741	2.31	0.6	11.62	260.5	-0.1
20048510009002C	12	37.158	2.32	0.6	13.25	285.7	-0.1
20048510009002D	8	61.527	2.71	0.9	5.682	179.6	-0.1
20048510009002E	8	56.146	5.28	1.3	7.835	231.9	0.3
20048510009002F	9	52.696	5	1.4	9.788	275.1	0.3
2004851012001A	21	45.949	4.95	3.8	0.067	60	1
2004851012001B	15	70.988	2.64	1.8	0.044	32.1	0.6
2004851012001C	17	62.291	3.45	2.4	0.048	39.9	0.6
2004851012001D	12	78.512	1.82	1.3	0.034	22.6	0.2
2004851012001E	12	72.662	2.15	1.7	0.044	25.2	0.4
2004851012001F	14	66.731	2.58	1.9	0.043	28.4	0.5
2004851012002A	22	39.689	3.03	3.5	0.202	61.7	0.9
2004851012002B	20	51.913	2.26	3.1	0.093	38.8	0.8
2004851012002C	19	46.719	2.49	3.1	0.13	47.2	0.8
2004851012002D	17	55.62	2.22	2.7	0.088	34.5	0.7
2004851012002E	20	50.372	2.44	2.9	0.107	37	0.7
2004851012002F	20	48.199	2.85	2.9	0.151	38.5	0.8
TC06001D	6	83.745	3.4	1	0.056	49.4	0.3
TC06001E	5	87.957	2.42	0.6	0.034	35.5	0.3
TC06001F	5	83.425	2.63	0.9	0.045	47.5	0.4
TC09002D	8	65.525	2.91	1.6	5.989	181.3	0.2
TC09002E	8	58.086	5.28	1.1	6.994	222.3	0.3
TC09002F	9	56.58	5.59	1.1	8.067	258.8	0.4
TC12002D	18	55.08	2.08	2.6	0.084	34	0.7
TC12002E	19	50.534	2.31	2.9	0.082	35.4	0.9
TC12002F	19	48.303	2.66	2.6	0.095	36.5	0.7

A: <75 um
B: 75-180 um
C: <180 um
D: 180-500 um
E: 0.5-1 mm
F: 1-2 mm
TC: Tungsten carbide mill

SampleID	Tb ICP-MS ppm	Th ICP-MS ppm	TiO2 XRF %	U ICP-MS ppm	V XRF ppm	W XRF ppm	Y ICP-MS ppm
20048510001001A	2.58	10.5	0.663	1.85	74	53	66.6
20048510001001B	0.64	3.2	0.226	0.57	24	40	26.5
20048510001001C	0.9	4.4	0.291	0.73	38	42	32.2
20048510001001D	0.32	1.5	0.096	0.23	12	41	12.3
20048510001001E	0.25	1.4	0.082	0.26	9	43	10.4
20048510001001F	0.82	3.5	0.201	0.63	25	44	31.6
20048510001002A	2.34	9.7	0.642	2.01	69	52	65.5
20048510001002B	0.52	3.1	0.233	0.68	24	39	20.4
20048510001002C	0.73	4.1	0.282	0.92	30	39	31.5
20048510001002D	0.3	1.5	0.096	0.27	13	38	10.7
20048510001002E	0.21	1.2	0.07	0.22	8	43	8.3
20048510001002F	0.61	2.1	0.127	0.4	16	41	21.6
20048510002001A	1.08	19.8	1.116	3.04	122	52	45.3
20048510002001B	0.41	9.5	0.614	1.3	66	41	16.8
20048510002001C	0.51	10.4	0.663	1.55	79	43	23.7
20048510002001D	0.21	4.5	0.27	0.58	42	44	8.5
20048510002001E	0.21	4.6	0.231	0.6	38	44	8
20048510002001F	0.13	3	0.135	0.47	21	42	5.4
20048510002002A	0.65	9.9	0.606	2.22	93	49	24.6
20048510002002B	0.4	8.2	0.485	1.45	71	44	15
20048510002002C	0.4	10	0.521	1.55	76	49	15.4
20048510002002D	0.18	4.3	0.234	0.75	44	41	7.4
20048510002002E	0.18	4.2	0.211	0.78	46	44	7.8
20048510002002F	0.19	4.1	0.203	0.74	38	45	8.1
20048510004001A	1.01	26.2	1.335	4.49	87	52	48.9
20048510004001B	0.22	7	0.373	0.84	30	37	9.1
20048510004001C	0.32	9.4	0.486	1.2	37	39	14.8
20048510004001D	0.15	4	0.168	0.34	20	43	4.9
20048510004001E	0.16	3.7	0.113	0.41	14	40	4.9
20048510004001F	0.13	3.9	0.092	0.46	10	45	4.1
20048510004002A	0.22	5.9	0.363	1.16	33	50	10.7
20048510004002B	0.15	3.2	0.236	0.71	27	42	6.2
20048510004002C	0.18	4.5	0.27	0.79	28	45	7.4
20048510004002D	0.13	2.6	0.157	0.56	16	42	4.4
20048510004002E	0.08	1.9	0.089	0.32	12	50	2.9
20048510004002F	0.08	2.2	0.089	0.36	11	41	3
20048510006001A	0.8	15.5	0.905	1.91	104	49	34.7
20048510006001B	0.52	8.9	0.547	1.08	75	43	21.2
20048510006001C	0.58	10.1	0.641	1.25	84	44	23.5
20048510006001D	0.41	5.8	0.315	0.7	42	44	15.4
20048510006001E	0.28	4.5	0.223	0.6	26	42	11.2
20048510006001F	0.38	5.7	0.273	0.76	35	43	13.6
20048510006002A	0.6	9.6	0.545	1.24	142	48	27
20048510006002B	0.47	6.8	0.437	0.98	129	47	18.7
20048510006002C	0.51	7.7	0.447	1.02	129	46	21.1
20048510006002D	0.39	5.7	0.313	0.79	95	48	15.3
20048510006002E	0.38	5.1	0.281	0.73	81	46	15
20048510006002F	0.36	4.8	0.254	0.7	69	48	14.8
20048510009001A	0.85	18.6	1.069	3.28	78	49	42.1
20048510009001B	0.34	6.8	0.264	0.95	30	43	13.7
20048510009001C	0.42	9	0.452	1.44	42	41	20
20048510009001D	0.5	8.7	0.187	1.04	32	45	19.8
20048510009001E	1.18	24.2	0.233	2.73	69	49	49.3
20048510009001F	1.22	26.8	0.26	3.09	86	54	51.7

SampleID	Tb ICP-MS ppm	Th ICP-MS ppm	TiO2 XRF %	U ICP-MS ppm	V XRF ppm	W XRF ppm	Y ICP-MS ppm
20048510009002A	0.36	4	0.267	1.22	59	48	12.6
20048510009002B	0.3	3.8	0.208	1.12	61	45	10.5
20048510009002C	0.3	4.7	0.269	1.12	56	45	12.2
20048510009002D	0.35	5.9	0.19	1.18	60	48	14
20048510009002E	0.64	12.3	0.188	1.89	84	50	25.1
20048510009002F	0.66	14.2	0.19	2.03	83	51	26.7
2004851012001A	0.68	20.6	1.085	2.63	168	46	23.9
2004851012001B	0.34	13.1	0.657	1.59	118	44	13.4
2004851012001C	0.44	16.2	0.775	1.88	134	44	18.4
2004851012001D	0.25	9.5	0.471	1.05	86	41	10
2004851012001E	0.3	13.3	0.518	1.31	124	46	11.5
2004851012001F	0.32	17.8	0.642	1.67	170	49	13.6
2004851012002A	0.43	21.6	0.954	2.45	195	52	14.3
2004851012002B	0.31	17.1	0.836	2.05	162	49	11.6
2004851012002C	0.42	20.7	0.876	2.3	178	52	15.4
2004851012002D	0.29	17.5	0.796	1.96	153	49	12.3
2004851012002E	0.32	22.1	0.867	2.31	181	49	14.2
2004851012002F	0.4	27.8	0.887	2.78	233	51	17.1
TC06001D	0.4	5.8	0.322	0.68	43	536	15.8
TC06001E	0.38	4.5	0.228	0.62	29	655	11.4
TC06001F	0.34	6.4	0.331	0.86	41	674	15.1
TC09002D	0.36	6.1	0.198	1.2	59	301	14
TC09002E	0.68	14.3	0.179	1.93	92	271	26.8
TC09002F	0.71	15.8	0.217	2.24	105	336	28.2
TC12002D	0.31	19	0.801	1.98	149	247	12.2
TC12002E	0.31	20.9	0.89	2.28	170	219	13.5
TC12002F	0.36	31	0.89	2.67	215	181	18.9

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SampleID	Yb ICP-MS ppm	Zn XRF ppm	Zr XRF ppm
20048510001001A	6.67	53	578
20048510001001B	1.92	14	220
20048510001001C	2.58	21	297
20048510001001D	0.85	8	47
20048510001001E	0.71	6	46
20048510001001F	2.2	17	187
20048510001002A	6.3	33	738
20048510001002B	1.59	9	283
20048510001002C	2.57	11	363
20048510001002D	0.82	5	39
20048510001002E	0.6	4	39
20048510001002F	1.42	7	129
20048510002001A	4.66	92	833
20048510002001B	1.89	38	502
20048510002001C	2.57	51	544
20048510002001D	0.88	23	109
20048510002001E	0.88	20	144
20048510002001F	0.52	10	89
20048510002002A	2.68	46	379
20048510002002B	1.78	27	363
20048510002002C	1.75	32	383
20048510002002D	0.78	15	113
20048510002002E	0.79	13	137
20048510002002F	0.8	12	137
20048510004001A	6.07	52	1691
20048510004001B	0.96	18	219
20048510004001C	1.55	22	431
20048510004001D	0.36	12	58
20048510004001E	0.45	9	83
20048510004001F	0.37	7	87
20048510004002A	1.35	14	423
20048510004002B	0.63	10	135
20048510004002C	0.8	11	211
20048510004002D	0.43	8	78
20048510004002E	0.25	6	59
20048510004002F	0.28	6	65
20048510006001A	3.24	88	461
20048510006001B	1.84	53	301
20048510006001C	2.25	62	322
20048510006001D	1.32	31	129
20048510006001E	0.94	20	106
20048510006001F	1.2	25	133
20048510006002A	2.26	57	226
20048510006002B	1.65	44	176
20048510006002C	1.78	48	188
20048510006002D	1.23	31	144
20048510006002E	1.26	26	114
20048510006002F	1.26	23	112
20048510009001A	4.51	49	1084
20048510009001B	1.37	17	294
20048510009001C	1.93	25	495
20048510009001D	1.68	15	128
20048510009001E	4.08	24	239
20048510009001F	4.21	24	294

SampleID	Yb ICP-MS ppm	Zn XRF ppm	Zr XRF ppm
20048510009002A	1.26	18	191
20048510009002B	1.07	14	197
20048510009002C	1.11	15	162
20048510009002D	1.3	13	110
20048510009002E	2.32	15	160
20048510009002F	2.45	15	174
2004851012001A	2.82	32	349
2004851012001B	1.66	17	273
2004851012001C	1.96	21	306
2004851012001D	1.05	12	142
2004851012001E	1.33	13	179
2004851012001F	1.51	15	218
2004851012002A	1.91	19	253
2004851012002B	1.6	15	219
2004851012002C	1.88	16	249
2004851012002D	1.4	13	197
2004851012002E	1.8	12	218
2004851012002F	2	11	223
TC06001D	1.24	31	131
TC06001E	0.99	21	108
TC06001F	1.28	30	158
TC09002D	1.33	13	116
TC09002E	2.55	16	161
TC09002F	2.56	16	189
TC12002D	1.58	12	208
TC12002E	1.68	13	223
TC12002F	1.87	12	232

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SampleID	Al2O3 XRF %	Ba XRF ppm	CaO XRF %	Cl XRF ppm	Cr XRF ppm	Cu XRF ppm	Fe2O3T XRF %	FeO Tit %
20058511011A	5.299	176	12.522	22	-2	5	2.006	
20058511011B	8.56	294	18.51	23	-2	10	3.273	
20058511012A	1.656	100	27.239	-5	-2	1	0.647	
20058511012B	2.151	56	44.265	-5	-2	-1	0.874	
20058511021A	3.36	128	13.538	1712	-2	3	1.273	
20058511021B	6.412	176	23.362	4276	-2	12	2.441	
20058511022A	3.726	144	19.585	3492	-2	11	1.417	
20058511022B	5.91	197	28.448	5226	-2	20	2.286	
20058511031A	2.036	109	0.141	-5	-2	-1	0.632	
20058511031B	12.024	271	1.099	98	-2	9	3.646	
20058511032A	7.411	114	0.489	624	-2	4	1.849	
20058511032B	21.597	158	1.491	2106	28	14	5.098	
20058511041A	4.19	129	2.041	24	-2	-1	1.627	
20058511041B	11.321	291	6.625	126	7	13	4.384	
20058511042A	9.747	147	0.336	-5	-2	3	3.608	
20058511042B	19.816	286	0.663	-5	34	12	7.348	
20058511051A	9.645	450	0.511	36	-2	6	3.776	
20058511051B	15.836	425	0.96	31	15	18	6.367	
20058511052A	10.531	460	4.89	2540	-2	19	4.268	
20058511052B	14.503	489	7.384	4105	5	20	5.805	
20058511061A	11.414	630	1.039	4920	-2	8	4.448	
20058511061B	14.925	444	1.574	7347	11	16	6.048	
20058511062A	8.898	418	9.259	11598	-2	5	3.621	
20058511062B	7.956	290	14.856	11498	-2	2	3.399	
20058511071A	8.706	536	2.856	57	-2	7	3.7	
20058511071B	12.498	533	3.898	21	-2	8	5.181	
20058511072A	7.993	423	2.055	307	-2	10	3.29	
20058511072B	12.618	441	4.002	588	-2	11	4.867	
20058511081A	7.758	299	0.247	-5	-2	7	2.893	
20058511081B	13.816	443	0.489	-5	7	14	5.333	
20058511082A	5.941	284	10.776	954	-2	9	2.205	
20058511082B	7.396	284	20.32	1738	-2	12	2.851	0.228
20058511091A	8.654	259	2.73	17	-2	7	3.218	
20058511091B	13.946	335	4.915	34	12	17	5.233	
20058511092A	6.29	220	19.385	4166	-2	24	2.377	
20058511092B	7.615	259	25.951	6026	-2	17	2.935	
20058511101A	8.849	246	5.927	6	-2	8	3.432	
20058511101B	13.739	336	10.292	14	19	17	5.369	
20058511102A	7.392	258	17.514	1460	-2	10	2.918	0
20058511102B	9.203	270	24.556	2054	-2	24	3.646	
20058511111A	7.653	347	0.192	412	-2	6	1.739	
20058511111B	14.341	583	0.387	911	-2	14	3.404	
20058511112A	10.458	260	0.103	2351	-2	5	2.04	
20058511112B	20.589	363	0.188	5664	13	5	4.028	
20058511121A	8.232	169	0.889	36	-2	2	3.157	
20058511121B	17.13	312	2.082	23	34	23	6.627	
20058511122A	6.784	174	14.836	45	-2	6	2.663	
20058511122B	10.012	233	24.5	107	-2	21	3.976	
20058511131A	9.736	188	10.484	-5	6	12	3.836	
20058511131B	12.677	254	13.216	24	16	29	5.02	
20058511132A	6.351	145	26.857	1642	-2	8	2.565	
20058511132B	7.26	195	31.89	2089	-2	11	2.967	
20058511141A	3.685	107	2.203	10	-2	-1	1.443	
20058511141B	11.336	233	9.465	73	18	25	4.496	

SampleID	Al2O3 XRF %	Ba XRF ppm	CaO XRF %	Cl XRF ppm	Cr XRF ppm	Cu XRF ppm	Fe2O3T XRF %	FeO Tit %
20058511142A	4.072	90	5.573	1029	-2	5	1.608	
20058511142B	8.628	204	17.129	3008	7	32	3.445	
20058511151A	2.806	61	0.138	32	-2	-1	1.062	
20058511151B	11.949	325	0.637	34	12	19	4.527	
20058511152A	3.177	127	0.18	25	-2	3	1.214	
20058511152B	9.691	341	0.675	51	10	24	3.619	
20058511161A	1.888	76	0.101	16	-2	-1	0.788	
20058511161B	8.622	306	0.523	-5	12	5	3.535	
20058511162A	1.866	63	3.618	-5	-2	-1	0.779	
20058511162B	5.704	221	20.054	-5	-2	16	2.348	
20058511171A	2.354	63	0.104	-5	-2	-1	1.039	
20058511171B	8.801	285	0.423	-5	9	11	3.831	
20058511172A	2.382	89	0.505	-5	-2	-1	1.064	
20058511172B	7.046	304	2.187	-5	-2	10	2.992	
20058511181A	3.355	96	0.144	9	-2	-1	1.368	
20058511181B	11.552	318	0.536	-5	6	14	4.622	0.299
20058511182A	2.751	87	0.096	-5	-2	-1	1.08	
20058511182B	7.827	297	0.306	-5	-2	8	3.028	
20058511191A	6.478	166	0.187	39	-2	5	2.521	
20058511191B	16.199	344	0.486	-5	27	19	6.206	
20058511192A	6.25	190	9.097	-5	-2	12	2.374	
20058511192B	10.654	271	17.766	-5	2	32	3.979	
20058511201A	6.505	216	2.944	-5	-2	8	2.769	
20058511201B	13.156	331	7.266	-5	18	16	5.321	
20058511202A	5.657	169	14.065	1667	-2	8	2.375	
20058511202B	8.183	291	23.239	2872	-2	20	3.322	
20058511211A	6.216	188	0.75	-5	-2	3	2.617	
20058511211B	13.247	352	2.009	17	28	16	5.448	
20058511212A	5.108	211	12.041	1022	-2	8	2.201	
20058511212B	7.693	303	23.024	2098	-2	15	3.196	
20058511221A	6.037	168	0.893	-5	-2	9	2.431	
20058511221B	13.865	348	2.609	-5	26	21	5.371	
20058511222A	5.54	219	10.426	1177	-2	11	2.207	
20058511222B	8.572	294	20.61	2533	-2	25	3.291	
20058511231A	2.237	129	0.101	-5	-2	-1	0.926	
20058511231B	8.62	376	0.518	-5	7	11	3.454	
20058511232A	1.478	67	1.504	-5	-2	-1	0.644	
20058511232B	5.319	296	13.363	-5	-2	19	2.249	
20058511241A	7.447	246	0.219	-5	-2	5	3.039	0.083
20058511241B	14.144	352	0.506	-5	28	18	5.576	
20058511242A	9.857	275	0.379	8	-2	13	3.828	
20058511242B	16.34	297	0.724	43	22	17	6.106	
20058511251A	4.029	453	0.161	533	-2	5	1.37	
20058511251B	7.504	550	0.357	1109	8	9	3.125	
20058511252A	4.008	404	1.205	4160	-2	2	1.407	
20058511252B	7.412	387	2.716	11015	-2	7	2.977	
20058511261A	3.323	297	0.123	558	-2	-1	1.134	
20058511261B	7.71	500	0.324	1430	-2	7	2.882	
20058511262A	2.15	200	9.275	1465	-2	-1	0.692	
20058511262B	3.582	232	16.181	3404	-2	-1	1.173	
20058511271A	9.701	358	3.376	37	-2	9	3.703	
20058511271B	13.893	387	5.225	61	28	17	5.337	
20058511272A	5.971	436	23.744	5554	-2	14	2.315	
20058511272B	6.648	358	29.045	7282	-2	22	2.605	

SampleID	Al2O3 XRF %	Ba XRF ppm	CaO XRF %	Cl XRF ppm	Cr XRF ppm	Cu XRF ppm	Fe2O3T XRF %	FeO Tit %
20058511281A	4.277	274	0.097	6	-2	3	1.573	
20058511281B	8.261	377	0.22	-5	-2	10	3.24	
20058511282A	7.04	274	9.662	2121	-2	20	2.461	
20058511282B	8.958	270	15.193	3345	-2	28	3.177	
20058511291A	6.466	372	0.181	-5	-2	2	2.493	
20058511291B	11.495	405	0.358	-5	14	11	4.648	
20058511292A	12.034	432	0.373	-5	-2	21	4.537	
20058511292B	15.026	522	0.644	-5	12	25	5.693	
20058511301A	7.625	258	1.259	-5	-2	8	2.974	
20058511301B	12.877	354	2.112	-5	4	21	5.103	
20058511302A	14.798	230	0.74	109	20	12	5.476	
20058511302B	17.356	241	1.019	133	16	16	6.484	
20058511311A	5.82	250	0.152	-5	-2	-1	2.651	
20058511311B	10.336	391	0.34	-5	8	13	4.459	
20058511312A	5.468	257	0.128	-5	-2	2	2.456	
20058511312B	8.226	383	0.216	6	7	4	3.661	
20058511321A	13.476	276	0.314	-5	17	16	5.459	
20058511321B	17.786	364	0.428	45	19	24	7.049	
20058511322A	16.457	317	0.517	-5	20	20	6.143	
20058511322B	19.814	379	0.629	-5	31	21	7.314	
20058511331A	12.208	374	0.702	-5	12	16	4.852	
20058511331B	17.621	466	1.073	-5	26	23	6.868	
20058511332A	8.616	525	14.142	-5	-2	17	3.482	
20058511332B	10.721	665	19.626	-5	4	22	4.231	
20058511341A	10.61	341	0.461	7	2	9	4.175	
20058511341B	15.507	365	0.725	25	13	30	6.178	
20058511342A	8.471	593	3.581	2922	-2	14	3.316	
20058511342B	12.536	799	6.314	5270	2	27	5.04	
20058511351A	8.471	338	0.237	-5	-2	6	3.288	
20058511351B	13.641	397	0.405	-5	14	15	5.246	
20058511352A	11.375	255	2.043	-5	4	13	4.267	
20058511352B	14.545	317	2.998	-5	7	17	5.458	
20058511361A	7.351	650	4.651	6571	-2	10	2.784	
20058511361B	9.698	571	4.363	8136	2	14	3.71	
20058511362A	9.032	512	2.6	7609	-2	13	3.308	
20058511362B	11.929	499	4.185	11734	-2	15	4.36	
20058511371	5.204	168	12.347	69	-2	2	1.938	
20058511372	2.188	119	44.475	-5	-2	6	0.876	
20058511381	13.667	396	0.486	-5	19	14	5.273	
20058511382	5.994	257	10.907	990	-2	7	2.224	
20058511391	1.856	87	0.104	-5	-2	-1	0.783	
20058511402	10.66	243	17.842	-5	8	23	4.012	
20058511411	14.096	347	0.505	-5	21	16	5.576	
20058511412	10.224	234	0.403	8	11	16	4.011	
20058511421	13.419	290	0.316	-5	16	31	5.439	
20058511422	19.848	385	0.634	50	35	22	7.341	
20058511431	9.656	576	4.324	7762	-2	9	3.662	
20058511432	8.851	473	2.542	7343	-2	13	3.266	

A: <180 um
B: <75 um

SampleID	K2O XRF %	MgO XRF %	MLOI Calculate %	MnO XRF %	Na2O XRF %	Ni XRF ppm	P2O5 XRF %
20058511011A	0.779	0.76	18.78	0.025	0.113	10	0.059
20058511011B	1.246	1.174	28.925	0.037	0.161	12	0.092
20058511012A	0.287	0.685	24.961	0.006	0.081	3	0.015
20058511012B	0.348	0.994	40.558	0.007	0.099	3	0.016
20058511021A	0.592	1.368	17.922	0.024	0.236	11	0.051
20058511021B	1.136	2.526	32.05	0.042	0.47	12	0.088
20058511022A	0.687	1.949	22.092	0.02	0.83	6	0.041
20058511022B	1.052	2.921	34.602	0.031	0.654	16	0.058
20058511031A	0.192	0.07	3.014	0.01	0.04	-2	0.023
20058511031B	1.236	0.433	20.528	0.052	0.231	7	0.116
20058511032A	0.478	0.393	6.821	0.012	0.179	6	0.027
20058511032B	1.29	1.195	18.164	0.027	0.508	21	0.057
20058511041A	0.504	0.441	9.131	0.02	0.075	3	0.039
20058511041B	1.373	1.341	24.752	0.052	0.181	13	0.103
20058511042A	0.746	0.587	8.706	0.018	0.111	11	0.026
20058511042B	1.455	1.185	17.416	0.036	0.22	28	0.042
20058511051A	1.984	0.79	6.895	0.05	0.38	11	0.058
20058511051B	2.546	1.481	12.211	0.091	0.374	23	0.099
20058511052A	1.811	1.255	13.514	0.045	0.586	11	0.072
20058511052B	2.076	1.814	18.454	0.06	0.691	20	0.103
20058511061A	2.825	1.784	9.978	0.062	0.873	13	0.05
20058511061B	2.94	2.671	13.194	0.073	1.002	16	0.068
20058511062A	1.636	1.852	26.787	0.057	1.519	8	0.026
20058511062B	1.205	1.845	33.638	0.069	1.389	4	0.028
20058511071A	1.637	1.062	9.507	0.033	0.304	10	0.068
20058511071B	2.097	1.569	12.727	0.047	0.377	12	0.096
20058511072A	1.469	1.487	8.874	0.023	0.409	7	0.069
20058511072B	1.997	2.547	14.29	0.032	0.567	13	0.111
20058511081A	1.475	0.451	5.858	0.033	0.219	5	0.053
20058511081B	2.333	0.867	9.227	0.066	0.342	18	0.099
20058511082A	1.118	1.147	15.784	0.014	0.382	4	0.046
20058511082B	1.207	1.813	25.451	0.019	0.5	13	0.072
20058511091A	1.631	0.956	8.925	0.036	0.205	13	0.055
20058511091B	2.468	1.598	14.062	0.062	0.283	21	0.092
20058511092A	1.101	1.426	23.713	0.017	0.508	8	0.04
20058511092B	1.249	1.852	30.121	0.022	0.606	12	0.048
20058511101A	1.525	1.022	12.693	0.035	0.144	12	0.058
20058511101B	2.349	1.633	19.48	0.06	0.226	18	0.091
20058511102A	1.137	1.209	21.953	0.02	0.359	8	0.04
20058511102B	1.393	1.587	28.968	0.027	0.435	16	0.049
20058511111A	1.751	0.227	4.544	0.041	0.312	2	0.057
20058511111B	2.852	0.469	10.521	0.078	0.518	13	0.108
20058511112A	1.863	0.391	10.217	0.009	0.523	-2	0.049
20058511112B	3.203	0.804	19.149	0.017	0.954	9	0.091
20058511121A	1.087	0.701	8.121	0.03	0.071	10	0.04
20058511121B	2.319	1.452	15.744	0.068	0.176	23	0.075
20058511122A	0.708	0.815	19.555	0.018	0.094	9	0.035
20058511122B	1.055	1.229	30.018	0.027	0.142	19	0.05
20058511131A	1.62	1.39	19.556	0.047	0.142	17	0.069
20058511131B	2.113	1.797	24.175	0.06	0.173	19	0.09
20058511132A	0.805	1.358	29.432	0.02	0.366	11	0.036
20058511132B	0.89	1.566	33.61	0.022	0.418	12	0.039
20058511141A	0.348	0.309	6.645	0.017	0.039	2	0.026
20058511141B	1.251	1.006	19.697	0.052	0.167	24	0.072

SampleID	K2O XRF %	MgO XRF %	MLOI Calculate %	MnO XRF %	Na2O XRF %	Ni XRF ppm	P2O5 XRF %
20058511142A	0.424	0.696	9.599	0.016	0.198	5	0.027
20058511142B	1.053	1.731	24.538	0.032	0.465	21	0.054
20058511151A	0.292	0.179	3.952	0.013	0.03	2	0.03
20058511151B	1.508	0.723	14.239	0.056	0.217	19	0.109
20058511152A	0.39	0.266	3.757	0.012	0.054	4	0.024
20058511152B	1.51	0.783	9.945	0.031	0.214	18	0.063
20058511161A	0.159	0.144	3.265	0.007	0.024	-2	0.015
20058511161B	1.195	0.554	10.28	0.035	0.203	12	0.044
20058511162A	0.18	0.395	5.648	0.008	0.027	-2	0.015
20058511162B	0.722	1.611	26.579	0.021	0.123	8	0.035
20058511171A	0.194	0.113	1.843	0.008	0.018	-2	0.021
20058511171B	1.167	0.374	8.96	0.029	0.186	13	0.053
20058511172A	0.182	0.169	2.151	0.007	0.029	4	0.015
20058511172B	1.063	0.426	8.318	0.019	0.161	10	0.032
20058511181A	0.274	0.128	3.545	0.019	0.044	2	0.029
20058511181B	1.228	0.431	13.982	0.064	0.21	14	0.086
20058511182A	0.186	0.119	1.868	0.007	0.025	-2	0.016
20058511182B	1.14	0.306	6.508	0.019	0.168	8	0.034
20058511191A	0.669	0.314	3.691	0.029	0.073	13	0.044
20058511191B	1.74	0.787	11.321	0.078	0.208	38	0.098
20058511192A	0.649	0.705	12.699	0.018	0.079	15	0.04
20058511192B	1.132	1.242	25.487	0.029	0.152	26	0.065
20058511201A	0.885	0.627	6.324	0.033	0.087	13	0.052
20058511201B	1.777	1.349	15.143	0.072	0.189	35	0.106
20058511202A	0.789	1.061	16.884	0.022	0.329	9	0.033
20058511202B	1.147	1.644	27.605	0.035	0.487	12	0.047
20058511211A	0.884	0.454	4.611	0.026	0.09	17	0.04
20058511211B	1.896	0.979	11.358	0.062	0.223	26	0.08
20058511212A	0.793	0.809	14.509	0.015	0.224	9	0.03
20058511212B	1.175	1.378	26.956	0.024	0.354	11	0.044
20058511221A	0.871	0.494	4.525	0.024	0.088	5	0.04
20058511221B	1.973	1.189	12.345	0.06	0.223	31	0.083
20058511222A	0.878	0.922	13.288	0.018	0.252	9	0.031
20058511222B	1.336	1.624	25.882	0.027	0.402	11	0.048
20058511231A	0.332	0.097	1.19	0.013	0.048	-2	0.02
20058511231B	1.492	0.355	7.312	0.053	0.271	16	0.055
20058511232A	0.241	0.109	1.931	0.006	0.029	-2	0.017
20058511232B	1.052	0.488	16.808	0.023	0.192	8	0.049
20058511241A	1.209	0.521	4.603	0.03	0.148	9	0.054
20058511241B	2.114	1.102	10.612	0.067	0.237	31	0.094
20058511242A	1.39	0.852	7.73	0.031	0.154	15	0.052
20058511242B	2.146	1.56	14.359	0.052	0.211	29	0.083
20058511251A	1.327	0.192	1.813	0.03	0.321	4	0.041
20058511251B	2.031	0.393	4.994	0.064	0.531	13	0.082
20058511252A	1.281	0.824	4.146	0.022	0.782	5	0.029
20058511252B	1.932	2.013	13.264	0.041	1.622	8	0.055
20058511261A	0.997	0.264	2.623	0.028	0.257	-2	0.037
20058511261B	2.214	0.639	5.489	0.065	0.617	13	0.076
20058511262A	0.593	0.33	18.464	0.01	0.302	-2	0.025
20058511262B	0.866	0.58	35.421	0.015	0.536	-2	0.037
20058511271A	1.803	1.313	10.077	0.034	0.278	10	0.067
20058511271B	2.34	2.007	15.907	0.05	0.355	32	0.101
20058511272A	1.007	1.727	26.587	0.015	0.649	26	0.04
20058511272B	1.016	2.049	32.639	0.017	0.733	5	0.045

SampleID	K2O XRF %	MgO XRF %	MLOI Calculate %	MnO XRF %	Na2O XRF %	Ni XRF ppm	P2O5 XRF %
20058511281A	0.848	0.246	2.241	0.018	0.126	2	0.032
20058511281B	1.693	0.453	5.078	0.036	0.306	15	0.058
20058511282A	1.263	3.089	15.955	0.021	0.575	18	0.035
20058511282B	1.531	4.406	24.184	0.03	0.773	15	0.045
20058511291A	1.311	0.471	3.904	0.033	0.214	8	0.063
20058511291B	2.075	0.894	8.566	0.075	0.338	18	0.111
20058511292A	1.966	2.631	11.946	0.029	0.316	19	0.08
20058511292B	2.361	3.365	15.871	0.05	0.373	22	0.101
20058511301A	1.383	0.746	6.08	0.037	0.189	11	0.064
20058511301B	2.165	1.354	11.466	0.068	0.33	21	0.1
20058511302A	1.947	1.965	15.257	0.043	0.354	40	0.071
20058511302B	2.216	2.382	18.86	0.05	0.407	29	0.08
20058511311A	0.918	0.283	4.904	0.024	0.11	8	0.055
20058511311B	1.753	0.557	7.512	0.055	0.279	14	0.092
20058511312A	0.888	0.256	4.068	0.017	0.112	-2	0.04
20058511312B	1.573	0.375	5	0.034	0.257	9	0.055
20058511321A	1.423	0.628	9.549	0.049	0.178	14	0.11
20058511321B	1.881	0.862	11.754	0.065	0.248	27	0.141
20058511322A	1.455	0.881	13.155	0.04	0.132	22	0.058
20058511322B	1.738	1.056	16.597	0.048	0.172	27	0.07
20058511331A	1.495	0.939	9.803	0.036	0.132	17	0.057
20058511331B	2.129	1.38	13.932	0.053	0.213	25	0.078
20058511332A	0.94	0.96	19.553	0.017	0.117	16	0.05
20058511332B	1.137	1.257	27.419	0.02	0.149	10	0.062
20058511341A	2.125	2.198	9.072	0.054	0.28	12	0.151
20058511341B	2.809	3.44	14.628	0.081	0.337	22	0.23
20058511342A	1.546	3.065	12.98	0.025	0.396	18	0.154
20058511342B	1.901	4.962	21.739	0.035	0.534	20	0.232
20058511351A	1.603	0.827	6.491	0.041	0.18	11	0.069
20058511351B	2.396	1.416	11.462	0.07	0.288	17	0.106
20058511352A	1.774	2.275	14.667	0.025	0.194	16	0.073
20058511352B	2.143	3.01	20.284	0.035	0.256	23	0.09
20058511361A	1.438	1.643	10.845	0.032	0.744	11	0.066
20058511361B	1.822	2.11	12.124	0.044	0.929	12	0.08
20058511362A	1.654	1.839	12.947	0.032	1.057	9	0.064
20058511362B	1.968	2.608	16.607	0.041	1.466	15	0.087
20058511371	0.757	0.758	18.947	0.021	0.094	4	0.06
20058511372	0.35	1.011	40.214	0.008	0.105	3	0.017
20058511381	2.317	0.85	9.576	0.065	0.342	14	0.096
20058511382	1.128	1.161	14.888	0.014	0.38	13	0.048
20058511391	0.152	0.133	2.6	0.007	0.019	8	0.014
20058511402	1.138	1.257	24.862	0.029	0.155	26	0.064
20058511411	2.106	1.093	11.168	0.067	0.236	21	0.095
20058511412	1.438	0.9	8.403	0.032	0.154	19	0.053
20058511421	1.418	0.627	9.776	0.048	0.177	23	0.11
20058511422	1.745	1.062	16.272	0.049	0.181	26	0.071
20058511431	1.81	2.089	12.592	0.042	0.907	14	0.079
20058511432	1.633	1.804	11.38	0.031	1.024	10	0.063

A: <180 um
B: <75 um

SampleID	Rb XRF ppm	Sc XRF ppm	SiO2 XRF %	SO3 XRF %	Sr XRF ppm	TiO2 XRF %	V XRF ppm	Zn XRF ppm	Zr XRF ppm
20058511011A	36	-2	59.202	0.052	263	0.324	22	16	257
20058511011B	55	-2	37.292	0.076	369	0.529	39	31	408
20058511012A	13	-2	44.146	0.051	560	0.141	13	-1	201
20058511012B	15	-2	10.345	0.059	840	0.172	19	2	227
20058511021A	28	-2	61.108	0.052	441	0.221	13	13	212
20058511021B	55	-2	30.4	0.083	770	0.412	26	32	424
20058511022A	32	-2	48.879	0.076	724	0.233	20	14	212
20058511022B	54	-2	22.883	0.107	1081	0.357	30	26	284
20058511031A	6	-2	93.65	0.016	13	0.142	-3	-1	244
20058511031B	53	2	59.645	0.036	92	0.733	42	25	1619
20058511032A	25	-2	81.881	0.026	38	0.301	17	4	507
20058511032B	75	9	49.443	0.058	108	0.739	59	26	716
20058511041A	24	-2	81.581	0.032	90	0.263	12	3	301
20058511041B	68	-2	48.985	0.059	292	0.676	58	23	606
20058511042A	48	-2	75.58	0.016	54	0.454	42	16	338
20058511042B	108	10	50.807	0.021	108	0.875	98	41	458
20058511051A	79	4	75.2	0.022	59	0.577	43	43	392
20058511051B	105	11	58.888	0.034	101	0.96	81	76	642
20058511052A	76	5	61.981	0.04	136	0.628	64	42	456
20058511052B	89	8	47.717	0.056	197	0.786	91	62	404
20058511061A	107	6	66.193	0.027	85	0.67	46	44	528
20058511061B	108	10	55.745	0.037	109	0.849	68	64	554
20058511062A	65	-2	41.616	3.037	202	0.432	61	24	262
20058511062B	46	-2	28.492	5.495	298	0.39	57	21	191
20058511071A	61	2	71.462	0.036	90	0.514	47	30	333
20058511071B	81	5	60.477	0.042	127	0.841	73	45	591
20058511072A	55	-2	73.727	0.033	83	0.446	40	24	322
20058511072B	77	5	57.913	0.049	144	0.808	65	45	593
20058511081A	56	2	80.436	0.022	49	0.467	29	32	440
20058511081B	99	8	66.213	0.039	97	0.998	68	68	961
20058511082A	42	-2	61.989	0.044	222	0.36	23	17	405
20058511082B	47	-2	39.425	0.076	412	0.558	38	27	575
20058511091A	63	-2	73.014	0.027	73	0.466	35	37	333
20058511091B	98	8	56.326	0.043	127	0.834	67	68	590
20058511092A	48	-2	44.224	0.069	292	0.349	47	24	215
20058511092B	53	3	28.356	0.088	396	0.446	62	29	264
20058511101A	53	-2	65.721	0.033	106	0.483	40	38	282
20058511101B	83	8	45.826	0.051	177	0.765	74	63	399
20058511102A	43	-2	46.767	0.05	226	0.412	49	26	229
20058511102B	51	-2	29.248	0.064	313	0.517	63	35	256
20058511111A	81	-2	82.513	0.457	254	0.362	24	14	400
20058511111B	125	7	65.41	0.836	485	0.77	57	32	840
20058511112A	69	-2	72.632	1.052	392	0.321	24	5	324
20058511112B	102	-2	47.418	2.208	812	0.601	58	23	462
20058511121A	44	-2	77.102	0.031	47	0.477	43	24	241
20058511121B	97	10	53.159	0.057	106	0.99	103	61	445
20058511122A	35	-2	53.984	0.036	165	0.404	55	17	188
20058511122B	56	3	28.244	0.053	267	0.588	89	31	237
20058511131A	60	2	52.478	0.046	210	0.517	37	40	217
20058511131B	82	-2	39.843	0.055	263	0.676	54	54	259
20058511132A	38	-2	31.532	0.056	543	0.363	46	20	165
20058511132B	41	-2	20.549	0.062	615	0.409	56	24	149
20058511141A	18	-2	84.936	0.018	46	0.28	14	9	332
20058511141B	71	4	51.454	0.053	200	0.789	68	36	867

SampleID	Rb XRF ppm	Sc XRF ppm	SiO2 XRF %	SO3 XRF %	Sr XRF ppm	TiO2 XRF %	V XRF ppm	Zn XRF ppm	Zr XRF ppm
20058511142A	19	-2	77.28	0.037	150	0.297	18	9	427
20058511142B	55	-2	41.73	0.1	465	0.633	53	22	753
20058511151A	11	-2	91.166	0.04	35	0.248	4	8	315
20058511151B	75	3	64.799	0.168	170	0.89	59	48	1009
20058511152A	14	-2	90.564	0.048	43	0.258	7	4	382
20058511152B	68	5	72.303	0.139	149	0.83	50	24	1238
20058511161A	7	-2	93.37	0.012	10	0.19	-3	2	311
20058511161B	64	-2	73.81	0.031	64	0.932	45	14	1842
20058511162A	7	-2	87.182	0.014	81	0.217	6	-1	438
20058511162B	41	-2	42.055	0.038	442	0.535	27	7	1050
20058511171A	9	-2	93.98	0.012	13	0.271	12	-1	384
20058511171B	56	2	75.017	0.025	61	0.936	56	17	1501
20058511172A	8	-2	93.188	0.01	20	0.249	12	-1	414
20058511172B	45	-2	76.671	0.019	84	0.848	44	7	1691
20058511181A	13	-2	90.671	0.014	21	0.344	16	6	526
20058511181B	63	2	66.172	0.035	87	0.929	68	47	913
20058511182A	9	-2	93.527	0.009	13	0.274	14	1	356
20058511182B	48	2	79.591	0.016	57	0.866	51	11	1468
20058511191A	38	4	85.35	0.039	39	0.507	37	31	606
20058511191B	103	7	61.534	0.094	105	1.076	93	90	926
20058511192A	38	-2	67.5	0.038	158	0.456	40	19	539
20058511192B	66	-2	38.594	0.066	300	0.686	67	41	697
20058511201A	39	3	79.143	0.02	47	0.523	38	28	529
20058511201B	85	3	54.473	0.039	108	0.951	80	71	879
20058511202A	36	2	58.033	0.077	148	0.431	50	20	358
20058511202B	55	-2	33.168	0.138	239	0.574	71	33	505
20058511211A	41	-2	83.687	0.023	41	0.514	38	27	542
20058511211B	94	7	63.417	0.043	95	1.05	82	65	1104
20058511212A	35	-2	63.622	0.034	183	0.422	41	14	420
20058511212B	55	-2	35.152	0.054	339	0.602	59	25	581
20058511221A	33	2	84.014	0.018	47	0.484	34	25	515
20058511221B	84	5	61.042	0.036	115	1.025	77	66	1056
20058511222A	31	-2	65.747	0.044	229	0.43	39	16	474
20058511222B	50	-2	37.106	0.074	443	0.622	60	31	617
20058511231A	13	-2	94.704	0.014	14	0.262	10	6	403
20058511231B	62	4	76.673	0.038	73	0.945	53	31	1525
20058511232A	9	-2	93.742	0.016	38	0.231	7	-1	448
20058511232B	41	-2	59.388	0.062	317	0.754	42	4	1863
20058511241A	47	3	82.098	0.018	42	0.533	38	32	404
20058511241B	82	7	64.321	0.033	89	1.015	69	64	1064
20058511242A	59	2	75.025	0.02	56	0.591	46	40	415
20058511242B	89	5	57.281	0.032	98	0.956	73	72	774
20058511251A	48	2	90.177	0.021	66	0.366	19	7	416
20058511251B	68	2	79.431	0.034	120	1.08	53	24	1785
20058511252A	39	-2	84.662	0.728	121	0.384	24	5	500
20058511252B	61	-2	64.001	1.609	405	1.004	56	19	1605
20058511261A	33	-2	90.748	0.047	80	0.283	11	8	398
20058511261B	73	2	78.598	0.092	165	0.927	45	28	1419
20058511262A	24	-2	61.742	5.821	2605	0.149	-3	-1	225
20058511262B	40	-2	30.097	10.274	5420	0.282	-3	-1	519
20058511271A	71	5	68.976	0.03	90	0.535	45	40	411
20058511271B	91	4	53.812	0.042	135	0.789	64	63	527
20058511272A	38	-2	36.771	0.167	379	0.334	68	16	221
20058511272B	39	-2	23.717	0.269	459	0.375	73	21	199

SampleID	Rb XRF ppm	Sc XRF ppm	SiO2 XRF %	SO3 XRF %	Sr XRF ppm	TiO2 XRF %	V XRF ppm	Zn XRF ppm	Zr XRF ppm
20058511281A	33	-2	90.075	0.019	31	0.361	20	12	504
20058511281B	62	4	79.421	0.03	74	0.985	50	26	1583
20058511282A	48	-2	59.182	0.058	118	0.365	53	24	273
20058511282B	54	-2	40.688	0.083	174	0.491	68	34	419
20058511291A	50	2	84.289	0.023	47	0.453	29	28	443
20058511291B	74	5	70.221	0.038	85	1	59	56	1093
20058511292A	72	3	65.34	0.036	80	0.611	54	54	297
20058511292B	87	5	55.542	0.046	108	0.8	68	73	379
20058511301A	52	3	79.046	0.023	58	0.491	34	34	384
20058511301B	83	6	63.321	0.036	105	0.917	64	62	793
20058511302A	80	4	58.598	0.032	108	0.619	62	65	261
20058511302B	97	6	50.264	0.036	131	0.735	72	80	266
20058511311A	31	-2	84.529	0.021	37	0.45	36	21	478
20058511311B	69	5	73.294	0.036	85	1.063	76	45	1526
20058511312A	33	-2	86.027	0.019	38	0.431	35	14	514
20058511312B	63	5	79.297	0.026	70	1.044	63	24	1736
20058511321A	65	8	67.948	0.032	71	0.739	84	63	374
20058511321B	89	11	58.614	0.043	100	0.993	116	91	470
20058511322A	81	7	60.296	0.025	80	0.742	93	52	309
20058511322B	96	8	51.52	0.029	99	0.899	108	64	357
20058511331A	62	5	68.982	0.028	75	0.652	81	43	487
20058511331B	90	9	55.553	0.038	112	0.924	113	66	492
20058511332A	44	2	51.488	0.029	210	0.479	82	20	405
20058511332B	54	-2	34.612	0.038	283	0.579	97	28	389
20058511341A	66	4	70.193	0.033	78	0.553	49	58	332
20058511341B	93	7	55.065	0.046	109	0.825	70	89	457
20058511342A	54	3	65.56	0.04	216	0.444	55	37	320
20058511342B	72	-2	45.304	0.063	359	0.633	82	63	377
20058511351A	63	4	78.161	0.025	56	0.515	38	39	421
20058511351B	91	6	63.899	0.036	96	0.889	62	67	729
20058511352A	69	5	62.684	0.028	93	0.521	55	48	240
20058511352B	85	4	50.385	0.032	122	0.661	70	63	323
20058511361A	50	-2	69.139	0.055	119	0.466	40	25	388
20058511361B	66	7	63.391	0.06	131	0.7	59	37	670
20058511362A	61	-2	66.01	0.094	101	0.493	51	31	339
20058511362B	78	7	54.624	0.157	141	0.663	74	45	442
20058511371	35	-2	59.428	0.052	256	0.314	19	14	251
20058511372	19	-2	10.404	0.057	847	0.173	22	-1	249
20058511381	96	7	66.125	0.04	97	0.992	65	67	955
20058511382	45	-2	62.66	0.044	228	0.359	28	20	364
20058511391	9	-2	94.109	0.011	9	0.187	-3	-1	228
20058511402	69	3	39.075	0.065	299	0.693	70	40	721
20058511411	84	7	63.834	0.034	87	1.015	70	64	1046
20058511412	59	2	73.647	0.02	59	0.618	46	38	476
20058511421	65	7	67.792	0.033	70	0.744	85	63	378
20058511422	94	11	51.741	0.029	99	0.901	113	65	366
20058511431	64	5	63.16	0.06	130	0.689	57	37	661
20058511432	59	4	67.988	0.093	102	0.486	54	31	314

A: <180 um
B: <75 um

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TE
To Geoscience Australia PROJECT 2005851
Acme file # A603353 Page 1 (a) Received: JUL 4 2006 * 165 samples in this disk file.
Analysis: GROUP 1T-MS - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. (>) CONCENTRATION EXCEEDS UPPER LIMITS. SOM

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au
SAMPLES	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm
101-1-180um	0.35	11.17	8.48	26.1	<20	10.2	3.2	194	1.51	2	0.5	<.1
102-1-180um	0.29	9.65	6.31	24.4	<20	8.9	3.5	189	0.93	1.9	0.5	<.1
103-1-180um	0.23	3.21	3.33	7.4	<20	2.4	1.1	56	0.44	0.6	0.3	<.1
104-1-180um	0.33	7.94	7.66	15.3	22	6.8	2.9	162	1.26	2	0.5	<.1
105-1-180um	0.69	16.18	21.13	76	106	15.2	6.4	410	2.87	4.1	1.2	<.1
106-1-180um	0.61	15.42	21.98	71.1	79	17.8	8.9	517	3.38	4.4	1.4	<.1
107-1-180um	0.52	12.28	14	45	29	10.5	4.6	272	2.96	3.1	1.1	<.1
108-1-180um	0.39	11.11	11.64	46.8	<20	11.8	4.7	263	2.18	2.3	1	<.1
109-1-180um	0.42	14.33	13.67	51.5	42	13.9	6.2	282	2.4	3	0.8	<.1
110-1-180um	0.41	17.01	12.72	52.1	35	14.9	6.8	281	2.56	3.9	0.7	<.1
111-1-180um	0.74	10.32	12.54	25.6	<20	6.8	2.9	339	1.35	2.7	2.2	<.1
112-1-180um	1.16	15.82	11.94	41.9	41	14.8	6.3	245	2.39	4.4	0.6	<.1
113-1-180um	0.6	20.93	15.4	57.9	157	20.4	9.4	375	2.86	3.5	0.7	<.1
114-1-180um	0.3	10.83	6.93	21.7	47	8	3.6	127	1.11	2.1	0.3	<.1
115-1-180um	0.32	5.99	6.12	21.2	<20	6.2	2.8	112	0.91	1.3	0.3	<.1
116-1-180um	0.17	3.28	4.77	8.2	<20	3.6	1.9	48	0.65	1	0.2	<.1
117-1-180um	0.38	3.93	5.39	10.9	<20	5	2.2	57	0.88	1.5	0.3	<.1
118-1-180um	0.32	6.63	6.91	18.6	<20	6.7	3.1	151	1.1	1.8	0.4	<.1
119-1-180um	0.44	11.33	10.38	49.8	<20	14.7	6.9	249	2.07	3.4	0.7	<.1
120-1-180um	0.38	11.7	10.33	42.5	<20	12.2	4.5	264	2.01	2.4	0.6	<.1
121-1-180um	0.49	10.72	10.45	39.7	<20	12.9	4.8	199	1.99	2.4	0.5	<.1
122-1-180um	0.37	13.09	10.12	40.6	<20	11.1	4.6	180	1.83	2	0.5	<.1
123-1-180um	0.27	4.02	5.48	15	<20	4.6	1.7	84	0.68	1	0.4	<.1
124-1-180um	0.46	13.84	12.53	45.5	<20	13.2	5.2	240	2.37	2.2	0.7	<.1
125-1-180um	0.36	6.62	11.52	17.1	<20	5.4	3.2	228	1.02	1	1	<.1
126-1-180um	0.25	4.85	8.92	15.7	<20	4	2.7	225	0.87	1.6	0.9	<.1
127-1-180um	0.49	15.17	13.78	52.2	23	13.3	6	272	2.8	2.7	0.9	<.1
128-1-180um	0.27	9.21	9.01	24	<20	6.7	3.4	133	1.24	1.4	0.6	<.1
129-1-180um	0.36	12.46	12.48	39.3	<20	9.9	4.7	266	1.9	1.5	0.7	<.1
130-1-180um	0.35	13.22	12.24	45	<20	12.2	5.5	301	2.2	1.8	0.6	<.1

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au
SAMPLES	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm
RE 130-1-180um	0.4	14.49	12.94	44.9	28	12.1	6	300	2.26	2.3	0.7	<.1
131-1-180um	0.44	11	10.76	36.6	<20	9.9	3.7	181	2.02	2.7	0.7	<.1
132-1-180um	0.79	24.13	19.56	77.9	26	21.9	10.5	391	4.05	6.5	1.1	<.1
133-1-180um	0.54	19.72	16.33	57.7	<20	19.7	10.1	292	3.63	6.6	0.8	<.1
STANDARD DST6	12.53	128.27	36.4	171.4	323	29.4	13.7	966	4.09	24.3	7.9	<.1
134-1-180um	0.37	16.83	13.49	72.7	33	16.3	8.3	430	3.05	3.1	1	<.1
135-1-180um	0.38	14.85	12.41	55.9	40	13.6	6.4	337	2.56	2.4	0.7	<.1
136-1-180um	0.52	15.38	12.35	42.7	26	11.4	5.6	254	2.04	3.6	1.2	<.1
137-1-180um	0.31	10.34	8.41	26	13892	10.6	3.5	190	1.49	2.2	0.5	<.1
139-1-180um	0.2	3.48	5.12	8.1	26	4.2	1.7	50	0.67	1.5	0.2	<.1
142-1-180um	0.85	24.83	19.15	80.1	37	21.4	10.3	389	4.11	6.9	1.1	<.1
101-2-180um	0.17	4.65	2.47	6.1	<20	4.9	1.8	35	0.47	0.3	0.4	<.1
102-2-180um	0.27	16.16	6.69	27.6	34	12.5	4.5	172	1.1	2.6	0.7	<.1
103-2-180um	0.43	9.43	7.07	16	50	9.4	3.6	87	1.45	2.4	0.7	<.1
104-2-180um	0.66	11.17	14.58	28.5	34	17.6	7	143	2.86	4.5	0.8	<.1
105-2-180um	0.57	17.38	16.14	53.9	39	16	8.6	366	3.24	5.7	1.3	<.1
106-2-180um	0.67	10.52	14.44	36.4	40	13.4	12.3	628	2.8	7.5	2.4	<.1
107-2-180um	0.41	12.84	12.06	41.4	33	11.7	4.4	187	2.56	3	1	<.1
108-2-180um	0.27	13.08	8.52	31.6	40	9.9	3.7	106	1.7	1.3	1.3	<.1
109-2-180um	0.38	16.92	10.49	35.2	40	13.3	5.3	129	1.81	5.2	0.8	<.1
110-2-180um	0.38	20.83	10.79	40.7	26	16.9	8.1	157	2.23	4.6	0.7	<.1
111-2-180um	0.84	8.31	12.73	20.4	<20	7.2	2.8	69	1.73	2.9	5.7	<.1
112-2-180um	1.01	17.54	9.09	29.6	44	15.2	7.1	136	1.98	6	0.6	<.1
113-2-180um	0.36	13.93	8.97	27.9	44	16.2	6.7	146	1.96	6	0.8	<.1
114-2-180um	0.39	16.51	7.29	20.5	33	11	4.1	125	1.32	2.6	0.4	<.1
RE 114-2-180um	0.31	16.46	6.84	20	34	10.3	3.3	113	1.22	2.7	0.4	<.1
115-2-180um	0.29	8.67	5.77	16	23	7.1	3.4	82	0.93	0.9	0.3	<.1
116-2-180um	0.14	6.71	4.17	7.3	<20	4.2	1.6	43	0.59	0.6	0.2	<.1
117-2-180um	0.32	5.24	5.49	9.4	<20	6.7	2.2	42	0.86	1.1	0.3	<.1
118-2-180um	0.32	5.27	5.37	9.2	<20	5	2.2	43	0.87	1.7	0.3	<.1
119-2-180um	0.46	17.79	10.3	34.5	49	17	7.3	152	1.96	4.8	0.7	<.1
120-2-180um	0.47	16.84	10.61	34.9	273	12.4	7.1	193	2.01	4.5	1.1	<.1
121-2-180um	0.44	13.33	9.54	23.8	52	12.5	4.3	115	1.66	3.9	0.7	<.1
122-2-180um	0.46	17.77	10.08	27.9	35	12.7	5	124	1.64	3.1	0.6	<.1

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au
SAMPLES	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm
123-2-180um	0.25	4.07	5.03	7.5	21	3.4	1.1	42	0.55	0.9	0.4	<.1
124-2-180um	0.48	17.57	14.58	55.2	32	19.7	7.5	251	3.04	3	0.8	<.1
125-2-180um	0.51	8.67	10.31	17.5	25	6	3	158	1.05	2.6	1.3	<.1
126-2-180um	0.2	4.25	6	9.9	<20	2.7	1.1	85	0.54	1.4	1.3	<.1
127-2-180um	0.45	15.11	9.16	30.2	151	12.5	5.2	115	1.79	7.7	1	<.1
STANDARD DST6	12.6	129.66	37.76	174.7	326	29.7	13.5	961	4.07	23.9	8.4	<.1
128-2-180um	0.28	26.46	11.18	37.1	20	14.7	6.1	165	1.87	5.9	1.6	<.1
129-2-180um	0.46	25.71	16.91	68.4	<20	23.2	6.6	219	3.35	3.3	1.2	<.1
130-2-180um	0.48	23.21	17.55	73.2	32	24.7	8.8	338	3.92	4.2	1.1	<.1
131-2-180um	0.46	10.85	11.25	26.9	23	10	3.7	129	1.95	3.5	0.8	<.1
132-2-180um	0.72	26.75	19.08	65.8	46	26.2	10.5	321	4.62	8.3	1.3	<.1
133-2-180um	0.37	20.87	12.13	31.8	40	17	10.1	126	2.62	7.7	0.8	<.1
134-2-180um	0.31	22.33	11.5	47.1	<20	15.6	5.9	200	2.55	8.7	0.9	<.1
135-2-180um	0.38	22.8	13.42	60.3	20	20.9	7	223	3.33	5.3	0.8	<.1
136-2-180um	0.6	16.51	13.79	42.8	22	13.1	6.5	239	2.38	5	1.9	<.1
138-2-180um	0.32	13.08	7.79	28.1	28	10	2.9	102	1.62	2.9	1.3	<.1
141-2-180um	0.54	17.99	15.22	54.5	<20	20.8	7.2	252	3	3.2	0.8	<.1
143-2-180um	0.61	17	14.05	44.4	<20	13.6	6.7	252	2.54	5.3	2	<.1
101-1-75um	0.49	16.4	13.09	38.5	44	16.7	6.6	301	2.44	3.3	0.7	<.1
102-1-75um	0.45	18.36	11.78	44.1	40	18.8	7.1	344	1.8	4.6	0.8	<.1
103-1-75um	0.97	19.22	18.2	46.1	46	12.8	6.5	424	2.6	3.5	2	<.1
104-1-75um	0.8	17.49	17.33	35.5	43	17.8	6.8	398	3.03	5.5	1.1	<.1
105-1-75um	0.86	23.01	24.56	85.4	53	23.6	11.7	719	4.59	6	1.6	<.1
RE 105-1-75um	0.75	21.24	23.93	83.9	42	22.2	11.5	709	4.47	5.4	1.5	<.1
106-1-75um	0.65	15.96	21.61	71.4	21	19.5	10.5	569	4.31	5	1.3	<.1
107-1-75um	0.64	14.41	16.69	53.2	<20	13.7	6.1	346	3.66	4.4	1.2	<.1
108-1-75um	0.68	18.64	19.57	85.8	51	21	9.2	535	3.93	5.2	1.6	<.1
109-1-75um	0.61	21.44	18.98	80.2	59	20.6	9.1	483	3.73	4.8	1	<.1
110-1-75um	0.59	23.25	18.01	75.5	58	22	12.4	496	4.1	5.5	0.9	<.1
111-1-75um	1.04	18.38	21.53	47.9	<20	12.5	5.1	638	2.52	5.2	4.1	<.1
112-1-75um	2.03	30.7	22.19	72.8	95	29.6	11.5	543	4.8	9.6	1.2	<.1
113-1-75um	0.57	24.88	17.09	62.5	63	25.9	11.1	478	3.71	5	0.8	<.1
114-1-75um	0.7	32.97	16.84	49	78	22.4	10.8	410	3.28	6.4	1	<.1
115-1-75um	0.81	21.31	18.86	63.5	<20	20.5	9.9	439	3.16	4.7	1.1	<.1

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au
SAMPLES	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm
116-1-75um	0.51	13.21	15.88	29.5	<20	14.2	6.6	256	2.45	3.6	0.9	<.1
117-1-75um	0.91	13.28	17.45	34.1	45	16.1	6.9	223	2.77	4.5	1.3	<.1
118-1-75um	0.86	22.62	22.87	61.5	41	20.2	9.3	520	3.31	5.2	1.3	<.1
119-1-75um	0.86	25.44	24.97	104.2	35	33.6	17.2	641	4.56	7.5	1.6	<.1
120-1-75um	0.64	21.77	19.12	81.1	47	22.4	9	574	3.83	5.1	1.2	<.1
121-1-75um	0.76	21.06	22.44	80.6	45	23.9	9.8	488	3.88	5.9	1.3	<.1
STANDARD DST6	12.65	130.92	36.24	173.8	324	30.4	14.2	965	4.08	24.2	7.7	<.1
122-1-75um	0.75	28.13	21.56	85.8	39	24.8	11.1	501	4.12	5.4	1.3	<.1
123-1-75um	0.54	17.71	20.45	49.5	34	16	6.6	449	2.6	4.3	2.5	<.1
124-1-75um	0.92	26.81	22.53	82.8	<20	26.9	13.5	555	4.25	4.3	1.4	<.1
125-1-75um	0.81	13.18	21.61	44.5	<20	10.6	7.1	512	2.27	3.1	2.6	<.1
126-1-75um	0.6	11.78	21.18	47	<20	10.9	6.6	550	2.19	3.2	2	<.1
127-1-75um	0.7	25.91	21.38	79.3	33	23.2	10.1	404	4.07	5.6	1.4	<.1
128-1-75um	0.49	17.15	16.98	41.4	<20	13.6	6.3	297	2.46	3.2	1.3	<.1
129-1-75um	0.64	21.09	20.68	75	<20	19.6	11.2	612	3.44	3.4	1.5	<.1
130-1-75um	0.52	22.97	20.54	77.6	56	21.6	11	561	3.86	4.4	1.3	<.1
131-1-75um	0.77	17.83	17.43	67.3	<20	17.4	9	454	3.3	4.6	1.3	<.1
RE 131-1-75um	0.73	17.73	17.5	63.5	<20	16.9	8.3	455	3.3	4.7	1.3	<.1
132-1-75um	1.18	33.18	25.55	105.6	29	29.4	14.3	535	5.39	10	1.6	<.1
133-1-75um	0.77	28.78	23.19	82.5	23	27.9	15.7	441	5.38	10	1.3	<.1
134-1-75um	0.56	27.13	18.55	106.2	<20	26.3	15	675	4.66	5.3	1.6	<.1
135-1-75um	0.63	23.35	20.81	85.7	22	22.4	11.8	590	4.06	3.9	1.3	<.1
136-1-75um	0.61	17.81	16.02	52.6	<20	15.4	7.6	334	2.79	5.5	1.6	<.1
138-1-75um	0.75	19.06	21.62	87.2	36	21.3	10.4	556	4.16	5	1.7	<.1
141-1-75um	0.84	24.95	22.41	86	<20	26	12.7	547	4.31	4.7	1.3	<.1
143-1-75um	0.69	17.82	16.25	56.1	<20	16.1	7.7	350	2.91	5.2	1.7	<.1
144-1-75um	1.13	10.07	23.29	45.6	<20	106.8	27.5	253	1.61	2.3	6.2	<.1
145-1-75um	2.18	47.86	8.48	75.9	<20	50.1	49.5	1646	9.08	2.7	1.6	<.1
146-1-75um	1.01	9.53	21.96	39.1	<20	110.4	26.6	244	1.53	1.6	5.7	<.1
147-1-75um	2.1	44.27	8.07	80.7	<20	51.2	49.6	1706	9.2	2.6	1.6	<.1
101-2-75um	0.16	6.98	3.08	6.5	36	8.4	2.7	48	0.6	2.8	0.6	<.1
102-2-75um	0.33	25.96	9.43	38	101	19	7.6	248	1.73	5.8	1	<.1
103-2-75um	0.88	19.23	15.77	38.6	91	21.1	8.6	208	3.73	4.8	1.8	<.1
104-2-75um	1.11	19.99	26.62	52.6	39	31.3	13.2	282	5.45	9.5	1.5	<.1

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au
SAMPLES	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm
105-2-75um	0.73	23.63	22.06	73.2	60	22.9	12.6	481	4.27	9.3	1.8	<.1
106-2-75um	0.54	10.59	14.52	38.2	28	12.4	9	522	2.91	10.2	3	<.1
107-2-75um	0.67	19.02	17.26	64.4	42	17.4	6.9	250	3.69	5	1.7	<.1
108-2-75um	0.4	19.8	10.55	38.5	65	15.1	3.9	139	2.11	4.2	1.9	<.1
109-2-75um	0.35	20.72	11.54	39.8	52	15.6	9.4	160	2.2	3.7	1	<.1
110-2-75um	0.46	25.54	13.37	46.9	64	20.5	11.8	202	2.77	6.5	1	<.1
111-2-75um	1.22	11.32	20.84	32.1	<20	13.1	4.3	117	2.99	6	11.8	<.1
STANDARD DST6	12.74	131.55	35.09	175.5	323	30.2	14.1	964	4.07	26.3	8	<.1
112-2-75um	1.38	24.77	13.18	36.2	70	20.9	9.4	210	3	10.3	1.1	<.1
113-2-75um	0.42	14.37	9.33	27	29	16.5	7	161	2.22	8.1	0.9	<.1
114-2-75um	0.58	34.58	34.5	36.8	72	19.3	7.9	246	2.56	6.3	0.9	<.1
115-2-75um	0.68	26.88	15.26	38.7	42	17.8	6.9	230	2.63	4.1	1	<.1
116-2-75um	0.3	21.89	10.19	17.8	25	15.9	6.4	167	1.78	3.1	0.7	<.1
117-2-75um	0.59	16.06	13.91	26.1	54	13.6	5.3	153	2.27	3.5	0.8	<.1
118-2-75um	0.57	14.15	14.99	25.9	<20	13.4	4.7	151	2.33	4.1	1	<.1
119-2-75um	0.63	29.32	14.92	57.8	70	28.5	12.4	237	3.14	9	1.4	<.1
120-2-75um	0.43	20.84	11.89	45.7	41	18.1	11.2	271	2.58	6.7	1.6	<.1
121-2-75um	0.6	20.87	14.18	34.5	53	18.4	8.8	184	2.41	7.9	1.2	<.1
122-2-75um	0.48	27.36	13.71	45.2	59	18.9	10.1	214	2.54	6.1	1.1	<.1
123-2-75um	0.39	15.01	13.36	24.8	32	9.8	4.1	174	1.64	2.2	1.8	<.1
124-2-75um	0.68	25.82	20.03	84.2	64	30.5	11.5	407	4.46	3.7	1.3	<.1
125-2-75um	0.93	16.17	16.01	39.5	51	10.3	6	369	2.32	5.3	3.1	<.1
126-2-75um	0.35	6.06	7.78	17	<20	4.9	3.3	154	0.96	2.1	2.4	<.1
127-2-75um	0.42	16.38	9.79	32.8	37	12.6	6	127	1.94	7.9	1.2	<.1
128-2-75um	0.46	36.29	14.06	47.6	20	19.6	10.3	243	2.42	6.3	2.3	<.1
129-2-75um	0.57	29.11	19.59	80.2	28	26.2	11.7	415	4.22	3.5	1.5	<.1
130-2-75um	0.59	27.15	20.04	90.8	49	30.4	11.7	390	4.72	3.5	1.2	<.1
131-2-75um	0.58	14.06	15.73	45.2	<20	13.7	5.9	281	2.8	3.4	1.3	<.1
132-2-75um	0.85	30.75	22.41	77	55	32.1	13.1	373	5.49	8	1.6	<.1
133-2-75um	0.5	27.3	13.59	38.9	47	20.7	11.5	166	3.33	11.1	1	<.1
RE 133-2-75um	0.5	28.9	14.58	42.6	59	21	12	166	3.33	12	1.1	<.1
134-2-75um	0.43	36.77	14.62	77.7	30	22.6	10	290	3.98	6.9	1.4	<.1
135-2-75um	0.5	30.88	16.38	79	40	27.8	11.3	292	4.05	5.9	1	<.1
136-2-75um	0.78	21.55	16.19	57.6	28	17.1	8.9	321	3.21	5.5	2.7	<.1

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au
SAMPLES	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm
137-2-75um	0.14	7.47	3.41		8.8	25	8.2	2.9	48	0.64	3.8	0.6 <.1
140-2-75um	0.63	29.48	15.34		58.6	70	28	12.4	230	3.06	7.9	1.4 <.1
142-2-75um	0.8	29.1	21		76.9	44	30.5	12.9	356	5.27	8.4	1.5 <.1
STANDARD DST6	12.68	130.18	37.03		178.6	309	30.2	14.1	963	4.08	23.2	7.7 <.1

From ACME ANALYTEXT FORMAT
To Geoscience Aust
Acme file # A603353
Analysis: GROUP 1TE MINERALS MAY BE PARTIALLY'

ELEMENT	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm
101-1-180um	4.8	294	0.08	0.15	<.04	35	9.51	0.03	12.9	24	0.43	154
102-1-180um	3.6	454	0.06	0.09	<.04	20	10.05	0.025	10.4	16	0.76	98
103-1-180um	4.8	18	0.03	<.02	<.04	10	0.15	0.009	3	14	0.06	76
104-1-180um	4	108	0.07	0.13	<.04	28	1.68	0.018	9.1	26	0.27	115
105-1-180um	10.3	73	0.23	0.91	0.09	60	0.42	0.027	25.4	37	0.48	428
106-1-180um	12.3	102	0.18	0.6	0.1	64	0.83	0.024	31.7	42	1.06	628
107-1-180um	8.4	106	0.11	0.32	<.04	61	2.38	0.034	29.2	35	0.65	515
108-1-180um	7.8	58	0.08	0.22	0.09	44	0.19	0.024	17.5	33	0.27	290
109-1-180um	8	83	0.18	0.19	0.13	49	2.17	0.026	19.6	28	0.55	239
110-1-180um	7.3	118	0.1	0.25	<.04	56	4.62	0.028	19	31	0.58	229
111-1-180um	12.3	294	0.04	0.15	<.04	36	0.18	0.028	21.8	13	0.17	348
112-1-180um	7.1	59	0.09	0.28	<.04	60	0.71	0.017	14.5	35	0.41	155
113-1-180um	8.1	248	0.14	0.43	0.06	53	7.77	0.036	19	45	0.77	190
114-1-180um	3.5	60	0.05	0.27	<.04	30	1.78	0.01	7	17	0.22	84
115-1-180um	3	47	0.07	0.13	<.04	19	0.13	0.013	7.3	19	0.14	89
116-1-180um	2.1	16	<.02	0.04	<.04	13	0.08	0.004	5.4	9	0.1	66
117-1-180um	2.9	19	0.02	0.09	<.04	21	0.09	0.007	6.1	9	0.08	79
118-1-180um	3.6	27	<.02	0.14	<.04	27	0.12	0.013	7.2	14	0.09	87
119-1-180um	6.2	48	0.07	0.23	<.04	48	0.15	0.021	14.7	22	0.22	160
120-1-180um	6.2	56	0.05	0.15	<.04	47	2.36	0.023	13.9	27	0.34	181
121-1-180um	5.8	48	0.04	0.18	<.04	47	0.59	0.016	13.4	25	0.24	182
122-1-180um	5.5	51	0.09	0.17	0.05	42	0.71	0.016	11.9	25	0.27	176
123-1-180um	2.3	20	<.02	0.11	<.04	17	0.08	0.007	6.3	10	0.06	118
124-1-180um	7.6	55	0.04	0.22	0.21	46	0.17	0.022	16.9	32	0.31	238
125-1-180um	5.1	78	0.02	0.11	<.04	24	0.12	0.018	10.9	12	0.13	433
126-1-180um	4.6	92	0.06	0.1	<.04	18	0.09	0.014	10.8	6	0.18	296
127-1-180um	8.7	106	0.08	0.25	0.08	55	2.59	0.032	20.9	32	0.77	333
128-1-180um	4.6	43	0.02	0.11	0.09	30	0.08	0.013	11.9	13	0.17	274
129-1-180um	6.4	55	0.12	0.22	0.05	36	0.13	0.029	15.8	23	0.27	365
130-1-180um	6.9	69	0.07	0.22	<.04	40	0.95	0.027	17.1	26	0.43	291

ELEMENT	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm
RE 130-1-180um	7.3	68	0.08	0.24	0.04	42	0.98	0.03	17.6	29	0.44	288
131-1-180um	6.2	48	0.04	0.23	0.07	48	0.13	0.025	11.2	24	0.2	272
132-1-180um	10.8	85	0.15	0.38	0.16	101	0.24	0.051	23	52	0.37	278
133-1-180um	9.1	85	0.07	0.37	0.12	95	0.53	0.027	20.1	47	0.54	350
STANDARD DST6	7.3	316	5.75	5.58	4.57	113	2.28	0.099	25.5	232	1	692
134-1-180um	8.6	82	0.06	0.24	0.27	58	0.34	0.072	21.7	41	1.26	329
135-1-180um	7.1	62	0.02	0.23	0.24	48	0.19	0.034	16.2	35	0.5	325
136-1-180um	6.5	133	0.06	0.27	0.22	52	3.46	0.031	14.9	31	0.93	660
137-1-180um	5.1	287	0.07	0.1	0.13	33	9.18	0.03	11.2	30	0.44	162
139-1-180um	2.2	17	0.04	0.05	0.14	14	0.08	0.005	5.7	13	0.11	71
142-1-180um	13.5	93	0.13	0.37	0.3	106	0.21	0.052	30.5	55	0.36	292
101-2-180um	1.7	573	0.07	<.02	0.04	13	19.23	0.007	4.3	11	0.39	70
102-2-180um	3.8	795	0.06	0.1	0.07	22	14.81	0.019	9.9	22	1.14	113
103-2-180um	18.7	46	0.02	0.03	0.11	31	0.41	0.011	8.6	27	0.24	104
104-2-180um	9.5	77	0.03	0.16	0.18	64	0.21	0.011	19.5	43	0.33	150
105-2-180um	9.3	140	0.08	0.23	0.21	75	3.64	0.035	24.1	37	0.72	430
106-2-180um	7	323	0.03	0.09	0.12	96	11.8	0.012	14.3	30	1.11	46
107-2-180um	7.9	106	0.05	0.16	0.16	60	1.71	0.036	28.9	29	0.92	451
108-2-180um	5.5	242	0.05	0.1	0.13	34	8.35	0.024	12.9	22	0.67	270
109-2-180um	5.7	312	0.12	0.11	0.11	65	14.69	0.02	13.9	26	0.81	241
110-2-180um	6.1	260	0.08	0.17	0.17	60	13.26	0.02	15.4	33	0.68	220
111-2-180um	13.9	523	<.02	0.08	0.11	48	0.13	0.026	38	25	0.24	276
112-2-180um	6.1	183	0.07	0.15	0.15	80	11.03	0.017	11.8	34	0.44	140
113-2-180um	5	587	0.09	0.21	0.12	59	19.9	0.019	11.5	37	0.75	145
114-2-180um	4.4	188	0.05	0.09	0.1	36	4.9	0.012	8.2	23	0.43	98
RE 114-2-180um	3.9	166	0.03	0.08	0.09	33	4.45	0.01	7.3	22	0.39	90
115-2-180um	2.9	49	<.02	<.02	0.08	21	0.17	0.01	7	16	0.18	102
116-2-180um	2	94	0.05	<.02	0.04	14	2.96	0.005	6.6	8	0.23	78
117-2-180um	2.5	25	<.02	0.05	0.06	23	0.48	0.006	4.8	13	0.12	83
118-2-180um	2.9	18	<.02	<.02	0.07	25	0.08	0.005	3.9	14	0.08	68
119-2-180um	5.8	178	0.07	0.14	0.15	57	7.47	0.018	13.6	31	0.4	196
120-2-180um	6	174	0.07	0.09	0.14	71	11.74	0.017	13.2	32	0.61	202
121-2-180um	5.8	192	0.03	0.07	0.16	52	9.18	0.013	11.5	29	0.47	190
122-2-180um	5.3	261	0.06	0.11	0.14	53	8.35	0.015	11.5	28	0.54	201

ELEMENT	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm
123-2-180um	3	52	<.02	<.02	0.07	17	1.43	0.006	5.5	10	0.08	111
124-2-180um	9	68	0.05	0.16	0.22	58	0.31	0.024	20.9	45	0.52	242
125-2-180um	4.7	132	0.03	0.12	0.12	36	0.93	0.011	9.3	9	0.48	318
126-2-180um	2.4	2910	<.02	<.02	0.06	16	7.87	0.009	6.8	6	0.21	44
127-2-180um	5.4	413	0.11	0.11	0.11	82	18.19	0.019	13.5	24	1	420
STANDARD DST6	7.7	318	5.56	5.48	4.83	112	2.27	0.099	25.9	235	0.99	687
128-2-180um	5.4	134	0.07	0.22	0.13	69	7.2	0.016	17	18	1.71	286
129-2-180um	10.1	98	0.07	0.33	0.25	73	0.29	0.035	23.4	44	1.46	530
130-2-180um	9.7	121	0.07	0.37	0.25	75	0.54	0.03	25.6	50	1.05	221
131-2-180um	6.8	49	0.05	0.3	0.19	56	0.11	0.017	12.4	36	0.16	277
132-2-180um	11.8	93	0.11	0.42	0.3	118	0.37	0.026	28.8	57	0.49	337
133-2-180um	6.1	218	0.11	0.29	0.17	106	10.98	0.023	17.2	28	0.55	527
134-2-180um	7.7	228	0.07	0.3	0.17	73	2.86	0.074	20.4	26	1.81	605
135-2-180um	8.5	109	0.05	0.3	0.21	74	1.59	0.032	20.7	38	1.35	301
136-2-180um	8.6	115	0.08	0.33	0.18	68	1.95	0.03	19.8	30	1.03	492
138-2-180um	6.2	222	0.05	0.21	0.15	39	7.86	0.023	14.6	15	0.63	260
141-2-180um	8.6	70	0.07	0.31	0.23	60	0.33	0.023	20.4	42	0.53	243
143-2-180um	8.7	116	0.07	0.4	0.21	75	2.02	0.03	20.6	31	1.07	506
101-1-75um	8.2	368	0.16	0.32	0.15	45	13.85	0.043	20.2	48	0.65	236
102-1-75um	6.3	772	0.16	0.37	0.12	39	18.21	0.044	19.8	33	1.34	188
103-1-75um	39	105	0.22	0.28	0.2	60	0.85	0.052	24.5	48	0.24	264
104-1-75um	10.7	281	0.23	0.38	0.18	65	4.75	0.063	25.5	48	0.68	255
105-1-75um	15.2	109	0.13	0.51	0.31	100	0.7	0.051	42.3	58	0.77	452
RE 105-1-75um	14.3	107	0.14	0.47	0.31	93	0.66	0.042	38.1	55	0.75	421
106-1-75um	13	111	0.12	0.41	0.26	79	1.14	0.029	37.2	53	1.37	408
107-1-75um	10.9	131	0.11	0.37	0.22	78	2.75	0.039	36.5	41	0.78	489
108-1-75um	13.9	106	0.18	0.42	0.25	80	0.35	0.042	32.4	56	0.44	405
109-1-75um	11.6	124	0.27	0.38	0.24	74	3.59	0.043	27.1	54	0.79	344
110-1-75um	10.6	176	0.19	0.39	0.24	80	7.53	0.043	29.3	52	0.86	321
111-1-75um	24.1	515	0.09	0.38	0.24	72	0.3	0.048	40.8	31	0.24	397
112-1-75um	16	117	0.19	0.69	0.36	127	1.59	0.064	31.5	81	0.72	329
113-1-75um	10.7	256	0.16	0.37	0.28	64	9.39	0.041	23.7	67	0.99	230
114-1-75um	11.5	203	0.14	0.45	0.24	70	6.82	0.032	23.8	57	0.56	237
115-1-75um	11.4	167	0.15	0.43	0.26	66	0.46	0.048	30	57	0.4	295

ELEMENT	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm
116-1-75um	9.9	65	0.1	0.35	0.2	53	0.36	0.016	33.1	44	0.29	254
117-1-75um	11.5	70	0.1	0.39	0.21	76	0.31	0.022	25	49	0.21	304
118-1-75um	13.4	90	0.12	0.41	0.28	84	0.4	0.04	28.4	59	0.24	285
119-1-75um	14.8	115	0.21	0.56	0.35	121	0.35	0.045	36	74	0.43	347
120-1-75um	13.1	111	0.2	0.41	0.27	88	5.14	0.05	27.8	53	0.73	327
121-1-75um	15.6	99	0.15	0.42	0.3	98	1.44	0.036	33	66	0.52	386
STANDARD DST6	7.2	309	5.7	5.67	4.84	111	2.3	0.097	25.5	226	1	688
122-1-75um	15.1	128	0.18	0.37	0.28	89	2.04	0.039	30.1	61	0.69	354
123-1-75um	12.9	90	0.1	0.31	0.23	65	0.42	0.024	34.2	45	0.21	368
124-1-75um	15.4	109	0.17	0.38	0.3	87	0.39	0.047	32.7	70	0.66	364
125-1-75um	16.7	138	0.09	0.27	0.22	56	0.27	0.036	32.4	38	0.23	573
126-1-75um	11.5	187	0.11	0.26	0.17	47	0.26	0.033	27.8	31	0.39	517
127-1-75um	13.6	162	0.2	0.38	0.28	85	4.03	0.05	34.3	58	1.15	394
128-1-75um	11.6	93	0.08	0.29	0.21	52	0.17	0.023	23.8	40	0.26	406
129-1-75um	14	106	0.18	0.35	0.26	71	0.26	0.051	26.9	52	0.51	436
130-1-75um	13.7	132	0.14	0.38	0.27	78	1.63	0.05	28.3	58	0.77	372
131-1-75um	12.2	104	0.13	0.35	0.23	87	0.25	0.041	24.8	48	0.31	417
RE 131-1-75um	11.8	92	0.12	0.35	0.22	82	0.26	0.043	23.2	49	0.31	396
132-1-75um	17.4	119	0.16	0.48	0.35	146	0.32	0.068	35.4	73	0.48	343
133-1-75um	14.5	130	0.15	0.48	0.33	148	0.85	0.039	32.3	76	0.78	470
134-1-75um	14.4	124	0.12	0.37	0.29	87	0.57	0.112	34.1	61	1.87	321
135-1-75um	14.4	110	0.12	0.38	0.27	84	0.32	0.054	29.3	56	0.79	419
136-1-75um	11.5	151	0.07	0.33	0.22	67	3.43	0.04	22.5	40	1.15	628
138-1-75um	16	115	0.23	0.41	0.28	85	0.39	0.049	36.6	57	0.48	437
141-1-75um	13.9	104	0.13	0.41	0.29	95	0.37	0.044	31.3	61	0.6	367
143-1-75um	11.6	151	0.08	0.36	0.22	70	3.52	0.04	23.3	40	1.18	628
144-1-75um	27.5	38	0.07	0.28	0.16	3	0.56	0.01	51.2	61	0.07	621
145-1-75um	8.5	1409	0.25	0.06	0.04	176	5.27	0.297	52.6	95	2.77	1105
146-1-75um	26.2	39	0.06	0.24	0.15	3	0.53	0.011	47.3	56	0.07	575
147-1-75um	9.1	1381	0.32	0.06	<.04	169	5.37	0.292	51	92	2.89	1144
101-2-75um	2.4	915	0.06	0.13	<.04	22	31.43	0.01	6.6	14	0.53	87
102-2-75um	6	1226	0.1	0.23	0.1	44	22.06	0.03	16.5	33	1.6	152
103-2-75um	65.1	128	0.1	0.26	0.19	65	1.02	0.023	31.6	55	0.66	160
104-2-75um	21.2	136	0.1	0.46	0.31	119	0.45	0.018	43.3	74	0.66	250

ELEMENT	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm
105-2-75um	14.5	225	0.13	0.39	0.27	106	5.54	0.049	40.3	52	1.01	501
106-2-75um	9.1	242	0.05	0.21	0.14	98	7.31	0.013	16.6	28	1.09	49
107-2-75um	13.7	183	0.11	0.34	0.23	81	3.12	0.055	50.6	40	1.44	446
108-2-75um	9.2	473	0.08	0.27	0.14	44	15.36	0.037	23.2	30	1.01	329
109-2-75um	8.2	438	0.17	0.25	0.14	79	19.39	0.025	18.3	31	1.03	269
110-2-75um	8.5	365	0.16	0.32	0.18	83	19.2	0.027	24.4	43	0.88	282
111-2-75um	28.5	973	0.07	0.31	0.22	76	0.22	0.043	69	45	0.44	346
STANDARD DST6	7.3	323	5.86	5.5	4.86	111	2.28	0.098	25.7	237	0.99	713
112-2-75um	10.5	319	0.19	0.41	0.22	104	18.56	0.026	23.7	47	0.69	211
113-2-75um	6.5	647	0.11	0.35	0.13	60	24.53	0.02	14.7	39	0.88	137
114-2-75um	9.3	497	0.13	0.33	0.18	62	13.17	0.026	22.7	43	0.97	189
115-2-75um	10.2	155	0.12	0.35	0.17	54	0.49	0.028	24.5	42	0.44	280
116-2-75um	8.1	469	0.13	0.24	0.12	39	15.77	0.018	36.2	30	0.92	240
117-2-75um	9.5	100	0.09	0.32	0.15	55	1.83	0.016	20.7	31	0.25	291
118-2-75um	10.9	66	0.07	0.33	0.17	60	0.23	0.016	18.5	39	0.19	275
119-2-75um	10.8	341	0.23	0.36	0.23	87	14.11	0.034	30.9	48	0.74	291
120-2-75um	8.5	261	0.19	0.24	0.16	83	18.44	0.023	22	38	0.95	246
121-2-75um	10	369	0.11	0.27	0.17	72	17.53	0.022	25.9	38	0.78	291
122-2-75um	10	493	0.15	0.27	0.16	68	16.31	0.023	23	37	0.93	295
123-2-75um	9.8	352	0.14	0.21	0.13	43	10.22	0.022	26.2	30	0.28	297
124-2-75um	10.5	99	0.16	0.38	0.27	86	0.5	0.037	19.8	57	0.88	265
125-2-75um	14.9	447	0.11	0.29	0.21	69	2.22	0.025	28.3	25	1.18	69
126-2-75um	4.3	5537	0.02	0.12	0.05	26	11.72	0.015	10.7	12	0.35	34
127-2-75um	6.9	498	0.12	0.23	0.13	81	21.48	0.024	19	26	1.12	388
128-2-75um	8.6	202	0.09	0.26	0.15	86	12.43	0.021	26	34	2.49	319
129-2-75um	9.4	107	0.12	0.36	0.28	77	0.49	0.044	18.4	48	1.76	477
130-2-75um	8.7	125	0.11	0.37	0.28	85	0.67	0.032	16.1	53	1.28	196
131-2-75um	13	83	0.1	0.33	0.21	70	0.16	0.021	23	41	0.21	373
132-2-75um	11.3	99	0.15	0.49	0.32	133	0.39	0.031	20.7	62	0.56	334
133-2-75um	8.8	309	0.16	0.3	0.18	110	16.18	0.032	24	42	0.71	682
RE 133-2-75um	9.5	334	0.16	0.35	0.21	127	16.44	0.033	26.2	45	0.7	763
134-2-75um	12.6	406	0.11	0.42	0.22	107	5.17	0.111	29.9	50	2.78	832
135-2-75um	8	131	0.13	0.41	0.22	94	2.38	0.042	16.9	50	1.52	291
136-2-75um	12.2	161	0.11	0.4	0.22	89	3.25	0.042	27.8	35	1.37	490

ELEMENT	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	
137-2-75um	2.7	919	0.05	0.12	0.04	24	33.5	0.01	7.3	16	0.53		91
140-2-75um	10.4	338	0.21	0.38	0.21	85	14.09	0.032	27.5	49	0.73		281
142-2-75um	10.2	101	0.12	0.49	0.29	125	0.38	0.03	20.4	61	0.57		317
STANDARD DST6	6.9	313	5.26	5.63	4.88	114	2.28	0.1	22.1	231	0.99		692

From ACME ANALY
To Geoscience Aust
Acme file # A60335
Analysis: GROUP 1

ELEMENT	Ti	Al	Na	K	W	Zr	Sn	Be	Sc	S	
SAMPLES	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	
101-1-180um	0.187	2.92	0.086	0.63	0.5	37.8	1.9	1	5.1	<.04	
102-1-180um	0.121	1.8	0.188	0.48	0.4	26.2	1.2	1	2.9	<.04	
103-1-180um	0.075	1.07	0.027	0.14	0.2	23.3	0.8	<1	1.7	<.04	
104-1-180um	0.166	2.4	0.051	0.42	0.4	32.4	0.6	1	3.7	<.04	
105-1-180um	0.35	5.36	0.281	1.57	1	102.9	4.7	2	7.8	<.04	
106-1-180um	0.41	6.42	0.661	2.24	1.1	127.1	2.7	2	9.9	<.04	
107-1-180um	0.313	5.02	0.239	1.36	0.6	100.6	1.6	1	6.9	<.04	
108-1-180um	0.27	4.22	0.192	1.16	0.6	107.8	2.3	1	6.6	<.04	
109-1-180um	0.288	4.76	0.161	1.3	0.7	69.2	1	1	7.2	<.04	
110-1-180um	0.301	4.81	0.102	1.21	0.8	69.7	1.1	1	8.2	<.04	
111-1-180um	0.221	4.14	0.236	1.38	0.7	76.1	2	1	6.3	0.47	
112-1-180um	0.297	4.37	0.055	0.83	0.9	62.7	1.4	1	7.5	<.04	
113-1-180um	0.322	5.27	0.107	1.27	0.8	66.3	2.3	2	9.9	<.04	
114-1-180um	0.178	2.02	0.029	0.28	0.4	31.5	1.1	1	3.6	<.04	
115-1-180um	0.165	1.63	0.029	0.25	0.3	29.2	0.6	<1	2.7	0.04	
116-1-180um	0.139	1.09	0.017	0.14	0.2	24.6	0.4	<1	1.8	<.04	
117-1-180um	0.186	1.35	0.024	0.18	0.3	35.4	0.5	<1	2.4	<.04	
118-1-180um	0.212	1.79	0.034	0.22	0.4	33.7	1.1	<1	3.2	<.04	
119-1-180um	0.335	3.58	0.056	0.54	0.7	58.6	1.5	1	5.4	<.04	
120-1-180um	0.324	3.45	0.065	0.64	0.6	52.3	0.8	1	5.5	<.04	
121-1-180um	0.307	3.19	0.071	0.63	0.5	48.5	0.9	1	5	<.04	
122-1-180um	0.298	3.07	0.068	0.62	0.6	45.9	1	1	5	<.04	
123-1-180um	0.139	1.12	0.034	0.23	0.3	20.8	0.6	<1	1.6	<.04	
124-1-180um	0.306	4.02	0.111	0.97	0.7	61	2.6	1	5.8	<.04	
125-1-180um	0.202	2.07	0.232	1.02	0.3	43.9	0.6	<1	2.3	<.04	
126-1-180um	0.162	1.76	0.199	0.8	0.2	44	0.7	<1	2.2	0.04	
127-1-180um	0.313	5.28	0.21	1.44	0.7	84.3	1.5	1	8	<.04	
128-1-180um	0.207	2.27	0.102	0.69	0.4	39.3	0.9	1	3.3	<.04	
129-1-180um	0.262	3.39	0.187	1.01	0.5	52.9	1.3	1	5.1	<.04	
130-1-180um	0.274	4.01	0.145	1.08	0.5	59.1	1.3	1	6.1	<.04	

ELEMENT	Ti	Al	Na	K	W	Zr	Sn	Be	Sc	S	
SAMPLES	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	
RE 130-1-180um	0.272	4.06	0.16	1.1	0.6	62.1	0.7	1	6.3	<.04	
131-1-180um	0.242	3.13	0.088	0.74	0.4	51.1	0.5	1	4.9	<.04	
132-1-180um	0.419	7.26	0.134	1.11	0.9	91.9	2	2	11.5	<.04	
133-1-180um	0.37	6.67	0.105	1.17	0.8	75	1.4	2	9.8	<.04	
STANDARD DST6	0.395	6.99	1.633	1.38	8	58.3	6.2	3	12	<.04	
134-1-180um	0.341	5.47	0.204	1.72	0.8	71.1	2.4	1	9.1	<.04	
135-1-180um	0.31	4.56	0.128	1.34	0.7	67.9	2.5	1	6.9	<.04	
136-1-180um	0.264	4.02	0.569	1.25	0.8	67	1.6	1	5.5		0.05
137-1-180um	0.194	2.89	0.083	0.69	0.5	36.3	1.2	<1	5.3		0.05
139-1-180um	0.139	1.14	0.018	0.17	0.5	29.8	3.6	<1	2.3	<.04	
142-1-180um	0.465	6.82	0.127	1.18	1.1	86.7	4.1	2	13.4	<.04	
101-2-180um	0.072	0.95	0.059	0.25	0.3	13.6	0.9	<1	1.7	<.04	
102-2-180um	0.142	2.06	0.327	0.63	0.4	29.6	0.9	1	3.9		0.05
103-2-180um	0.186	4.06	0.147	0.4	0.6	59.8	2.8	1	6.5	<.04	
104-2-180um	0.313	4.73	0.085	0.68	0.8	62.4	2	1	10.5	<.04	
105-2-180um	0.395	5.84	0.434	1.43	0.8	93.4	2.4	1	8.4	<.04	
106-2-180um	0.275	4.59	1.106	1.16	0.8	71.8	1.9	2	8		5.74
107-2-180um	0.289	4.71	0.317	1.33	0.6	91	1.8	1	6.4	<.04	
108-2-180um	0.214	3.31	0.287	0.98	0.6	75.7	1.2	1	4.8		0.04
109-2-180um	0.212	3.45	0.381	0.93	0.6	53.3	1	1	5.2		0.04
110-2-180um	0.259	4.13	0.264	1	0.7	56.3	1.3	1	6.6		0.04
111-2-180um	0.219	5.84	0.436	1.72	0.6	65.2	1.8	2	7.9		1.17
112-2-180um	0.248	3.75	0.061	0.6	0.8	52.9	1.5	1	6.1	<.04	
113-2-180um	0.263	3.52	0.268	0.66	0.6	48.9	1.2	1	6	<.04	
114-2-180um	0.209	2.52	0.166	0.39	0.5	39.7	1	<1	4.5	<.04	
RE 114-2-180um	0.182	2.37	0.158	0.36	0.4	34.9	0.9	<1	3.9	<.04	
115-2-180um	0.145	1.79	0.028	0.33	0.3	28.9	0.7	1	2.9		0.04
116-2-180um	0.108	1.11	0.019	0.15	0.2	21.4	<.1	<1	1.7	<.04	
117-2-180um	0.166	1.45	0.022	0.17	0.3	30.1	0.5	<1	2.5	<.04	
118-2-180um	0.168	1.56	0.019	0.16	0.3	25.5	0.4	<1	2.3	<.04	
119-2-180um	0.316	3.81	0.063	0.59	0.7	56.4	1.3	1	5	<.04	
120-2-180um	0.28	3.52	0.257	0.69	0.5	54.4	1.1	1	5.3		0.08
121-2-180um	0.258	2.99	0.165	0.63	0.6	64.1	0.8	<1	3.9	<.04	
122-2-180um	0.261	3.35	0.203	0.75	0.6	44.4	1	1	4.5		0.04

ELEMENT	Ti	Al	Na	K	W	Zr	Sn	Be	Sc	S	
SAMPLES	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	
123-2-180um	0.155	0.98	0.032	0.24	0.2	25	0.4	<1	1.2	<.04	
124-2-180um	0.404	5.64	0.108	1.18	0.8	70	1.9	1	8.4	<.04	
125-2-180um	0.218	2.35	0.552	1.07	0.6	44.1	1.6	<1	2.5		0.72
126-2-180um	0.093	1.33	0.23	0.52	0.2	23.1	0.3	<1	1.6		6.23
127-2-180um	0.213	3.54	0.501	0.83	0.6	56.1	1	1	5.2		0.14
STANDARD DST6	0.417	6.9	1.627	1.4	7.5	56.9	6.3	3	11.2	<.04	
128-2-180um	0.221	3.69	0.443	1.01	0.5	47.5	1.3	1	6.5		0.05
129-2-180um	0.38	6.04	0.233	1.5	0.9	78.9	2.1	1	12.3	<.04	
130-2-180um	0.398	7.39	0.247	1.45	0.9	88.6	2.3	2	12.7	<.04	
131-2-180um	0.262	2.9	0.091	0.74	0.6	52.9	1.2	1	4.4	<.04	
132-2-180um	0.473	8.97	0.091	1.15	1.1	99.9	3	2	15.2	<.04	
133-2-180um	0.276	4.59	0.087	0.75	0.7	61.5	1.5	1	8.1	<.04	
134-2-180um	0.28	4.7	0.308	1.24	0.7	63.8	1.7	1	7.4	<.04	
135-2-180um	0.331	6.34	0.166	1.46	0.7	76.7	1.9	1	10.6	<.04	
136-2-180um	0.291	4.75	0.783	1.27	0.8	84.5	1.8	1	7.5		0.09
138-2-180um	0.207	3.12	0.283	0.88	0.4	71.8	1.1	1	5.2		0.04
141-2-180um	0.395	5.44	0.109	1.14	0.7	67	1.9	1	9.3	<.04	
143-2-180um	0.309	4.85	0.825	1.32	1	86.4	1.8	1	7.7		0.1
101-1-75um	0.298	4.53	0.118	0.95	0.9	62.7	1.7	1	8.7		0.06
102-1-75um	0.229	3.31	0.31	0.86	0.5	48.5	1.2	1	6.6	<.04	
103-1-75um	0.395	6.11	0.176	0.88	0.9	182.3	3	1	12.6		0.06
104-1-75um	0.374	5.63	0.115	0.97	0.8	77.9	1.8	1	10.7		0.06
105-1-75um	0.558	7.84	0.249	1.85	1.3	136.9	3.2	2	14.7	<.04	
RE 105-1-75um	0.56	7.6	0.248	1.8	1.3	134.1	3.1	2	15.1	<.04	
106-1-75um	0.518	7.48	0.693	2.11	1	121.5	2.7	2	13.8	<.04	
107-1-75um	0.473	5.95	0.245	1.47	0.8	124	1.9	1	10	<.04	
108-1-75um	0.586	6.76	0.239	1.68	1	152.8	2.7	2	12	<.04	
109-1-75um	0.522	6.93	0.2	1.73	0.9	101.3	2.4	1	12	<.04	
110-1-75um	0.508	7.21	0.147	1.77	1.1	93.1	2.4	1	12.9		0.05
111-1-75um	0.452	7.22	0.358	2.02	1.2	139.3	2.9	3	11.9		0.85
112-1-75um	0.636	8.81	0.114	1.63	1.6	122.9	3.1	2	17.2		0.04
113-1-75um	0.392	6.7	0.115	1.6	0.9	75.7	2	2	12.2		0.05
114-1-75um	0.448	5.99	0.105	0.98	1	91.3	2	1	10.8		0.04
115-1-75um	0.471	5.92	0.137	1.1	1	102.6	2.1	2	10.5		0.16

ELEMENT	Ti	Al	Na	K	W	Zr	Sn	Be	Sc	S	
SAMPLES	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	
116-1-75um	0.45	3.96	0.122	0.88	0.8	93.7	1.6	1	7.8	<.04	
117-1-75um	0.49	4.38	0.139	0.88	1	103.7	1.9	1	9.2	<.04	
118-1-75um	0.5	5.91	0.144	0.91	1.2	103.1	2.2	1	11.3	<.04	
119-1-75um	0.613	8.47	0.144	1.34	1.4	125.9	3.1	1	15.5		0.09
120-1-75um	0.537	6.78	0.121	1.36	0.9	105.1	2.4	1	11.5	<.04	
121-1-75um	0.571	6.71	0.157	1.41	1.1	106.5	2.7	2	12.2	<.04	
STANDARD DST6	0.395	7.03	1.631	1.38	7.3	60.9	6.6	4	12.2	<.04	
122-1-75um	0.599	7.6	0.162	1.59	1.1	102.5	2.6	3	12.2	<.04	
123-1-75um	0.457	4.58	0.214	1.19	0.8	77.8	1.6	2	6.8	<.04	
124-1-75um	0.574	7.82	0.187	1.69	1.1	106	2.6	2	13.2	<.04	
125-1-75um	0.48	3.98	0.4	1.57	0.7	95.7	1.2	1	5.7	<.04	
126-1-75um	0.431	4.13	0.476	1.76	0.7	93.7	1.6	2	6.2		0.09
127-1-75um	0.485	7.73	0.27	1.91	1	119.8	2.7	2	14	<.04	
128-1-75um	0.444	4.35	0.24	1.34	0.6	78.7	1.5	1	6.5	<.04	
129-1-75um	0.541	5.65	0.245	1.6	1	106.6	2.3	1	10.7	<.04	
130-1-75um	0.501	6.74	0.247	1.7	1	105.7	2.4	2	12.1	<.04	
131-1-75um	0.543	5.21	0.206	1.33	0.9	94.2	1.9	1	9	<.04	
RE 131-1-75um	0.542	5.47	0.207	1.32	0.9	93.3	1.9	1	8.7	<.04	
132-1-75um	0.573	9.76	0.2	1.45	1.7	121.8	3.1	3	17.7	<.04	
133-1-75um	0.568	10.01	0.159	1.67	1.3	115.3	3	2	16.8	<.04	
134-1-75um	0.511	8.25	0.25	2.1	1.3	109.3	2.8	2	14.8		0.04
135-1-75um	0.483	7.4	0.22	1.78	1.1	109.6	2.5	2	13.1	<.04	
136-1-75um	0.378	5.32	0.692	1.36	0.9	86.5	1.7	1	8.6		0.05
138-1-75um	0.542	7.52	0.259	1.77	1.1	154.9	2.6	2	12.3	<.04	
141-1-75um	0.579	7.31	0.179	1.57	1	109	2.5	3	12.9	<.04	
143-1-75um	0.404	5.44	0.706	1.39	0.9	97.7	1.9	1	9		0.05
144-1-75um	0.118	6.22	2.545	3.45	>200	97.8	5.8	4	5.8	<.04	
145-1-75um	1.644	8.7	3.146	1.91	51.8	158.3	1.4	2	13.9		0.08
146-1-75um	0.118	6.35	2.54	3.59	196.6	91.7	5	3	6	<.04	
147-1-75um	1.636	9.13	3.19	1.96	51.6	158.8	1.4	2	14.1		0.08
101-2-75um	0.082	1.16	0.068	0.27	0.3	19.2	0.4	1	2.4		0.04
102-2-75um	0.203	3.24	0.483	0.86	0.5	45.9	1.1	1	6.3		0.12
103-2-75um	0.463	11.26	0.367	1.01	1.1	153.6	4.3	2	20.2		0.05
104-2-75um	0.562	10.73	0.146	1.16	1.4	117.9	3.2	2	20.2	<.04	

ELEMENT	Ti	Al	Na	K	W	Zr	Sn	Be	Sc	S	
SAMPLES	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	
105-2-75um		0.49	8.35	0.522	1.65	1.3	121.6	2.9	3	13.6	0.05
106-2-75um		0.296	5.1	1.216	1.4	0.9	90.9	1.7	2	9.2	3.57
107-2-75um		0.468	7.01	0.426	1.57	0.9	142.5	2.2	1	11.1	0.05
108-2-75um		0.311	4.04	0.372	0.96	0.6	84.7	1.3	1	6.8	0.08
109-2-75um		0.26	4.17	0.46	1	0.6	62.8	1.3	1	8.1	0.1
110-2-75um		0.312	5.11	0.326	1.12	0.8	75	1.7	1	10	0.07
111-2-75um		0.375	10.3	0.715	2.58	1.3	113.2	2.8	3	16.6	2.37
STANDARD DST6		0.405	6.95	1.626	1.37	7.8	58.5	6.7	3	12.9	<.04
112-2-75um		0.347	5.8	0.114	0.91	1.2	80.1	2.1	1	10.1	0.05
113-2-75um		0.234	4.03	0.298	0.72	0.6	49.3	1.4	1	7	0.06
114-2-75um		0.348	4.82	0.342	0.85	0.8	71.8	1.7	1	8.6	0.09
115-2-75um		0.437	4.79	0.145	1.12	0.9	90.6	1.6	2	7	0.13
116-2-75um		0.289	3.24	0.093	0.56	0.7	70.6	1.1	1	5.3	0.04
117-2-75um		0.443	4.04	0.126	0.82	1.5	85.4	1.2	1	5.9	<.04
118-2-75um		0.468	4.22	0.135	0.91	1	90.7	1.5	1	6.4	<.04
119-2-75um		0.407	6.36	0.13	1	1.1	100.4	2.1	1	9.6	0.07
120-2-75um		0.329	4.8	0.362	0.95	0.9	73.8	1.4	1	7.5	0.14
121-2-75um		0.336	4.34	0.257	1.01	1	74.1	1.4	1	8	0.06
122-2-75um		0.355	5.04	0.305	1.12	0.9	74.2	1.6	1	7.8	0.08
123-2-75um		0.393	2.95	0.155	0.86	0.9	88	1.2	1	4.3	0.06
124-2-75um		0.537	8.47	0.152	1.65	1.3	101.5	2.5	2	11.4	<.04
125-2-75um		0.566	4.33	1.206	1.62	1	134.9	1.3	1	5.4	1.72
126-2-75um		0.163	2.07	0.391	0.7	0.6	35.3	0.6	<1	2.7	9.64
127-2-75um		0.207	3.62	0.53	0.83	0.6	58.7	1.1	1	6.1	0.3
128-2-75um		0.297	5.25	0.585	1.24	0.9	64.7	1.5	1	8.1	0.08
129-2-75um		0.487	7.51	0.275	1.57	1.2	98.9	2.5	2	10.4	0.04
130-2-75um		0.465	8.59	0.285	1.62	2.7	98	2.7	2	12	<.04
131-2-75um		0.551	4.54	0.196	1.25	1	100	1.7	<1	6	<.04
132-2-75um		0.566	10.62	0.122	1.3	1.5	117.7	2.9	3	14.1	<.04
133-2-75um		0.369	6.55	0.116	0.91	0.8	79.8	1.7	1	9.4	0.04
RE 133-2-75um		0.373	6.5	0.125	0.99	1.1	89.5	2	1	10.6	0.04
134-2-75um		0.424	7.78	0.394	1.57	1.1	100.8	2	2	12.5	0.06
135-2-75um		0.436	7.71	0.204	1.67	1.1	106.3	2.3	2	10.9	<.04
136-2-75um		0.401	6.59	1.031	1.55	1.3	112.8	1.7	1	9.8	0.15

ELEMENT	Ti	Al	Na	K	W	Zr	Sn	Be	Sc	S	
SAMPLES	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	
137-2-75um		0.088	1.28	0.071	0.28	0.3	23	0.4 <1		2.7	0.04
140-2-75um		0.404	6.27	0.123	0.99	1.1	103.6	2.1	2	9.4	0.07
142-2-75um		0.522	10.12	0.116	1.3	1.3	116.7	3	2	14.1 <.04	
STANDARD DST6		0.396	6.94	1.632	1.41	7.6	58.9	6.5	3	10.8 <.04	

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TE
To Geoscience Australia PROJECT 2005851
Acme file # A603353 Page 1 (b) Received: JUL 4 2006 * 165 samples in this disk file.
Analysis: GROUP 1T-MS - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. (>) CONCENTRATION EXCEEDS UPPER LIMITS. SOM

ELEMENT	Y	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
101-1-180um	9.9	28.55	3	13.1	2.4	0.5	2.2	0.3	1.8	0.3	1	0.1	
102-1-180um	8.8	25.36	2.5	11	2.1	0.4	1.8	0.2	1.6	0.3	0.8	0.1	
103-1-180um	2.5	6.95	0.7	2.9	0.5	0.1	0.5	0.1	0.5	0.1	0.2	<.1	
104-1-180um	6.5	21.36	2.1	9.5	1.8	0.4	1.6	0.2	1.4	0.3	0.7	0.1	
105-1-180um	18.9	52.04	5.6	24	4.8	0.9	3.8	0.5	3.2	0.7	2	0.3	
106-1-180um	25.2	64.33	7.4	31.7	6.8	1.3	5.4	0.7	5.1	0.9	2.6	0.4	
107-1-180um	14.7	59.72	6.4	26.6	4.7	0.9	3.5	0.5	3	0.6	1.6	0.2	
108-1-180um	13.7	37.29	3.9	17.2	3.1	0.6	2.7	0.4	2.5	0.5	1.4	0.2	
109-1-180um	13.6	41.06	4.4	18.4	3.7	0.7	2.6	0.4	2.7	0.5	1.3	0.2	
110-1-180um	13.8	41.39	4.6	18	4.1	0.7	2.8	0.4	2.6	0.5	1.6	0.2	
111-1-180um	14.9	41.04	3.9	14.4	2.9	0.4	2.4	0.4	2.4	0.5	1.5	0.2	
112-1-180um	10.8	31.02	3.2	13.3	2.6	0.5	2.2	0.3	2.1	0.4	1.2	0.2	
113-1-180um	14.6	40.92	4.3	18.8	3.9	0.9	3.4	0.4	2.9	0.5	1.5	0.2	
114-1-180um	5.1	15.03	1.5	7.3	1.4	0.2	1.1	0.1	1	0.2	0.5	0.1	
115-1-180um	5	15.72	1.6	6.9	1.3	0.3	1	0.1	0.9	0.2	0.6	0.1	
116-1-180um	3.3	12	1.3	5	0.9	0.2	0.7	0.1	0.7	0.1	0.3	<.1	
117-1-180um	3.9	13.28	1.4	5.7	1.1	0.2	1.1	0.1	0.8	0.1	0.5	0.1	
118-1-180um	5	16.39	1.6	7.3	1.4	0.3	1.2	0.2	1	0.2	0.6	0.1	
119-1-180um	10.3	30.76	3.3	15.1	2.8	0.6	2.6	0.3	2	0.4	1.1	0.2	
120-1-180um	9.3	29.21	3.1	13.2	2.5	0.5	1.9	0.3	1.5	0.4	1.1	0.1	
121-1-180um	8.3	28.44	3.1	12.5	2.3	0.5	1.8	0.3	1.5	0.3	0.9	0.1	
122-1-180um	7.3	23.58	2.4	10.6	1.9	0.4	1.6	0.3	1.4	0.3	0.8	0.1	
123-1-180um	4.1	11.33	1.4	6.2	1.2	0.2	0.9	0.1	0.7	0.1	0.4	0.1	
124-1-180um	9.1	33.85	3.7	13.7	2.8	0.5	2	0.3	1.6	0.3	1	0.1	
125-1-180um	6.6	22.12	2.6	10.1	1.8	0.4	1.6	0.2	1.3	0.3	0.8	0.1	
126-1-180um	8.2	22.53	2.7	10.6	2	0.3	1.6	0.2	1.3	0.3	0.9	0.1	
127-1-180um	14.9	39.93	4.8	19.5	3.5	0.9	3.1	0.5	2.8	0.6	1.7	0.4	
128-1-180um	6.9	19.72	2.7	10.2	2.1	0.3	1.4	0.2	1.2	0.2	0.8	0.1	
129-1-180um	10.1	30.12	3.8	15.4	3	0.6	2.1	0.3	1.8	0.4	1.2	0.2	
130-1-180um	11.7	33.04	4.1	16.7	3	0.6	2.4	0.4	2.1	0.4	1.3	0.2	

ELEMENT	Y	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
RE 130-1-180um	11.5	33.7	4.1	16.8	3.2	0.7	2.5	0.4	2.2	0.4	1.4		0.2
131-1-180um	7.2	21.05	2.4	9.8	1.9	0.4	1.4	0.2	1.3	0.2	0.7		0.1
132-1-180um	17	48.42	5.3	22.3	4.3	1	3.4	0.5	3.2	0.6	2.1		0.2
133-1-180um	15.4	44.42	4.7	19.6	3.7	0.8	3	0.5	2.8	0.5	1.8		0.2
STANDARD DST6	15.4	57.15	5.6	23	4.4	0.9	3.6	0.5	2.9	0.6	1.5		0.2
134-1-180um	15.7	49.08	6	22.2	4.5	0.9	3.8	0.5	3	0.6	1.9		0.2
135-1-180um	11.1	35.54	4.4	16.3	3.1	0.7	2.5	0.4	2	0.4	1.3		0.2
136-1-180um	11.6	31.94	4.1	14.9	3.1	0.6	2.6	0.3	2.1	0.4	1.2		0.2
137-1-180um	9.7	25.26	3.1	12.2	2.5	0.5	2.1	0.3	2	0.4	1		0.1
139-1-180um	3.5	13.95	1.5	6.1	1.1	0.2	0.8	0.1	0.8	0.1	0.4	<.1	
142-1-180um	20.8	67.79	7.6	27.5	5.8	1.2	4.5	0.7	3.8	0.7	2.1		0.3
101-2-180um	3.9	9.66	1.2	4.4	0.8	0.2	0.7	0.1	0.7	0.1	0.4	<.1	
102-2-180um	9.5	26.53	2.9	10.5	2.4	0.5	2.1	0.3	2	0.3	1.1		0.1
103-2-180um	8.1	20.48	2.4	9.2	1.9	0.3	1.7	0.2	1.7	0.3	0.9		0.1
104-2-180um	14.7	48.71	5.3	20.7	4	0.8	3.3	0.5	2.7	0.6	1.8		0.2
105-2-180um	18.4	50.27	6.6	24.5	4.5	1	3.6	0.6	3.3	0.7	2.2		0.3
106-2-180um	9	55.31	3.5	12.8	2.6	0.5	1.9	0.3	1.9	0.4	1.2		0.1
107-2-180um	13.3	59.9	7.1	24.6	4.5	0.8	3.2	0.5	3	0.5	1.6		0.2
108-2-180um	10.2	27.98	3.4	13	2.6	0.5	2.2	0.3	1.9	0.4	1.2		0.2
109-2-180um	10.2	28.38	3.5	12.6	2.5	0.6	2.4	0.3	1.7	0.4	1.1		0.1
110-2-180um	12.3	32.66	4.3	16.1	3.1	0.8	3	0.4	2.4	0.4	1.3		0.2
111-2-180um	9.4	55	4.7	12.1	1.7	0.3	1.5	0.2	1.5	0.3	1.2		0.2
112-2-180um	9.3	23.89	3.1	10.3	2.3	0.5	2.2	0.3	1.6	0.4	1		0.1
113-2-180um	9.5	26.52	3	11	2.1	0.5	1.9	0.3	1.7	0.4	1		0.1
114-2-180um	6.4	19.55	2.3	8.2	1.9	0.4	1.4	0.2	1.2	0.2	0.8		0.1
RE 114-2-180um	5.9	16.27	2	7.3	1.5	0.3	1.5	0.2	1	0.2	0.7		0.1
115-2-180um	5.2	14.88	1.7	6.5	1.2	0.3	1.1	0.2	0.9	0.2	0.6		0.1
116-2-180um	4.2	14.35	1.7	6.6	1.3	0.3	1.2	0.1	0.9	0.2	0.5	<.1	
117-2-180um	3.9	10.77	1.3	4.9	1	0.2	0.8	0.1	0.7	0.1	0.4	<.1	
118-2-180um	2.8	8.83	1	3.5	0.8	0.1	0.6	0.1	0.4	0.1	0.3	<.1	
119-2-180um	10.2	27.86	3.6	13.5	3	0.6	2.3	0.4	2.1	0.4	1.3		0.2
120-2-180um	9.8	32.19	3.7	12.1	2.3	0.5	2	0.3	1.8	0.3	1.1		0.2
121-2-180um	8	24.02	2.8	10.2	2	0.4	1.6	0.3	1.5	0.3	0.9		0.1
122-2-180um	7.9	23.34	3	11.1	2.1	0.4	1.9	0.3	1.5	0.3	0.9		0.1

ELEMENT	Y	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
123-2-180um	3.5	10.98	1.4	5.3	0.8	0.1	0.8	0.1	0.7	0.1	0.4	<.1	
124-2-180um	13.1	42.96	4.9	17.3	3.4	0.7	2.6	0.4	2.2	0.5	1.4	0.2	
125-2-180um	6.3	20.13	2.4	9.2	1.9	0.4	1.4	0.2	1.2	0.3	0.8	0.1	
126-2-180um	4.7	14.36	1.7	6.5	1.2	0.3	1	0.1	0.9	0.2	0.6	0.1	
127-2-180um	10.3	27.45	3.4	12.9	2.4	0.6	2.2	0.4	1.9	0.4	1.1	0.2	
STANDARD DST6	15.7	60.11	6.5	23.4	4.5	1.1	3.7	0.5	2.9	0.6	1.7	0.2	
128-2-180um	13.1	38	4.1	17.8	3.8	0.7	3.2	0.4	2.5	0.6	1.3	0.2	
129-2-180um	17.4	53.88	5.5	20.9	4.5	0.9	3.4	0.6	3.4	0.7	1.7	0.3	
130-2-180um	18	51.3	5.7	22.3	4.5	1	3.5	0.5	3.4	0.7	2.1	0.3	
131-2-180um	7	26.31	2.8	10.7	2	0.4	1.8	0.3	1.5	0.3	0.9	0.1	
132-2-180um	21.2	60.91	6.8	28.4	5.5	1.2	4.3	0.6	3.9	0.8	2.1	0.3	
133-2-180um	14.3	35.86	3.6	15.8	3.2	0.7	3.1	0.4	2.6	0.5	1.3	0.2	
134-2-180um	13.8	43.57	4.4	18.6	3.9	0.8	3.4	0.4	2.8	0.5	1.5	0.2	
135-2-180um	15.2	45.62	4.6	17.9	3.8	0.9	3	0.4	3.1	0.6	1.7	0.2	
136-2-180um	13.3	44.56	4.4	18.2	3.3	0.7	3	0.4	2.6	0.5	1.4	0.2	
138-2-180um	10.6	32.38	3.3	13.4	2.8	0.5	2.1	0.3	1.9	0.4	1	0.2	
141-2-180um	12.5	42.97	4.3	18.3	3.5	0.7	2.7	0.4	2.2	0.4	1.2	0.2	
143-2-180um	13.8	44.34	4.6	17.1	3.5	0.7	3	0.4	2.7	0.6	1.5	0.2	
101-1-75um	16.4	47.55	4.7	19.8	4.1	0.8	3.2	0.5	3	0.6	1.6	0.2	
102-1-75um	17.4	47.35	4.4	18.7	3.9	0.8	3.5	0.5	3	0.6	1.7	0.2	
103-1-75um	19.3	59.91	5.7	23	4.9	1	3.4	0.6	3.6	0.7	2.1	0.3	
104-1-75um	17.6	63.69	5.7	25	4.8	1	3.7	0.6	3.8	0.7	1.8	0.3	
105-1-75um	25.1	97.82	9.1	36.9	7.3	1.5	5.5	0.8	4.9	1	2.6	0.4	
RE 105-1-75um	25.5	87.67	8.2	32.5	6.7	1.4	5.2	0.7	4.7	1	2.4	0.4	
106-1-75um	26.2	80.03	8.8	37	7	1.5	5.7	0.8	4.9	1	2.7	0.4	
107-1-75um	17.4	79.54	8.3	32.8	5.9	1.1	3.5	0.7	3.5	0.7	1.7	0.3	
108-1-75um	21.8	74.66	7.4	30.8	6.1	1.3	4.2	0.7	4.4	0.9	2.2	0.3	
109-1-75um	18.9	62.35	6	27	4.9	1.1	3.5	0.6	3.3	0.7	1.8	0.3	
110-1-75um	19.5	63.22	6.4	28.8	5.6	1.1	4.5	0.6	4.2	0.7	1.9	0.3	
111-1-75um	28.2	81.41	7.4	30.3	5.6	0.9	4.5	0.8	4.9	1.1	3	0.5	
112-1-75um	22.9	73.28	7.1	31.9	5.9	1.3	5	0.8	4.6	0.8	2.3	0.3	
113-1-75um	17.7	53.65	5.4	22	4.3	1	3.7	0.6	3.7	0.6	1.8	0.3	
114-1-75um	18.3	54.52	6.2	24.4	4.3	1	3.8	0.6	3.5	0.7	1.8	0.3	
115-1-75um	22.9	73.54	7.4	30.7	5.9	1.2	4.7	0.7	4.5	0.8	2.2	0.3	

ELEMENT	Y	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
116-1-75um	19.8	70.97	8.4	35.1	6.6	1.4	4.6	0.7	3.8	0.8	1.9	0.3
117-1-75um	17	57.44	6.6	26.1	5.3	1.1	3.3	0.5	3.2	0.6	1.7	0.2
118-1-75um	20.6	68.09	6.9	29.9	5.5	1.2	3.8	0.7	4	0.8	2.2	0.3
119-1-75um	27.1	81.06	9	37.2	7.4	1.5	5.6	0.9	5.5	1	3	0.4
120-1-75um	21.1	64.07	6.6	27.9	5.2	1.1	4	0.6	3.6	0.7	2.1	0.3
121-1-75um	19.3	73.89	7.4	29.7	5.5	1.1	4.2	0.6	3.5	0.7	1.9	0.3
STANDARD DST6	15.5	60.69	5.7	23	4.4	1	3.5	0.5	2.9	0.6	1.5	0.2
122-1-75um	19.4	66.19	6.9	28.5	4.9	1.2	4.1	0.7	3.7	0.7	2	0.3
123-1-75um	26.8	66.97	8.8	37.7	7.6	1.5	6.4	0.9	5.1	0.9	2.6	0.4
124-1-75um	19.6	70.24	7.1	29	5.2	1	4	0.7	3.5	0.7	1.9	0.3
125-1-75um	15.5	71.47	7.1	29.3	5	0.9	3.8	0.5	3.2	0.6	1.7	0.3
126-1-75um	19.6	59.47	6.3	25.6	5.4	1	3.9	0.6	3.3	0.7	2	0.3
127-1-75um	22.3	72.95	8.2	31.6	6	1.2	4.2	0.8	4.3	0.9	2.3	0.4
128-1-75um	16.2	45.68	5.8	23.3	4.4	1.1	3.7	0.6	3.2	0.6	1.8	0.2
129-1-75um	20.7	64.27	6.1	26	5	1.1	4.2	0.6	3.4	0.7	2	0.3
130-1-75um	19.2	66.73	6.6	26.3	4.9	1.1	4.4	0.7	3.4	0.8	1.9	0.3
131-1-75um	15.7	51.98	5.6	21.9	4.6	0.9	3.2	0.5	2.7	0.5	1.5	0.2
RE 131-1-75um	14.9	51.3	5.4	21.8	4.1	0.9	3.4	0.6	3	0.6	1.4	0.2
132-1-75um	26.5	77.76	8	33.6	6.4	1.4	5.7	0.9	4.6	1	2.5	0.4
133-1-75um	26.3	76.07	7.6	29.5	5.9	1.3	5.1	0.8	4.6	0.9	2.4	0.4
134-1-75um	25.5	80.51	8	33.6	6.3	1.5	5.2	0.8	5	0.9	2.6	0.4
135-1-75um	19.6	68.11	6.3	27.4	5.4	1.1	4.5	0.6	3.6	0.7	2	0.3
136-1-75um	14.6	49.41	5.4	19.7	4	0.8	3	0.5	3	0.6	1.7	0.2
138-1-75um	22.9	79.71	8.2	32.2	5.7	1.3	5.3	0.8	3.9	0.9	2.3	0.4
141-1-75um	19.5	67.82	6.9	26	4.5	1.1	4.1	0.6	3.5	0.7	1.9	0.2
143-1-75um	14.9	50.34	5.2	20.6	4.2	0.8	3.2	0.5	3	0.6	1.6	0.2
144-1-75um	85.4	125.94	13.6	57.6	12.3	1.2	13.5	2.4	14.2	3.4	9.6	1.4
145-1-75um	19.5	106.83	10.1	37.5	6.6	2.5	5.1	0.8	3.5	0.8	1.9	0.3
146-1-75um	79.9	113.36	12.1	50	11.1	1.2	11.7	2.2	13	2.8	8.1	1.2
147-1-75um	19.1	104.71	9.9	38.6	6.3	2.4	5.6	0.7	3.8	0.8	2	0.3
101-2-75um	6.2	14.64	2	6.4	1.3	0.3	1.2	0.2	1.1	0.2	0.6	0.1
102-2-75um	15	44	4.2	17.4	3.4	0.7	3.1	0.4	2.6	0.6	1.5	0.2
103-2-75um	28.5	68.41	7.8	31.8	5.9	1.3	5.7	0.8	4.8	1	2.8	0.4
104-2-75um	31.5	104.51	10.2	42.5	8.2	1.8	7.5	1	5.9	1.2	3.2	0.5

ELEMENT	Y	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
105-2-75um	26.5	87.68	9.8	38.8	7.3	1.6	6.2	0.9	4.7	1	2.8	0.4
106-2-75um	12	58.71	3.7	13.9	2.9	0.6	2.3	0.3	2.1	0.4	1.2	0.2
107-2-75um	22.3	102.16	10.5	42.9	6.9	1.4	5.9	0.8	4.3	0.9	2.2	0.3
108-2-75um	14.2	48.11	5.3	21.1	3.9	0.9	3.6	0.5	2.7	0.6	1.4	0.2
109-2-75um	13	37.45	4.4	17.3	3.3	0.7	2.9	0.4	2.2	0.5	1.2	0.2
110-2-75um	17.8	49.49	6	23.5	4.6	1.1	3.9	0.6	3.3	0.7	1.7	0.2
111-2-75um	16.6	102.23	8.1	23.9	3.7	0.7	2	0.5	2.9	0.6	1.9	0.3
STANDARD DST6	15.6	59.11	5.6	23.1	4.5	1	4.2	0.5	2.9	0.5	1.5	0.2
112-2-75um	17.7	44.66	5.4	23.3	4.5	1	3.5	0.5	3.3	0.5	1.6	0.2
113-2-75um	11.7	31.86	3.5	14.5	2.8	0.6	2.1	0.4	2.2	0.4	1.1	0.2
114-2-75um	17.8	48.67	5.5	24	4.6	0.9	3.2	0.6	3.1	0.6	1.7	0.3
115-2-75um	19.2	47.5	5.8	24.1	4.5	0.9	3.7	0.6	3.6	0.7	1.9	0.3
116-2-75um	20.6	72.72	9	38.7	6.4	1.3	5	0.7	4	0.8	2	0.3
117-2-75um	14.3	41.53	5	20.1	3.9	0.8	3.5	0.5	2.7	0.5	1.3	0.2
118-2-75um	12.1	36.52	4.3	17.1	3.2	0.6	2.6	0.4	2.2	0.4	1.2	0.2
119-2-75um	23.3	56.16	7.3	31.8	6.1	1.3	5	0.8	4.4	0.8	2.3	0.3
120-2-75um	16.1	47.43	5	21.3	4	0.9	3	0.5	3	0.6	1.6	0.2
121-2-75um	16.2	54.5	6.2	25	4.4	0.9	3.7	0.5	3	0.5	1.6	0.2
122-2-75um	16.3	47.24	5.4	21.7	4.4	0.9	3.4	0.5	3	0.5	1.4	0.2
123-2-75um	20.8	48.16	6.9	28.4	5.2	0.9	3.7	0.6	3.5	0.7	1.9	0.3
124-2-75um	15.1	49.69	5.1	21.5	4.1	0.9	3.2	0.5	3.1	0.6	1.7	0.3
125-2-75um	18.1	58.54	6.5	26.6	4.8	0.8	3.6	0.5	3.5	0.6	1.7	0.2
126-2-75um	8.5	25.51	2.9	11	2	0.3	1.7	0.2	1.5	0.3	0.8	0.1
127-2-75um	12.8	36.24	4.4	18.6	3	0.7	2.5	0.4	2.3	0.4	1.1	0.2
128-2-75um	21	55.27	6.8	29.7	5.4	1.2	4.5	0.7	4	0.7	1.9	0.3
129-2-75um	16.2	45.1	4.7	19.9	4	1	3.9	0.5	3.5	0.6	1.9	0.3
130-2-75um	15.4	35.47	4.3	18.4	3.5	0.9	3.1	0.5	3.4	0.6	1.8	0.3
131-2-75um	12.2	48.69	5.2	20.3	3.2	0.6	2.3	0.4	2.5	0.5	1.2	0.2
132-2-75um	19.5	44.42	5.7	24	4.9	1	4.5	0.7	3.8	0.7	2.2	0.3
133-2-75um	20.1	48.82	5.8	23.3	4.9	1	3.5	0.5	3.3	0.7	1.6	0.3
RE 133-2-75um	22	52.78	6.3	24.9	4.7	1	4.2	0.5	4	0.7	2	0.3
134-2-75um	24.1	63.29	7.4	28.7	5.9	1.2	4.7	0.7	4.4	0.8	2.1	0.3
135-2-75um	16.1	39.17	4.7	19.2	3.9	0.8	3.2	0.5	3.3	0.6	1.7	0.3
136-2-75um	18.6	58.74	6.3	23.9	4.8	0.9	3.8	0.6	3.4	0.6	1.7	0.3

ELEMENT	Y	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
137-2-75um		7	15.56	2	8.1	1.5	0.2	1.2	0.2	1.1	0.2	0.5	0.1
140-2-75um		22.8	50.59	6.8	28.6	5.4	1.1	4.5	0.6	4	0.8	2.1	0.3
142-2-75um		19.9	42.42	5.4	22	4.8	1	4.3	0.6	3.8	0.7	2	0.3
STANDARD DST6		15	50.98	5.3	21.7	3.8	0.9	3.6	0.5	2.8	0.5	1.5	0.2

From ACME ANALYTEXT FORMAT
To Geoscience Aust
Acme file # A603353
Analysis: GROUP 1TE MINERALS MAY BE PARTIALLY'

ELEMENT	Yb	Lu	Hf	Li	Rb	Ta	Nb	Cs	Ga
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
101-1-180um	0.9	0.2	1.25	17.8	34.8	0.4	3.78	1.7	7.52
102-1-180um	0.9	0.1	0.82	12.7	26.2	0.3	2.66	1.1	4.5
103-1-180um	0.2	<.1	0.72	6.5	8.5	0.2	1.97	0.5	2.94
104-1-180um	0.6	0.1	1.01	14.9	25.4	0.4	3.44	1.4	5.91
105-1-180um	2	0.3	3.34	27.5	77.7	0.8	8.88	3.4	13.6
106-1-180um	2.3	0.4	4.06	27.4	105.5	1	10.62	3.8	16.46
107-1-180um	1.5	0.2	3.26	22.8	61.2	0.6	6.46	2.5	11.95
108-1-180um	1.4	0.2	3.32	19.6	57.3	0.6	8.4	2.3	10.56
109-1-180um	1.4	0.2	2.16	23	62.6	0.6	6.16	2.9	11.73
110-1-180um	1.5	0.2	2.36	22.5	51.7	0.6	5.79	2.8	12.42
111-1-180um	1.6	0.2	2.59	19.7	80.8	0.7	7.28	2.3	7.98
112-1-180um	1	0.2	2.01	24.4	44.8	0.6	6.4	2.6	13.25
113-1-180um	1.5	0.2	2.15	28.5	62.7	0.6	6.44	3.4	13.92
114-1-180um	0.6	0.1	1.06	13.8	19.9	0.4	3.56	1.5	5.35
115-1-180um	0.4	0.1	0.88	10.6	16.8	0.4	3.83	1.1	4.22
116-1-180um	0.4	0.1	0.84	8.6	12.9	0.2	2.67	0.7	3.13
117-1-180um	0.4	0.1	1.27	8.4	13.6	0.3	3.67	0.9	3.96
118-1-180um	0.5	0.1	1.24	10.3	17.6	0.4	4	1.1	5.08
119-1-180um	1.1	0.2	1.95	21.9	40.6	0.6	6.3	2.3	9.12
120-1-180um	0.9	0.1	1.72	19.2	37.8	0.5	6.3	1.9	8.77
121-1-180um	0.8	0.1	1.53	23.8	40.7	0.6	6.27	1.9	8.73
122-1-180um	0.8	0.1	1.65	21	34.3	0.5	5.5	1.8	8.23
123-1-180um	0.4	0.1	0.62	10.3	14.5	0.2	2.59	0.7	2.87
124-1-180um	0.8	0.1	2.03	18.8	48	0.6	5.89	2.2	10.64
125-1-180um	0.7	0.1	1.31	10.2	42.7	0.4	4.57	1.1	4.88
126-1-180um	0.8	0.1	1.32	9.7	32.7	0.4	3.84	1	4.07
127-1-180um	1.6	0.2	2.85	23.2	66.5	0.7	6.8	3.1	13.55
128-1-180um	0.8	0.1	1.36	14.2	35.9	0.4	4.57	1.6	5.73
129-1-180um	1	0.2	1.69	17	49.5	0.5	5.51	2	8.57
130-1-180um	1.1	0.2	1.88	19	48	0.6	5.4	2.3	10.05

ELEMENT	Yb	Lu	Hf	Li	Rb	Ta	Nb	Cs	Ga
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
RE 130-1-180um	1.2	0.2	2.09	18.8	49.1	0.5	5.35	2.4	10.56
131-1-180um	0.9	0.1	1.74	18.6	37.1	0.5	4.99	1.8	7.87
132-1-180um	1.8	0.3	3.12	36.4	60.3	0.8	8.43	3.9	17.82
133-1-180um	1.5	0.2	2.58	33.5	58.9	0.7	6.72	3.5	15.93
STANDARD DST6	1.6	0.2	1.94	27.2	57.2	0.8	8.45	8.8	17.43
134-1-180um	1.6	0.2	2.55	31.3	65	0.6	5.85	3.7	13.39
135-1-180um	1.2	0.2	2.24	21.3	56.8	0.6	5.09	2.7	11.08
136-1-180um	1.1	0.2	2.13	19.9	49.2	0.5	5.56	2.4	9.87
137-1-180um	0.9	0.1	1.32	16.5	32.4	0.4	3.72	1.8	7.05
139-1-180um	0.4	0.1	1.05	8.5	13.2	0.3	2.9	0.8	3.03
142-1-180um	2	0.3	2.99	34	68.5	0.8	7.84	4.5	17.08
101-2-180um	0.4	<.1	0.39	5.8	11.3	0.1	1.3	0.6	2.33
102-2-180um	1	0.1	0.94	16.6	30.7	0.3	2.75	1.3	5.32
103-2-180um	0.9	0.1	1.92	23.8	25.8	0.5	5.01	1.6	11.49
104-2-180um	1.5	0.2	2.12	32.6	55.4	0.6	5.99	3.2	13.56
105-2-180um	1.8	0.3	2.92	28.9	70.7	0.7	8.1	3.4	14.22
106-2-180um	1.1	0.1	2.45	22.3	47.4	0.6	5.98	2.7	12.13
107-2-180um	1.6	0.2	2.87	21.2	56.2	0.5	5.99	2.3	11.35
108-2-180um	1.2	0.1	2.22	14	42	0.5	4.51	1.8	8.07
109-2-180um	1	0.1	1.73	19	44.4	0.5	4.67	2.4	8.72
110-2-180um	1.2	0.2	1.76	18.5	42.7	0.5	5	2.5	10.52
111-2-180um	1.1	0.2	2.5	19.6	70.4	0.6	6.05	2.9	10.05
112-2-180um	1	0.1	1.82	19	32.8	0.5	5.12	2.2	10.34
113-2-180um	0.9	0.1	1.68	20	37.2	0.4	4.21	2.3	8.47
114-2-180um	0.7	0.1	1.37	16.1	25.3	0.4	3.67	2	6.08
RE 114-2-180um	0.7	0.1	1.14	14	24.3	0.4	3.42	1.8	5.86
115-2-180um	0.5	0.1	0.95	11.5	18.9	0.3	2.99	1.2	4.34
116-2-180um	0.4	<.1	0.74	6.9	11.9	0.2	1.87	0.7	2.57
117-2-180um	0.5	0.1	1.02	9.6	12.7	0.3	3.37	0.9	3.82
118-2-180um	0.4	<.1	0.75	8.6	12.3	0.3	3	0.9	4.03
119-2-180um	1.2	0.2	1.82	21.2	41.7	0.7	5.56	2.4	9.12
120-2-180um	1	0.1	1.65	17.1	38.4	0.6	5.27	1.9	8.37
121-2-180um	0.8	0.1	1.48	16.4	34.5	0.5	4.39	1.6	6.94
122-2-180um	0.8	0.1	1.48	20.2	34	0.5	4.84	1.8	7.61

ELEMENT	Yb	Lu	Hf	Li	Rb	Ta	Nb	Cs	Ga
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
123-2-180um	0.3	<.1	0.92	6.6	12.3	0.3	2.9	0.5	2.18
124-2-180um	1.3	0.2	2.43	22.4	61	0.7	6.24	3.1	12.83
125-2-180um	0.6	0.1	1.46	12.8	38.1	0.4	4.12	1	4.95
126-2-180um	0.4	0.1	0.73	8.5	19.4	0.3	1.8	0.7	2.6
127-2-180um	0.9	0.2	1.82	14.1	40.4	0.4	4.16	2.2	8.46
STANDARD DST6	1.6	0.2	1.79	26.4	61.4	0.8	8.48	8.5	16.23
128-2-180um	1.4	0.2	1.39	20.2	51.3	0.6	4.48	2.8	9.04
129-2-180um	2	0.3	2.41	30.2	69.2	0.8	7.47	3.9	16.51
130-2-180um	2.2	0.3	2.85	35.2	82.3	0.8	7.31	4.7	20.14
131-2-180um	0.9	0.1	1.74	17.6	41	0.6	5.84	1.7	7.96
132-2-180um	2.3	0.3	3.46	48.7	78.9	0.9	8.64	5.2	23.37
133-2-180um	1.5	0.2	2.01	24.3	44.4	0.6	5.58	2.7	12.61
134-2-180um	1.5	0.2	1.87	27.9	56.3	0.9	6.74	3	12.1
135-2-180um	1.7	0.2	2.45	27.9	72	0.7	6.24	4	15.48
136-2-180um	1.5	0.2	2.76	20	60.1	0.7	6.48	3.2	12.46
138-2-180um	1.2	0.2	2.03	14.1	44	0.5	4.69	1.8	8.15
141-2-180um	1.3	0.2	2.12	26.3	63.2	0.8	7.27	3.2	14.3
143-2-180um	1.5	0.2	2.64	20.3	66.4	0.7	6.59	3.1	13.51
101-1-75um	1.8	0.2	2.07	26.1	56.9	0.6	6.25	2.8	11.24
102-1-75um	1.6	0.2	1.42	24.2	54.4	0.5	4.85	2.1	8.71
103-1-75um	2.1	0.3	5.83	29.3	53.9	1.3	11.67	2.4	16.18
104-1-75um	2	0.3	2.42	31.4	64	0.8	7.53	3.4	13.03
105-1-75um	3.1	0.4	4.39	43.7	94.7	1.2	11.74	5.5	22.6
RE 105-1-75um	2.7	0.3	4.2	41.1	100.9	1.2	11.84	5.1	21.25
106-1-75um	2.6	0.4	3.92	35.2	101.9	1.1	11.01	4.6	20.02
107-1-75um	2	0.3	3.64	28.1	76	1	9.04	3.2	16.29
108-1-75um	2.5	0.3	4.64	34.1	95.3	1.2	11.78	4.1	19.31
109-1-75um	2.1	0.3	3.2	36.7	92.2	1	9.72	4.5	18.37
110-1-75um	2.1	0.3	3.05	31.7	74.1	1	8.74	4.1	17.69
111-1-75um	3.2	0.5	4.78	31.2	124.6	1.5	13.33	3.9	14.44
112-1-75um	2.4	0.3	4.03	47.7	99.5	1.4	12.73	5.4	24.91
113-1-75um	2	0.3	2.57	34.5	75.5	0.8	7.72	4.2	15.58
114-1-75um	1.9	0.3	2.76	36.6	70.7	1	8.7	4.7	14.33
115-1-75um	2.4	0.3	3.11	34.7	71.9	1	9.33	3.9	14.32

ELEMENT	Yb	Lu	Hf	Li	Rb	Ta	Nb	Cs	Ga
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
116-1-75um	2.1	0.3	2.67	24.7	57.8	0.9	9.3	2.5	10.33
117-1-75um	1.9	0.3	3.2	25.2	59.4	1.1	10.45	2.9	11.84
118-1-75um	2.2	0.3	3.4	31.2	64.9	1.1	10.19	3.6	15.18
119-1-75um	2.9	0.4	3.99	51.3	108.5	1.3	12.66	5.5	20.55
120-1-75um	2.3	0.3	3.41	32.3	84.5	1.1	10.78	3.9	17.32
121-1-75um	2.2	0.3	3.37	45.9	92.8	1.3	11.94	4.1	17.07
STANDARD DST6	1.6	0.2	1.89	26.7	58.8	0.9	9.02	8.8	16.83
122-1-75um	1.9	0.3	3.4	46.3	81.1	1.2	11.33	4.1	18.35
123-1-75um	2.3	0.4	2.73	30	61.9	0.9	8.47	2.5	10.9
124-1-75um	2	0.3	3.36	40	86.7	1.2	11.43	4.6	20.7
125-1-75um	1.6	0.2	3.25	18	63.6	1	9.14	2.1	9.43
126-1-75um	1.9	0.3	2.99	20.4	70.5	0.9	8.5	2.4	10.43
127-1-75um	2.3	0.3	3.88	34.5	91.6	1.1	10.01	5	20.11
128-1-75um	1.5	0.3	2.4	22.5	66.7	1	9.01	2.7	10.6
129-1-75um	1.8	0.3	3.37	27.3	79.3	1.2	10.98	3.6	15.55
130-1-75um	1.9	0.3	3.3	33.6	85.9	1.1	10.08	4.2	18.09
131-1-75um	1.6	0.2	3.04	26.6	66.9	1.1	10.67	3.1	12.99
RE 131-1-75um	1.6	0.2	3.04	26.6	62.7	1.1	9.91	3.1	13.14
132-1-75um	2.6	0.4	4.13	44.2	87.7	1.2	11.9	5.7	26.09
133-1-75um	2.5	0.4	3.55	46	88.9	1.2	10.87	5.6	23.9
134-1-75um	2.5	0.4	3.72	48.7	92.8	1.1	9.75	5.8	22.32
135-1-75um	2.1	0.3	3.83	36	90.8	1.1	10.16	4.7	20.14
136-1-75um	1.6	0.3	2.74	27.4	64	0.9	8.52	3.3	14.05
138-1-75um	2.4	0.4	4.65	36.3	95.7	1.2	11.99	4.3	20.17
141-1-75um	1.9	0.3	3.46	36.4	82.8	1.1	11.16	4.5	20.29
143-1-75um	1.7	0.3	3.13	29.2	66.6	1	8.82	3.5	13.19
144-1-75um	8.7	1.4	4.92	12.6	197.8	1.9	12.55	2.9	20.71
145-1-75um	1.9	0.2	3.85	10.8	78	7	90.74	1.4	15.97
146-1-75um	7.9	1.3	4.16	11.7	180.1	1.7	11.94	2.7	18.69
147-1-75um	1.8	0.3	3.79	11.5	83	6.8	89.52	1.6	15.68
101-2-75um	0.6	0.1	0.56	7.4	13.4	0.2	2.05	0.8	3.01
102-2-75um	1.5	0.2	1.43	24.7	48.4	0.4	4.76	2	8.53
103-2-75um	2.7	0.4	5.02	57.5	75.4	1.3	12.48	4.8	29.96
104-2-75um	3.2	0.5	4.05	61.9	108.6	1.3	12.06	7	26.85

ELEMENT	Yb	Lu	Hf	Li	Rb	Ta	Nb	Cs	Ga
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
105-2-75um	2.8	0.4	3.83	43.2	84.5	1.1	10.61	5	20.26
106-2-75um	1.3	0.2	3.13	23.6	63.5	0.8	7.56	3.2	13.46
107-2-75um	2.1	0.4	4.51	36.3	77.4	1	10.47	3.5	18.46
108-2-75um	1.6	0.2	2.56	18.9	49.1	0.7	7.21	2.3	10.35
109-2-75um	1.3	0.2	1.88	23.4	50.1	0.6	5.95	3	10.9
110-2-75um	1.9	0.3	2.53	24.8	55	0.8	6.9	3.3	13.26
111-2-75um	2.2	0.4	4.1	35.7	93.7	1.2	10.72	5.2	16.44
STANDARD DST6	1.5	0.2	1.8	27.2	59.9	0.8	8.42	8.6	17.3
112-2-75um	1.8	0.2	2.31	32.4	57.6	0.8	8.09	3.4	16.91
113-2-75um	1.1	0.2	1.5	25.7	43.2	0.5	4.63	2.5	9.56
114-2-75um	1.8	0.2	2.31	30.9	56.8	0.7	7.24	3.7	11.74
115-2-75um	1.8	0.3	2.85	28.9	64.9	0.8	8.29	3.2	11.94
116-2-75um	2.1	0.3	2.33	17.3	42.6	0.6	5.66	1.9	7.89
117-2-75um	1.4	0.2	2.72	22.1	53	0.8	8.95	2.3	10.28
118-2-75um	1.5	0.2	2.88	24.3	52.8	1	9.57	2.3	10.36
119-2-75um	2.4	0.4	3.28	37.5	76.9	0.8	8.65	4.2	17.07
120-2-75um	1.7	0.2	2.42	25.2	55.3	0.8	6.93	2.5	11.72
121-2-75um	1.6	0.2	2.43	27.1	58.7	0.7	7.46	2.8	12.03
122-2-75um	1.7	0.3	2.43	31.4	57.1	0.7	7.25	2.7	12.59
123-2-75um	2	0.3	2.72	20.5	44.2	0.8	9.05	1.6	6.74
124-2-75um	2	0.3	3.29	40.3	77.1	1	10.03	4.1	21.19
125-2-75um	2	0.3	4.39	26	67.1	1.1	10.91	2	9.12
126-2-75um	0.8	0.1	1.1	12.9	30.6	0.3	3.5	1.2	4.25
127-2-75um	1.4	0.2	1.94	17.1	43.8	0.5	4.35	2.5	10.1
128-2-75um	2.2	0.3	2.21	24.8	59.5	0.6	6.06	3.6	12.24
129-2-75um	2.1	0.3	3.07	38.3	45.2	0.9	8.83	3.7	19.79
130-2-75um	2	0.3	2.96	43.5	56	0.8	8.21	4.2	23.83
131-2-75um	1.4	0.2	3.19	22.2	63.9	1	11.05	2.4	11.1
132-2-75um	2.3	0.3	3.99	57.2	88.3	1	10.3	5.5	28.58
133-2-75um	1.9	0.3	2.68	28.5	58.3	0.7	7.06	3.5	15.34
RE 133-2-75um	2.1	0.3	2.83	32	63.9	0.7	7.74	3.8	16.85
134-2-75um	2.4	0.4	3.26	45.9	78.5	0.7	8.37	4.9	18.96
135-2-75um	1.8	0.3	3.24	34.6	45.4	0.7	8.16	4	21.01
136-2-75um	2	0.3	3.52	27.4	83.5	0.9	8.88	4.4	17.01

ELEMENT	Yb	Lu	Hf	Li	Rb	Ta	Nb	Cs	Ga
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
137-2-75um	0.7	0.1	0.68	7.9	16.4	0.2	2.04	0.8	3.63
140-2-75um	2.1	0.3	2.92	34.4	78.1	1	10.44	4	16.31
142-2-75um	2.1	0.3	3.6	54.1	88.5	0.9	10.24	5.3	26.83
STANDARD DST6	1.6	0.2	1.95	29.1	61.9	0.7	9.55	8.7	18.02

Appendix 5.3. GF-AAS data for Au and ISE data for F (regolith)

ALS Chemex
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CERTIFICATE BR06021395

Project:

P.O. No.:

This report is for 51 Pulp samples submitted to our lab in Brisbane, QLD, Australia on 16-MAR-2006.

The following have access to data associated with this certificate:

PATRICE DE CARITAT

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LEV-01	Waste Disposal Levy
LOG-22	Sample login - Rcd w/o BarCode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ST43	Super Trace Au - 25g AR	AAS
F-ELE81a	F by Specific Ion Electrode	WST-SIM

To: **AUSTRALIAN NATIONAL UNIVERSITY**
ATTN: PATRICE DE CARITAT
DEPARTMENT OF GEOLOGY
CANBERRA ACT 0200

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Shaun Kenny, Brisbane Laboratory Manager

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CERTIFICATE OF ANALYSIS BR06021395

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
2004851001001<180		<0.0001	
2004851001002<180		<0.0001	
2004851002001<180		<0.0001	
2004851002002<180		0.0007	
2004851004001<180		<0.0001	
2004851004002<180		0.0001	
2004851006001<180		<0.0001	
2004851009001<180		<0.0001	
2004851009002<180		0.0008	
2004851012002<180		0.0016	
2004851001001<75		0.0001	
2004851006001<75		0.0004	
2004851012001<75		0.0012	
2006031301		0.0002	
2006031302		0.0010	
2006031303		0.0019	
2006031304		0.0002	
2006031305		0.0027	
2006031306		0.0001	
2006031307		0.0018	
2004851001001<180 F			370
2004851001002<180 F			330
2004851002001<180 F			180
2004851002002<180 F			330
2004851004001<180 F			190
2004851004002<180 F			160
2004851006001<180 F			240
2004851006002<180 F			300
2004851009001<180 F			320
2004851009002<180 F			390
2004851012001<180 F			170
2004851012002<180 F			260
2004851001001<75 F			520
2004851001002<75 F			600
2004851002001<75 F			220
2004851002002<75 F			290
2004851004001<75 F			170
2004851004002<75 F			180
2004851006001<75 F			200
2004851006002<75 F			300

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CERTIFICATE OF ANALYSIS BR06021395

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
2004851009001<75 F			160
2004851009002<75 F			420
2004851012001<75 F			230
2004851012002<75 F			640
2006031308 F			620
2006031309 F			1540
2006031310 F			550
2006031311 F			380
2006031312 F			270
2006031313 F			220
2006031314 F			560

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CERTIFICATE BR06012941

Project:

P.O. No.:

This report is for 82 Pulp samples submitted to our lab in Brisbane, QLD, Australia on 16-FEB-2006.

The following have access to data associated with this certificate:

PATRICE DE CARITAT

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LEV-01	Waste Disposal Levy
LOG-22	Sample login - Rcd w/o BarCode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
F-ELE81a	F by Specific Ion Electrode	WST-SIM

To: **CRC FOR LANDSCAPE ENVIRONMENTS AND MINERAL EXPLORA**
ATTN: PATRICE DE CARITAT
C/- GEOSCIENCE AUSTRALIA
GPO BOX 378
CANBERRA ACT 2601

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: _____

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CERTIFICATE OF ANALYSIS BR06012941

Sample Description	Method Analyte Units LOR	F-ELE81a F ppm 20
20058511021 (<180 um)		200
20058511021 (<75 um)		350
20058511022 (<180 um)		280
20058511022 (<75 um)		400
20058511041 (<180 um)		190
20058511041 (<75 um)		310
20058511042 (<180 um)		220
20058511042 (<75 um)		310
20058511061 (<180 um)		300
20058511061 (<75 um)		440
20058511062 (<180 um)		1150
20058511062 (<75 um)		1050
20058511081 (<180 um)		180
20058511081 (<75 um)		230
20058511082 (<180 um)		230
20058511082 (<75 um)		300
20058511101 (<180 um)		260
20058511101 (<75 um)		200
20058511102 (<180 um)		240
20058511102 (<75 um)		300
20058511121 (<180 um)		170
20058511121 (<75 um)		230
20058511122 (<180 um)		210
20058511122 (<75 um)		270
20058511141 (<180 um)		120
20058511141 (<75 um)		200
20058511142 (<180 um)		140
20058511142 (<75 um)		230
20058511161 (<180 um)		90
20058511161 (<75 um)		170
20058511162 (<180 um)		130
20058511162 (<75 um)		300
20058511181 (<180 um)		90
20058511181 (<75 um)		140
20058511182 (<180 um)		110
20058511182 (<75 um)		130
20058511191 (<180 um)		180
20058511191 (<75 um)		230
20058511192 (<180 um)		180
20058511192 (<75 um)		260

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CERTIFICATE OF ANALYSIS BR06012941

Sample Description	Method Analyte Units LOR	F-ELE81a F ppm 20
20058511201 (<180 um)		140
20058511201 (<75 um)		210
20058511202 (<180 um)		180
20058511202 (<75 um)		230
20058511221 (<180 um)		140
20058511221 (<75 um)		190
20058511222 (<180 um)		140
20058511222 (<75 um)		240
20058511251 (<180 um)		100
20058511251 (<75 um)		130
20058511252 (<180 um)		240
20058511252 (<75 um)		480
20058511261 (<180 um)		160
20058511261 (<75 um)		230
20058511262 (<180 um)		240
20058511262 (<75 um)		410
20058511281 (<180 um)		130
20058511281 (<75 um)		140
20058511282 (<180 um)		420
20058511282 (<75 um)		580
20058511301 (<180 um)		160
20058511301 (<75 um)		200
20058511302 (<180 um)		240
20058511302 (<75 um)		260
20058511321 (<180 um)		210
20058511321 (<75 um)		230
20058511322 (<180 um)		230
20058511322 (<75 um)		300
20058511341 (<180 um)		340
20058511341 (<75 um)		470
20058511342 (<180 um)		540
20058511342 (<75 um)		750
20058511351 (<180 um)		210
20058511351 (<75 um)		260
20058511352 (<180 um)		260
20058511352 (<75 um)		330
20058511381 (<75 um)		260
20058511382 (<180 um)		260
20058511391 (<180 um)		110
20058511402 (<75 um)		260

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CERTIFICATE OF ANALYSIS BR06012941

Sample Description	Method Analyte Units LOR	F-ELE81a F ppm 20
20058511421 (<180 um)		220
20058511422 (<75 um)		300

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Finalized Date: 9-FEB-2006
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Account: CRCLAN

CERTIFICATE BR06000519

Project:

P.O. No.:

This report is for 153 Pulp samples submitted to our lab in Brisbane, QLD, Australia on 5-JAN-2006.

The following have access to data associated with this certificate:

PATRICE DE CARITAT

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ST43	Super Trace Au - 25g AR	AAS
F-ELE81a	F by Specific Ion Electrode	WST-SIM

To: **CRC FOR LANDSCAPE ENVIRONMENTS AND MINERAL EXPLORA**
ATTN: PATRICE DE CARITAT
C/- GEOSCIENCE AUSTRALIA
GPO BOX 378
CANBERRA ACT 2601

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Signature:

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CERTIFICATE OF ANALYSIS BR06000519

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
20058511011 (<180 um)		<0.0001	160
20058511011 (<75 um)		0.0001	240
20058511012 (<180 um)		0.0004	230
20058511012 (<75 um)		0.0007	310
20058511021 (<180 um)		<0.0001	
20058511021 (<75 um)		0.0001	
20058511022 (<180 um)		<0.0001	
20058511022 (<75 um)		0.0004	
20058511031 (<180 um)		0.0001	70
20058511031 (<75 um)		0.0002	170
20058511032 (<180 um)		0.0004	150
20058511032 (<75 um)		0.0013	260
20058511041 (<180 um)		0.0001	
20058511041 (<75 um)		0.0002	
20058511042 (<180 um)		0.0002	
20058511042 (<75 um)		0.0005	
20058511051 (<180 um)		0.0001	200
20058511051 (<75 um)		<0.0001	240
20058511052 (<180 um)		0.0005	250
20058511052 (<75 um)		0.0010	390
20058511061 (<180 um)		<0.0001	
20058511061 (<75 um)		0.0001	
20058511062 (<180 um)		0.0012	
20058511062 (<75 um)		0.0012	
20058511071 (<180 um)		0.0001	320
20058511071 (<75 um)		0.0002	400
20058511072 (<180 um)		0.0001	340
20058511072 (<75 um)		0.0024	480
20058511081 (<180 um)		0.0001	
20058511081 (<75 um)		0.0004	
20058511082 (<180 um)		0.0134	
20058511082 (<75 um)		0.0037	
20058511091 (<180 um)		0.0001	210
20058511091 (<75 um)		0.0004	250
20058511092 (<180 um)		0.0013	340
20058511092 (<75 um)		0.0031	380
20058511101 (<180 um)		0.0002	
20058511101 (<75 um)		0.0004	
20058511102 (<180 um)		0.0013	
20058511102 (<75 um)		0.0038	

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CERTIFICATE OF ANALYSIS BR06000519

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
20058511111 (<180 um)		<0.0001	360
20058511111 (< 75um)		<0.0001	640
20058511112 (<180 um)		0.0001	1270
20058511112 (<75 um)		0.0002	1700
20058511121 (<180 um)		0.0002	
20058511121 (<75 um)		0.0002	
20058511122 (<180 um)		0.0012	
20058511122 (<75 um)		0.0025	
20058511131 (<180 um)		0.0001	220
20058511131 (<75 um)		<0.0001	220
20058511132 (<180 um)		0.0006	250
20058511132 (<75 um)		0.0008	290
20058511141 (<180 um)		<0.0001	
20058511141 (<75 um)		0.0036	
20058511142 (<180 um)		0.0003	
20058511142 (<75 um)		0.0026	
20058511151 (<180 um)		0.0001	120
20058511151 (<75 um)			260
20058511152 (<180 um)		0.0005	130
20058511152 (<75 um)		0.0003	250
20058511161 (<180 um)		0.0001	
20058511162 (<180 um)		<0.0001	
20058511162 (<75 um)		0.0008	
20058511171 (<180 um)		<0.0001	90
20058511171 (<75 um)			100
20058511172 (<180 um)		<0.0001	80
20058511172 (<75 um)			160
20058511181 (<180 um)		<0.0001	
20058511182 (<180 um)		<0.0001	
20058511191 (<180 um)		0.0001	
20058511191 (<75 um)		0.0003	
20058511192 (<180 um)		0.0023	
20058511192 (<75 um)		0.0050	
20058511201 (<180 um)		0.0001	
20058511201 (<75 um)		0.0004	
20058511202 (<180 um)		0.0007	
20058511202 (<75 um)		0.0010	
20058511211 (<180 um)		0.0002	110
20058511211 (<75 um)		0.0006	160
20058511212 (<180 um)		0.0012	160

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CERTIFICATE OF ANALYSIS BR06000519

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
20058511212 (<75 um)		0.0023	240
20058511221 (<180 um)		0.0002	
20058511221 (<75 um)		0.0021	
20058511222 (<180 um)		0.0012	
20058511222 (<75 um)		0.0019	
20058511231 (<180 um)		<0.0001	90
20058511231 (<75 um)			140
20058511232 (<180 um)		0.0001	70
20058511232 (<75 um)			140
20058511241 (<180 um)		<0.0001	130
20058511241 (<75 um)		0.0001	190
20058511242 (<180 um)		0.0001	160
20058511242 (<75 um)		0.0005	200
20058511251 (<180 um)		0.0001	
20058511251 (<75 um)		0.0001	
20058511252 (<180 um)		0.0001	
20058511252 (<75 um)		0.0008	
20058511261 (<180 um)		<0.0001	
20058511261 (<75 um)		0.0001	
20058511262 (<180 um)		0.0001	
20058511262 (<75 um)		0.0001	
20058511271 (<180 um)		<0.0001	200
20058511271 (<75 um)		0.0002	230
20058511272 (<180 um)		0.0016	460
20058511272 (<75 um)		0.0021	530
20058511281 (<180 um)		0.0001	
20058511281 (<75 um)		<0.0001	
20058511282 (<180 um)		0.0013	
20058511282 (<75 um)		0.0018	
20058511291 (<180 um)		0.0001	130
20058511291 (<75 um)		0.0001	170
20058511292 (<180 um)		0.0005	230
20058511292 (<75 um)		0.0008	300
20058511301 (<180 um)		0.0001	
20058511301 (<75 um)		0.0002	
20058511302 (<180 um)		0.0008	
20058511302 (<75 um)		0.0009	
20058511311 (<180 um)		0.0002	140
20058511311 (<75 um)		0.0022	160
20058511312 (<180 um)		0.0001	130

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CERTIFICATE OF ANALYSIS BR06000519

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
20058511312 (<75 um)		0.0002	150
20058511321 (<180 um)		0.0003	
20058511321 (<75 um)		0.0007	
20058511322 (<180 um)		0.0016	
20058511322 (<75 um)		0.0020	
20058511331 (<180 um)		0.0003	210
20058511331 (<75 um)		0.0012	250
20058511332 (<180 um)		0.0033	230
20058511332 (<75 um)		0.0038	340
20058511341 (<180 um)		0.0001	
20058511341 (<75 um)		0.0002	
20058511342 (<180 um)		0.0008	
20058511342 (<75 um)		0.0010	
20058511351 (<180 um)		<0.0001	
20058511351 (<75 um)		0.0001	
20058511352 (<180 um)		0.0005	
20058511352 (<75 um)		0.0008	
20058511361 (<180 um)		0.0004	330
20058511361 (<75 um)		0.0004	310
20058511362 (<180 um)		0.0005	370
20058511362 (<75 um)		0.0007	560
20058511371 (<180 um)		0.0002	210
20058511372 (<75 um)		0.0007	340
20058511381 (<75 um)		0.0002	
20058511382 (<180 um)		0.0005	
20058511391 (<180 um)		<0.0001	
20058511402 (<75 um)		0.0051	
20058511411 (<75 um)		<0.0001	220
20058511412 (<180 um)		<0.0001	190
20058511421 (<180 um)		0.0002	
20058511422 (<75 um)		0.0017	
20058511431 (<75 um)		0.0003	420
20058511432 (<180 um)		0.0013	440

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QC CERTIFICATE BR06021395

Project:

P.O. No.:

This report is for 51 Pulp samples submitted to our lab in Brisbane, QLD, Australia on 16-MAR-2006.

The following have access to data associated with this certificate:

PATRICE DE CARITAT		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LEV-01	Waste Disposal Levy
LOG-22	Sample login - Rcd w/o BarCode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ST43	Super Trace Au - 25g AR	AAS
F-ELE81a	F by Specific Ion Electrode	WST-SIM

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Appendix 5.3

To: **AUSTRALIAN NATIONAL UNIVERSITY**
ATTN: PATRICE DE CARITAT
DEPARTMENT OF GEOLOGY
CANBERRA ACT 0200

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Signature:

Shaun Kenny, Brisbane Laboratory Manager

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QC CERTIFICATE OF ANALYSIS BR06021395

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
		STANDARDS	
LIQSTD24		0.0416	
Target Range - Lower Bound		0.0349	
Upper Bound		0.0451	
ST-252		0.0510	
Target Range - Lower Bound		0.0515	
Upper Bound		0.0665	
ST-299		0.0073	
Target Range - Lower Bound		0.0056	
Upper Bound		0.0074	
		BLANKS	
BLANK		<0.0001	
Target Range - Lower Bound		<0.0001	
Upper Bound		0.0002	
		DUPLICATES	
2004851012002<180		0.0016	
DUP		0.0014	
Target Range - Lower Bound		0.0012	
Upper Bound		0.0018	
2004851009002<180 F			390
DUP			360
Target Range - Lower Bound			330
Upper Bound			420
2004851006002<75 F			300
DUP			320
Target Range - Lower Bound			260
Upper Bound			360

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QC CERTIFICATE OF ANALYSIS BR06021395

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
		DUPLICATES	
2006031313 F			220
DUP			230
Target Range - Lower Bound			180
Upper Bound			270
2006031314 F			560
DUP			560
Target Range - Lower Bound			510
Upper Bound			610

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QC CERTIFICATE BR06012941

Project:

P.O. No.:

This report is for 82 Pulp samples submitted to our lab in Brisbane, QLD, Australia on 16-FEB-2006.

The following have access to data associated with this certificate:

PATRICE DE CARITAT

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LEV-01	Waste Disposal Levy
LOG-22	Sample login - Rcd w/o BarCode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
F-ELE81a	F by Specific Ion Electrode	WST-SIM

To: **CRC FOR LANDSCAPE ENVIRONMENTS AND MINERAL EXPLORA**
ATTN: PATRICE DE CARITAT
C/- GEOSCIENCE AUSTRALIA
GPO BOX 378
CANBERRA ACT 2601

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Signature:

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QC CERTIFICATE OF ANALYSIS BR06012941

Sample Description	Method Analyte Units LOR	F-ELE81a F ppm 20
		DUPLICATES
20058511061 (<75 um)		440
DUP		410
Target Range - Lower Bound		370
Upper Bound		480
20058511102 (<75 um)		300
DUP		300
Target Range - Lower Bound		250
Upper Bound		350
20058511161 (<75 um)		170
DUP		170
Target Range - Lower Bound		130
Upper Bound		210
20058511192 (<75 um)		260
DUP		260
Target Range - Lower Bound		210
Upper Bound		310
20058511251 (<180 um)		100
DUP		140
Target Range - Lower Bound		80
Upper Bound		160
20058511282 (<75 um)		580
DUP		560
Target Range - Lower Bound		520
Upper Bound		620
20058511341 (<75 um)		470
DUP		460
Target Range - Lower Bound		410
Upper Bound		520
20058511402 (<75 um)		260
DUP		280
Target Range - Lower Bound		220
Upper Bound		320

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Finalized Date: 9-FEB-2006
This copy reported on: 10-FEB-2006
Account: CRCLAN

QC CERTIFICATE BR06000519

Project:

P.O. No.:

This report is for 153 Pulp samples submitted to our lab in Brisbane, QLD, Australia on 5-JAN-2006.

The following have access to data associated with this certificate:

PATRICE DE CARITAT		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ST43	Super Trace Au - 25g AR	AAS
F-ELE81a	F by Specific Ion Electrode	WST-SIM

To: **CRC FOR LANDSCAPE ENVIRONMENTS AND MINERAL EXPLORA**
ATTN: PATRICE DE CARITAT
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QC CERTIFICATE OF ANALYSIS BR06000519

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
STANDARDS			
LIQSTD24		0.0408	
LIQSTD24		0.0439	
LIQSTD24		0.0406	
LIQSTD24		0.0404	
LIQSTD24		0.0450	
Target Range - Lower Bound		0.0349	
Upper Bound		0.0451	
ST-252		0.0530	
ST-252		0.0550	
Target Range - Lower Bound		0.0515	
Upper Bound		0.0665	
ST-299		0.0077	
ST-299		0.0077	
ST-299		0.0056	
Target Range - Lower Bound		0.0056	
Upper Bound		0.0074	
BLANKS			
BLANK		<0.0001	
BLANK		<0.0001	
BLANK		<0.0001	
BLANK		<0.0001	
BLANK		<0.0001	
Target Range - Lower Bound		<0.0001	
Upper Bound		0.0002	
DUPLICATES			
20058511081 (<75 um)		0.0004	
DUP		0.0005	
Target Range - Lower Bound		0.0002	
Upper Bound		0.0007	

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QC CERTIFICATE OF ANALYSIS BR06000519

Sample Description	Method / Analyte / Units / LOR	Au-ST43 Au ppm 0.0001	F-ELE81a F ppm 20
		DUPLICATES	
20058511131 (<75 um)			220
DUP			230
Target Range - Lower Bound			180
Upper Bound			270
20058511152 (<75 um)			250
DUP			250
Target Range - Lower Bound			200
Upper Bound			300
20058511181 (<180 um)		<0.0001	
DUP		<0.0001	
Target Range - Lower Bound		<0.0001	
Upper Bound		0.0002	
20058511212 (<180 um)			160
DUP			150
Target Range - Lower Bound			110
Upper Bound			200
20058511241 (<180 um)			130
DUP			130
Target Range - Lower Bound			90
Upper Bound			170
20058511312 (<180 um)		0.0001	
DUP		<0.0001	
Target Range - Lower Bound		<0.0001	
Upper Bound		0.0002	
20058511362 (<180 um)		0.0005	370
DUP		0.0005	380
Target Range - Lower Bound		0.0003	330
Upper Bound		0.0007	420
20058511432 (<180 um)		0.0013	440
DUP			430
Target Range - Lower Bound			380
Upper Bound			490

Appendix 5.4. ICP-MS data for Se (regolith)

Sample No.	Size (µm)	zone	Se (mg kg-1)
20058511011	< 180	1	0.255
20058511021	< 180	1	0.256
20058511031	< 180	1	0.072
20058511041	< 180	1	0.356
20058511051	< 180	1	0.118
20058511061	< 180	1	0.122
20058511071	< 180	1	0.259
20058511081	< 180	1	0.117
20058511091	< 180	1	0.168
20058511101	< 180	1	0.170
20058511111	< 180	1	0.392
20058511121	< 180	1	0.261
20058511131	< 180	1	0.267
20058511141	< 180	1	0.131
20058511151	< 180	1	0.126
20058511161	< 180	1	0.115
20058511171	< 180	1	0.167
20058511181	< 180	1	0.098
20058511191	< 180	1	0.180
20058511201	< 180	1	0.137
20058511211	< 180	1	0.118
20058511221	< 180	1	0.111
20058511231	< 180	1	0.060
20058511241	< 180	1	0.114
20058511251	< 180	1	0.092
20058511261	< 180	1	0.086
20058511271	< 180	1	0.161
20058511281	< 180	1	0.099
20058511291	< 180	1	0.102
20058511301	< 180	1	0.134
20058511311	< 180	1	0.137
20058511321	< 180	1	0.236
20058511331	< 180	1	0.187
20058511341	< 180	1	0.170
20058511351	< 180	1	0.121
20058511361	< 180	1	0.178
20058511371	< 180	1	0.243
20058511391	< 180	1	0.130
20058511421	< 180	1	0.286
20058511011	<75	1	0.375
20058511021	<75	1	0.443
20058511041	<75	1	1.013
20058511051	<75	1	0.644
20058511061	<75	1	0.159
20058511071	<75	1	0.313
20058511091	<75	1	0.261
20058511101	<75	1	0.261
20058511111	<75	1	0.708
20058511121	<75	1	0.514
20058511131	<75	1	0.321
20058511141	<75	1	0.455
20058511151	<75	1	0.577
20058511181	<75	1	0.405
20058511191	<75	1	0.430
20058511201	<75	1	0.266

Sample No.	Size (µm)	zone	Se (mg kg-1)
20058511211	<75	1	0.257
20058511221	<75	1	0.302
20058511251	<75	1	0.238
20058511261	<75	1	0.269
20058511271	<75	1	0.272
20058511281	<75	1	0.253
20058511291	<75	1	0.249
20058511301	<75	1	0.239
20058511312	<75	1	0.238
20058511321	<75	1	0.348
20058511331	<75	1	0.290
20058511341	<75	1	0.295
20058511351	<75	1	0.234
20058511451	<75	1	0.300
20058511471	<75	1	0.246
20058511491	<75	1	0.237
2005861021001	<75	1	0.090
2005861023001	<75	1	0.216
20058511012	< 180	2	0.187
20058511022	< 180	2	0.512
20058511032	< 180	2	0.168
20058511042	< 180	2	0.453
20058511052	< 180	2	0.289
20058511062	< 180	2	0.091
20058511072	< 180	2	0.277
20058511082	< 180	2	0.469
20058511092	< 180	2	0.369
20058511102	< 180	2	0.287
20058511112	< 180	2	1.024
20058511122	< 180	2	0.292
20058511132	< 180	2	0.318
20058511142	< 180	2	0.357
20058511152	< 180	2	0.102
20058511162	< 180	2	0.162
20058511172	< 180	2	0.159
20058511182	< 180	2	0.082
20058511192	< 180	2	0.254
20058511202	< 180	2	0.254
20058511212	< 180	2	0.205
20058511222	< 180	2	0.207
20058511232	< 180	2	0.058
20058511242	< 180	2	0.160
20058511252	< 180	2	0.123
20058511262	< 180	2	0.125
20058511272	< 180	2	0.322
20058511282	< 180	2	0.218
20058511292	< 180	2	0.241
20058511302	< 180	2	0.256
20058511312	< 180	2	0.153
20058511322	< 180	2	0.233
20058511332	< 180	2	0.268
20058511342	< 180	2	0.288
20058511352	< 180	2	0.145
20058511362	< 180	2	0.453
20058511382	< 180	2	0.483

Sample No.	Size (µm)	zone	Se (mg kg-1)
20058511412	< 180	2	0.151
20058511432	< 180	2	0.474
2005861021002	< 180	2	0.103
2005861023002	< 180	2	0.129
20058511022	<75	2	0.784
20058511032	<75	2	0.438
20058511042	<75	2	0.883
20058511052	<75	2	0.439
20058511062	<75	2	0.106
20058511072	<75	2	0.407
20058511082	<75	2	0.795
20058511092	<75	2	0.429
20058511102	<75	2	0.317
20058511112	<75	2	1.729
20058511122	<75	2	0.394
20058511132	<75	2	0.361
20058511142	<75	2	1.038
20058511202	<75	2	0.383
20058511212	<75	2	0.418
20058511222	<75	2	0.378
20058511242	<75	2	0.316
20058511252	<75	2	0.280
20058511262	<75	2	0.266
20058511272	<75	2	0.413
20058511282	<75	2	0.346
20058511292	<75	2	0.331
20058511302	<75	2	0.317
20058511332	<75	2	0.422
20058511342	<75	2	0.426
20058511352	<75	2	0.209
20058511362	<75	2	0.613
20058511442	<75	2	0.880
20058511462	<75	2	0.419
20058511482	<75	2	0.455
A2			0.349
B2			0.333
C3			1.011
D3			1.010

Appendix 5.5. Laser particle size analysis data (regolith)

Australian Government
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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1443769 2004851001001 0-0.1m - Average

Record No.: 4

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/21/05 10:59:20 **Result Type:** Averaged

Measured: 01/21/05 10:59:19 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

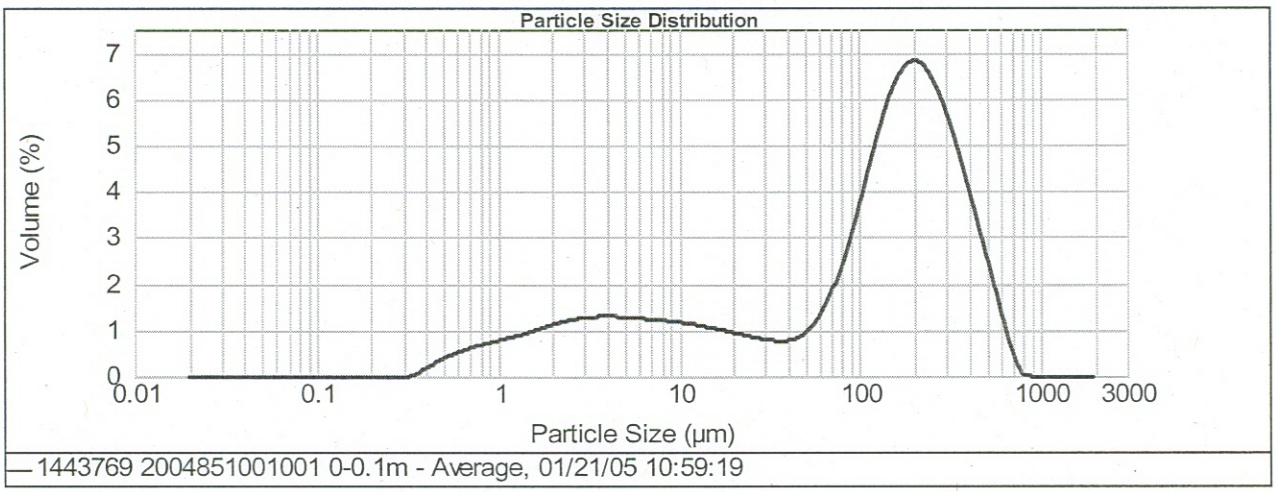
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 6.96 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.100 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0090 %Vol **Vol. Weighted Mean D[4,3]:** 164.515 um **Specific Surface Area:** 0.724 m²/g

d(0.1): 2.780 um **d(0.5): 139.276 um** d(0.9): 377.414 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	164.515	151.051	0.986	0.63

Distribution Modal Sizes

Mode 1: 199.957 um, Mode 2: 3.98 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	0.45
0.490	2.66
0.980	4.33
2.000	5.41
3.900	5.74
7.800	5.17
15.600	4.11
31.000	0.90
37.000	0.88
44.000	1.07
53.000	1.27
62.500	1.87
74.000	2.82
88.000	4.08
105.000	5.33
125.000	6.57
149.000	7.28
177.000	7.59
210.000	7.60
250.000	7.28
300.000	5.33
350.000	5.11
420.000	3.60
500.000	2.25
590.000	1.18
710.000	0.14
840.000	0.00
1000.000	0.00
1190.000	0.00
1410.000	0.00
1680.000	0.00
2000.000	

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Laser Grainsize Analysis

Sample Name : 1444410 20048510010002 0.8-0.95m - Average

Record No.: 24

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/27/05 10:50:04 **Result Type:** Averaged

Measured: 01/27/05 10:50:03 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

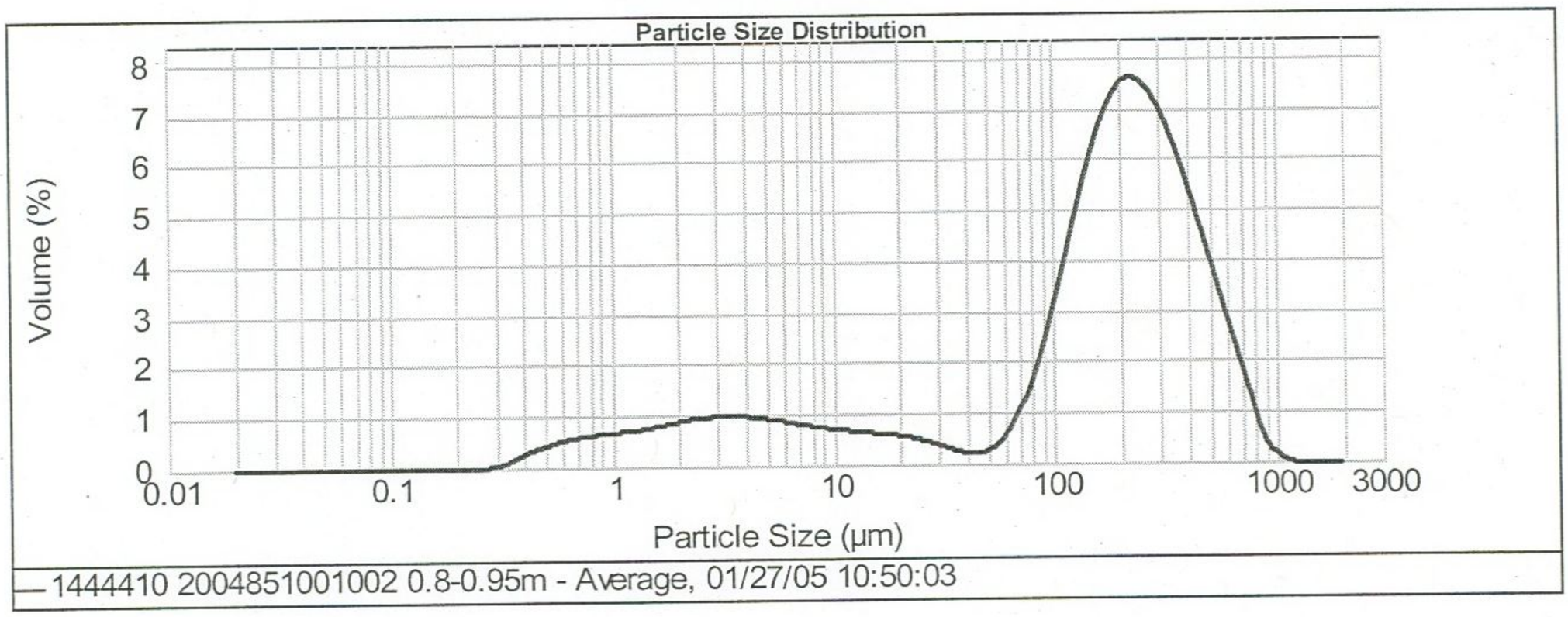
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 7.01 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.313 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0109 %Vol **Vol. Weighted Mean D[4,3]:** 220.521 um **Specific Surface Area:** 0.639 m²/g

d(0.1): 3.474 um **d(0.5): 188.638 um** d(0.9): 474.291 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	220.521	183.734	1.022	1.054

Distribution Modal Sizes

Mode 1: 224.205 um, Mode 2: 3.345 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	0.62
0.490	2.49
0.980	3.48
2.000	4.14
3.900	3.99
7.800	3.12
15.600	2.35
31.000	

Size (µm)	Volume In %
31.000	0.36
37.000	0.25
44.000	0.28
53.000	0.47
62.500	1.02
74.000	1.99
88.000	3.39
105.000	4.91
125.000	6.50
149.000	

Size (µm)	Volume In %
149.000	7.60
177.000	8.28
210.000	8.66
250.000	8.70
300.000	6.71
350.000	6.86
420.000	5.29
500.000	3.80
590.000	2.88
710.000	

Size (µm)	Volume In %
710.000	1.37
840.000	0.40
1000.000	0.08
1190.000	0.00
1410.000	0.00
1680.000	0.00
2000.000	

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Serial Number : 34264-54
27 Jan 2005 12:31:33

Australian Government

Geoscience Australia

MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1443936 2004851002001 0-0.1m - Average

Record No.: 8

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/21/05 11:07:21 **Result Type:** Averaged

Measured: 01/21/05 11:07:20 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

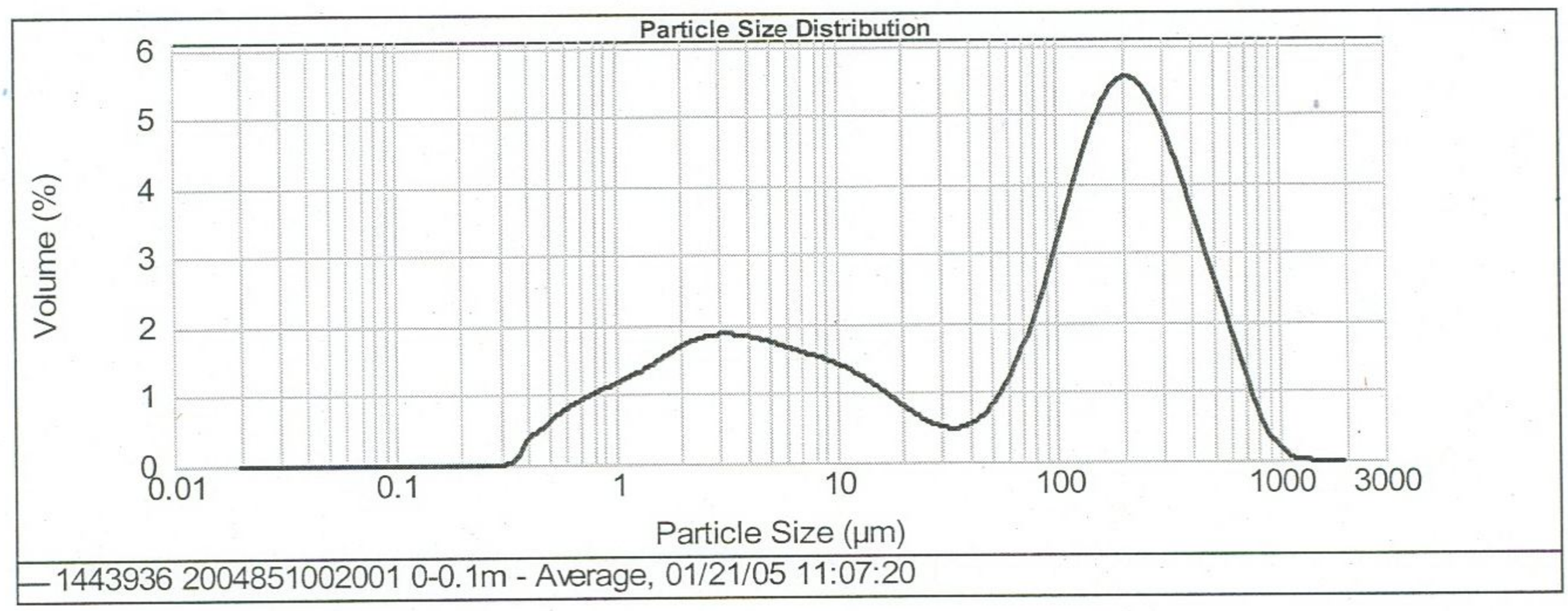
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 9.35 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.129 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0085 %Vol **Vol. Weighted Mean D[4,3]:** 161.700 um **Specific Surface Area:** 1.06 m²/g

d(0.1): 1.765 um **d(0.5): 117.396 um** d(0.9): 409.588 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	161.7	179.764	1.453	2.325

Distribution Modal Sizes

Mode 1: 206.601 um, Mode 2: 3.177 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	0.77
0.490	4.04
0.980	6.53
2.000	7.95
3.900	7.71
7.800	6.12
15.600	3.36
31.000	

Size (µm)	Volume In %
31.000	0.56
37.000	0.60
44.000	0.87
53.000	1.13
62.500	1.70
74.000	2.49
88.000	3.46
105.000	4.39
125.000	5.31
149.000	

Size (µm)	Volume In %
149.000	5.87
177.000	6.16
210.000	6.24
250.000	6.10
300.000	4.59
350.000	4.61
420.000	3.52
500.000	2.55
590.000	1.94
710.000	

Size (µm)	Volume In %
710.000	0.93
840.000	0.38
1000.000	0.10
1190.000	0.01
1410.000	0.00
1680.000	0.00
2000.000	

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Laser Grainsize Analysis

Sample Name : 1443937 2004851002002 0.75-0.9m - Average

Record No.: 12

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/21/05 11:16:57 **Result Type:** Averaged

Measured: 01/21/05 11:16:56 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

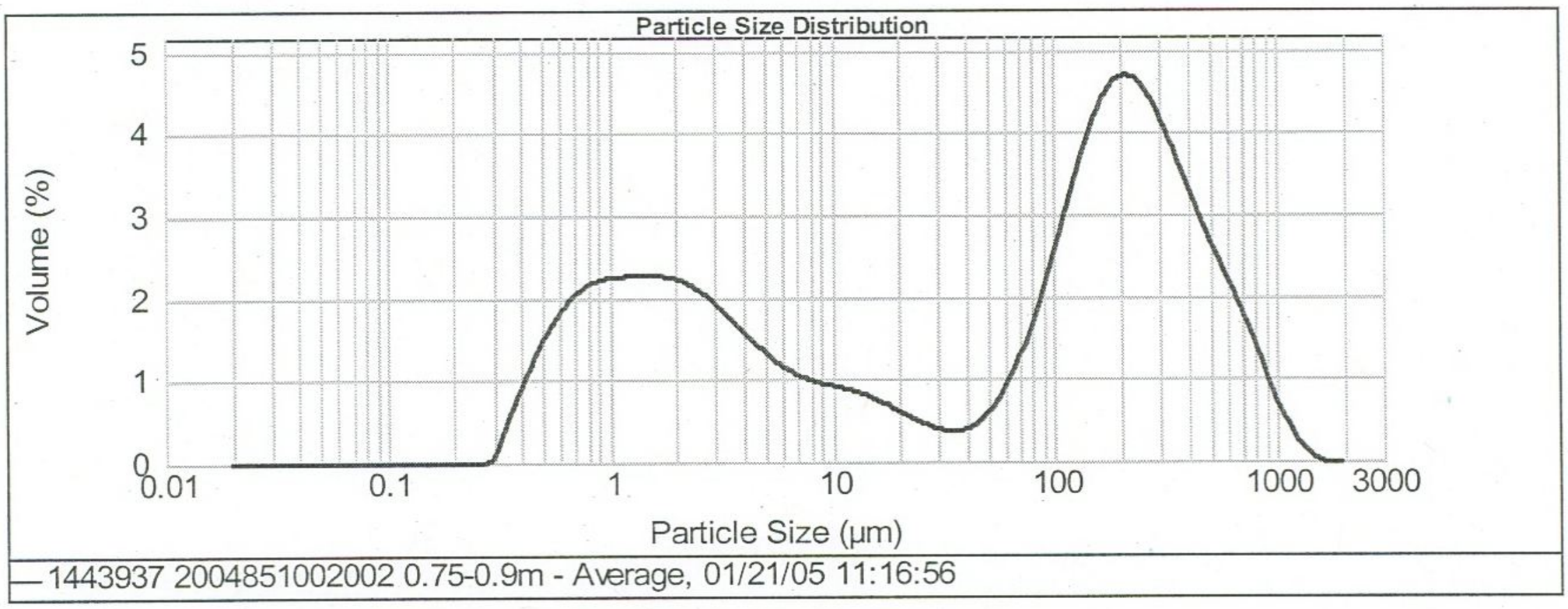
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 15.33 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.618 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0091 %Vol **Vol. Weighted Mean D[4,3]:** 170.640 um **Specific Surface Area:** 1.87 m²/g

d(0.1): 0.904 um **d(0.5): 99.489 um** d(0.9): 468.551 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	170.64	221.596	1.847	3.92

Distribution Modal Sizes

Mode 1: 209.049 um, Mode 2: 1.485 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	2.37
0.490	8.80
0.980	10.52
2.000	8.57
3.900	5.69
7.800	4.03
15.600	2.52
31.000	0.43
37.000	0.45
44.000	0.64
53.000	0.85
62.500	1.31
74.000	1.97
88.000	2.81
105.000	3.63
125.000	4.45
149.000	4.95
177.000	5.21
210.000	5.31
250.000	5.23
300.000	3.99
350.000	4.12
420.000	3.35
500.000	2.68
590.000	2.46
710.000	1.69
840.000	1.14
1000.000	0.60
1190.000	0.22
1410.000	0.03
1680.000	0.00
2000.000	

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Laser Grainsize Analysis

Sample Name : 1445897 2004851004001 0-0.1m - Average

Record No.: 44

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/27/05 11:55:27 **Result Type:** Averaged

Measured: 01/27/05 11:55:26 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

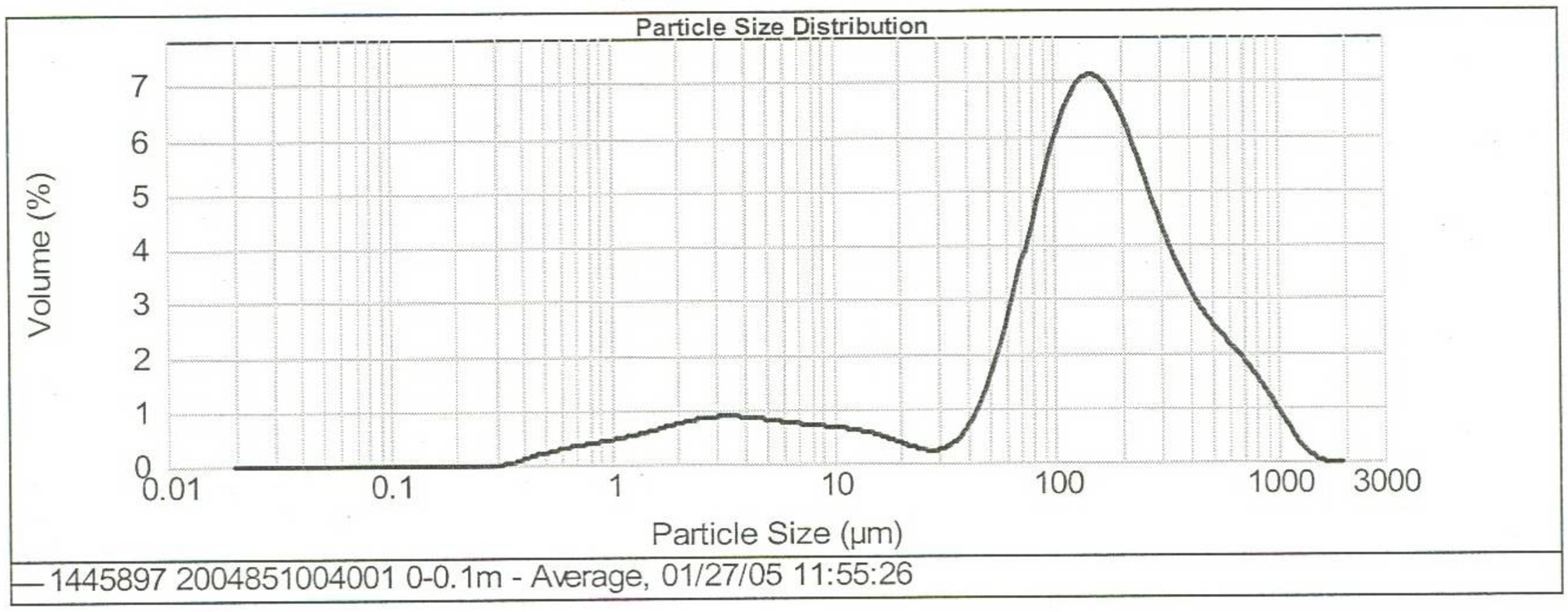
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 4.57 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.116 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0093 %Vol **Vol. Weighted Mean D[4,3]:** 205.734 um **Specific Surface Area:** 0.444 m²/g

d(0.1): 5.696 um **d(0.5): 142.508 um** d(0.9): 480.212 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	205.734	213.264	2.05	4.999

Distribution Modal Sizes

Mode 1: 144.824 um, Mode 2: 3.349 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	0.24
0.490	1.47
0.980	2.66
2.000	3.61
3.900	3.52
7.800	2.85
15.600	1.48
31.000	

Size (µm)	Volume In %
31.000	0.36
37.000	0.71
44.000	1.54
53.000	2.38
62.500	3.68
74.000	5.19
88.000	6.66
105.000	7.58
125.000	8.12
149.000	

Size (µm)	Volume In %
149.000	7.88
177.000	7.28
210.000	6.54
250.000	5.75
300.000	4.04
350.000	3.97
420.000	3.17
500.000	2.58
590.000	2.46
710.000	

Size (µm)	Volume In %
710.000	1.80
840.000	1.36
1000.000	0.81
1190.000	0.27
1410.000	0.03
1680.000	0.00
2000.000	

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Laser Grainsize Analysis

Sample Name : 1445898 2004851004002 0.8-0.9m - Average

Record No.: 48

Operator Notes : Large white particle (possibly Carbonate - fizz test positive) bypassed during riffle splitting

SOP Name: Silicious (Regolith) **Analysed:** 01/27/05 12:17:00 **Result Type:** Averaged

Measured: 01/27/05 12:16:58 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

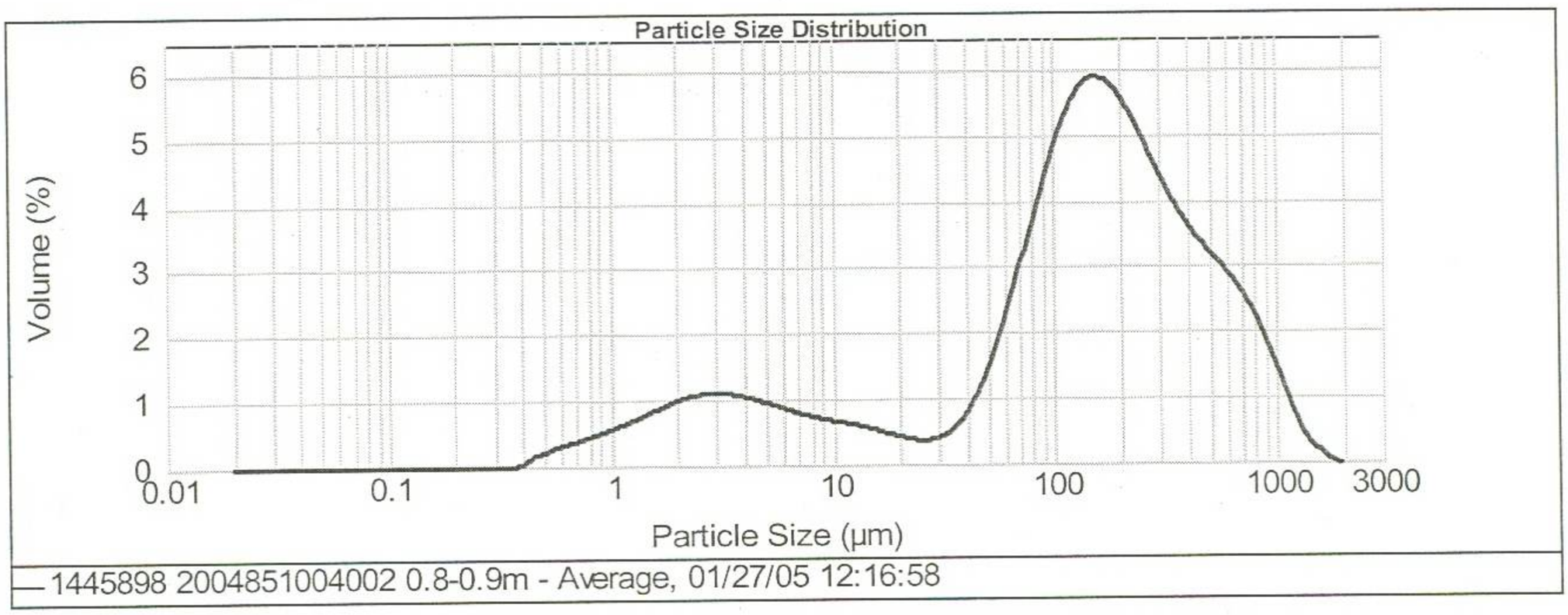
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 4.01 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.247 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0069 %Vol **Vol. Weighted Mean D[4,3]:** 235.168 um **Specific Surface Area:** 0.507 m²/g

d(0.1): 3.917 um **d(0.5): 150.544 um** d(0.9): 595.274 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	235.168	257.52	1.878	3.955

Distribution Modal Sizes

Mode 1: 153.828 um, Mode 2: 2.972 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	0.15
0.490	1.63
0.980	3.51
2.000	4.68
3.900	4.08
7.800	2.90
15.600	1.86
31.000	0.57
37.000	0.87
44.000	1.56
53.000	2.15
62.500	3.14
74.000	4.28
88.000	5.41
105.000	6.15
125.000	6.66
149.000	6.60
177.000	6.30
210.000	5.93
250.000	5.56
300.000	4.19
350.000	4.45
420.000	3.85
500.000	3.34
590.000	3.37
710.000	2.60
840.000	2.06
1000.000	1.30
1190.000	0.59
1410.000	0.23
1680.000	0.02
2000.000	

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Laser Grainsize Analysis

Sample Name : 1443954 2004851006001 0-0.1m - Average

Record No.: 20

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/21/05 12:26:32 **Result Type:** Averaged

Measured: 01/21/05 12:26:31 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

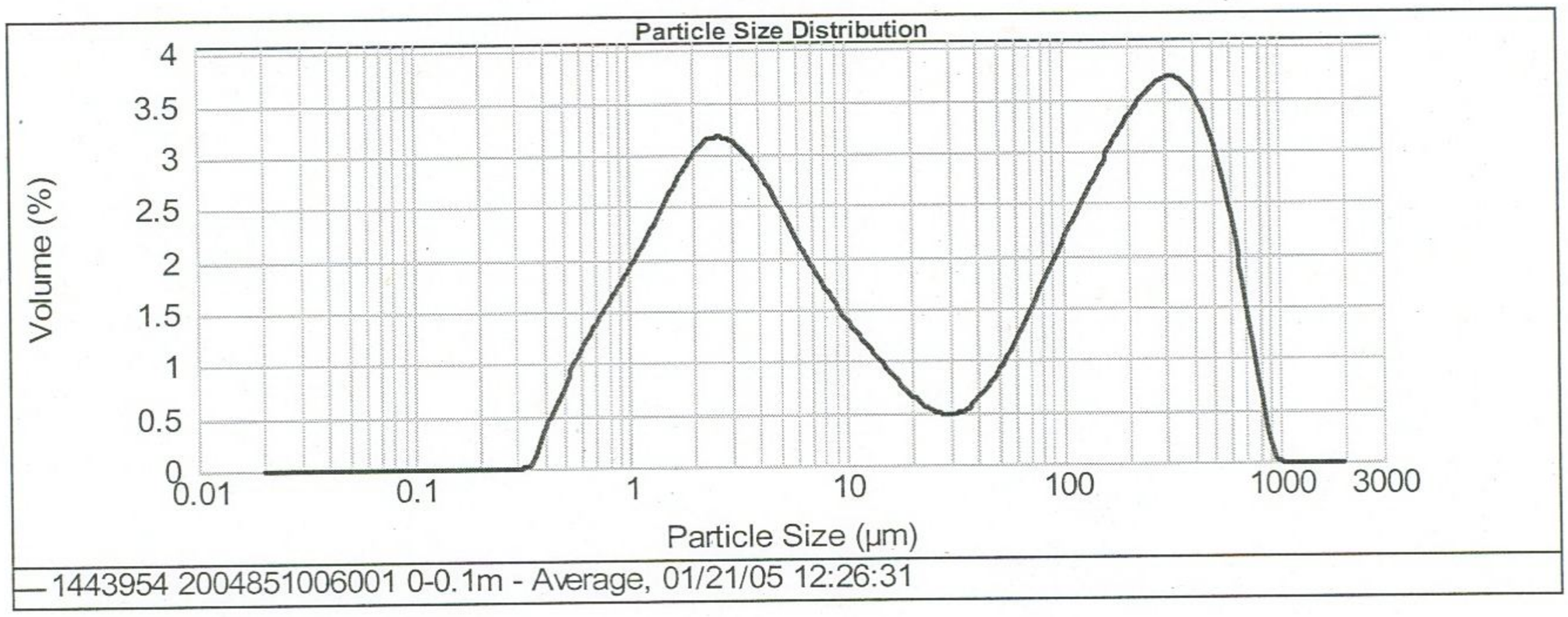
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 14.81 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.384 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0089 %Vol **Vol. Weighted Mean D[4,3]:** 137.761 um **Specific Surface Area:** 1.6 m²/g

d(0.1): 1.232 um **d(0.5): 22.526 um** d(0.9): 428.669 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	137.761	188.113	1.497	1.57

Distribution Modal Sizes

Mode 1: 322.451 um, Mode 2: 2.64 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	0.90
0.490	6.05
0.980	11.42
2.000	13.48
3.900	10.46
7.800	5.94
15.600	2.81
31.000	

Size (µm)	Volume In %
31.000	0.59
37.000	0.70
44.000	1.00
53.000	1.18
62.500	1.54
74.000	1.96
88.000	2.39
105.000	2.73
125.000	3.10
149.000	

Size (µm)	Volume In %
149.000	3.35
177.000	3.62
210.000	3.96
250.000	4.34
300.000	3.73
350.000	4.30
420.000	3.75
500.000	2.98
590.000	2.39
710.000	

Size (µm)	Volume In %
710.000	1.14
840.000	0.21
1000.000	0.00
1190.000	0.00
1410.000	0.00
1680.000	0.00
2000.000	

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1443953 2004851006002 0.75-0.8m - Average

Record No.: 16

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/21/05 11:25:40 **Result Type:** Averaged

Measured: 01/21/05 11:25:39 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

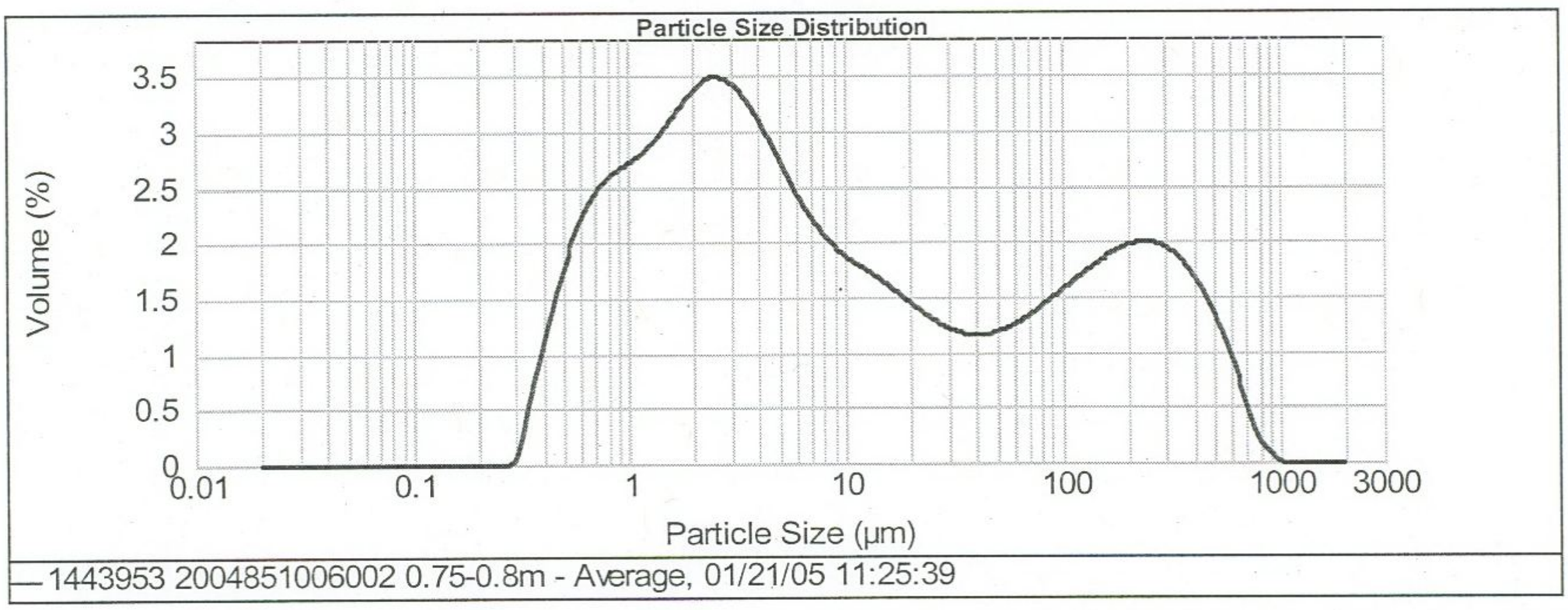
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 18.11 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.747 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0079 %Vol **Vol. Weighted Mean D[4,3]:** 71.882 um **Specific Surface Area:** 2.5 m²/g

d(0.1): 0.795 um **d(0.5): 5.881 um** d(0.9): 261.309 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	71.882	137.163	2.542	6.677

Distribution Modal Sizes

Mode 1: 2.536 um, Mode 2: 242.781 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	2.95
0.490	10.66
0.980	14.00
2.000	14.85
3.900	11.72
7.800	8.30
15.600	6.26
31.000	

Size (µm)	Volume In %
31.000	1.36
37.000	1.30
44.000	1.42
53.000	1.32
62.500	1.44
74.000	1.60
88.000	1.77
105.000	1.89
125.000	2.03
149.000	

Size (µm)	Volume In %
149.000	2.11
177.000	2.18
210.000	2.27
250.000	2.36
300.000	1.91
350.000	2.08
420.000	1.69
500.000	1.25
590.000	0.89
710.000	

Size (µm)	Volume In %
710.000	0.32
840.000	0.08
1000.000	0.00
1190.000	0.00
1410.000	0.00
1680.000	0.00
2000.000	

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1444451 2004851009001 0-0.1m - Average

Record No.: 28

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/27/05 10:59:20 **Result Type:** Averaged

Measured: 01/27/05 10:59:19 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

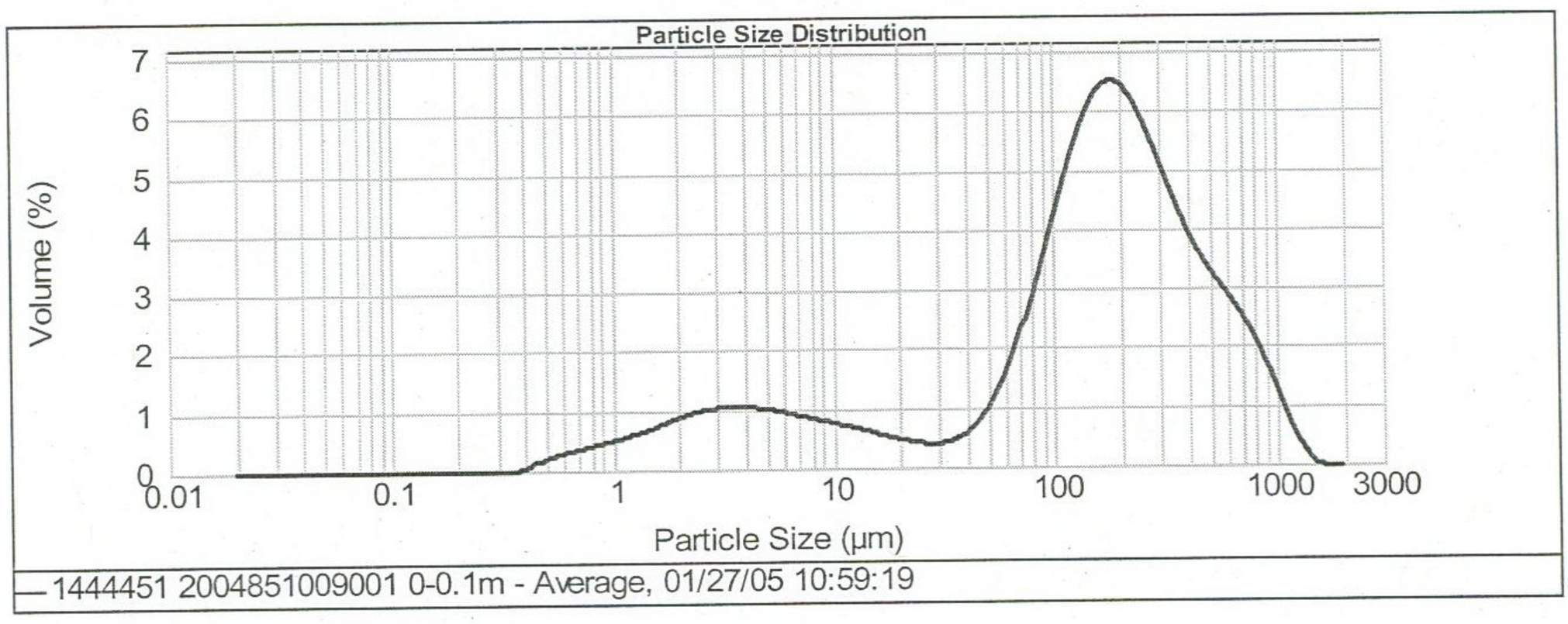
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 6.54 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.444 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0122 %Vol **Vol. Weighted Mean D[4,3]:** 233.722 um **Specific Surface Area:** 0.473 m²/g

d(0.1): 4.457 um **d(0.5): 165.179 um** d(0.9): 565.172 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	233.722	237.653	1.698	3.145

Distribution Modal Sizes

Mode 1: 180.759 um, Mode 2: 3.618 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	0.14
0.490	1.51
0.980	3.08
2.000	4.36
3.900	4.40
7.800	3.30
15.600	2.09
31.000	0.51
37.000	0.66
44.000	1.08
53.000	1.51
62.500	2.32
74.000	3.41
88.000	4.70
105.000	5.82
125.000	6.82
149.000	7.23
177.000	7.24
210.000	6.99
250.000	6.54
300.000	4.81
350.000	4.90
420.000	4.04
500.000	3.38
590.000	3.31
710.000	2.48
840.000	1.89
1000.000	1.07
1190.000	0.40
1410.000	0.02
1680.000	0.00
2000.000	

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Laser Grainsize Analysis

Sample Name : 1444452 2004851009002 0.8-0.9m - Average

Record No.: 32

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 01/27/05 11:09:39 **Result Type:** Averaged

Measured: 01/27/05 11:09:38 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

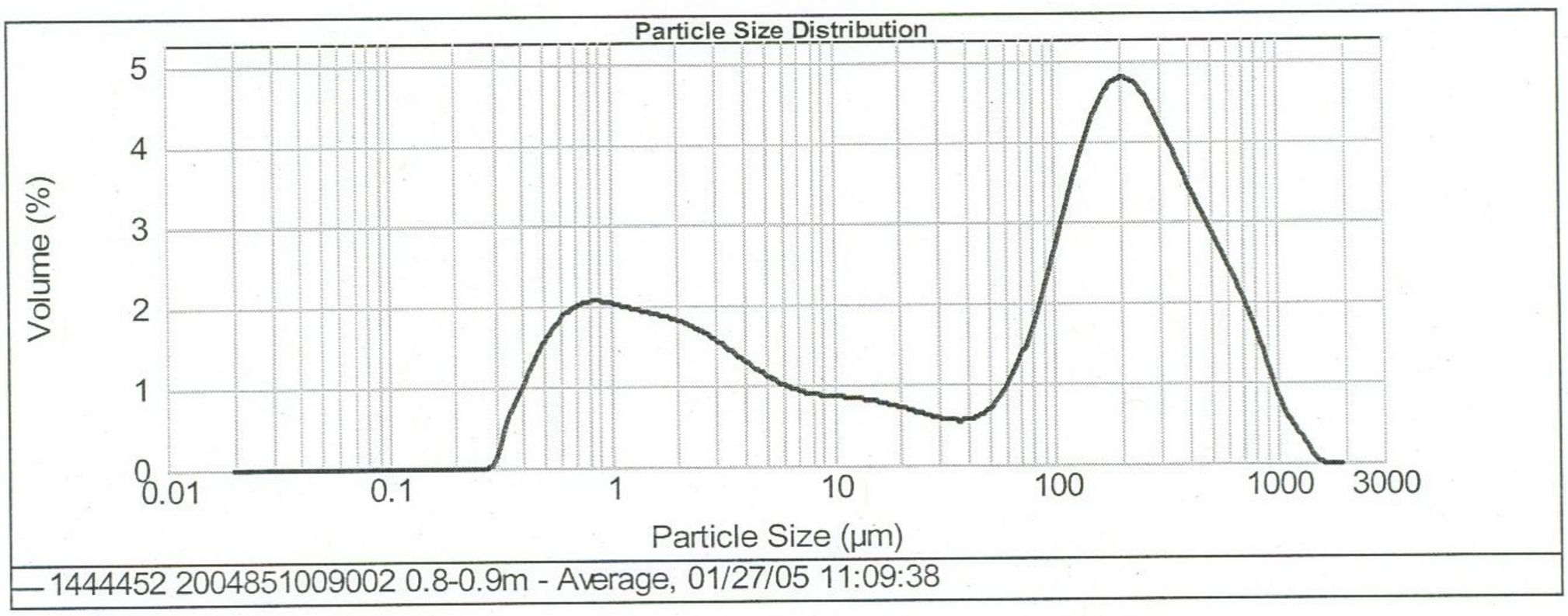
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 13.08 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.748 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0083 %Vol **Vol. Weighted Mean D[4,3]:** 184.934 um **Specific Surface Area:** 1.82 m²/g

d(0.1): 0.883 um **d(0.5): 113.455 um** d(0.9): 504.361 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	184.934	233.436	1.807	3.658

Distribution Modal Sizes

Mode 1: 203.268 um, Mode 2: .866 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	2.73
0.490	8.67
0.980	9.01
2.000	6.97
3.900	4.87
7.800	3.85
15.600	3.09
31.000	0.64
37.000	0.62
44.000	0.77
53.000	0.92
62.500	1.36
74.000	2.03
88.000	2.90
105.000	3.76
125.000	4.61
149.000	5.11
177.000	5.34
210.000	5.39
250.000	5.29
300.000	4.06
350.000	4.27
420.000	3.57
500.000	2.95
590.000	2.78
710.000	1.97
840.000	1.37
1000.000	0.72
1190.000	0.35
1410.000	0.03
1680.000	0.00
2000.000	

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Laser Grainsize Analysis

Sample Name : 1444453 2004851012001 0-0.1m - Average

Record No.: 36

Operator Notes : Large Iron nodules bypassed during riffle splitting

SOP Name: Silicious (Regolith) **Analysed:** 01/27/05 11:35:02 **Result Type:** Averaged

Measured: 01/27/05 11:35:01 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

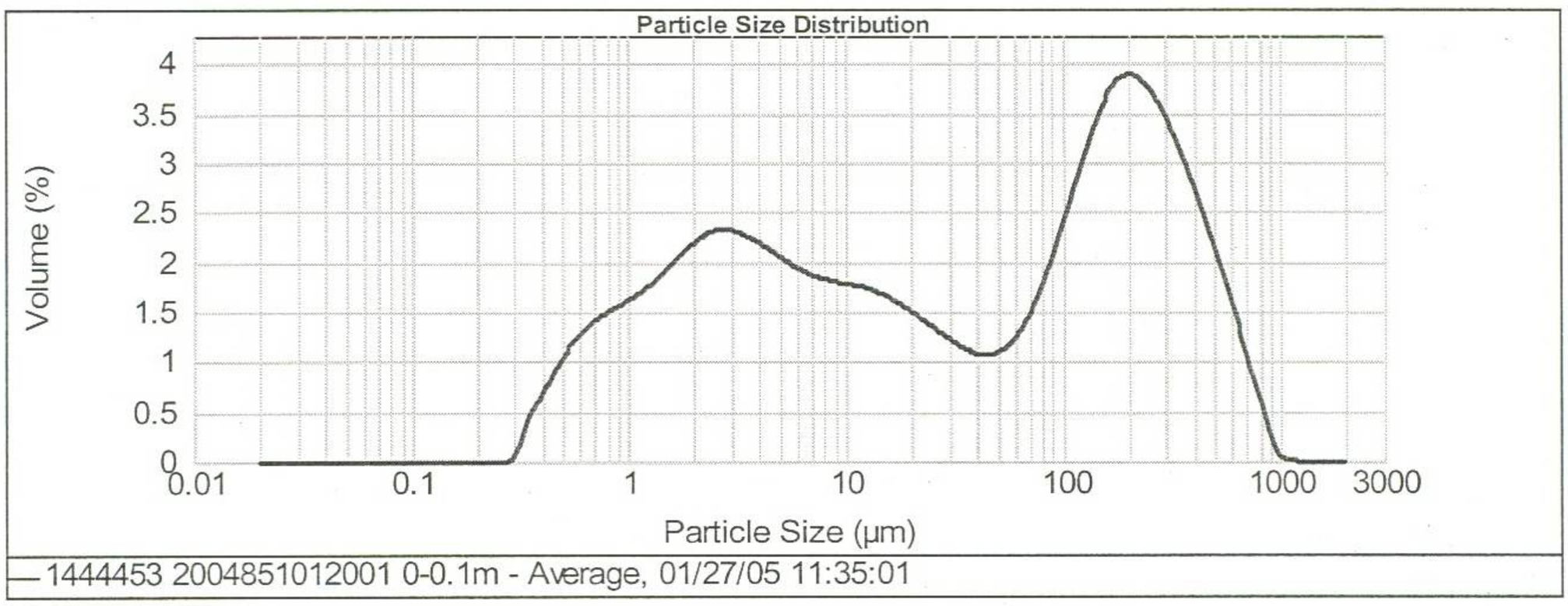
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 16.55 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.099 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0112 %Vol **Vol. Weighted Mean D[4,3]:** 123.721 um **Specific Surface Area:** 1.59 m²/g

d(0.1): 1.175 um **d(0.5): 30.173 um** d(0.9): 366.963 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	123.721	170.739	1.77	3.061

Distribution Modal Sizes

Mode 1: 204.969 um, Mode 2: 2.791 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.060	0.00	31.000	1.33	149.000	4.16	710.000	0.86
0.120	0.00	37.000	1.22	177.000	4.33	840.000	0.27
0.240	1.86	44.000	1.31	210.000	4.38	1000.000	0.02
0.490	6.17	53.000	1.27	250.000	4.32	1190.000	0.00
0.980	8.73	62.500	1.55	300.000	3.32	1410.000	0.00
2.000	9.96	74.000	2.01	350.000	3.43	1680.000	0.00
3.900	9.07	88.000	2.62	420.000	2.72	2000.000	
7.800	7.97	105.000	3.21	500.000	2.03		
15.600	6.44	125.000	3.81	590.000	1.62		
31.000		149.000		710.000			

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Laser Grainsize Analysis

Sample Name : 1444454 2004851012002 0.7-0.9m - Average

Record No.: 40

Operator Notes : Sample Top Cut 1.7mm sieve, Large Iron nodules bypassed during riffle splitting

SOP Name: Silicious (Regolith) **Analysed:** 01/27/05 11:45:35 **Result Type:** Averaged

Measured: 01/27/05 11:45:34 **Measured by:** mclachlan alex **CRC LEME - RGSPilots** **Job No.:** Lab Subs Job # 4303

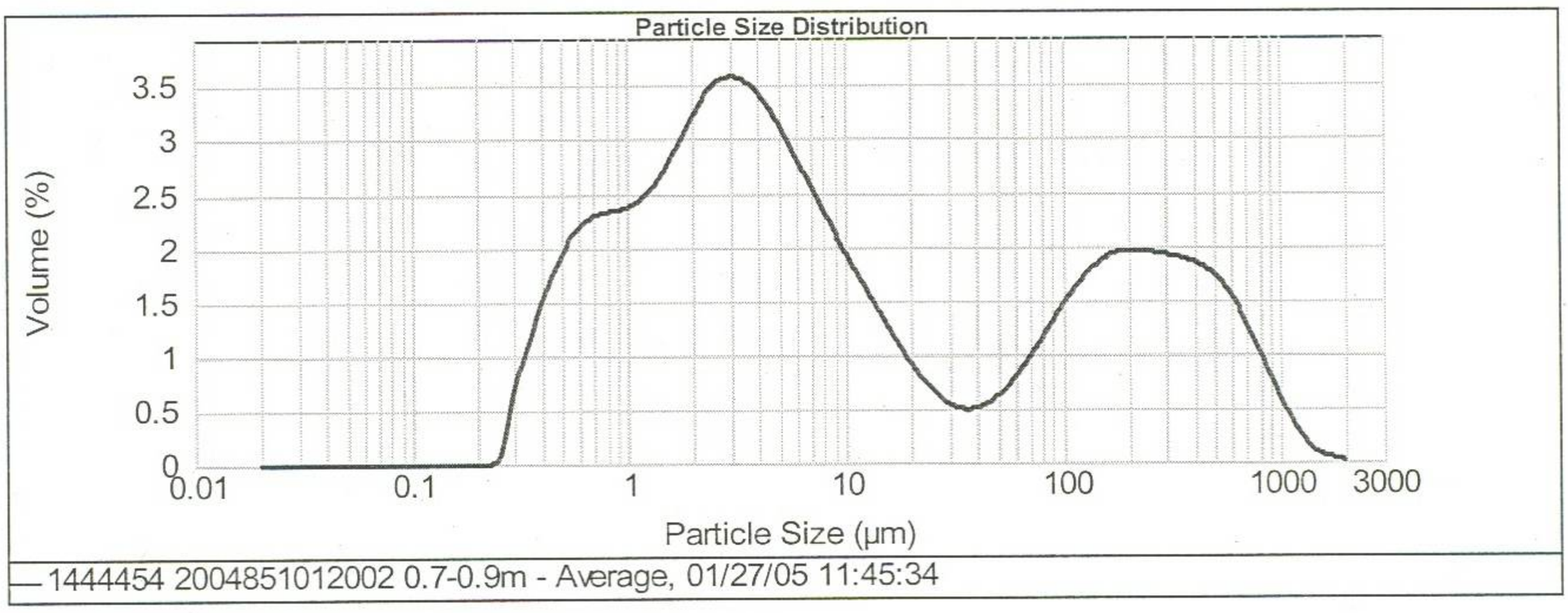
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 16.21 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.416 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0... um

Concentration: 0.0070 %Vol **Vol. Weighted Mean D[4,3]:** 104.958 um **Specific Surface Area:** 2.72 m²/g

d(0.1): 0.713 um **d(0.5): 5.534 um** d(0.9): 371.887 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	104.958	210.919	2.894	10.012

Distribution Modal Sizes

Mode 1: 3.049 um, Mode 2: 212.939 um,

Volume Under %

Size (µm)	Volume In %
0.060	0.00
0.120	0.00
0.240	4.74
0.490	10.10
0.980	12.56
2.000	15.22
3.900	13.33
7.800	8.21
15.600	3.76
31.000	

Size (µm)	Volume In %
31.000	0.58
37.000	0.57
44.000	0.71
53.000	0.79
62.500	1.02
74.000	1.31
88.000	1.62
105.000	1.86
125.000	2.07
149.000	

Size (µm)	Volume In %
149.000	2.15
177.000	2.18
210.000	2.23
250.000	2.31
300.000	1.93
350.000	2.23
420.000	2.04
500.000	1.78
590.000	1.72
710.000	

Size (µm)	Volume In %
710.000	1.22
840.000	0.88
1000.000	0.52
1190.000	0.24
1410.000	0.09
1680.000	0.04
2000.000	

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679751 20058511011 0-0.1 - Average

Record No.: 4

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 07:23:42 **Result Type:** Averaged

Measured: 09/10/05 07:23:41 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

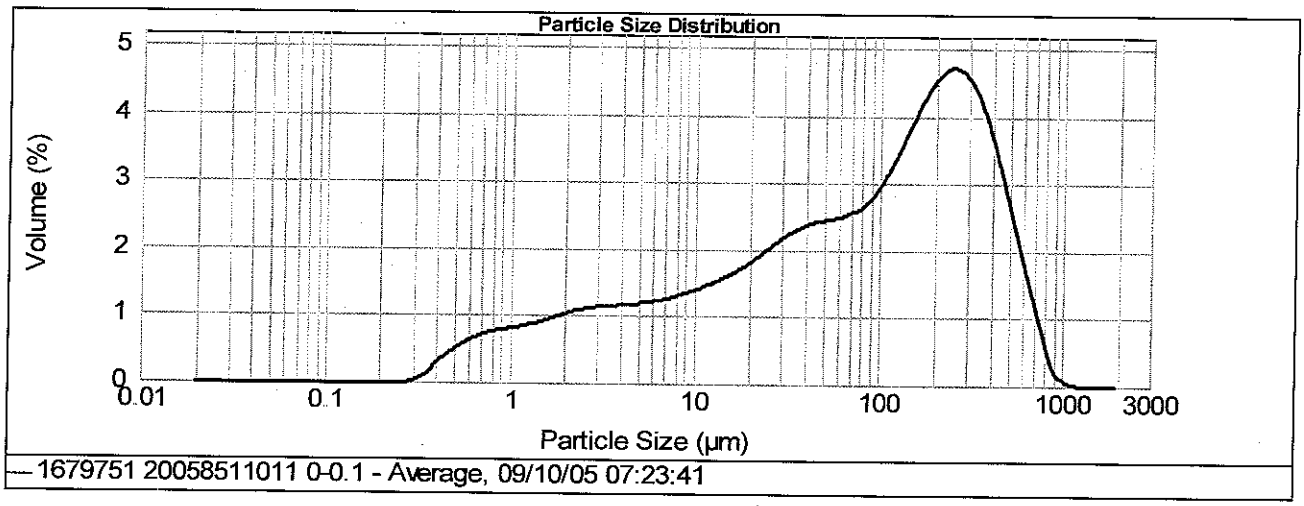
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 31.73%

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.662 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0444 %Vol **Vol. Weighted Mean D[4,3]:** 153.308 um **Specific Surface Area:** 0.818 m²/g

d(0.1): 2.623 um **d(0.5): 87.264 um** d(0.9): 404.115 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	153.308	173.572	1.461	1.95

Distribution Modal Sizes

Mode 1: 248.125 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.26	7.962	0.99	158.866	3.15
0.022	0.00	0.448	0.34	8.934	1.03	178.250	3.33
0.025	0.00	0.502	0.41	10.024	1.07	200.000	3.47
0.028	0.00	0.564	0.48	11.247	1.11	224.404	3.53
0.032	0.00	0.632	0.52	12.619	1.15	251.785	3.52
0.036	0.00	0.710	0.56	14.159	1.20	282.508	3.43
0.040	0.00	0.796	0.58	15.887	1.26	316.979	3.24
0.045	0.00	0.893	0.60	17.825	1.32	355.656	2.97
0.050	0.00	1.002	0.62	20.000	1.39	399.052	2.63
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.00	1.416	[illegible]	28.251	1.55	563.677	1.84
[illegible]	0.00	[illegible]	0.69	[illegible]	1.63	[illegible]	1.44

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679908 20058511012 .75-.9 - Average

Record No.: 8

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 07:34:50 **Result Type:** Averaged

Measured: 09/10/05 07:34:49 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

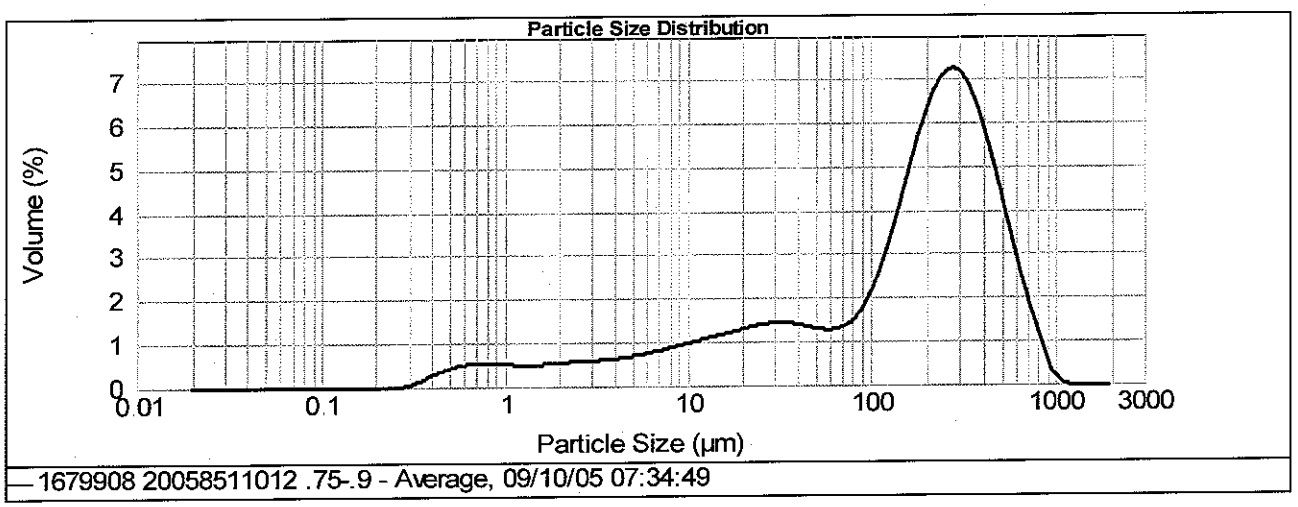
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 19.68 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.738 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0391 %Vol **Vol. Weighted Mean D[4,3]:** 221.486 um **Specific Surface Area:** 0.568 m²/g

d(0.1): 6.267 um **d(0.5): 191.024 um** d(0.9): 489.441 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	221.486	194.255	0.991	0.781

Distribution Modal Sizes

Mode 1: 273.949 um, Mode 2: 32.643 um, Mode 3: .78 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.23	7.962	0.67	158.866	4.01
0.022	0.00	0.448	0.29	8.934	0.72	178.250	4.56
0.025	0.00	0.502	0.34	10.024	0.76	200.000	5.00
0.028	0.00	0.564	0.37	11.247	0.80	224.404	5.31
0.032	0.00	0.632	0.39	12.619	0.84	251.785	5.45
0.036	0.00	0.710	0.40	14.159	0.88	282.508	5.40
0.040	0.00	0.796	0.40	15.887	0.92	316.979	5.16
0.045	0.00	0.893	0.39	17.825	0.96	355.656	4.76
0.050	0.00	1.002	0.38	20.000	1.00	399.052	4.22
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262					
	0.00	1.416	0.37	28.251	1.08	563.677	2.95

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679909 20058511021 0-.1 - Average

Record No.: 12

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 07:43:38 **Result Type:** Averaged

Measured: 09/10/05 07:43:37 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

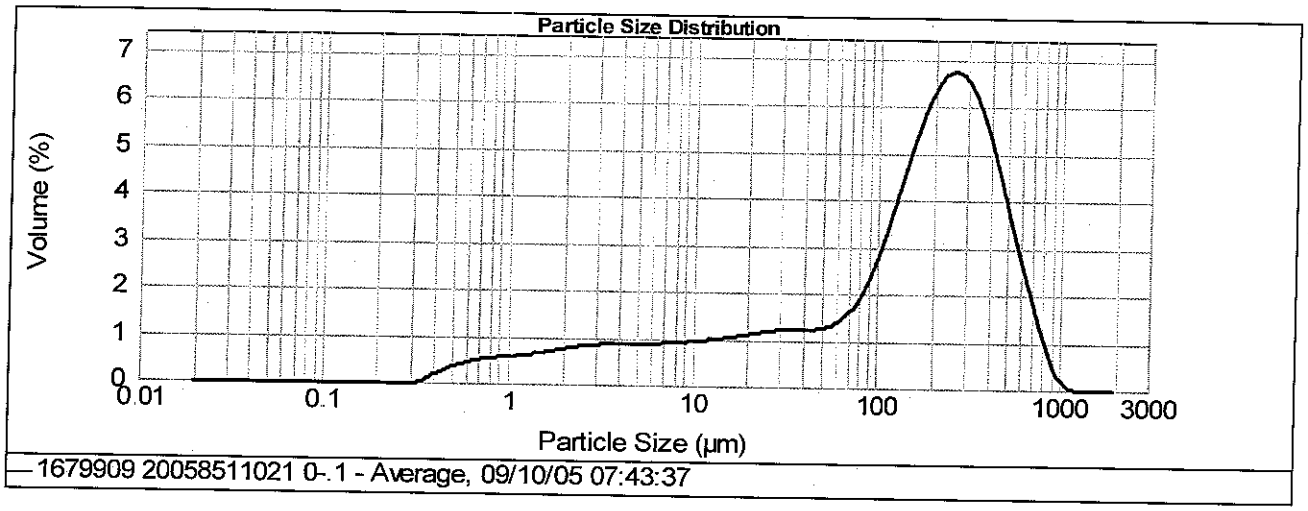
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 16.20%

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 813 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000.0 um

Concentration: 0.0288 %Vol **Vol. Weighted Mean D[4,3]:** 210.253 um **Specific Surface Area:** 0.573 m²/g

d(0.1): 4 390 um **d(0.5): 174.281 um** d(0 9): 475 881 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	210.253	190.707	1.084	1.014

Distribution Modal Sizes

Mode 1: 256.018 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0.399	0.16	7.962	0.69	158.866	4.21
0.022	0.00	0.448	0 24	8 934	0 70	178 250	4.60
0 025	0 00	0 502	0 29	10.024	0.72	200 000	4 88
0.028	0 00	0.564	0.33	11 247	0.73	224.404	5.04
0 032	0.00	0.632	0 37	12 619	0 75	251.785	5 06
0.036	0.00	0 710	0.39	14.159	0 77	282.508	4 94
0.040	0 00	0 796	0.41	15 887	0.79	316.979	4.68
0.045	0.00	0.893	0 43	17 825	0 82	355 656	4 30
0.050	0.00	1 002	0 44	20.000	0 84	399.052	3.82
0 056	0 00	1 125	0.46	22 440	0.87	447.744	3.28
0.063	0.00	1.262	0.48	25.179	0.89	502.377	2.71
0.071	0.00	1.416	0.50	28 251	0.90	563.677	2.15

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Laser Grainsize Analysis

Sample Name : 1679910 20058511022 .45-.55 - Average

Record No.: 16

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 07:59:39 **Result Type:** Averaged

Measured: 09/10/05 07:59:38 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

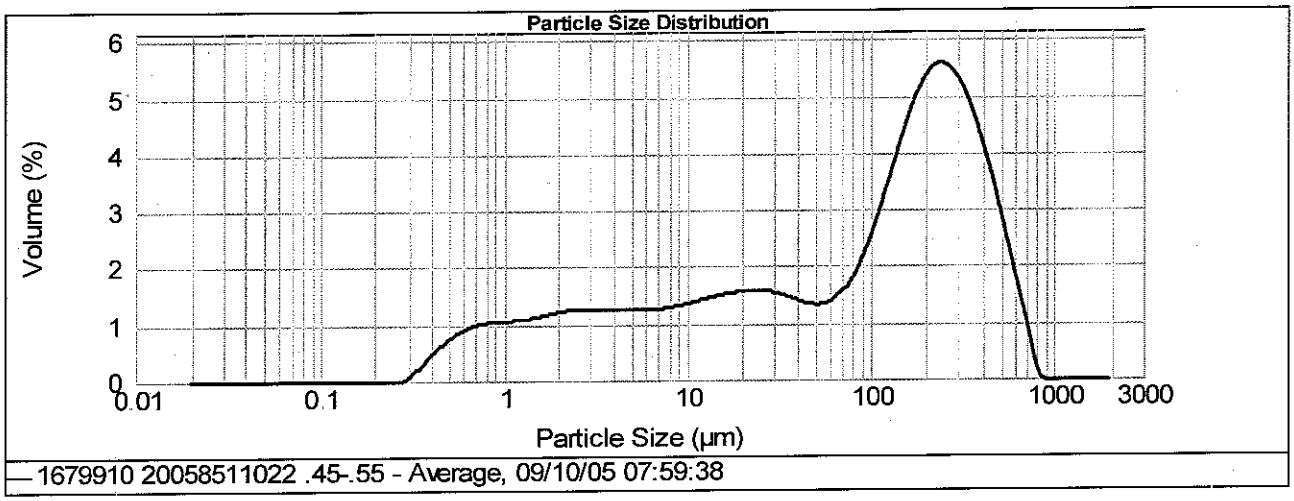
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 26 29 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 911 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0292 %Vol **Vol. Weighted Mean D[4,3]:** 158 962 um **Specific Surface Area:** 1 04 m²/g

d(0 1): 1 832 um **d(0.5): 114.715 um** d(0 9): 402 866 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	158 962	167 332	1 115	0 672

Distribution Modal Sizes

Mode 1: 241 541 um, Mode 2: 23 604 um, Mode 3: 2 944 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 41	7 962	0 98	158 866	3 68
0 022	0 00	0 448	0 50	8 934	1 01	178 250	3 96
0 025	0 00	0 502	0 60	10 024	1 04	200 000	4 13
0 028	0 00	0 564	0 67	11 247	1 07	224 404	4 21
0 032	0 00	0 632	0 72	12 619	1 10	251 785	4 16
0 036	0 00	0 710	0 76	14 159	1 13	282 508	4 01
0 040	0 00	0 796	0 78	15 887	1 15	316 979	3 75
0 045	0 00	0 893	0 79	17 825	1 17	355 656	3 40
0 050	0 00	1 002	0 79	20 000	1 19	399 052	2 96
0 056	0 00	1 125		22 440		447 744	
0 063	0 00	1 262			1 18	563 677	1 97
	0 00	1 416	0 84	28 251	1 16		1 45

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679911 20058511031 0-01 - Average

Record No.: 20

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 08:09:12 **Result Type:** Averaged

Measured: 09/10/05 08:09:11 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

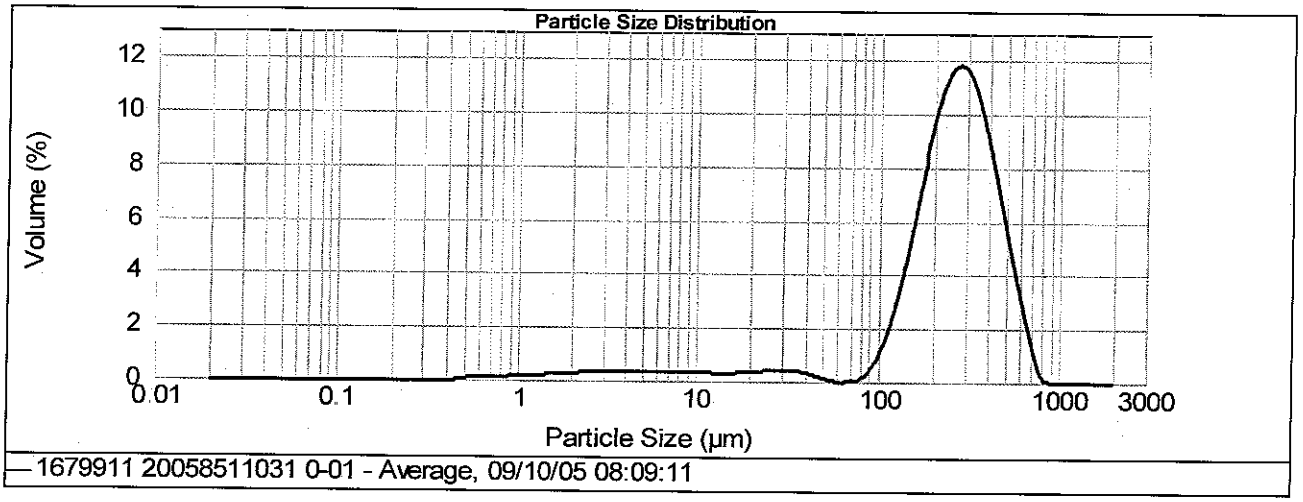
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 10.00 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.045 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0515 %Vol **Vol. Weighted Mean D[4,3]:** 277.312 um **Specific Surface Area:** 0.173 m²/g

d(0.1): 108.368 um **d(0.5): 261.725 um** d(0.9): 480.640 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	277.312	150.732	0.424	0.177

Distribution Modal Sizes

Mode 1: 279.72 um, Mode 2: 30.398 um, Mode 3: 5.359 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.00	7.962	0.25	158.866	5.30
0.022	0.00	0.448	0.01	8.934	0.25	178.250	6.55
0.025	0.00	0.502	0.06	10.024	0.23	200.000	7.64
0.028	0.00	0.564	0.07	11.247	0.22	224.404	8.43
0.032	0.00	0.632	0.09	12.619	0.22	251.785	8.84
0.036	0.00	0.710	0.10	14.159	0.22	282.508	8.80
0.040	0.00	0.796	0.11	15.887	0.22	316.979	8.31
0.045	0.00	0.893	0.12	17.825	0.24	355.656	7.45
0.050	0.00	1.002	0.13	20.000	0.26	399.052	6.30
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.31	[illegible]	3.74
[illegible]	0.00	1.416	0.17	28.251	0.32	563.677	2.56

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679912 20058511032 .7-.8 - Average

Record No.: 24

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 08:16:41 **Result Type:** Averaged

Measured: 09/10/05 08:16:40 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

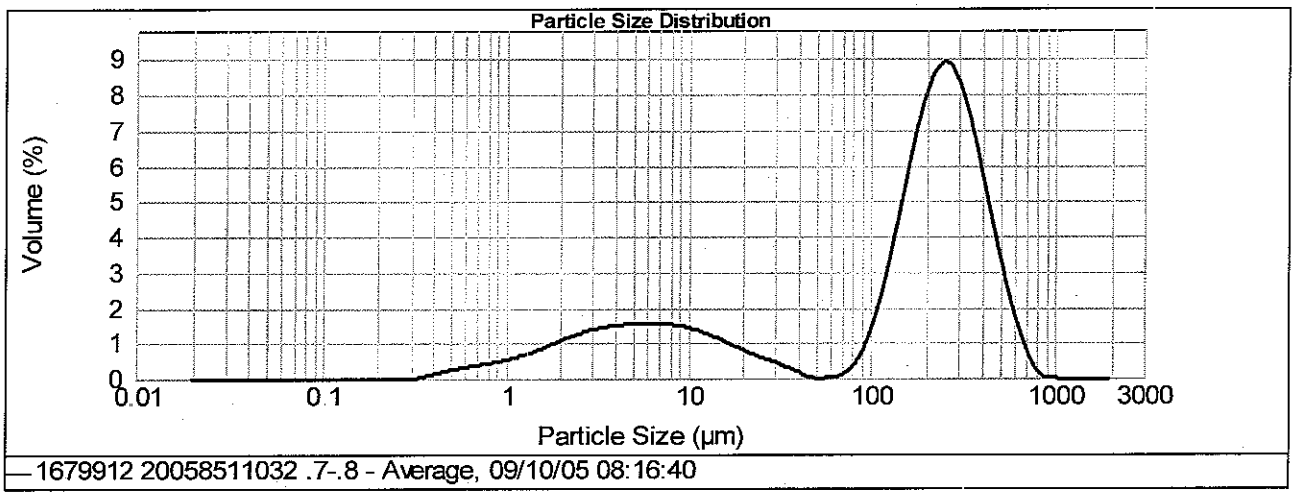
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 21 68 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 783 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0352 %Vol **Vol. Weighted Mean D[4,3]:** 201 411 um **Specific Surface Area:** 0 599 m²/g

d(0 1): 3 389 um **d(0.5): 194.810 um** d(0 9): 420 233 um



	Mean	Stand Dev	Skewness	Kurtosis
Volume:	201 411	164 345	0 613	0 025

Distribution Modal Sizes

Mode 1: 250 291 um, Mode 2: 6 207 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 10	7 962	1 14	158 866	4 98
0 022	0 00	0 448	0 16	8 934	1 10	178 250	5 79
0 025	0 00	0 502	0 20	10 024	1 06	200 000	6 38
0 028	0 00	0 564	0 24	11 247	0 99	224 404	6 69
0 032	0 00	0 632	0 27	12 619	0 91	251 785	6 67
0 036	0 00	0 710	0 30	14 159	0 83	282 508	6 34
0 040	0 00	0 796	0 34	15 887	0 74	316 979	5 72
0 045	0 00	0 893	0 37	17 825	0 65	355 656	4 92
0 050	0 00	1 002	0 42	20 000	0 57	399 052	3 99
0 056	0 00	1 125	[illegible]	22 440	[illegible]	447 744	[illegible]
0 063	0 00	1 262	[illegible]	[illegible]	0 42	[illegible]	2 20
[illegible]	0 00	1 416	0 61	28 251	0 35	563 677	1 43

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679913 20058511041 0-.1 - Average

Record No.: 28

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 08:24:35 **Result Type:** Averaged

Measured: 09/10/05 08:24:34 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

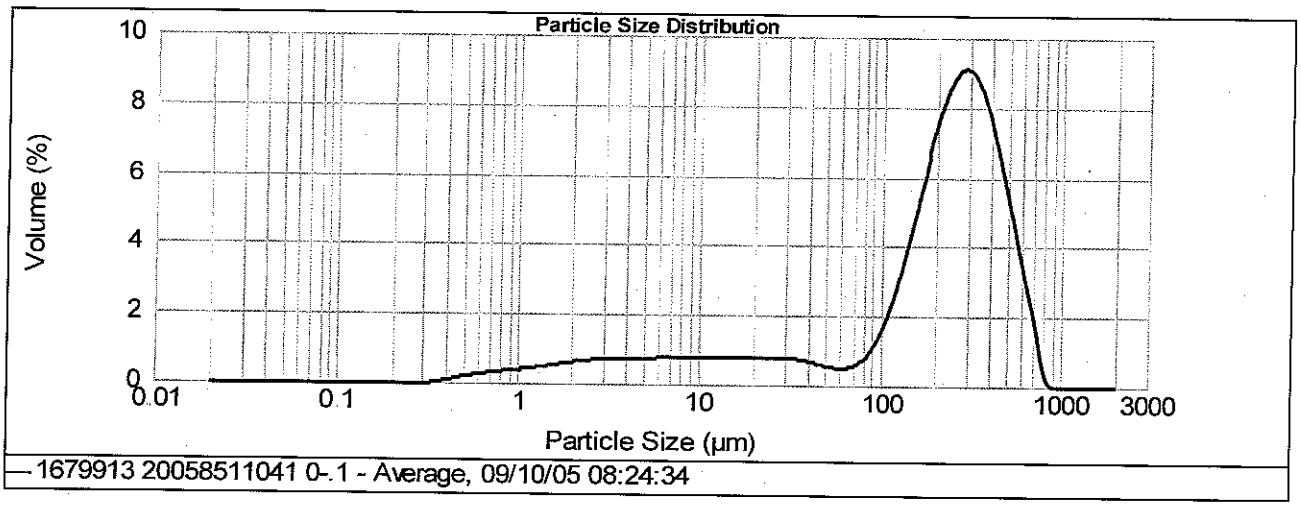
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 15.47%

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.759 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0374 %Vol **Vol. Weighted Mean D[4,3]:** 246.963 um **Specific Surface Area:** 0.4 m²/g

d(0.1): 7.357 um **d(0.5): 233.382 um** d(0.9): 491.841 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	246.963	177.79	0.502	-0.252

Distribution Modal Sizes

Mode 1: 291.304 um, Mode 2: 22.772 um, Mode 3: 14.553 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.08	7.962	0.58	158.866	4.33
0.022	0.00	0.448	0.13	8.934	0.59	178.250	5.15
0.025	0.00	0.502	0.16	10.024	0.60	200.000	5.87
0.028	0.00	0.564	0.19	11.247	0.60	224.404	6.43
0.032	0.00	0.632	0.22	12.619	0.60	251.785	6.77
0.036	0.00	0.710	0.24	14.159	0.60	282.508	6.84
0.040	0.00	0.796	0.27	15.887	0.60	316.979	6.63
0.045	0.00	0.893	0.29	17.825	0.60	355.656	6.16
0.050	0.00	1.002	0.31	20.000	0.60	399.052	5.47
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.60	[illegible]	3.69
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	[illegible]	0.39	[illegible]	0.59	[illegible]	2.73

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Laser Grainsize Analysis

Sample Name : 1679914 20058511042 .7-.85 - Average

Record No.: 32

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 08:31:32 **Result Type:** Averaged

Measured: 09/10/05 08:31:31 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

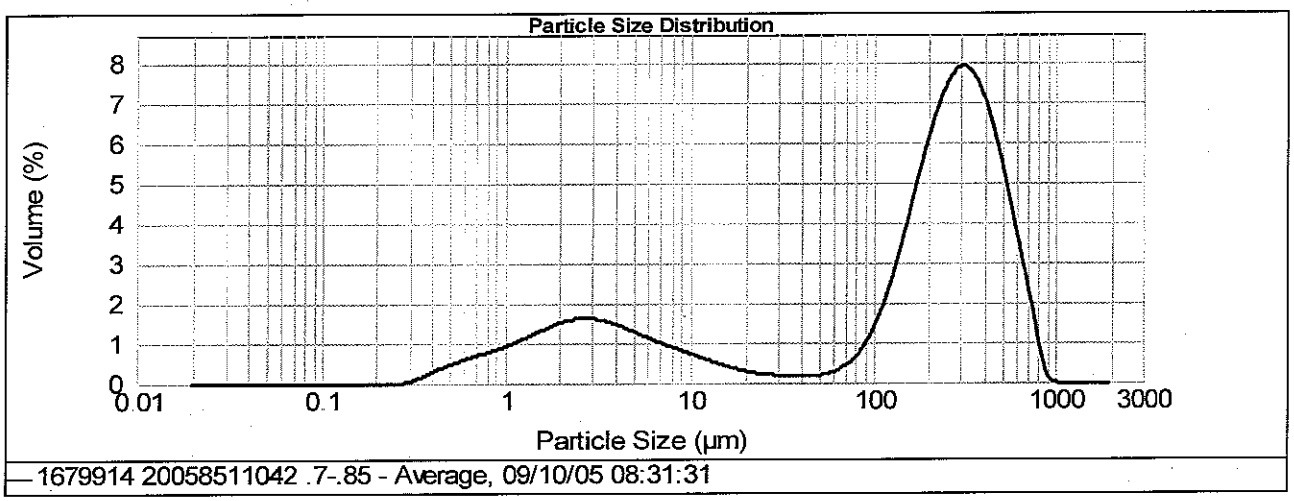
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 27.02 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.978 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0337 %Vol **Vol. Weighted Mean D[4,3]:** 236.535 um **Specific Surface Area:** 0.864 m²/g

d(0.1): 2.114 um **d(0.5): 220.026 um** d(0.9): 511.892 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	236.535	197.728	0.612	-0.227

Distribution Modal Sizes

Mode 1: 308.093 um, Mode 2: 2.687 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.25	7.962	0.65	158.866	3.68
0.022	0.00	0.448	0.31	8.934	0.59	178.250	4.35
0.025	0.00	0.502	0.38	10.024	0.52	200.000	4.95
0.028	0.00	0.564	0.44	11.247	0.46	224.404	5.45
0.032	0.00	0.632	0.49	12.619	0.40	251.785	5.80
0.036	0.00	0.710	0.55	14.159	0.35	282.508	5.96
0.040	0.00	0.796	0.60	15.887	0.29	316.979	5.91
0.045	0.00	0.893	0.66	17.825	0.25	355.656	5.64
0.050	0.00	1.002	0.72	20.000	0.21	399.052	5.16
0.056	0.00	1.125	1.262	22.440	0.18	447.744	4.52
0.063	0.00	1.262	1.416	25.179	0.16	502.377	3.76
[illegible]	0.00	1.416	0.96	28.251	0.14	563.677	2.95

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679915 20058511051 0-.1 - Average

Record No.: 40

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 08:46:03 **Result Type:** Averaged

Measured: 09/10/05 08:46:02 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

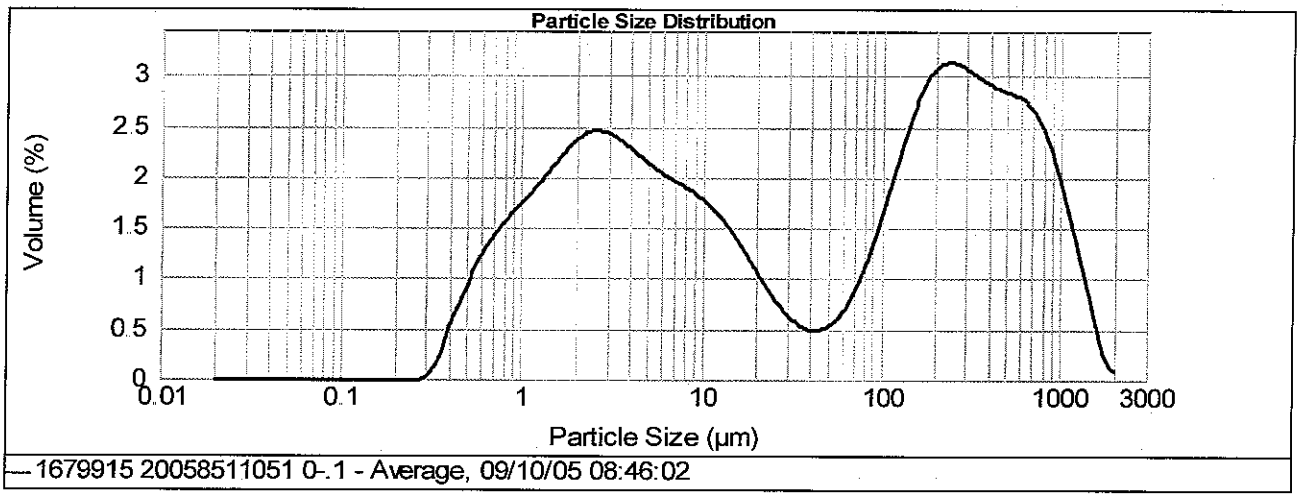
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 27.98 %

Particle RI: 1 544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.231 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0 0199 %Vol **Vol. Weighted Mean D[4,3]:** 215.986 um **Specific Surface Area:** 1 55 m²/g

d(0.1): 1 198 um **d(0.5): 38.471 um** d(0 9): 686 813 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	215.986	322.173	1.949	3.745

Distribution Modal Sizes

Mode 1: 241.027 um, Mode 2: 2.565 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.49	7.962	1.41	158.866	2.14
0.022	0.00	0.448	0.64	8.934	1.36	178.250	2.26
0.025	0.00	0.502	0.79	10.024	1.31	200.000	2.33
0.028	0.00	0.564	0.92	11.247	1.25	224.404	2.35
0.032	0.00	0.632	1.03	12.619	1.17	251.785	2.34
0.036	0.00	0.710	1.12	14.159	1.08	282.508	2.31
0.040	0.00	0.796	1.20	15.887	0.97	316.979	2.26
0.045	0.00	0.893	1.28	17.825	0.86	355.656	2.22
0.050	0.00	1.002	1.35	20.000	0.75	399.052	2.18
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.00	1.416	[illegible]	28.251	0.56	563.677	2.12
[illegible]	0.00	[illegible]	1.60	[illegible]	0.48	[illegible]	2.09

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679916 20058511052 .65-.8 - Average

Record No.: 44

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 08:54:19 **Result Type:** Averaged

Measured: 09/10/05 08:54:18 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

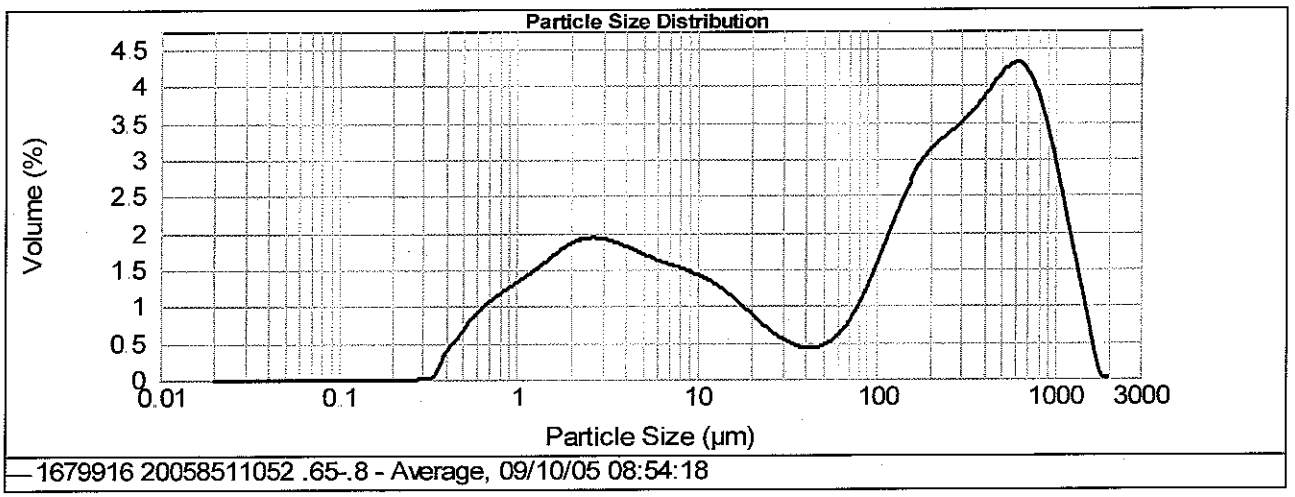
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 21.43 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.346 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0191 %Vol **Vol. Weighted Mean D[4,3]:** 291.232 um **Specific Surface Area:** 1.17 m²/g

d(0.1): 1.550 um **d(0.5): 155.081 um** d(0.9): 823.643 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	291.232	352.825	1.348	1.231

Distribution Modal Sizes

Mode 1: 612.674 um, Mode 2: 2.629 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.35	7.962	1.13	158.866	2.14
0.022	0.00	0.448	0.46	8.934	1.10	178.250	2.28
0.025	0.00	0.502	0.58	10.024	1.06	200.000	2.39
0.028	0.00	0.564	0.68	11.247	1.01	224.404	2.47
0.032	0.00	0.632	0.76	12.619	0.95	251.785	2.54
0.036	0.00	0.710	0.84	14.159	0.88	282.508	2.62
0.040	0.00	0.796	0.91	15.887	0.80	316.979	2.71
0.045	0.00	0.893	0.97	17.825	0.71	355.656	2.82
0.050	0.00	1.002	1.03	20.000	0.63	399.052	2.95
0.056	0.00	1.125	1.09	22.440	0.55	447.744	3.08
0.063	0.00	1.262	1.14	25.179	0.47	502.371	3.19
0.071	0.00	1.416	1.24	28.251	0.41	563.677	3.24

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679917 20058511061 0-.1 - Average

Record No.: 48

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 09:01:56 **Result Type:** Averaged

Measured: 09/10/05 09:01:55 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

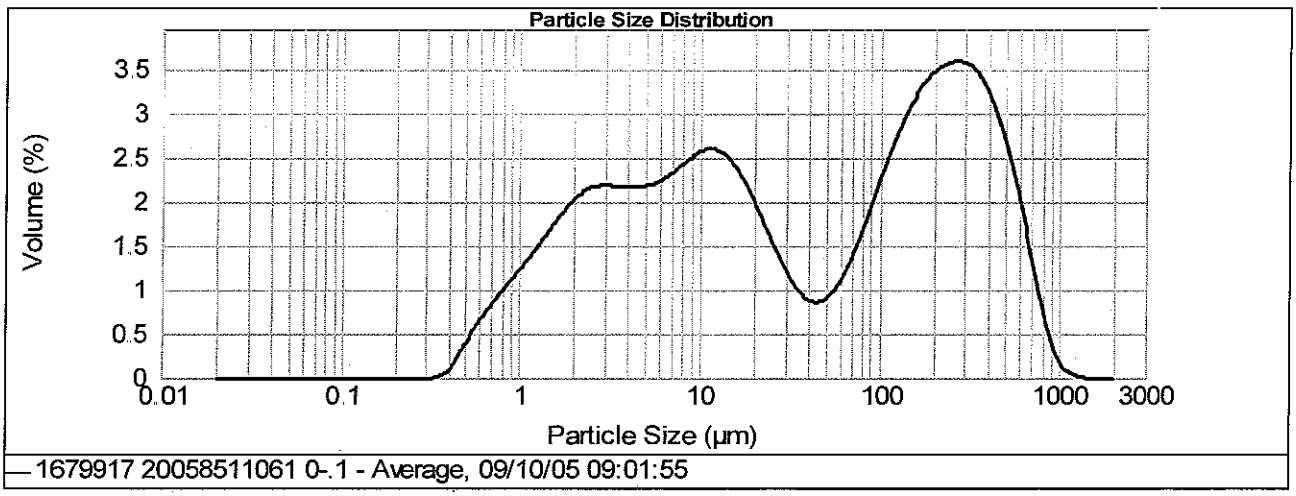
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 22.13 %

Particle RI: 1.544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1.004 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0195 %Vol **Vol. Weighted Mean D[4,3]:** 135.524 um **Specific Surface Area:** 1.1 m²/g

d(0.1): 1.764 um **d(0.5): 28.591 um** d(0.9): 410.590 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	135.524	186.729	1.737	2.927

Distribution Modal Sizes

Mode 1: 271.133 um, Mode 2: 11.512 um, Mode 3: 2.968 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.11	7.962	1.85	158.866	2.47
0.022	0.00	0.448	0.26	8.934	1.91	178.250	2.57
0.025	0.00	0.502	0.36	10.024	1.95	200.000	2.64
0.028	0.00	0.564	0.48	11.247	1.95	224.404	2.68
0.032	0.00	0.632	0.59	12.619	1.92	251.785	2.70
0.036	0.00	0.710	0.69	14.159	1.85	282.508	2.69
0.040	0.00	0.796	0.79	15.887	1.73	316.979	2.63
0.045	0.00	0.893	0.88	17.825	1.58	355.656	2.52
0.050	0.00	1.002	0.98	20.000	1.42	399.052	2.35
0.056	0.00	1.125	1.08	22.440	1.24	447.744	2.12
0.063	0.00	1.262	1.17	25.179	1.07	502.377	1.84
0.071	0.00	1.416	1.29	28.251	0.91	563.677	1.51

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679918 20058511062 .7-.95 - Average

Record No.: 52

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 09:12:28 **Result Type:** Averaged

Measured: 09/10/05 09:12:27 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

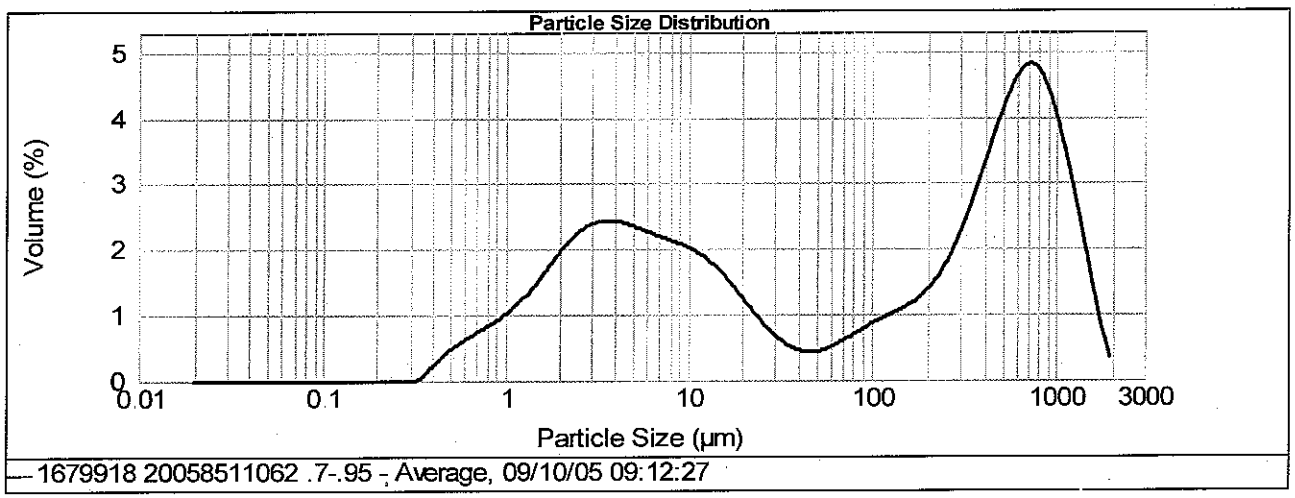
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 16 16 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 396 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0148 %Vol **Vol. Weighted Mean D[4,3]:** 341 768 um **Specific Surface Area:** 1 05 m²/g

d(0 1): 1 921 um **d(0.5): 112.591 um** d(0.9): 987.968 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	341.768	427.935	1.229	0.736

Distribution Modal Sizes

Mode 1: 720 329 um, Mode 2: 3.637 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0 399	0 20	7 962	1 59	158 866	0 91
0.022	0 00	0.448	0 31	8.934	1.55	178.250	1.00
0 025	0.00	0.502	0.38	10.024	1.50	200.000	1.11
0 028	0.00	0.564	0 46	11 247	1.44	224 404	1 27
0.032	0.00	0.632	0 52	12 619	1.36	251 785	1.47
0 036	0 00	0 710	0 58	14 159	1 26	282 508	1 71
0 040	0.00	0 796	0.65	15.887	1.15	316 979	2 00
0.045	0 00	0.893	0.71	17.825	1.02	355.656	2 31
0.050	0 00	1 002	0 80	20 000	0 89	399.052	2 63
0.056	0 00	1 125	0 80	22 440	0 76	447.744	2 95
0.063	0 00	1 262	[illegible]	[illegible]	0 64	[illegible]	3 24
[illegible]	0 00	1 416	1 14	28 251	0 53	563.677	3 46

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679919 20058511071 0-.1 - Average

Record No.: 56

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 09:19:46 **Result Type:** Averaged

Measured: 09/10/05 09:19:45 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

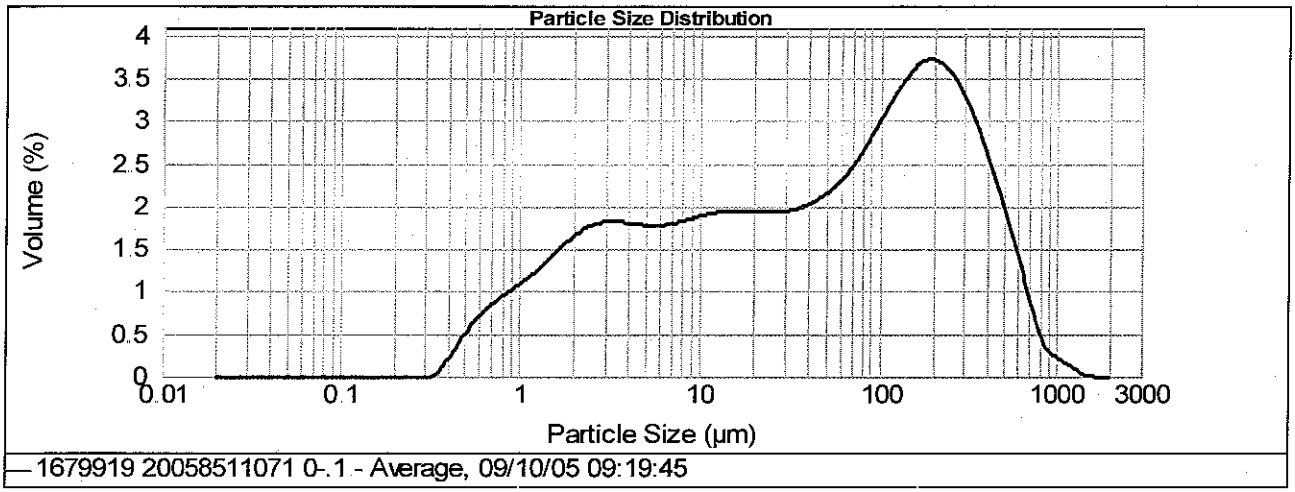
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 12.90 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.939 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0121 %Vol **Vol. Weighted Mean D[4,3]:** 125.829 um **Specific Surface Area:** 1.02 m²/g

d(0.1): 1.895 um **d(0.5): 50.002 um** d(0.9): 356.591 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	125.829	172.532	2.193	6.238

Distribution Modal Sizes

Mode 1: 193.675 um, Mode 2: 15.372 um, Mode 3: 3.256 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.20	7.962	1.38	158.866	2.76
0.022	0.00	0.448	0.34	8.934	1.40	178.250	2.79
0.025	0.00	0.502	0.43	10.024	1.43	200.000	2.78
0.028	0.00	0.564	0.53	11.247	1.44	224.404	2.72
0.032	0.00	0.632	0.61	12.619	1.45	251.785	2.62
0.036	0.00	0.710	0.67	14.159	1.46	282.508	2.48
0.040	0.00	0.796	0.73	15.887	1.46	316.979	2.30
0.045	0.00	0.893	0.79	17.825	1.45	355.656	2.09
0.050	0.00	1.002	0.85	20.000	1.45	399.052	1.85
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.00	1.416	[illegible]	28.251	1.45	563.677	1.33
[illegible]	0.00	[illegible]	1.06	[illegible]	1.46	[illegible]	1.06

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679920 20058511072 .75-.9 - Average

Record No.: 60

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 09:31:05 **Result Type:** Averaged

Measured: 09/10/05 09:31:04 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

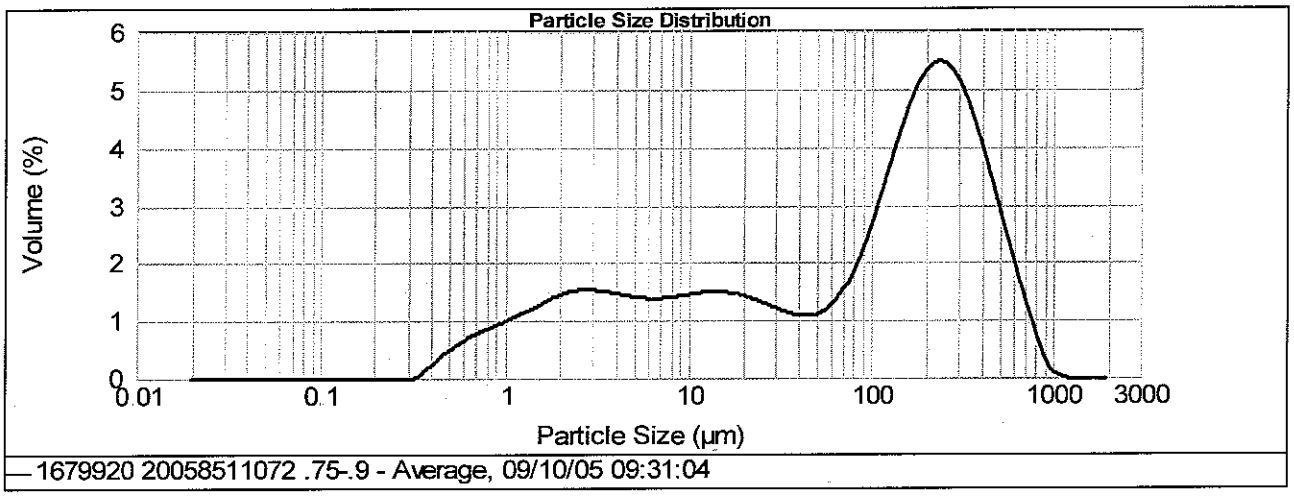
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 14.06 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.917 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0152 %Vol **Vol. Weighted Mean D[4,3]:** 167.050 um **Specific Surface Area:** 0.9 m²/g

d(0.1): 2.096 um **d(0.5): 119.102 um** d(0.9): 423.186 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	167.05	181.649	1.32	1.59

Distribution Modal Sizes

Mode 1: 233.919 um, Mode 2: 2.772 um, Mode 3: 14.037 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.20	7.962	1.07	158.866	3.70
0.022	0.00	0.448	0.32	8.934	1.09	178.250	3.94
0.025	0.00	0.502	0.40	10.024	1.11	200.000	4.09
0.028	0.00	0.564	0.48	11.247	1.12	224.404	4.13
0.032	0.00	0.632	0.55	12.619	1.13	251.785	4.06
0.036	0.00	0.710	0.61	14.159	1.13	282.508	3.89
0.040	0.00	0.796	0.66	15.887	1.12	316.979	3.62
0.045	0.00	0.893	0.71	17.825	1.10	355.656	3.27
0.050	0.00	1.002	0.76	20.000	1.06	399.052	2.87
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.00	1.416	[illegible]	28.251	0.97	563.677	2.01
[illegible]	0.00	[illegible]	0.95	[illegible]	0.92	[illegible]	1.59

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679921 20058511081 0-.1 - Average

Record No.: 64

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 09:38:15 **Result Type:** Averaged

Measured: 09/10/05 09:38:14 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

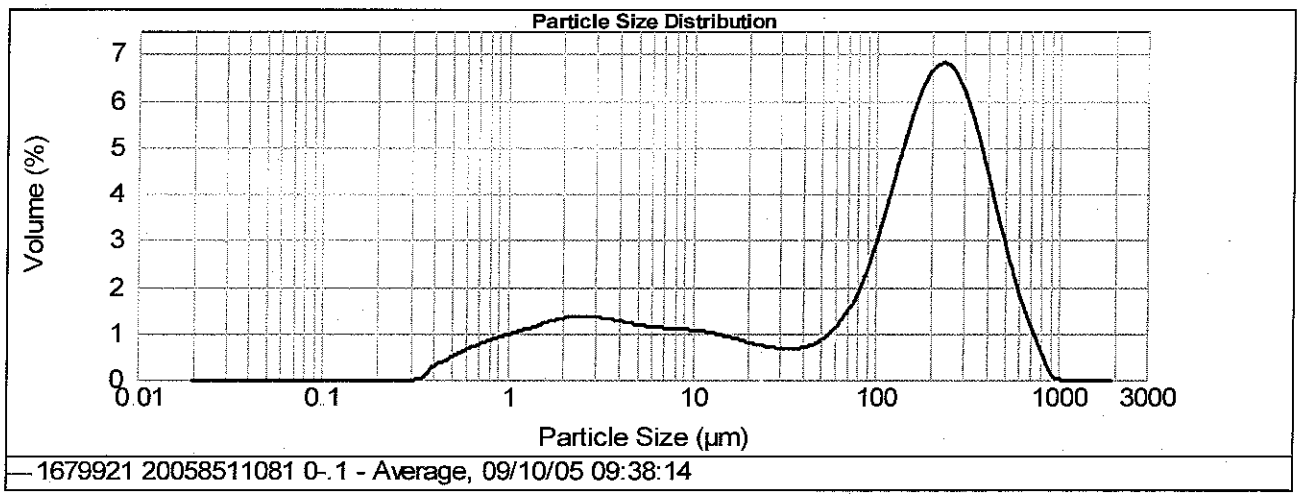
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 23 93 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 818 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0296 %Vol **Vol Weighted Mean D[4,3]:** 181 135 um **Specific Surface Area:** 0 851 m²/g

d(0 1): 2 164 um **d(0.5): 152.732 um** d(0 9): 416 587 um



	Mean	Stand Dev	Skewness	Kurtosis
Volume:	181 135	171 499	1 072	0 994

Distribution Modal Sizes

Mode 1: 230 558 um, Mode 2: 2 498 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 25	7 962	0 82	158 866	4 53
0 022	0 00	0 448	0 32	8 934	0 81	178 250	4 88
0 025	0 00	0 502	0 41	10 024	0 80	200 000	5 08
0 028	0 00	0 564	0 48	11 247	0 77	224 404	5 12
0 032	0 00	0 632	0 55	12 619	0 75	251 785	4 99
0 036	0 00	0 710	0 60	14 159	0 71	282 508	4 70
0 040	0 00	0 796	0 65	15 887	0 67	316 979	4 27
0 045	0 00	0 893	0 70	17 825	0 63	355 656	3 74
0 050	0 00	1 002	0 75	20 000	0 59	399 052	3 15
0 056	0 00	1 125	0 79	22 440	0 56	447 744	2 56
0 063	0 00	1 262	0 83	25 179	0 53	502 377	1 99
	0 00	1 416	0 89	28 251	0 51	563 677	1 48

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679922 20058511082 .7-.8 - Average

Record No.: 68

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 09:47:37 **Result Type:** Averaged

Measured: 09/10/05 09:47:36 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

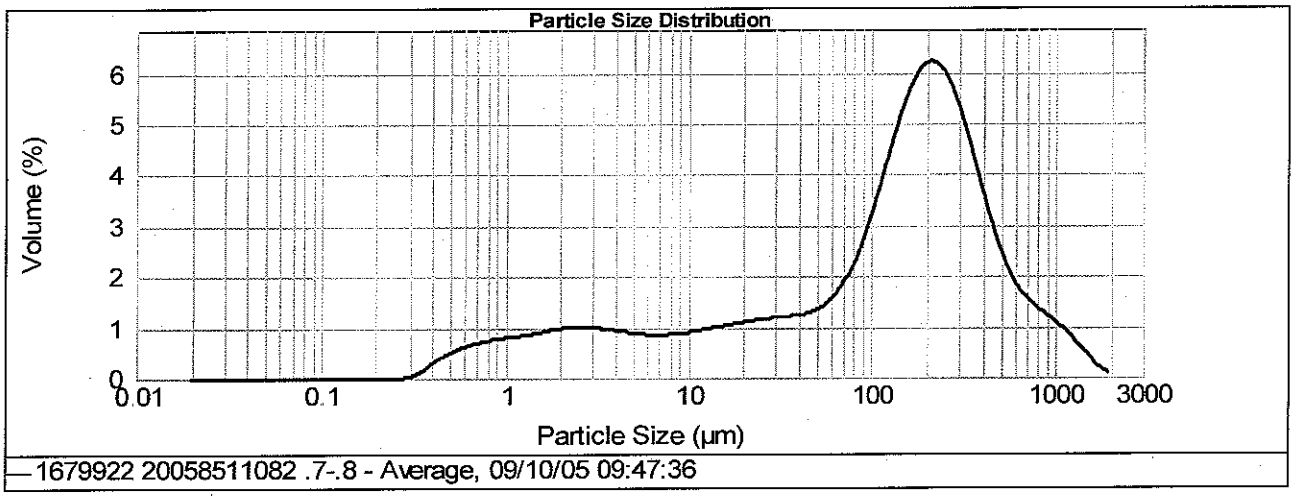
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 11 95 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 854 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0163 %Vol **Vol. Weighted Mean D[4,3]:** 216 914 um **Specific Surface Area:** 0 755 m²/g

d(0 1): 2 762 um **d(0.5): 149.478 um** d(0 9): 499 768 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	216.914	261.723	2.464	7.931

Distribution Modal Sizes

Mode 1: 210.65 um, Mode 2: 2.536 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0 00	0.399	0 26	7.962	0 66	158.866	4.40
0.022	0 00	0.448	0.34	8.934	0 67	178.250	4 62
0.025	0 00	0.502	0.41	10.024	0 69	200.000	4 69
0.028	0 00	0 564	0.47	11 247	0.71	224.404	4.60
0.032	0.00	0.632	0.51	12 619	0.74	251.785	4 36
0.036	0.00	0.710	0 54	14 159	0 76	282 508	4 00
0.040	0.00	0 796	0 57	15 887	0 79	316 979	3 54
0 045	0.00	0 893	0 58	17 825	0 81	355 656	3 05
0 050	0 00	1.002	0 60	20 000	0 84	399 052	2 54
0 056	0 00	1.125	0.62	22 440	0.86	447.744	2.00
0.063	0 00	1.262	0 64	25 175	0 88	502.077	1.72
[illegible]	0 00	1.416	0.67	28.251	0 90	563 677	1.43

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679923 20058511091 0-.1 - Average

Record No.: 72

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 09:56:31 **Result Type:** Averaged

Measured: 09/10/05 09:56:30 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

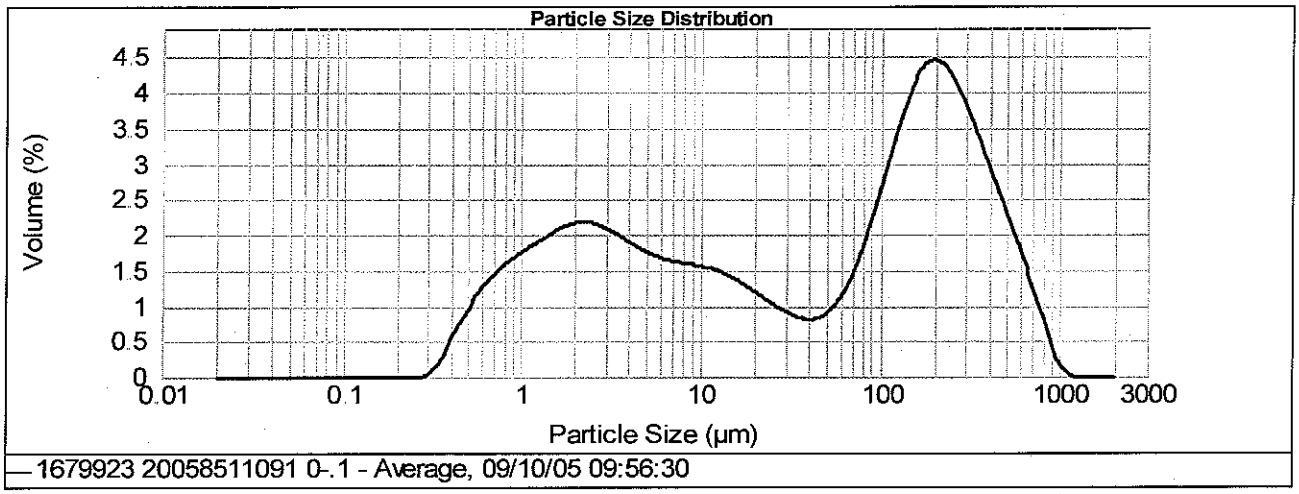
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 28 28 %

Particle RI: 1.544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1.097 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0.020 to 2000 0 .. um

Concentration: 0.0210 %Vol **Vol. Weighted Mean D[4,3]:** 138.231 um **Specific Surface Area:** 1 52 m²/g

d(0 1): 1 178 um **d(0.5): 61.641 um** d(0 9): 388.590 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	138.231	180.266	1.712	2.995

Distribution Modal Sizes

Mode 1: 198.885 um, Mode 2: 2.199 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0 00	0.399	0 51	7.962	1 20	158.866	3 26
0.022	0.00	0 448	0 66	8.934	1 18	178 250	3 35
0.025	0 00	0 502	0 81	10 024	1 16	200.000	3 34
0.028	0.00	0 564	0 94	11.247	1 14	224.404	3.25
0.032	0 00	0.632	1.05	12.619	1.10	251.785	3 09
0.036	0 00	0 710	1.15	14.159	1.06	282 508	2 87
0.040	0 00	0 796	1 23	15 887	1.00	316 979	2 62
0.045	0.00	0 893	1 29	17 825	0 94	355 656	2 36
0 050	0 00	1 002	1 35	20 000	0 87	399 052	2 09
0.056	0 00	1 125	1 41	22 440	0 80	447.744	1 83
0.063	0 00	1.262	1.47	25 179	0 74	502.377	1 57
0.071	0.00	1.416	1.53	28.251	0.68	563.677	1.32

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679924 20058511092 .7-.85 - Average

Record No.: 76

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 10:04:22 **Result Type:** Averaged

Measured: 09/10/05 10:04:21 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

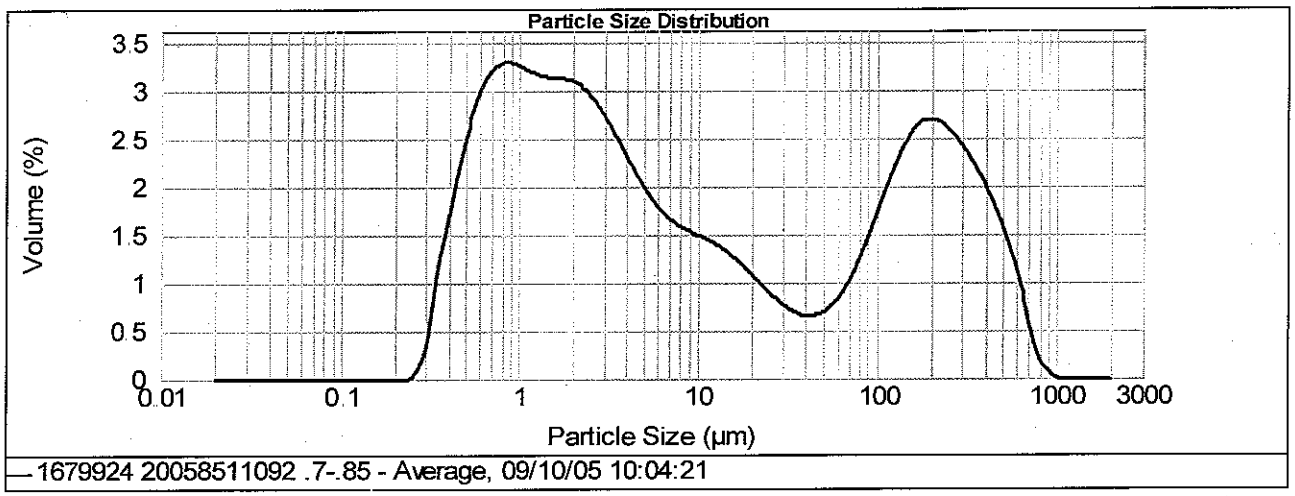
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 35.84 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.767 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0158 %Vol **Vol. Weighted Mean D[4,3]:** 84.402 um **Specific Surface Area:** 3.04 m²/g

d(0.1): 0.644 um **d(0.5): 5.259 um** d(0.9): 295.302 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	84.402	146.303	2.157	4.585

Distribution Modal Sizes

Mode 1: .854 um, Mode 2: 199.115 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	1.45	7.962	1.17	158.866	1.98
0.022	0.00	0.448	1.78	8.934	1.14	178.250	2.03
0.025	0.00	0.502	2.03	10.024	1.11	200.000	2.03
0.028	0.00	0.564	2.23	11.247	1.07	224.404	1.99
0.032	0.00	0.632	2.37	12.619	1.03	251.785	1.92
0.036	0.00	0.710	2.45	14.159	0.98	282.508	1.82
0.040	0.00	0.796	2.47	15.887	0.92	316.979	1.71
0.045	0.00	0.893	2.46	17.825	0.85	355.656	1.59
0.050	0.00	1.002	2.43	20.000	0.78	399.052	1.44
0.056	0.00	1.125	2.40	22.440	0.71	447.744	1.27
0.063	0.00	1.262	2.36	25.179	0.64	502.377	1.07
[illegible]	0.00	1.416	[illegible]	28.251	0.58	563.677	0.84

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679925 20058511101 0-.1 - Average

Record No.: 80

Operator Notes : top cut 1.7mm

SOP Name: Silicious (Regolith) **Analysed:** 09/10/05 10:13:14 **Result Type:** Averaged

Measured: 09/10/05 10:13:13 **Measured by:** watson tony **CRC LEME 4 - Electrical** **Job No.:** Lab Subs Job # 7926

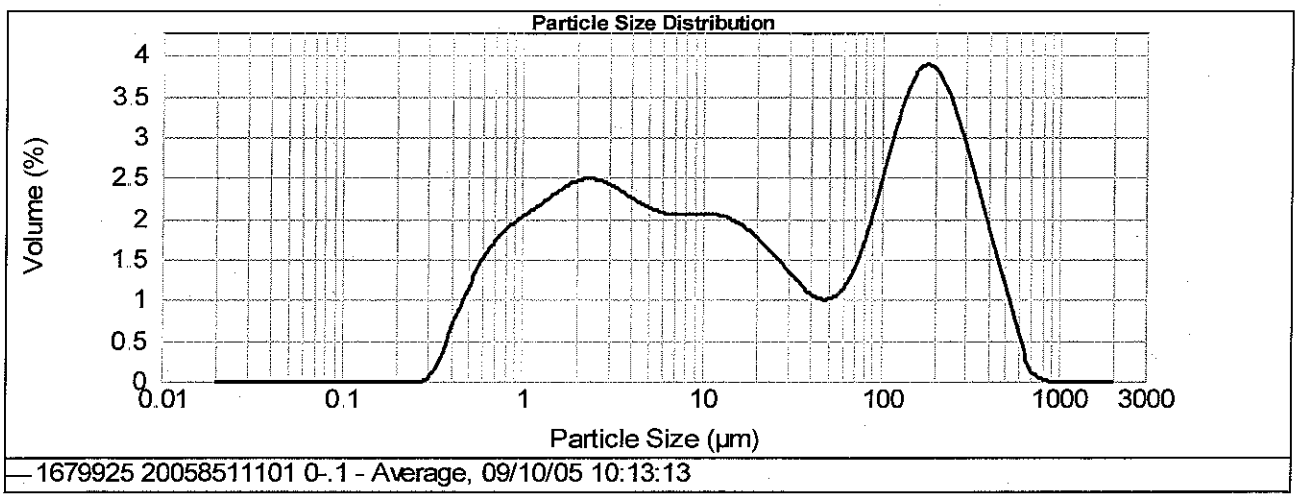
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 27.54 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.288 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0174 %Vol **Vol. Weighted Mean D[4,3]:** 89.813 um **Specific Surface Area:** 1.78 m²/g

d(0.1): 1.036 um **d(0.5): 16.633 um** d(0.9): 275.036 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	89.813	127.69	1.744	2.871

Distribution Modal Sizes

Mode 1: 183.145 um, Mode 2: 2.31 um, Mode 3: 10.462 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.61	7.962	1.54	158.866	2.90
0.022	0.00	0.448	0.79	8.934	1.55	178.250	2.93
0.025	0.00	0.502	0.97	10.024	1.55	200.000	2.85
0.028	0.00	0.564	1.12	11.247	1.54	224.404	2.70
0.032	0.00	0.632	1.25	12.619	1.52	251.785	2.47
0.036	0.00	0.710	1.35	14.159	1.49	282.508	2.20
0.040	0.00	0.796	1.43	15.887	1.44	316.979	1.91
0.045	0.00	0.893	1.49	17.825	1.37	355.656	1.61
0.050	0.00	1.002	1.55	20.000	1.30	399.052	1.31
0.056	0.00	1.125	1.61	22.440	1.21	447.744	1.02
0.063	0.00	1.262	1.67	25.179	1.12	502.377	0.73
0.071	0.00	1.416	1.73	28.251	1.02	563.677	0.44

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679926 20058511102 0.7-0.8 - Average

Record No.: 142

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/28/05 15:57:37 **Result Type:** Averaged

Measured: 09/28/05 15:57:36 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

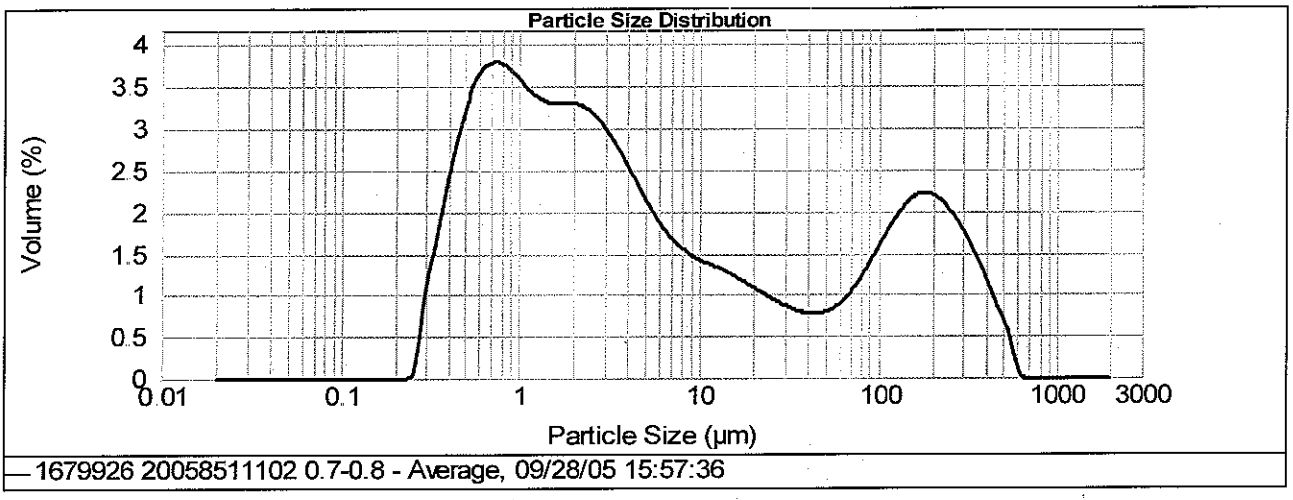
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 57.07 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.416 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0258 %Vol **Vol. Weighted Mean D[4,3]:** 52.916 um **Specific Surface Area:** 3.81 m²/g

d(0.1): 0.545 um **d(0.5): 3.264 um** d(0.9): 201.141 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	52.916	102.368	2.392	5.534

Distribution Modal Sizes

Mode 1: .737 um, Mode 2: 1.911 um, Mode 3: 180.905 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	2.00	7.962	1.14	158.866	1.67
0.022	0.00	0.448	2.31	8.934	1.09	178.250	1.67
0.025	0.00	0.502	2.56	10.024	1.05	200.000	1.64
0.028	0.00	0.564	2.74	11.247	1.02	224.404	1.56
0.032	0.00	0.632	2.83	12.619	0.98	251.785	1.46
0.036	0.00	0.710	2.86	14.159	0.94	282.508	1.33
0.040	0.00	0.796	2.82	15.887	0.90	316.979	1.18
0.045	0.00	0.893	2.74	17.825	0.85	355.656	1.01
0.050	0.00	1.002	2.65	20.000	0.80	399.052	0.81
0.056	0.00	1.125	2.57	22.440	0.74	447.744	0.60
0.063	0.00	1.262	2.48	25.179	0.70	502.377	0.41
0.071	0.00	1.416	2.40	28.251	0.65	563.677	0.27

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679927 20058511111 0-.1 - Average

Record No.: 90

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 16:48:04 **Result Type:** Averaged

Measured: 09/20/05 16:48:03 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

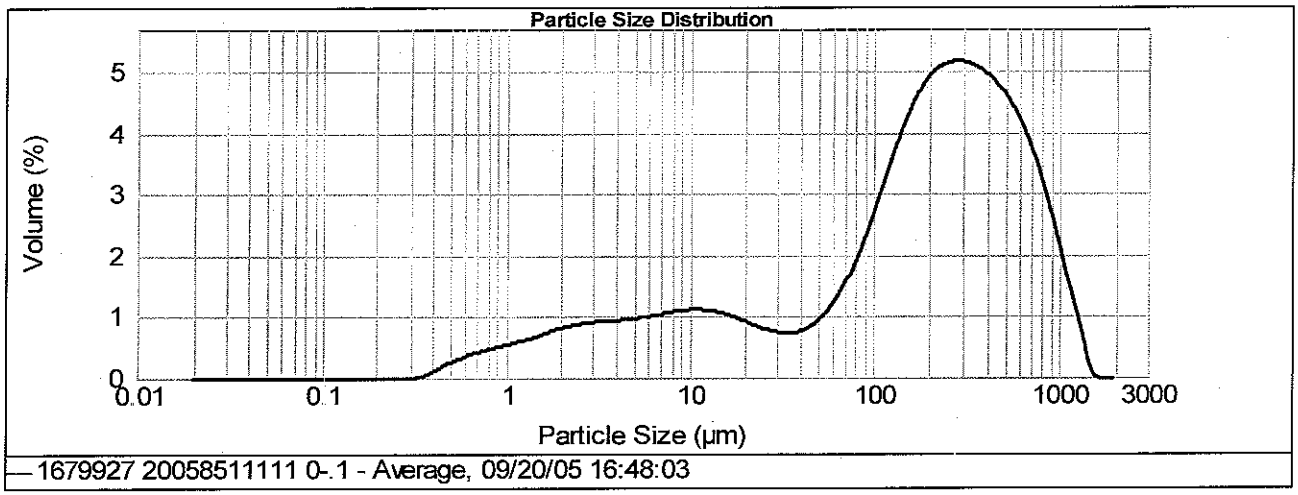
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 12.86 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.407 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0235 %Vol **Vol. Weighted Mean D[4,3]:** 281.355 um **Specific Surface Area:** 0.519 m²/g

d(0.1): 4.527 um **d(0.5): 196.697 um** d(0.9): 699.589 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	281.355	285.306	1.322	1.423

Distribution Modal Sizes

Mode 1: 276.689 um, Mode 2: 10.883 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.09	7.962	0.82	158.866	3.44
0.022	0.00	0.448	0.16	8.934	0.83	178.250	3.64
0.025	0.00	0.502	0.21	10.024	0.84	200.000	3.77
0.028	0.00	0.564	0.26	11.247	0.84	224.404	3.85
0.032	0.00	0.632	0.30	12.619	0.82	251.785	3.89
0.036	0.00	0.710	0.33	14.159	0.79	282.508	3.88
0.040	0.00	0.796	0.36	15.887	0.76	316.979	3.84
0.045	0.00	0.893	0.39	17.825	0.72	355.656	3.78
0.050	0.00	1.002	0.42	20.000	0.67	399.052	3.68
0.056	0.00	1.125	0.45	22.440	0.63	447.744	3.56
0.063	0.00	1.262	0.49	25.179	0.59	502.377	3.40
0.071	0.00	1.416	0.52	28.251	0.56	563.677	3.20

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679928 20058511112 .7-.8 - Average

Record No.: 94

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 16:59:36 **Result Type:** Averaged

Measured: 09/20/05 16:59:35 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

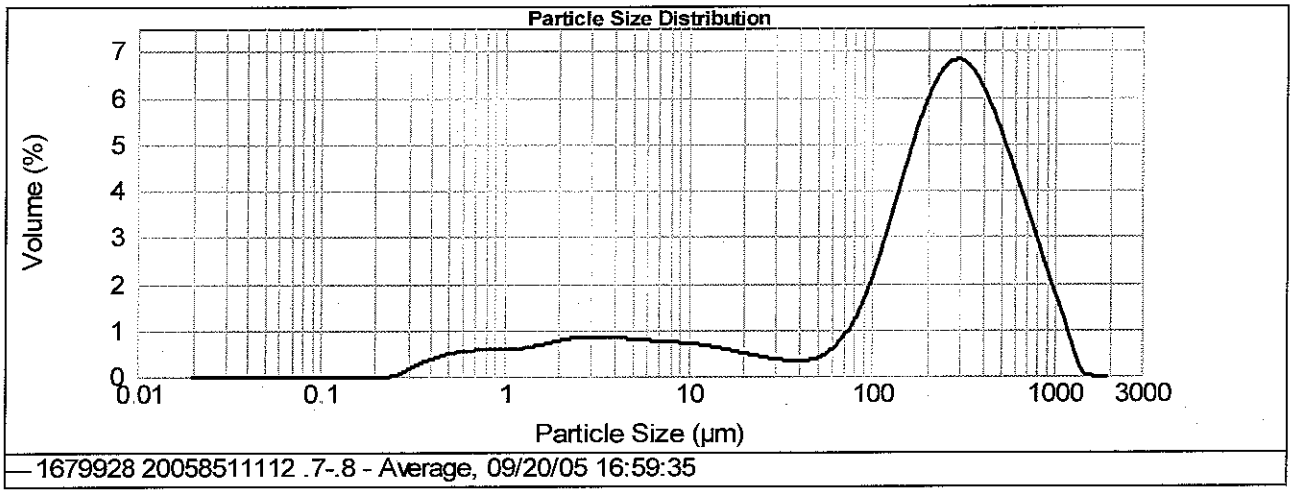
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 14.34 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.563 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0240 %Vol **Vol. Weighted Mean D[4,3]:** 292.579 um **Specific Surface Area:** 0.684 m²/g

d(0.1): 3.738 um **d(0.5): 235.285 um** d(0.9): 658.677 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	292.579	260.848	1.188	1.337

Distribution Modal Sizes

Mode 1: 291.181 um, Mode 2: 3.126 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.30	7.962	0.56	158.866	3.87
0.022	0.00	0.448	0.34	8.934	0.54	178.250	4.31
0.025	0.00	0.502	0.38	10.024	0.53	200.000	4.68
0.028	0.00	0.564	0.40	11.247	0.51	224.404	4.94
0.032	0.00	0.632	0.42	12.619	0.48	251.785	5.09
0.036	0.00	0.710	0.42	14.159	0.46	282.508	5.12
0.040	0.00	0.796	0.43	15.887	0.42	316.979	5.03
0.045	0.00	0.893	0.43	17.825	0.39	355.656	4.84
0.050	0.00	1.002	0.43	20.000	0.36	399.052	4.55
0.056	0.00	1.125	0.43	22.440		447.744	
0.063	0.00	1.262			0.30		3.79
	0.00	1.416		28.251	0.27	563.677	
	0.00		0.49				

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679929 20058511121 0-.1 - Average

Record No.: 98

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 17:06:39 **Result Type:** Averaged

Measured: 09/20/05 17:06:38 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

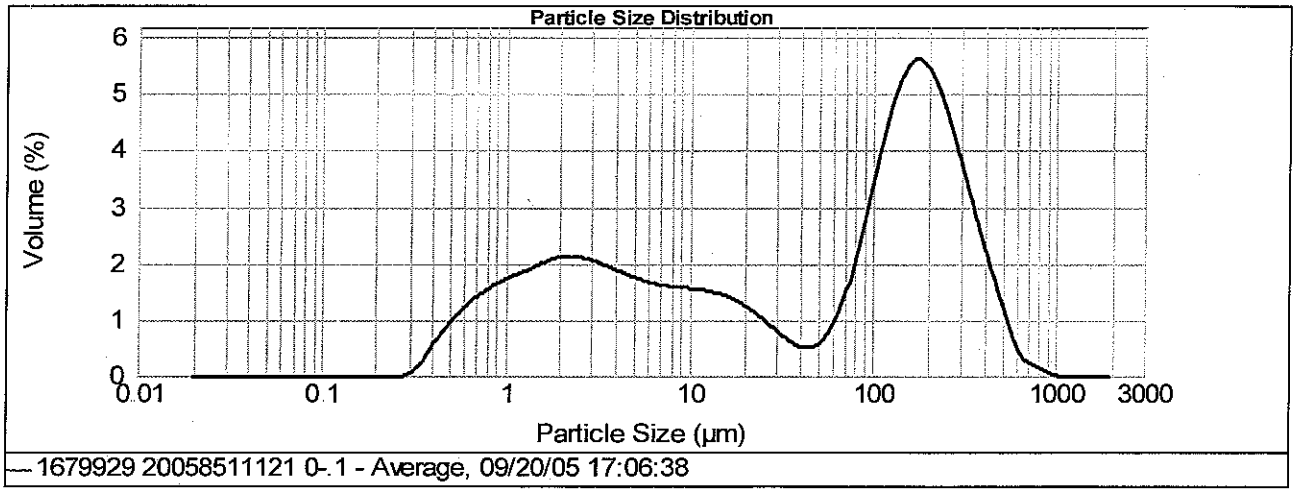
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 28.53 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.132 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0217 %Vol **Vol. Weighted Mean D[4,3]:** 115.053 um **Specific Surface Area:** 1.48 m²/g

d(0.1): 1.208 um **d(0.5): 75.813 um** d(0.9): 300.259 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	115.053	135.593	1.475	2.562

Distribution Modal Sizes

Mode 1: 172.875 um, Mode 2: 2.242 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.49	7.962	1.19	158.866	4.23
0.022	0.00	0.448	0.63	8.934	1.18	178.250	4.19
0.025	0.00	0.502	0.78	10.024	1.17	200.000	3.99
0.028	0.00	0.564	0.91	11.247	1.15	224.404	3.68
0.032	0.00	0.632	1.02	12.619	1.13	251.785	3.29
0.036	0.00	0.710	1.11	14.159	1.09	282.508	2.85
0.040	0.00	0.796	1.19	15.887	1.04	316.979	2.39
0.045	0.00	0.893	1.25	17.825	0.98	355.656	1.96
0.050	0.00	1.002	1.31	20.000	0.90	399.052	1.54
0.056	0.00	1.125	1.37	22.440	0.81	447.744	1.15
0.063	0.00	1.262	1.42	25.175	0.72	502.377	0.77
[illegible]	0.00	1.416	1.49	28.251	0.61	563.677	0.42

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679930 20058511122 .6-.75 - Average

Record No.: 102

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 17:18:57 **Result Type:** Averaged

Measured: 09/20/05 17:18:56 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

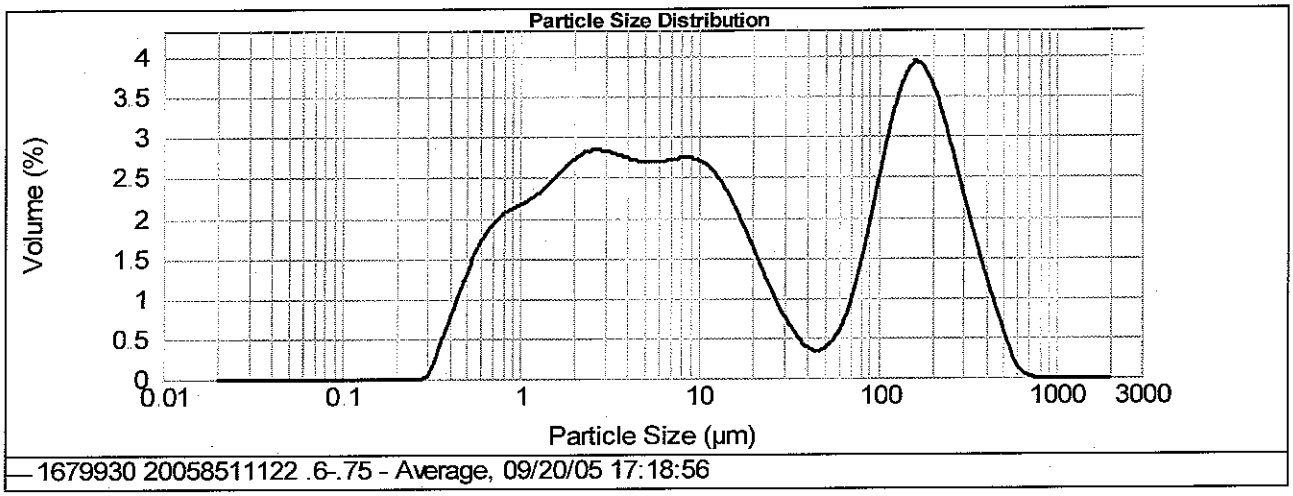
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 36.55 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.192 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0219 %Vol **Vol. Weighted Mean D[4,3]:** 71.368 um **Specific Surface Area:** 2.01 m²/g

d(0.1): 0.950 um **d(0.5): 9.656 um** d(0.9): 229.043 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	71.368	107.954	1.797	3.034

Distribution Modal Sizes

Mode 1: 163.998 um, Mode 2: 2.677 um, Mode 3: 8.652 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.68	7.962	2.06	158.866	2.96
0.022	0.00	0.448	0.91	8.934	2.05	178.250	2.86
0.025	0.00	0.502	1.10	10.024	2.02	200.000	2.65
0.028	0.00	0.564	1.27	11.247	1.95	224.404	2.37
0.032	0.00	0.632	1.40	12.619	1.85	251.785	2.05
0.036	0.00	0.710	1.50	14.159	1.70	282.508	1.72
0.040	0.00	0.796	1.56	15.887	1.53	316.979	1.40
0.045	0.00	0.893	1.61	17.825	1.34	355.656	1.10
0.050	0.00	1.002	1.65	20.000	1.14	399.052	0.81
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.75	[illegible]	0.31
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	[illegible]	1.85	[illegible]	0.58	[illegible]	0.10

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679931 20058511131 0-.1 - Average

Record No.: 106

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 17:26:04 **Result Type:** Averaged

Measured: 09/20/05 17:26:03 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

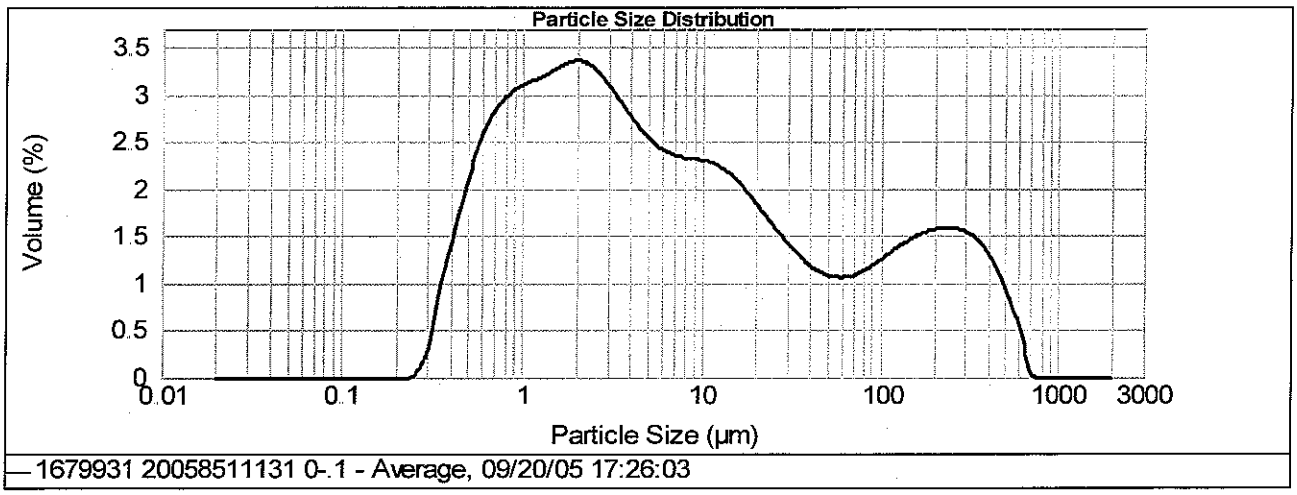
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 47.21 %

Particle RI: 1.544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1.274 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0 020 to 2000 0... um

Concentration: 0 0231 %Vol **Vol. Weighted Mean D[4,3]:** 53 032 um **Specific Surface Area:** 2.88 m²/g

d(0 1): 0.702 um **d(0.5): 5.088 um** d(0 9): 196.056 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	53.032	110.416	2.791	7.842

Distribution Modal Sizes

Mode 1: 1 982 um, Mode 2: 238.521 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	1.21	7.962	1 75	158.866	1.15
0.022	0 00	0.448	1.49	8.934	1 74	178 250	1.17
0.025	0 00	0.502	1.73	10 024	1.73	200.000	1.19
0.028	0.00	0 564	1 93	11.247	1.70	224.404	1.19
0 032	0.00	0.632	2 08	12 619	1.66	251 785	1.19
0 036	0.00	0.710	2.19	14.159	1 60	282 508	1.17
0.040	0 00	0.796	2.27	15.887	1.53	316 979	1.12
0.045	0.00	0.893	2.32	17.825	1 44	355 656	1.05
0.050	0.00	1 002	2 35	20 000	1.35	399.052	0.94
0.056	0.00	1.125	2.38	22.440	1.25	447.744	0.70
0 063	0 00	1 262	2.41	25.179	1.16	502.377	0.60
	0 00	1.416	2.46	28 251	1.08	563 677	0.42
	0.00						

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679932 20058511132 .7-.85 - Average

Record No.: 110

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 17:33:28 **Result Type:** Averaged

Measured: 09/20/05 17:33:27 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

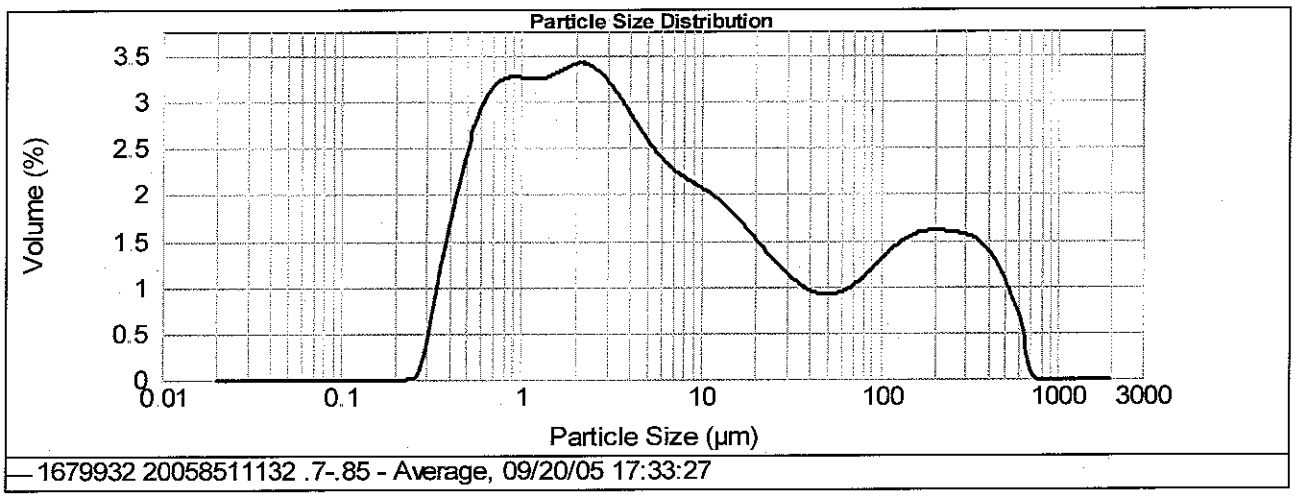
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 42.76 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 652 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0190 %Vol **Vol. Weighted Mean D[4,3]:** 55.074 um **Specific Surface Area:** 3.13 m²/g

d(0 1): 0.651 um **d(0.5): 4.296 um** d(0 9): 206.148 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	55.074	115.383	2.731	7.389

Distribution Modal Sizes

Mode 1: 2 129 um, Mode 2: .899 um, Mode 3: 203.07 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	1.42	7.962	1.62	158.866	1.19
0.022	0.00	0.448	1.73	8.934	1.58	178.250	1.20
0.025	0.00	0.502	1.99	10.024	1.54	200.000	1.21
0.028	0.00	0.564	2.19	11.247	1.49	224.404	1.20
0.032	0.00	0.632	2.33	12.619	1.43	251.785	1.19
0.036	0.00	0.710	2.42	14.159	1.36	282.508	1.18
0.040	0.00	0.796	2.45	15.887	1.28	316.979	1.15
0.045	0.00	0.893	2.46	17.825	1.19	355.656	1.09
0.050	0.00	1.002	2.45	20.000	1.10	399.052	1.01
0.056	0.00	1.125	2.44	22.440	1.01	447.744	0.88
0.063	0.00	1.262	2.43	25.179	0.93	502.377	0.70
0.071	0.00	1.416	2.48	28.251	0.86	563.677	0.53

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Malvern, UK
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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679933 20058511141 0-.1 - Average

Record No.: 114

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 17:41:05 **Result Type:** Averaged

Measured: 09/20/05 17:41:04 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

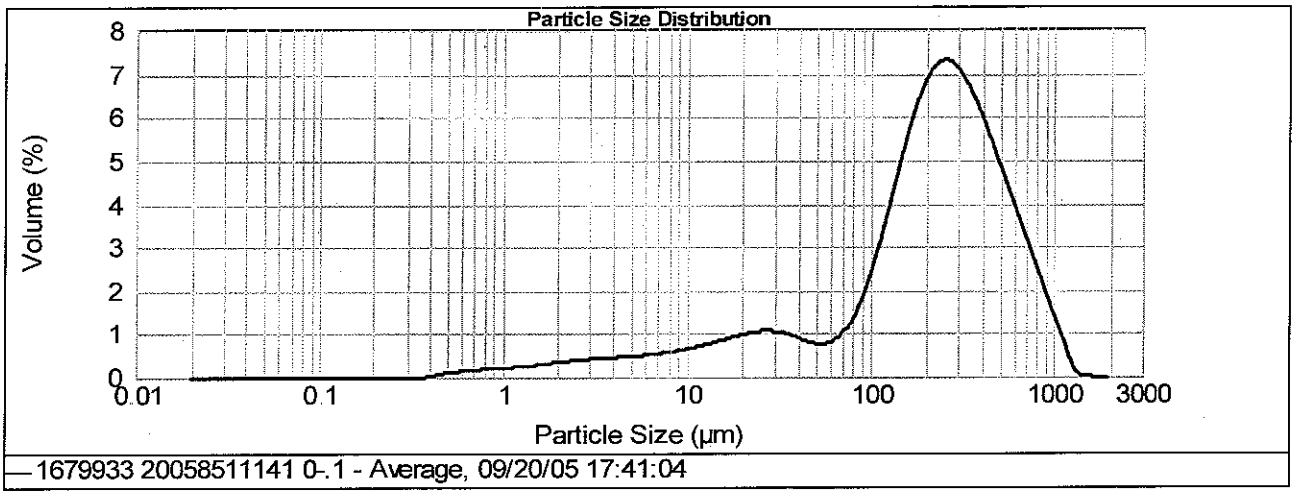
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 13.74 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.430 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0520 %Vol **Vol. Weighted Mean D[4,3]:** 280.749 um **Specific Surface Area:** 0.247 m²/g

d(0.1): 17.600 um **d(0.5): 225.281 um** d(0.9): 612.203 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	280.749	237.565	1.275	1.672

Distribution Modal Sizes

Mode 1: 251.573 um, Mode 2: 27.083 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.03	7.962	0.45	158.866	4.60
0.022	0.00	0.448	0.07	8.934	0.48	178.250	5.04
0.025	0.00	0.502	0.09	10.024	0.51	200.000	5.34
0.028	0.00	0.564	0.11	11.247	0.54	224.404	5.49
0.032	0.00	0.632	0.12	12.619	0.59	251.785	5.49
0.036	0.00	0.710	0.14	14.159	0.63	282.508	5.36
0.040	0.00	0.796	0.15	15.887	0.68	316.979	5.10
0.045	0.00	0.893	0.16	17.825	0.72	355.656	4.76
0.050	0.00	1.002	0.17	20.000	0.76	399.052	4.36
0.056	0.00	1.125	0.18	22.440	0.79	447.744	3.92
0.063	0.00	1.262	0.19	25.179	0.81	502.377	3.48
0.071	0.00	1.416	0.21	28.251	0.80	563.677	3.03

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679934 20058511142 .3-.4 - Average

Record No.: 118

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 17:50:19 **Result Type:** Averaged

Measured: 09/20/05 17:50:18 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

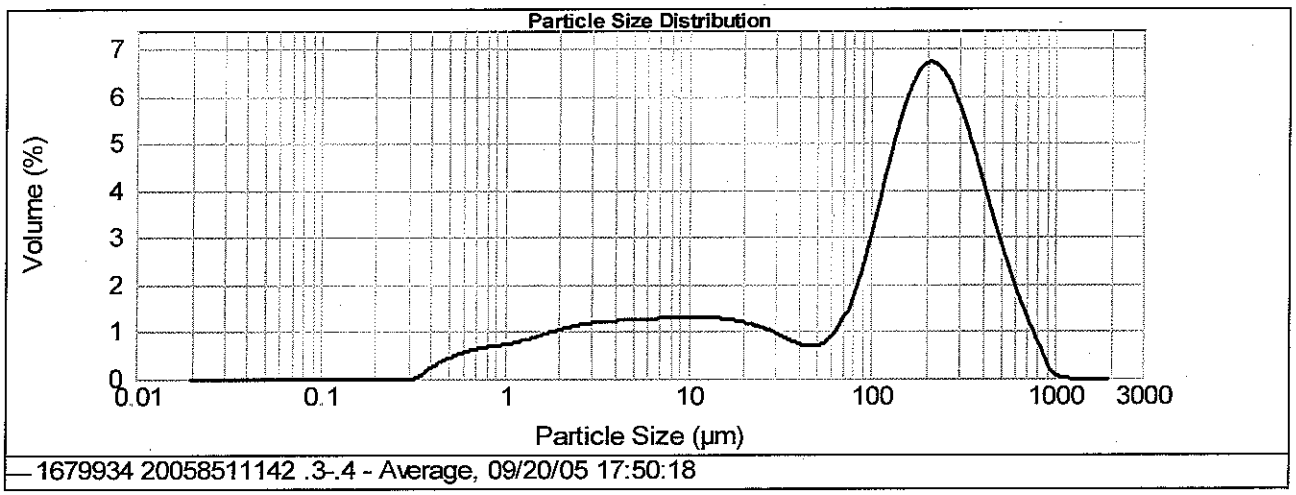
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 17 09 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 068 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0237 %Vol **Vol. Weighted Mean D[4,3]:** 181 524 um **Specific Surface Area:** 0 733 m²/g

d(0 1): 2 878 um **d(0.5): 149.521 um** d(0 9): 421 433 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	181.524	176.232	1.231	1.572

Distribution Modal Sizes

Mode 1: 209.984 um, Mode 2: 10.793 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 21	7 962	0 97	158 866	4 74
0 022	0 00	0 448	0 30	8 934	0 98	178 250	4 98
0 025	0 00	0 502	0 36	10 024	0 98	200 000	5 05
0 028	0 00	0 564	0 41	11 247	0 98	224 404	4 96
0 032	0 00	0 632	0 46	12 619	0 97	251 785	4 72
0 036	0 00	0 710	0 49	14 159	0 96	282 508	4 37
0 040	0 00	0 796	0 52	15 887	0 94	316 979	3 93
0 045	0 00	0 893	0 54	17 825	0 92	355 656	3 45
0 050	0 00	1 002	0 56	20 000	0 88	399 052	2 94
0 056	0 00	1 125	0 59	22 440	0 84	447 744	2 44
0 063	0 00	1 262	0 63	25 175	0 79	502 377	1 97
0 071	0 00	1 416	0 67	28 251	0 73	563 677	1 54

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679935 20058511151 0-.1 - Average

Record No.: 122

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 17:57:29 **Result Type:** Averaged

Measured: 09/20/05 17:57:28 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

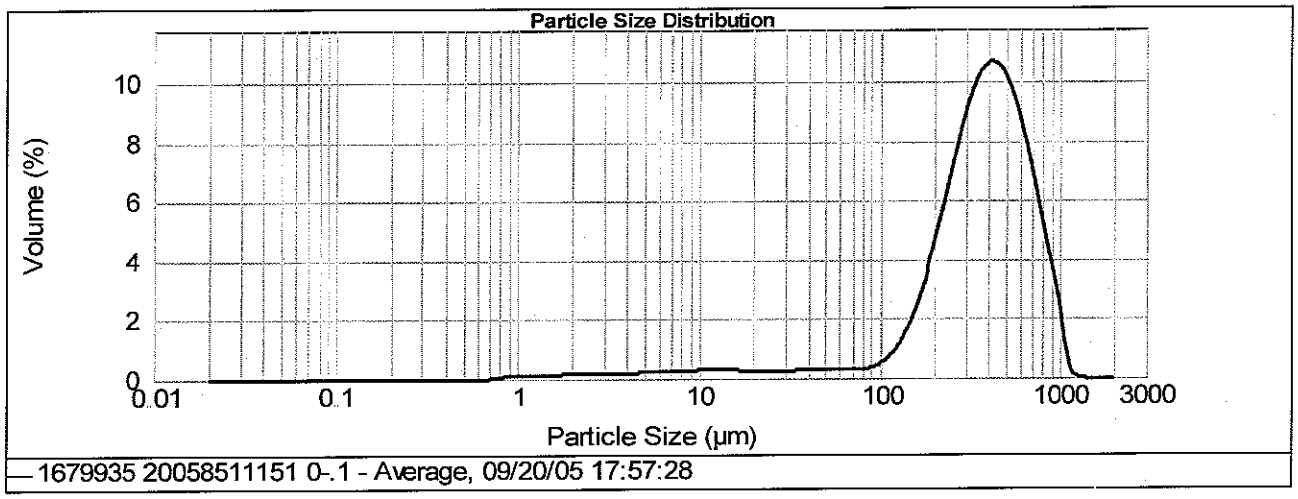
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 17 84 %

Particle RI: 1.544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 2 256 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 1809 %Vol **Vol. Weighted Mean D[4,3]:** 415 159 um **Specific Surface Area:** 0 0858 m²/g

d(0.1): 149 641 um **d(0.5): 385.736 um** d(0.9): 737 036 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	415.159	230.488	0.506	-0.029

Distribution Modal Sizes

Mode 1: 427 33 um, Mode 2: 47 61 um, Mode 3: 12 513 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0 00	0 399	0 00	7 962	0.20	158 866	2 18
0.022	0.00	0.448	0 00	8 934	0.20	178 250	2 96
0.025	0.00	0.502	0.00	10 024	0 21	200 000	3.85
0.028	0.00	0.564	0 00	11.247	0.21	224 404	4.81
0.032	0.00	0.632	0 00	12 619	0.21	251 785	5 77
0.036	0.00	0.710	0 01	14 159	0.21	282 508	6 65
0.040	0.00	0 796	0.05	15 887	0.20	316 979	7 39
0.045	0 00	0 893	0.06	17 825	0 20	355 656	7.87
0.050	0 00	1 002	0.07	20 000	0 19	399 052	8 06
0 056	0 00	1 125		22 440		447.744	
0.063	0 00	1 262			0 19		7.48
		1 416		28 251	0 20	563 677	6 73

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679936 20058511152 .65-.75 - Average

Record No.: 126

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 18:06:37 **Result Type:** Averaged

Measured: 09/20/05 18:06:36 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

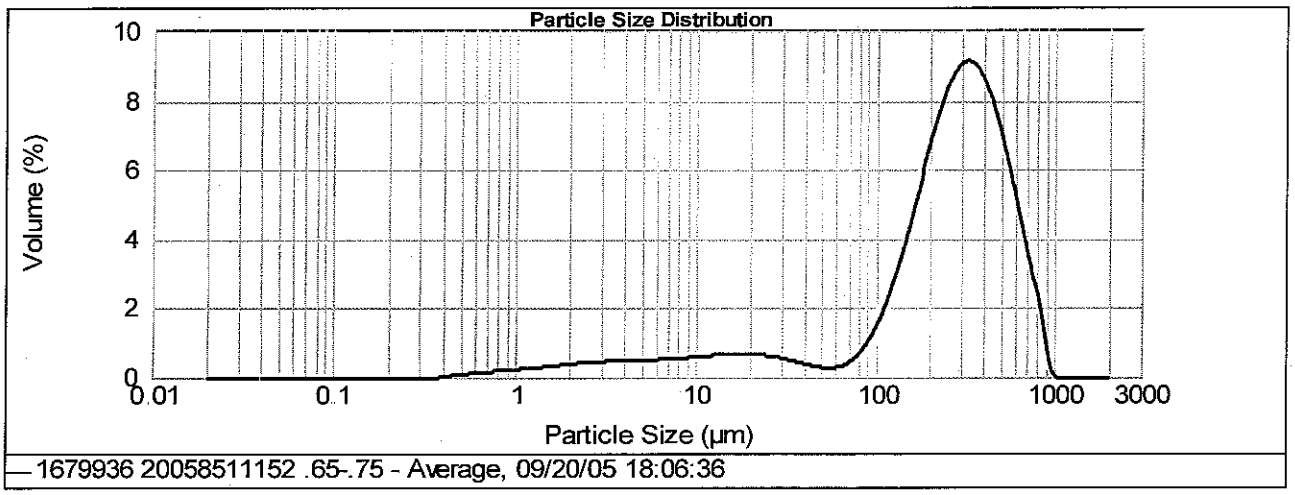
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 18 87 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 696 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0747 %Vol **Vol. Weighted Mean D[4,3]:** 300 124 um **Specific Surface Area:** 0 24 m²/g

d(0 1): 18 665 um **d(0.5): 276.122 um** d(0 9): 581 048 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	300.124	201.313	0.568	-0.078

Distribution Modal Sizes

Mode 1: 331 453 um, Mode 2: 17 997 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0.00	0.399	0 02	7.962	0.43	158.866	3 90
0.022	0.00	0.448	0.06	8.934	0 44	178 250	4.65
0.025	0.00	0.502	0 08	10 024	0 46	200 000	5 36
0.028	0.00	0.564	0.10	11 247	0 48	224.404	6 00
0 032	0.00	0 632	0 12	12 619	0.49	251.785	6 50
0.036	0.00	0 710	0 13	14 159	0 50	282 508	6 81
0.040	0.00	0 796	0.14	15.887	0 51	316.979	6.90
0.045	0 00	0 893	0.16	17.825	0 51	355 656	6.75
0 050	0 00	1 002	0.17	20 000	0 50	399 052	6 35
0.056	0.00	1 125	0 19	22 440	0 49	447.744	5 74
0 063	0.00	1.262	0 21	25 179	0 46	502.377	4 96
0.071	0.00	1 416	0.23	28 251	0 42	563 677	4 09

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679937 20058511161 0-.1 - Average

Record No.: 130

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 18:14:24 **Result Type:** Averaged

Measured: 09/20/05 18:14:23 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

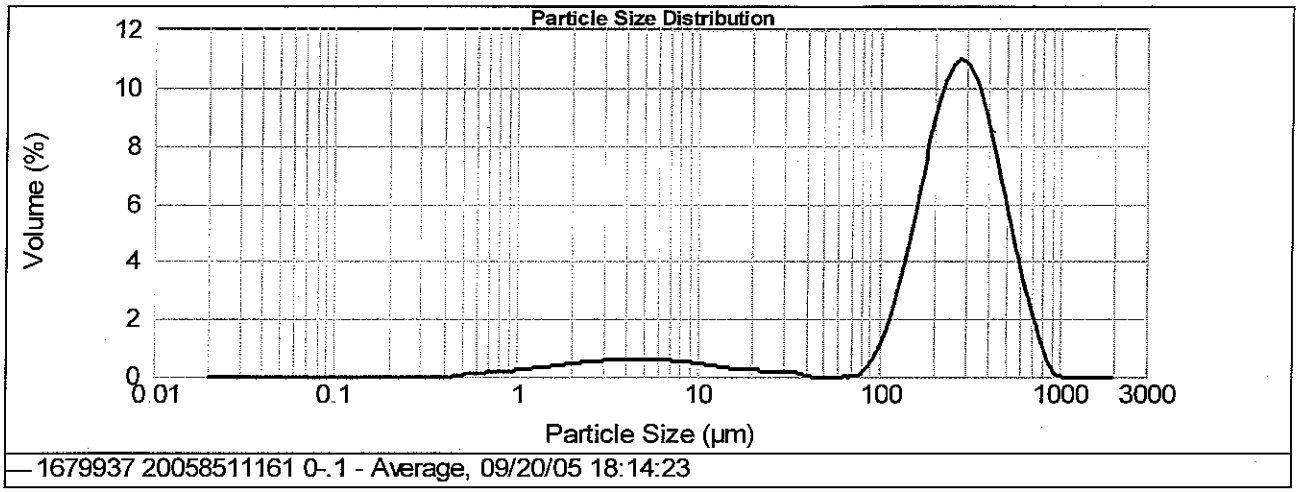
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 13.75 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.523 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0531 %Vol **Vol. Weighted Mean D[4,3]:** 285.781 um **Specific Surface Area:** 0.23 m²/g

d(0.1): 34.177 um **d(0.5): 266.244 um** d(0.9): 513.546 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	285.781	169.666	0.554	0.373

Distribution Modal Sizes

Mode 1: 286.574 um, Mode 2: 4.74 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.00	7.962	0.38	158.866	4.93
0.022	0.00	0.448	0.01	8.934	0.35	178.250	6.05
0.025	0.00	0.502	0.07	10.024	0.32	200.000	7.03
0.028	0.00	0.564	0.08	11.247	0.28	224.404	7.77
0.032	0.00	0.632	0.10	12.619	0.25	251.785	8.19
0.036	0.00	0.710	0.12	14.159	0.21	282.508	8.24
0.040	0.00	0.796	0.14	15.887	0.19	316.979	7.90
0.045	0.00	0.893	0.15	17.825	0.17	355.656	7.23
0.050	0.00	1.002	0.17	20.000	0.16	399.052	6.30
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262					
	0.00	1.416			0.15	563.677	4.08
	0.00		0.25	28.251	0.14		3.01

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679938 20058511162 .6-.8 - Average

Record No.: 134

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 18:26:21 **Result Type:** Averaged

Measured: 09/20/05 18:26:20 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

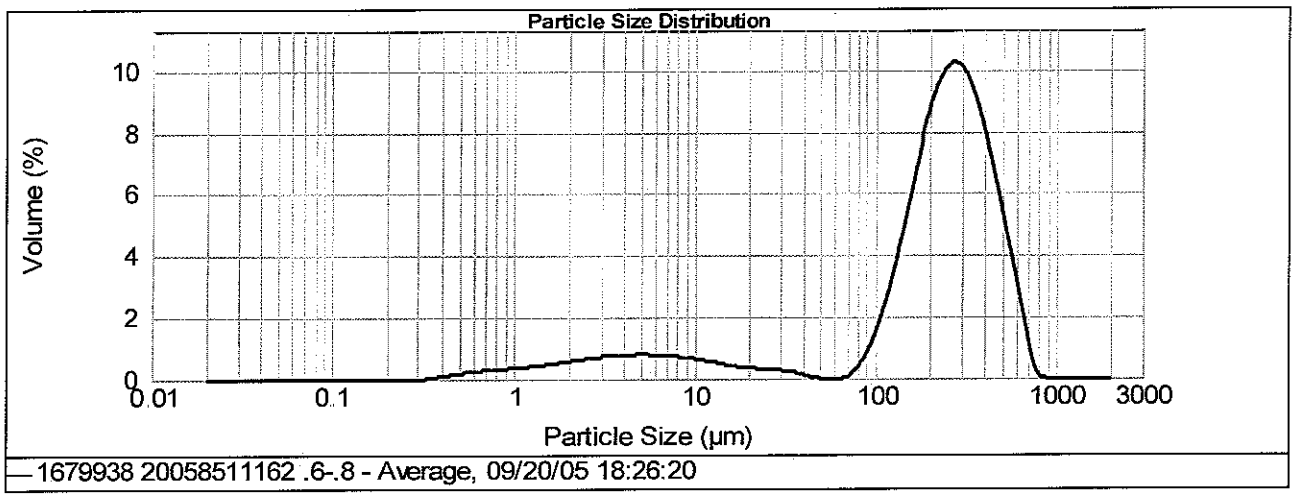
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 14 26 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 461 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0378 %Vol **Vol. Weighted Mean D[4,3]:** 255 429 um **Specific Surface Area:** 0 364 m²/g

d(0 1): 7 934 um **d(0.5): 242.974 um** d(0.9): 476 257 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	255.429	162 616	0 388	-0 148

Distribution Modal Sizes

Mode 1: 278.374 um, Mode 2: 5.088 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0.00	0 399	0.08	7.962	0 53	158.866	5.11
0.022	0.00	0.448	0 12	8 934	0 50	178.250	6 06
0 025	0.00	0 502	0.15	10.024	0.46	200.000	6 85
0.028	0 00	0.564	0.18	11 247	0.42	224.404	7 42
0.032	0.00	0.632	0.20	12 619	0 38	251.785	7.70
0.036	0 00	0.710	0 22	14 159	0 34	282 508	7 66
0.040	0 00	0.796	0 23	15.887	0 30	316.979	7 29
0.045	0 00	0.893	0 25	17 825	0 27	355.656	6 63
0 050	0.00	1.002	0 27	20 000	0 25	399 052	5 73
0.056	0.00	1 125	[illegible]	22 440	[illegible]	447.744	[illegible]
0.063	0.00	1 262	[illegible]	[illegible]	0 22	[illegible]	3.61
[illegible]	0.00	1 416	0 34	28.251	0 20	563 677	2 55

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Laser Grainsize Analysis

Sample Name : 1679939 20058511171 0-.1 - Average

Record No.: 138

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/20/05 18:33:07 **Result Type:** Averaged

Measured: 09/20/05 18:33:06 **Measured by:** watson tony **CRC LEME Funded Prog** **Job No.:** Lab Subs Job # 7926

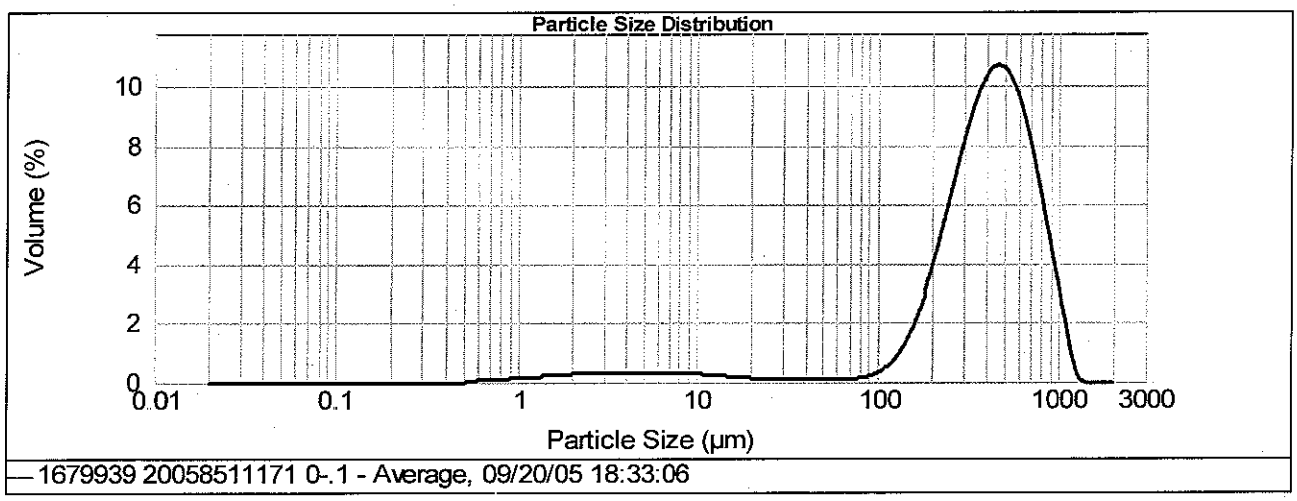
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 9 47 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 2 962 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0571 %Vol **Vol. Weighted Mean D[4,3]:** 447 128 um **Specific Surface Area:** 0 142 m²/g

d(0 1): 160 642 um **d(0.5): 417.507 um** d(0 9): 792 910 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	447 128	250.007	0 471	-0.021

Distribution Modal Sizes

Mode 1: 470 286 um, Mode 2: 4 175 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 00	7 962	0 23	158 866	1 77
0 022	0 00	0 448	0 00	8 934	0 22	178 250	2 46
0 025	0 00	0 502	0 00	10 024	0 20	200 000	3 26
0 028	0 00	0 564	0 06	11 247	0 19	224 404	4 15
0 032	0 00	0 632	0 07	12 619	0 17	251 785	5 09
0 036	0 00	0 710	0 08	14 159	0 15	282 508	6 00
0 040	0 00	0 796	0 09	15 887	0 13	316 979	6 84
0 045	0 00	0 893	0 11	17 825	0 11	355 656	7 50
0 050	0 00	1 002	0 12	20 000	0 10	399 052	7 93
0 056	0 00	1 125	0 12	22 440	0 09	447 744	8 07
0 063	0 00	1 262	0 13	25 175	0 08	502 377	7 88
0 071	0 00	1 416	0 16	28 251	0 08	563 677	7 36

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679940 20058511172 0.7-0.85m - Average

Record No.: 146

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/28/05 16:12:04 **Result Type:** Averaged

Measured: 09/28/05 16:12:03 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

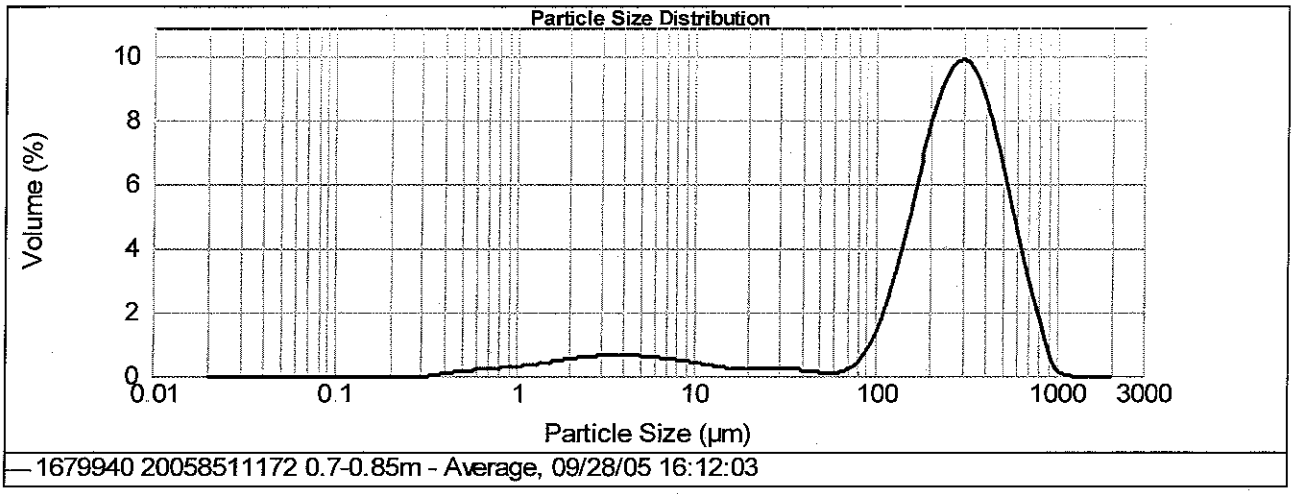
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 18 23 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 068 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0577 %Vol **Vol Weighted Mean D[4,3]:** 295 860 um **Specific Surface Area:** 0 311 m²/g

d(0 1): 15 293 um **d(0.5): 271 533 um** d(0.9): 556 018 um



	Mean	Stand Dev	Skewness	Kurtosis
Volume:	295 86	190 808	0 645	0 353

Distribution Modal Sizes

Mode 1: 303 309 um, Mode 2: 3 762 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 08	7 962	0 36	158 866	4 43
0 022	0 00	0 448	0 10	8 934	0 32	178 250	5 33
0 025	0 00	0 502	0 12	10 024	0 29	200 000	6 15
0 028	0 00	0 564	0 14	11 247	0 25	224 404	6 81
0 032	0 00	0 632	0 16	12 619	0 22	251 785	7 25
0 036	0 00	0 710	0 18	14 159	0 19	282 508	7 43
0 040	0 00	0 796	0 19	15 887	0 17	316 979	7 32
0 045	0 00	0 893	0 21	17 825	0 15	355 656	6 93
0 050	0 00	1 002	0 23	20 000	0 14	399 052	6 28
0 056	0 00	1 125	[illegible]	22 440	[illegible]	447 744	[illegible]
0 063	0 00	1 262	[illegible]	[illegible]	0 15	[illegible]	4 54
[illegible]	0 00	1 416	0 31	28 251	0 16	563 677	3 59

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679941 20058511181 0-0.1m - Average

Record No.: 150

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/28/05 16:23:57 **Result Type:** Averaged

Measured: 09/28/05 16:23:56 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

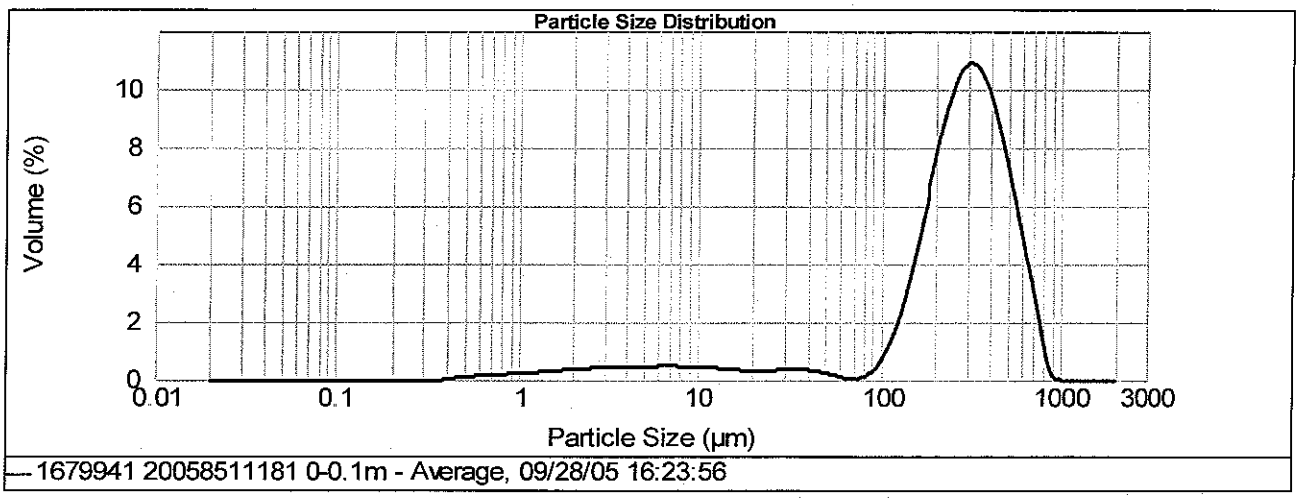
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 14 92 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 184 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0599 %Vol **Vol. Weighted Mean D[4,3]:** 304 006 um **Specific Surface Area:** 0 235 m²/g

d(0 1): 35 143 um **d(0 5): 287 075 um** d(0 9): 547 726 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	304 006	178 603	0 404	-0 03

Distribution Modal Sizes

Mode 1: 316 562 um, Mode 2: 6 83 um, Mode 3: 34 367 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 03	7 962	0 36	158 866	4 03
0 022	0 00	0 448	0 08	8 934	0 35	178 250	5 14
0 025	0 00	0 502	0 09	10 024	0 34	200 000	6 19
0 028	0 00	0 564	0 11	11 247	0 32	224 404	7 11
0 032	0 00	0 632	0 13	12 619	0 30	251 785	7 78
0 036	0 00	0 710	0 14	14 159	0 28	282 508	8 14
0 040	0 00	0 796	0 15	15 887	0 26	316 979	8 14
0 045	0 00	0 893	0 17	17 825	0 25	355 656	7 77
0 050	0 00	1 002	0 18	20 000	0 24	399 052	7 07
0 056	0 00	1 125	[illegible]	22 440	[illegible]	447 744	[illegible]
0 063	0 00	1 262	[illegible]	[illegible]	0 26	[illegible]	5 03
[illegible]	0 00	1 416	0 23	28 251	0 27	563 677	3 89

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679942 20058511182 0.65-0.75m - Average

Record No.: 154

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 09:14:36 **Result Type:** Averaged

Measured: 09/29/05 09:14:35 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

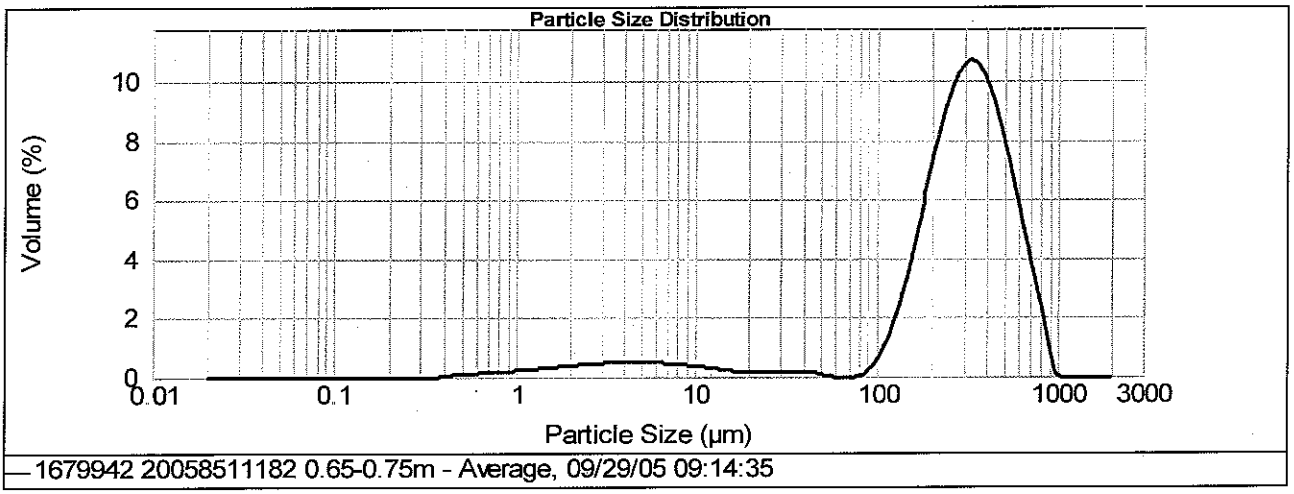
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 12.55 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.287 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0520 %Vol **Vol. Weighted Mean D[4,3]:** 328.455 um **Specific Surface Area:** 0.223 m²/g

d(0.1): 110.941 um **d(0.5): 305.811 um** d(0.9): 591.077 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	328.455	190.521	0.473	0.05

Distribution Modal Sizes

Mode 1: 331.759 um, Mode 2: 4.521 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.03	7.962	0.32	158.866	3.75
0.022	0.00	0.448	0.07	8.934	0.30	178.250	4.81
0.025	0.00	0.502	0.08	10.024	0.27	200.000	5.85
0.028	0.00	0.564	0.10	11.247	0.24	224.404	6.76
0.032	0.00	0.632	0.11	12.619	0.20	251.785	7.49
0.036	0.00	0.710	0.12	14.159	0.17	282.508	7.94
0.040	0.00	0.796	0.14	15.887	0.14	316.979	8.07
0.045	0.00	0.893	0.15	17.825	0.13	355.656	7.87
0.050	0.00	1.002	0.16	20.000	0.12	399.052	7.35
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.12	[illegible]	5.62
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	[illegible]	0.22	[illegible]	0.14	[illegible]	4.56

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679943 20058511191 0-0.1m - Average

Record No.: 158

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 09:43:07 **Result Type:** Averaged

Measured: 09/29/05 09:43:06 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

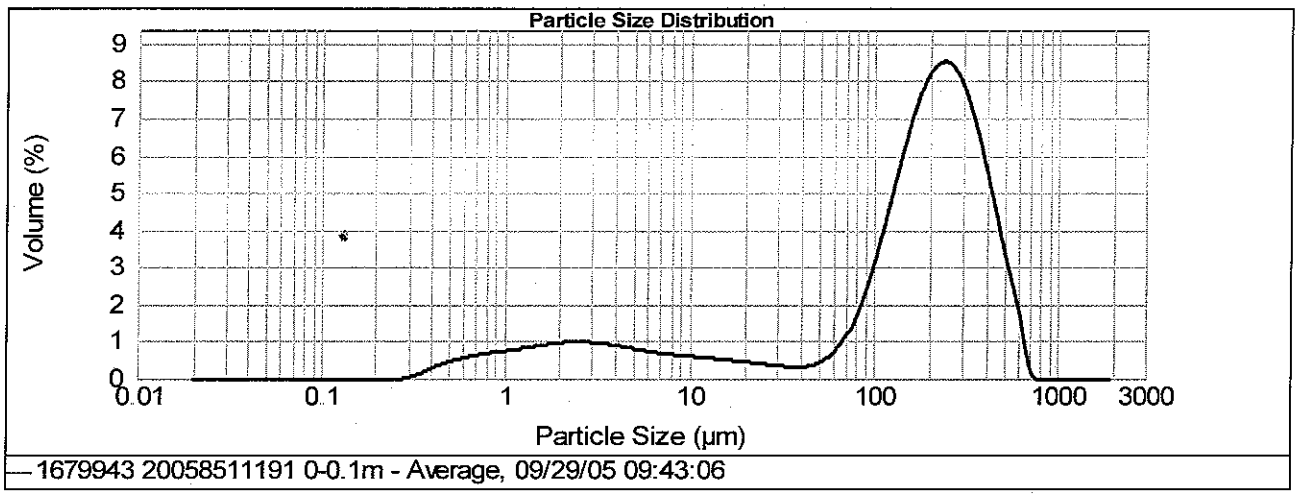
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 14.27 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.830 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0216 %Vol **Vol. Weighted Mean D[4,3]:** 201.301 um **Specific Surface Area:** 0.69 m²/g

d(0.1): 2.991 um **d(0.5): 186.146 um** d(0.9): 412.432 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	201.301	151.999	0.593	-0.123

Distribution Modal Sizes

Mode 1: 236.029 um, Mode 2: 2.467 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.24	7.962	0.48	158.866	5.51
0.022	0.00	0.448	0.30	8.934	0.46	178.250	6.00
0.025	0.00	0.502	0.36	10.024	0.44	200.000	6.31
0.028	0.00	0.564	0.41	11.247	0.43	224.404	6.41
0.032	0.00	0.632	0.46	12.619	0.41	251.785	6.28
0.036	0.00	0.710	0.49	14.159	0.39	282.508	5.94
0.040	0.00	0.796	0.52	15.887	0.37	316.979	5.38
0.045	0.00	0.893	0.55	17.825	0.35	355.656	4.69
0.050	0.00	1.002	0.57	20.000	0.33	399.052	3.89
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262					
	0.00	1.416			0.28	563.677	2.23
	0.00		0.66	28.251	0.26		1.50

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679944 20058511192 0.55-0.65m - Average

Record No.: 162

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 09:54:20 **Result Type:** Averaged

Measured: 09/29/05 09:54:19 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

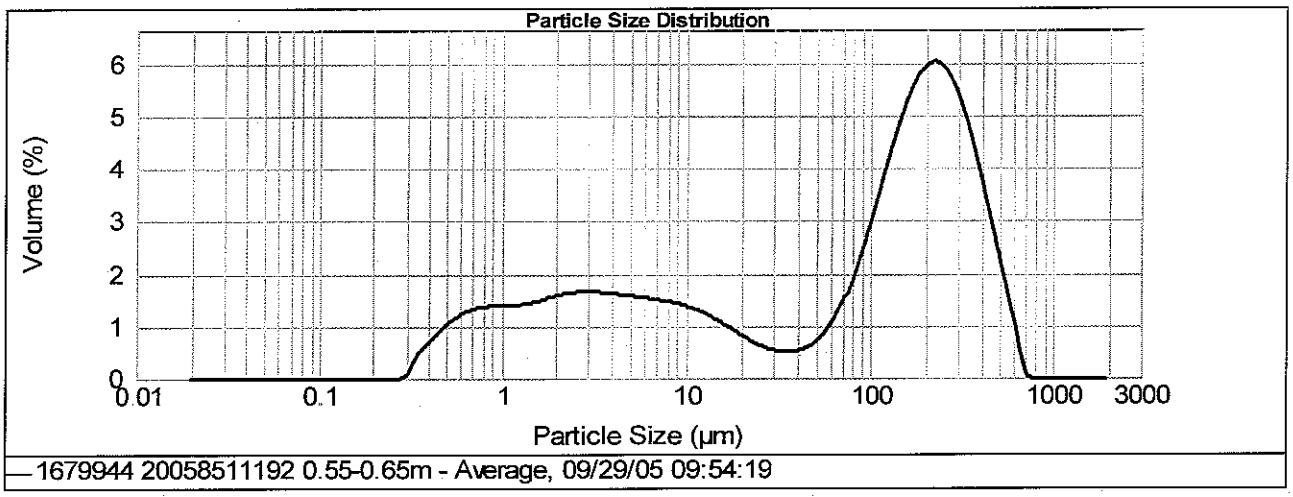
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 24.29 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.056 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0208 %Vol **Vol. Weighted Mean D[4,3]:** 144.936 um **Specific Surface Area:** 1.37 m²/g

d(0.1): 1.270 um **d(0.5): 114.803 um** d(0.9): 361.875 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	144.936	149.938	0.979	0.309

Distribution Modal Sizes

Mode 1: 219.679 um, Mode 2: 2.91 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.58	7.962	1.09	158.866	4.19
0.022	0.00	0.448	0.72	8.934	1.06	178.250	4.42
0.025	0.00	0.502	0.83	10.024	1.02	200.000	4.53
0.028	0.00	0.564	0.91	11.247	0.96	224.404	4.51
0.032	0.00	0.632	0.97	12.619	0.90	251.785	4.34
0.036	0.00	0.710	1.01	14.159	0.82	282.508	4.05
0.040	0.00	0.796	1.03	15.887	0.74	316.979	3.65
0.045	0.00	0.893	1.04	17.825	0.66	355.656	3.16
0.050	0.00	1.002	1.04	20.000	0.58	399.052	2.61
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262					
	0.00	1.416		28.251	0.45	563.677	1.46
	0.00		1.10		0.40		0.94

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679945 20058511201 0-0.1m - Average

Record No.: 166

Operator Notes:

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 10:04:47 **Result Type:** Averaged

Measured: 09/29/05 10:04:46 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

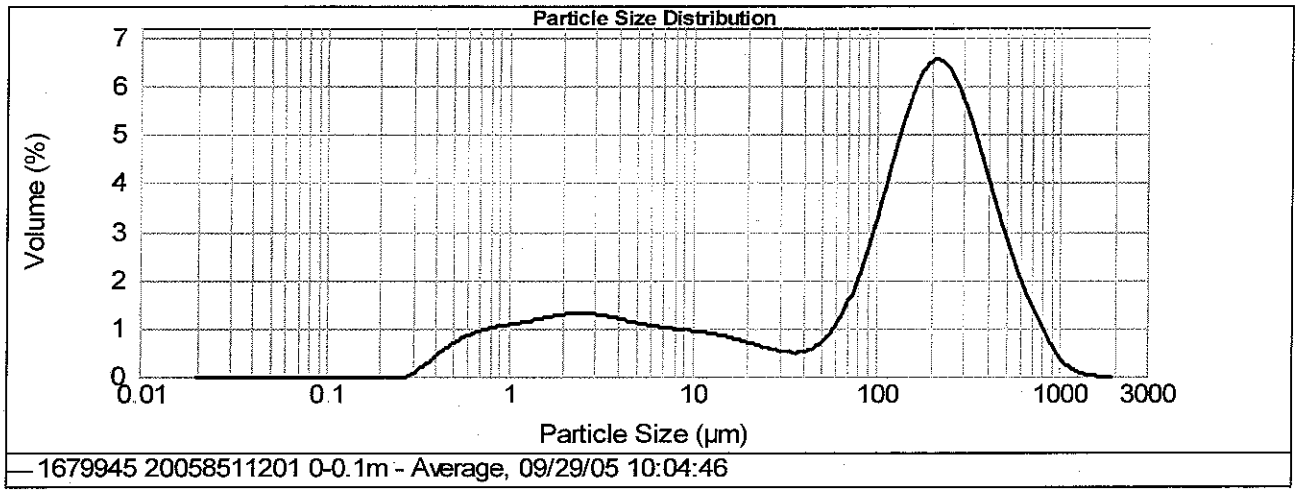
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 24 84 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 920 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0284 %Vol **Vol. Weighted Mean D[4,3]:** 189 599 um **Specific Surface Area:** 0 994 m²/g

d(0 1): 1 833 um **d(0.5): 150.946 um** d(0 9): 439 394 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	189 599	192 947	1 549	3 29

Distribution Modal Sizes

Mode 1: 213 202 um, Mode 2: 2 428 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 37	7 962	0 74	158 866	4 62
0 022	0 00	0 448	0 46	8 934	0 72	178 250	4 85
0 025	0 00	0 502	0 56	10 024	0 71	200 000	4 93
0 028	0 00	0 564	0 63	11 247	0 69	224 404	4 87
0 032	0 00	0 632	0 69	12 619	0 66	251 785	4 66
0 036	0 00	0 710	0 73	14 159	0 63	282 508	4 33
0 040	0 00	0 796	0 77	15 887	0 60	316 979	3 90
0 045	0 00	0 893	0 79	17 825	0 55	355 656	3 42
0 050	0 00	1 002	0 82	20 000	0 51	399 052	2 92
0 056	0 00	1 125	[illegible]	22 440	[illegible]	447 744	[illegible]
0 063	0 00	1 262	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0 00	1 416	[illegible]	[illegible]	0 43	563 677	1 98
[illegible]	0 00	[illegible]	0 90	28 251	0 40	[illegible]	1 58

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679946 20058511202 0.7-0.8m - Average

Record No.: 170

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 10:22:30 **Result Type:** Averaged

Measured: 09/29/05 10:22:29 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

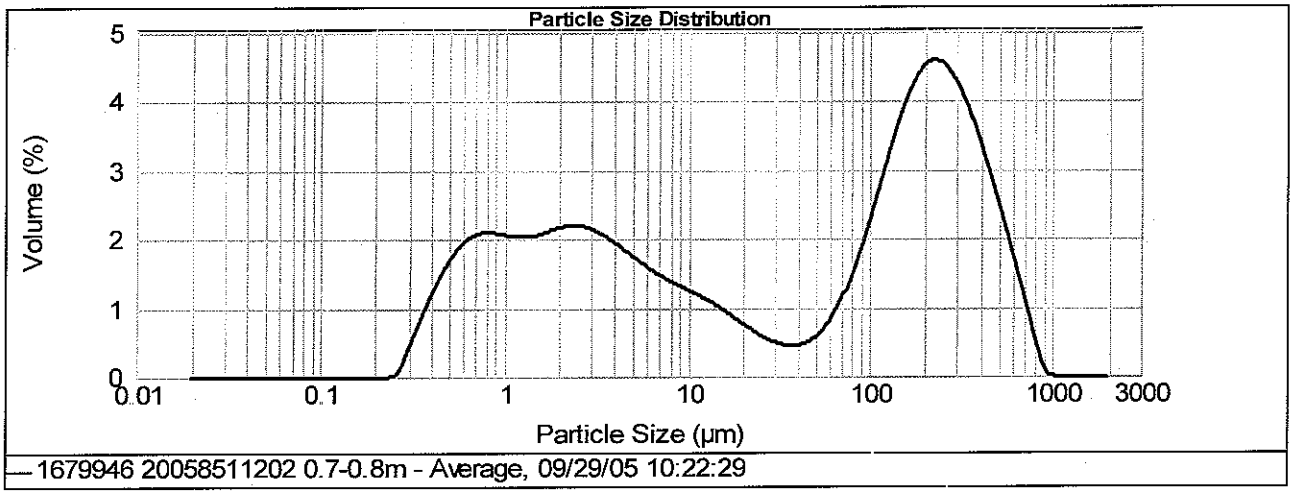
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 48 10 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 095 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0339 %Vol **Vol. Weighted Mean D[4,3]:** 137 286 um **Specific Surface Area:** 2 12 m²/g

d(0 1): 0 808 um **d(0 5): 59 572 um** d(0 9): 390 267 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	137.286	173.835	1.428	1.653

Distribution Modal Sizes

Mode 1: 225 159 um, Mode 2: 2 363 um, Mode 3: 821 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	1.00	7.962	1.02	158.866	3.18
0.022	0.00	0.448	1.19	8.934	0.97	178.250	3.35
0.025	0.00	0.502	1.34	10.024	0.92	200.000	3.44
0.028	0.00	0.564	1.46	11.247	0.87	224.404	3.45
0.032	0.00	0.632	1.53	12.619	0.82	251.785	3.36
0.036	0.00	0.710	1.57	14.159	0.75	282.508	3.21
0.040	0.00	0.796	1.58	15.887	0.68	316.979	2.99
0.045	0.00	0.893	1.56	17.825	0.61	355.656	2.72
0.050	0.00	1.002	1.54	20.000	0.54	399.052	2.41
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.42	[illegible]	1.73
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	1.37
[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679947 20058511211 0-0.1m - Average

Record No.: 174

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 10:35:12 **Result Type:** Averaged

Measured: 09/29/05 10:35:11 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

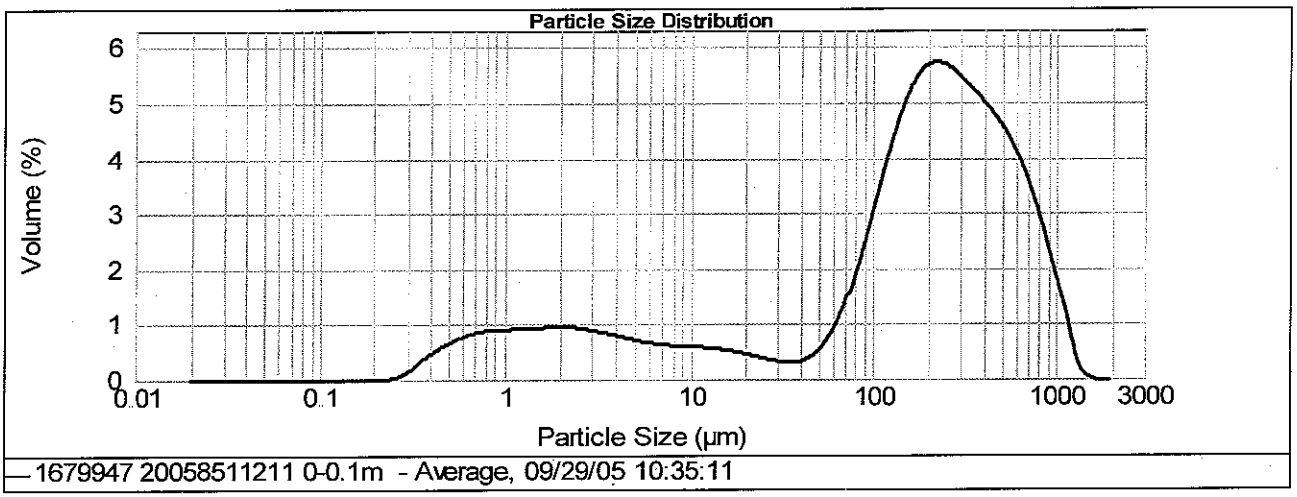
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 32 99 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 017 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0482 %Vol **Vol. Weighted Mean D[4,3]:** 272 216 um **Specific Surface Area:** 0 877 m²/g

d(0 1): 2 229 um **d(0.5): 197 696 um** d(0 9): 658 484 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	272.216	264.484	1.295	1.419

Distribution Modal Sizes

Mode 1: 220.12 um, Mode 2: 1.987 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.38	7.962	0.46	158.866	4.08
0.022	0.00	0.448	0.46	8.934	0.45	178.250	4.24
0.025	0.00	0.502	0.52	10.024	0.44	200.000	4.31
0.028	0.00	0.564	0.58	11.247	0.43	224.404	4.30
0.032	0.00	0.632	0.62	12.619	0.42	251.785	4.23
0.036	0.00	0.710	0.64	14.159	0.41	282.508	4.12
0.040	0.00	0.796	0.66	15.887	0.39	316.979	3.99
0.045	0.00	0.893	0.67	17.825	0.36	355.656	3.85
0.050	0.00	1.002	0.68	20.000	0.34	399.052	3.71
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262		[illegible]		[illegible]	
[illegible]	0.00	1.416		28.251	0.27	563.677	3.36
	0.00		0.70		0.24		3.13

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679948 20058511212 0.7-0.8m - Average

Record No.: 178

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 10:46:59 **Result Type:** Averaged

Measured: 09/29/05 10:46:58 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

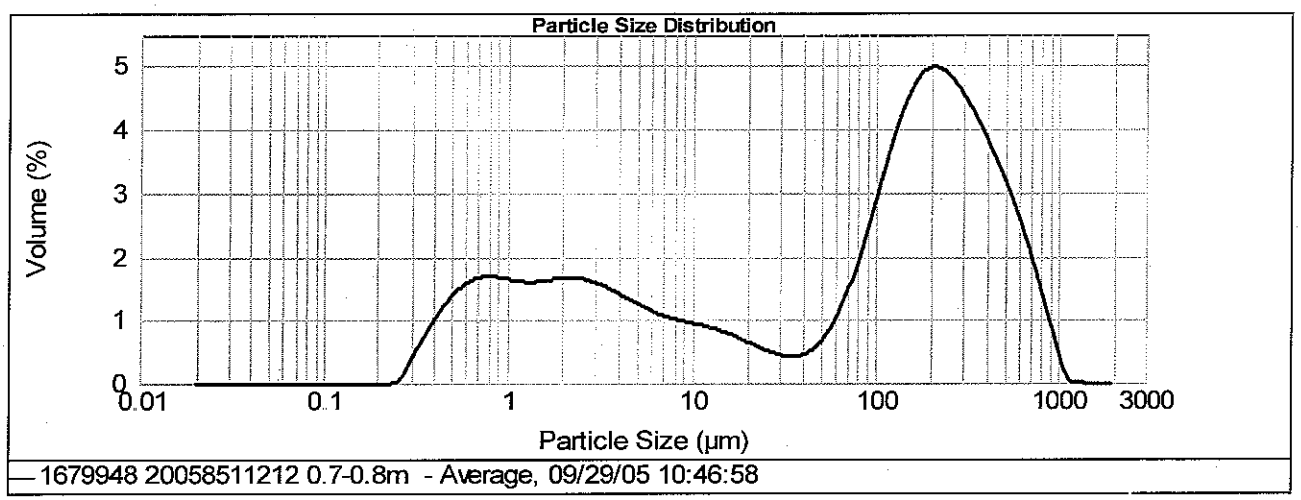
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 42 51 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1 035 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0361 %Vol **Vol. Weighted Mean D[4,3]:** 179 656 um **Specific Surface Area:** 1 7 m²/g

d(0 1): 0 956 um **d(0.5): 121 086 um** d(0 9): 478 761 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	179.656	207.867	1.443	1.876

Distribution Modal Sizes

Mode 1: 205.785 um, Mode 2: 807 um, Mode 3: 2.135 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.82	7.962	0.75	158.866	3.62
0.022	0.00	0.448	0.97	8.934	0.73	178.250	3.73
0.025	0.00	0.502	1.09	10.024	0.70	200.000	3.75
0.028	0.00	0.564	1.18	11.247	0.68	224.404	3.70
0.032	0.00	0.632	1.23	12.619	0.64	251.785	3.58
0.036	0.00	0.710	1.26	14.159	0.61	282.508	3.43
0.040	0.00	0.796	1.26	15.887	0.56	316.979	3.24
0.045	0.00	0.893	1.25	17.825	0.52	355.656	3.03
0.050	0.00	1.002	1.23	20.000	0.47	399.052	2.80
0.056	0.00	1.125	1.21	22.440	0.42	447.744	2.55
0.063	0.00	1.262	1.19	25.179	0.37	502.377	2.29
	0.00	1.416	1.21	28.251	0.34	563.677	1.99

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679949 20058511221 0-0.1m - Average

Record No.: 182

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 10:55:45 **Result Type:** Averaged

Measured: 09/29/05 10:55:44 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

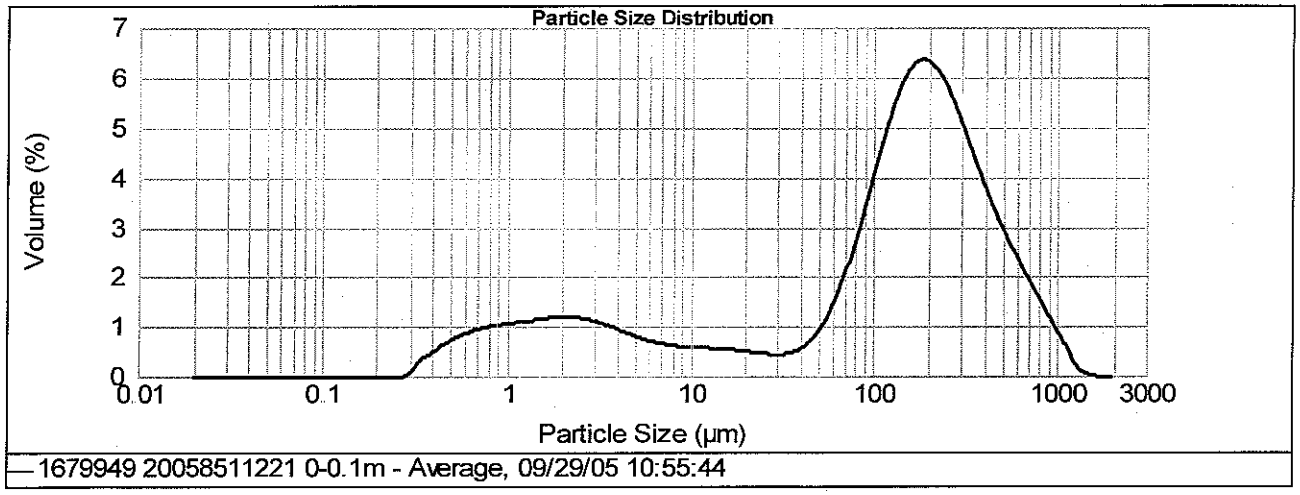
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 30.13 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.833 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0373 %Vol **Vol. Weighted Mean D[4,3]:** 206.930 um **Specific Surface Area:** 0.984 m²/g

d(0.1): 1.809 um **d(0.5): 151.220 um** d(0.9): 492.643 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	206.93	217.646	1.752	3.673

Distribution Modal Sizes

Mode 1: 183.917 um, Mode 2: 2.027 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.40	7.962	0.46	158.866	4.75
0.022	0.00	0.448	0.50	8.934	0.44	178.250	4.79
0.025	0.00	0.502	0.58	10.024	0.43	200.000	4.70
0.028	0.00	0.564	0.64	11.247	0.43	224.404	4.49
0.032	0.00	0.632	0.70	12.619	0.42	251.785	4.19
0.036	0.00	0.710	0.74	14.159	0.41	282.508	3.84
0.040	0.00	0.796	0.77	15.887	0.40	316.979	3.45
0.045	0.00	0.893	0.79	17.825	0.39	355.656	3.08
0.050	0.00	1.002	0.81	20.000	0.37	399.052	2.72
0.056	0.00	1.125	0.83	22.440	0.35	447.744	2.39
0.063	0.00	1.262	0.86	25.179	0.33	502.377	2.09
0.071	0.00	1.416	0.86	28.251	0.33	563.677	1.82

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679950 20058511222 0.6-0.7m - Average

Record No.: 186

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 11:19:40 **Result Type:** Averaged

Measured: 09/29/05 11:19:39 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

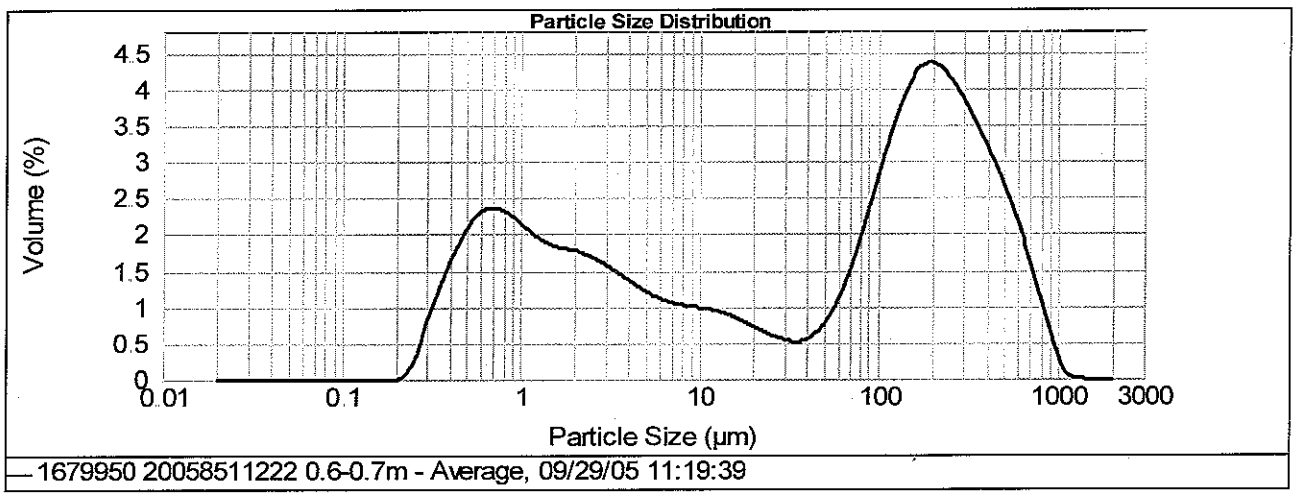
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 55 89 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 974 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0.0407 %Vol **Vol. Weighted Mean D[4,3]:** 150.924 um **Specific Surface Area:** 2.46 m²/g

d(0.1): 0 666 um **d(0.5): 79.504 um** d(0 9): 429.364 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	150.924	195 467	1 654	2.67

Distribution Modal Sizes

Mode 1: 195 343 um, Mode 2: 697 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0 00	0 399	1.33	7.962	0 76	158 866	3.21
0 022	0 00	0 448	1 51	8.934	0 75	178 250	3 28
0 025	0 00	0.502	1 65	10 024	0 74	200 000	3 26
0.028	0 00	0.564	1 74	11 247	0 72	224 404	3 18
0 032	0 00	0 632	1 78	12.619	0 70	251.785	3 06
0 036	0 00	0 710	1 77	14 159	0 67	282.508	2 90
0.040	0 00	0.796	1.73	15 887	0.62	316.979	2.72
0 045	0 00	0 893	1.65	17 825	0 58	355 656	2.53
0 050	0 00	1.002	1.57	20 000	0.53	399 052	2 32
0.056	0 00	1.125		22 440		447.744	
0.063	0 00	1.262					1.87
	0 00	1.416		28 251	0 44	563 677	
	0 00		1 39		0 41		1 61

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679951 20058511231 0-0.1m - Average

Record No.: 190

Operator Notes:

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 11:28:55 **Result Type:** Averaged

Measured: 09/29/05 11:28:54 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

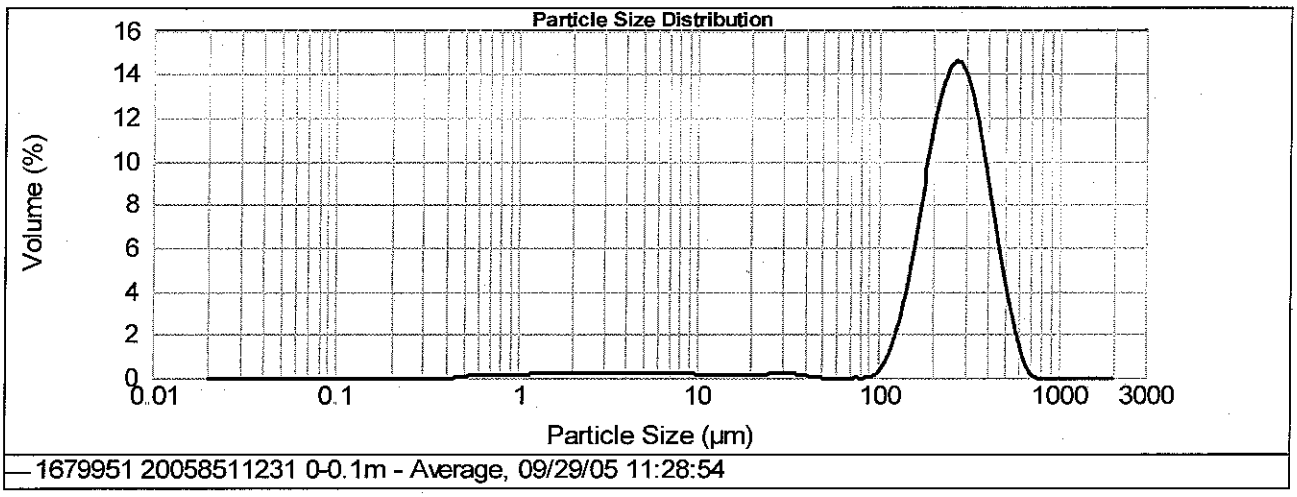
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 8.00 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.151 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0466 %Vol **Vol. Weighted Mean D[4,3]:** 274.414 um **Specific Surface Area:** 0.154 m²/g

d(0.1): 145.281 um **d(0.5): 264.046 um** d(0.9): 435.729 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	274.414	122.979	0.219	0.389

Distribution Modal Sizes

Mode 1: 272.92 um, Mode 2: 4.32 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.00	7.962	0.16	158.866	5.50
0.022	0.00	0.448	0.01	8.934	0.14	178.250	7.41
0.025	0.00	0.502	0.07	10.024	0.12	200.000	9.14
0.028	0.00	0.564	0.08	11.247	0.10	224.404	10.41
0.032	0.00	0.632	0.09	12.619	0.09	251.785	10.98
0.036	0.00	0.710	0.10	14.159	0.08	282.508	10.75
0.040	0.00	0.796	0.11	15.887	0.08	316.979	9.72
0.045	0.00	0.893	0.12	17.825	0.09	355.656	8.14
0.050	0.00	1.002	0.13	20.000	0.10	399.052	6.23
0.056	0.00	1.125	0.14	22.440	0.13	447.744	4.34
0.063	0.00	1.262	0.15	25.179	0.15	502.077	2.71
0.071	0.00	1.416	0.16	28.251	0.16	563.677	1.35

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679952 20058511232 0.7-0.8m - Average

Record No.: 194

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 11:38:58 **Result Type:** Averaged

Measured: 09/29/05 11:38:57 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

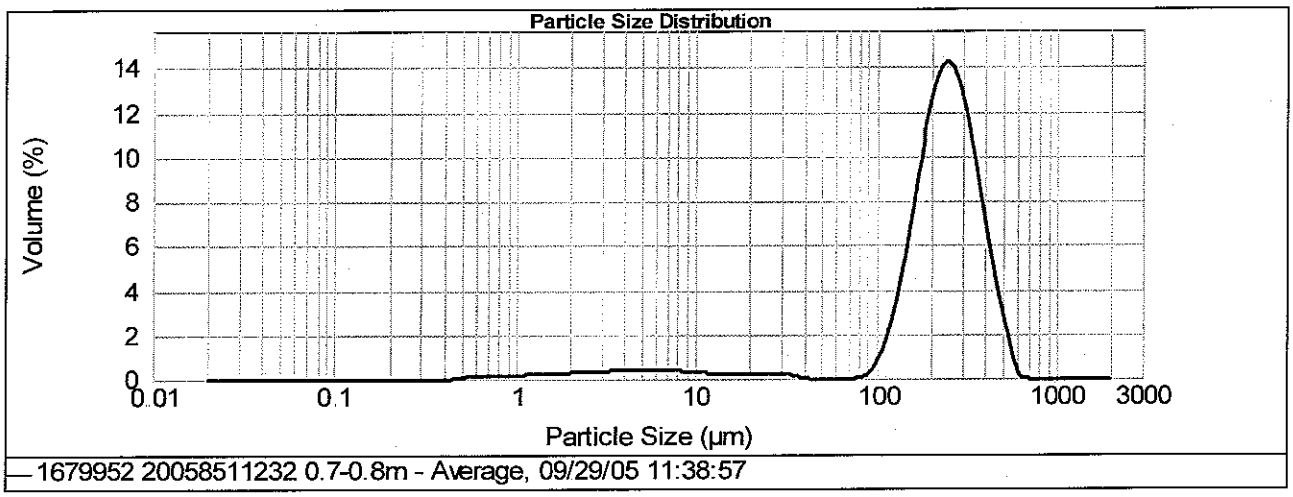
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 10.46 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.794 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0535 %Vol **Vol. Weighted Mean D[4,3]:** 246.098 um **Specific Surface Area:** 0.176 m²/g

d(0.1): 123.086 um **d(0.5): 238.944 um** d(0.9): 396.891 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	246.098	115.784	0.119	0.225

Distribution Modal Sizes

Mode 1: 250.314 um, Mode 2: 5.487 um, Mode 3: 26.32 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.00	7.962	0.27	158.866	6.86
0.022	0.00	0.448	0.01	8.934	0.24	178.250	8.60
0.025	0.00	0.502	0.07	10.024	0.22	200.000	9.93
0.028	0.00	0.564	0.08	11.247	0.19	224.404	10.65
0.032	0.00	0.632	0.09	12.619	0.17	251.785	10.60
0.036	0.00	0.710	0.10	14.159	0.16	282.508	9.81
0.040	0.00	0.796	0.11	15.887	0.15	316.979	8.37
0.045	0.00	0.893	0.12	17.825	0.16	355.656	6.60
0.050	0.00	1.002	0.13	20.000	0.17	399.052	4.72
0.056	0.00	1.125	0.14	22.440	0.18	447.744	3.03
0.063	0.00	1.262	0.15	25.179	0.18	502.077	1.64
0.071	0.00	1.416	0.16	28.251	0.17	563.677	0.34

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Australian Government
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MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679953 20058511241 0-0.1m - Average

Record No.: 198

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 11:52:13 **Result Type:** Averaged

Measured: 09/29/05 11:52:12 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

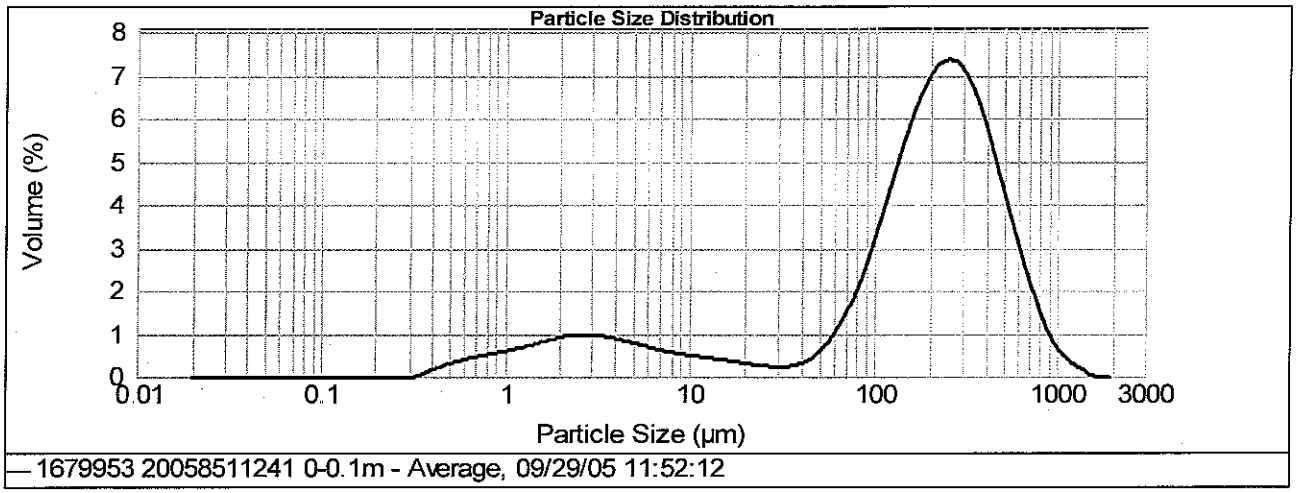
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 17.33%

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.831 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0318 %Vol **Vol. Weighted Mean D[4,3]:** 245.798 um **Specific Surface Area:** 0.544 m²/g

d(0.1): 3.880 um **d(0.5): 201.980 um** d(0.9): 523.681 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	245.798	213.821	1.439	2.989

Distribution Modal Sizes

Mode 1: 249.839 um, Mode 2: 2.694 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.14	7.962	0.42	158.866	4.79
0.022	0.00	0.448	0.20	8.934	0.39	178.250	5.15
0.025	0.00	0.502	0.25	10.024	0.37	200.000	5.41
0.028	0.00	0.564	0.29	11.247	0.34	224.404	5.54
0.032	0.00	0.632	0.33	12.619	0.32	251.785	5.52
0.036	0.00	0.710	0.37	14.159	0.30	282.508	5.37
0.040	0.00	0.796	0.40	15.887	0.27	316.979	5.08
0.045	0.00	0.893	0.43	17.825	0.25	355.656	4.66
0.050	0.00	1.002	0.46	20.000	0.22	399.052	4.15
0.056	0.00	1.125	0.50	22.440	0.20	447.744	3.58
0.063	0.00	1.262	0.54	25.179	0.18	502.377	2.98
0.071	0.00	1.416	0.59	28.251	0.17	563.677	2.41

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679954 20058511242 0.3-0.4m - Average

Record No.: 202

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 12:10:16 **Result Type:** Averaged

Measured: 09/29/05 12:10:15 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

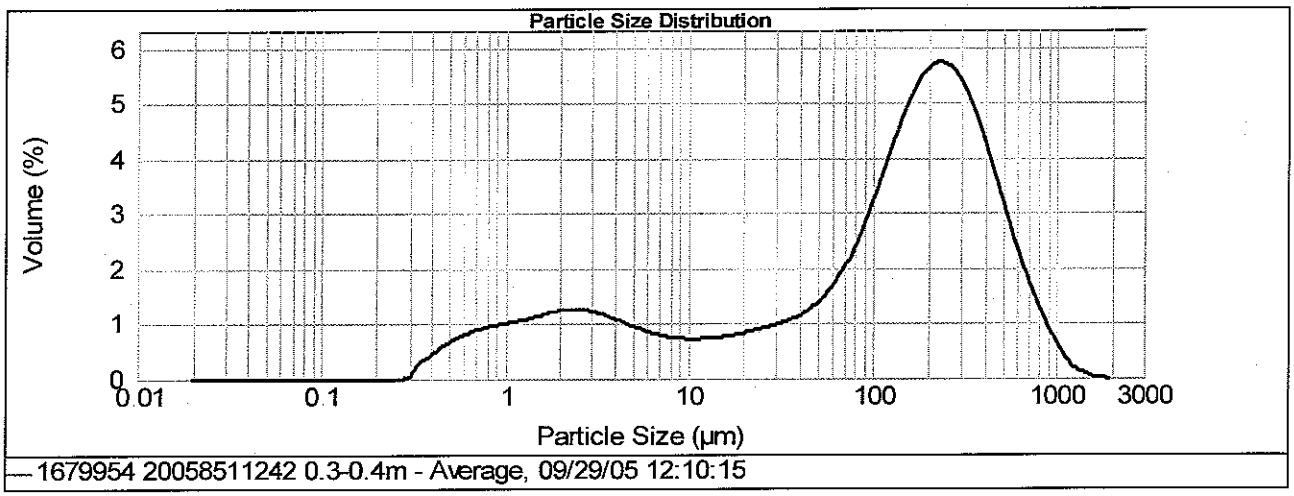
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 31.15 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.761 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0389 %Vol **Vol. Weighted Mean D[4,3]:** 199.046 um **Specific Surface Area:** 0.961 m²/g

d(0.1): 1.928 um **d(0.5): 144.587 um** d(0.9): 478.135 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	199.046	213.432	1.709	3.893

Distribution Modal Sizes

Mode 1: 229.98 um, Mode 2: 2.34 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.37	7.962	0.56	158.866	3.97
0.022	0.00	0.448	0.46	8.934	0.55	178.250	4.18
0.025	0.00	0.502	0.53	10.024	0.54	200.000	4.29
0.028	0.00	0.564	0.60	11.247	0.55	224.404	4.31
0.032	0.00	0.632	0.65	12.619	0.55	251.785	4.23
0.036	0.00	0.710	0.68	14.159	0.57	282.508	4.06
0.040	0.00	0.796	0.72	15.887	0.59	316.979	3.80
0.045	0.00	0.893	0.74	17.825	0.61	355.656	3.46
0.050	0.00	1.002	0.77	20.000	0.63	399.052	3.07
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.70	[illegible]	2.23
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	0.86	[illegible]	[illegible]	0.73	[illegible]	1.84

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679955 20058511251 0-0.1m - Average

Record No.: 206

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 12:24:21 **Result Type:** Averaged

Measured: 09/29/05 12:24:20 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

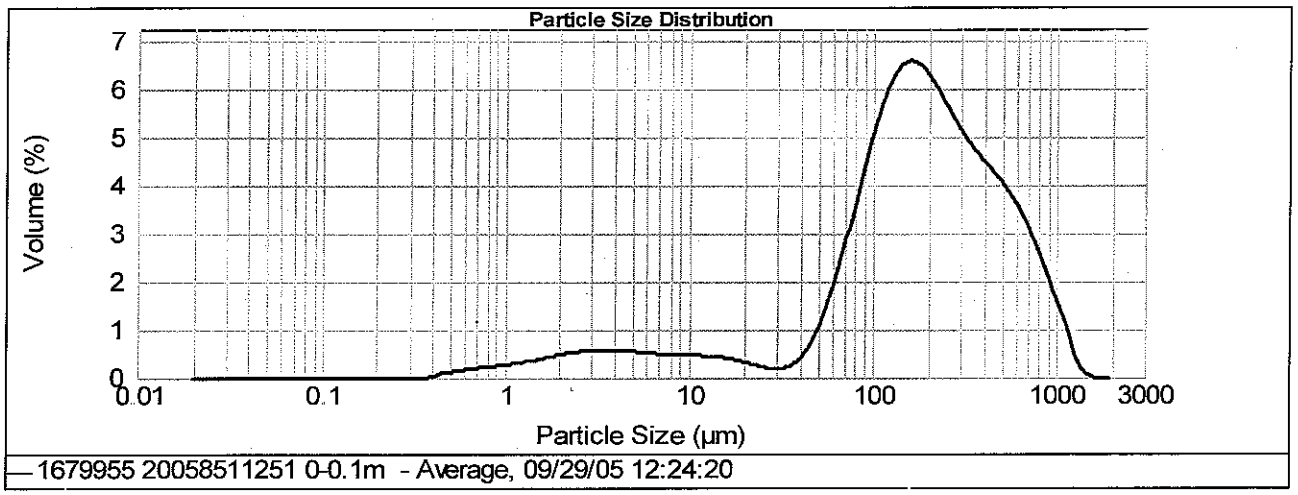
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 16.83 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.805 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0557 %Vol **Vol. Weighted Mean D[4,3]:** 265.527 um **Specific Surface Area:** 0.286 m²/g

d(0.1): 18.478 um **d(0.5): 182.329 um** d(0.9): 625.531 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	265.527	247.986	1.557	2.35

Distribution Modal Sizes

Mode 1: 157.97 um, Mode 2: 3.515 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.03	7.962	0.36	158.866	4.95
0.022	0.00	0.448	0.08	8.934	0.35	178.250	4.83
0.025	0.00	0.502	0.10	10.024	0.35	200.000	4.63
0.028	0.00	0.564	0.13	11.247	0.34	224.404	4.38
0.032	0.00	0.632	0.14	12.619	0.33	251.785	4.12
0.036	0.00	0.710	0.16	14.159	0.32	282.508	3.88
0.040	0.00	0.796	0.18	15.887	0.30	316.979	3.67
0.045	0.00	0.893	0.20	17.825	0.26	355.656	3.49
0.050	0.00	1.002	0.21	20.000	0.23	399.052	3.32
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.15	[illegible]	2.97
[illegible]	0.00	1.416	0.29	28.251	0.14	563.677	2.75

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679956 20058511252 0.7-0.85m - Average

Record No.: 210

Operator Notes: Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 12:35:01 **Result Type:** Averaged

Measured: 09/29/05 12:35:00 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

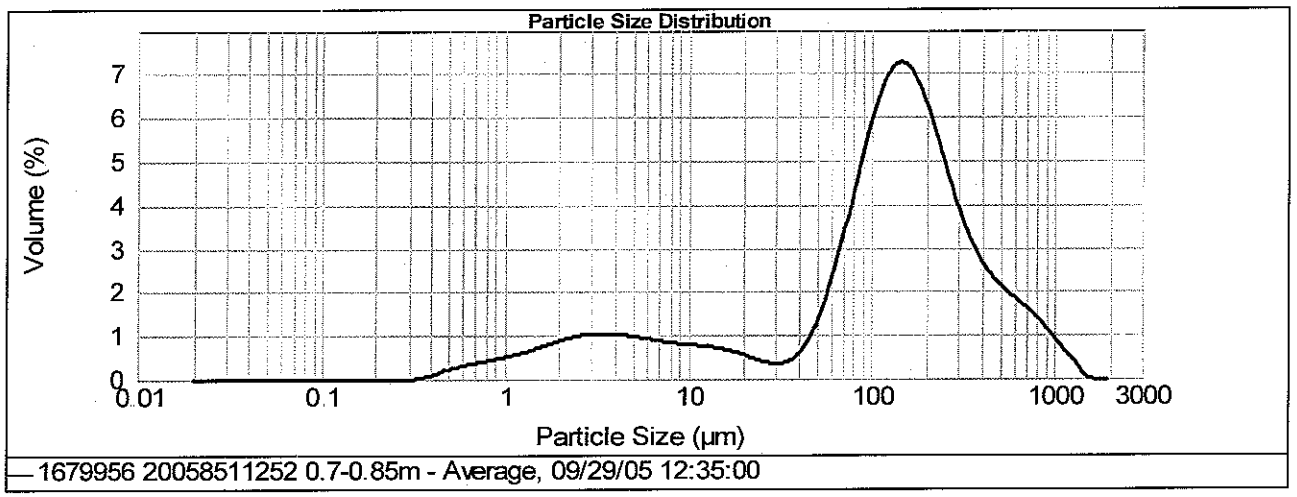
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 16.96 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.685 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0321 %Vol **Vol. Weighted Mean D[4,3]:** 194.010 um **Specific Surface Area:** 0.504 m²/g

d(0.1): 4.283 um **d(0.5): 133.827 um** d(0.9): 452.208 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	194.01	214.701	2.264	6.195

Distribution Modal Sizes

Mode 1: 143.324 um, Mode 2: 3.44 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.08	7.962	0.63	158.866	5.28
0.022	0.00	0.448	0.14	8.934	0.61	178.250	4.94
0.025	0.00	0.502	0.18	10.024	0.59	200.000	4.49
0.028	0.00	0.564	0.22	11.247	0.58	224.404	3.97
0.032	0.00	0.632	0.26	12.619	0.56	251.785	3.45
0.036	0.00	0.710	0.29	14.159	0.53	282.508	2.96
0.040	0.00	0.796	0.32	15.887	0.49	316.979	2.54
0.045	0.00	0.893	0.36	17.825	0.45	355.656	2.19
0.050	0.00	1.002	0.39	20.000	0.39	399.052	1.92
0.056	0.00	1.125	0.43	22.440	0.34	447.744	1.71
0.063	0.00	1.262	0.48	25.179	0.29	502.377	1.55
0.071	0.00	1.416	0.53	28.251	0.26	563.677	1.41

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679957 20058511261 0-0.1m - Average

Record No.: 214

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 12:45:04 **Result Type:** Averaged

Measured: 09/29/05 12:45:03 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

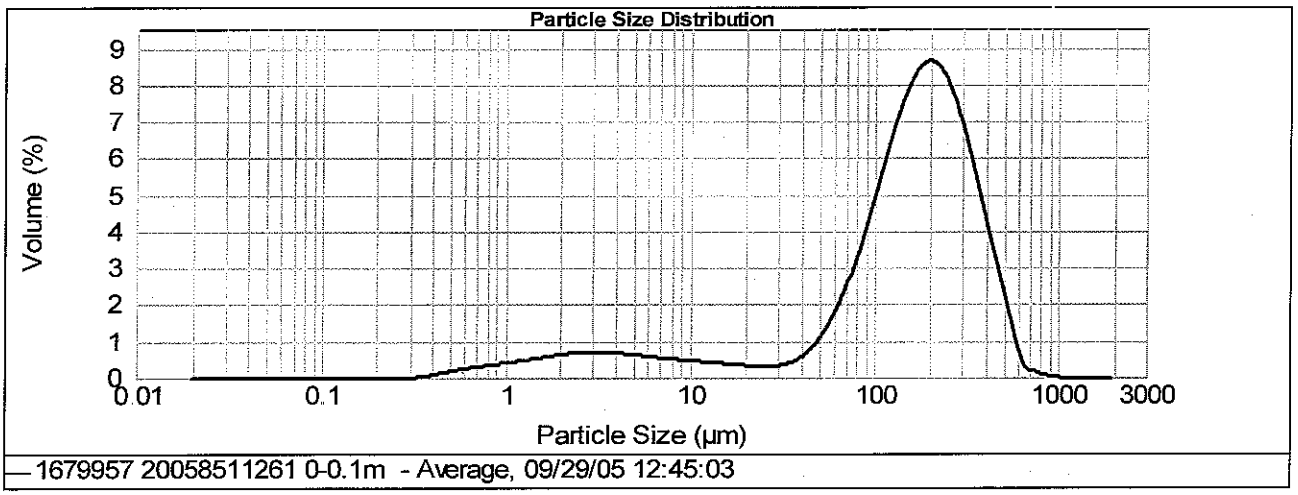
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 21.97 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.672 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0573 %Vol **Vol. Weighted Mean D[4,3]:** 186.502 um **Specific Surface Area:** 0.382 m²/g

d(0.1): 8.900 um **d(0.5): 166.079 um** d(0.9): 368.855 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	186.502	133.689	0.882	0.963

Distribution Modal Sizes

Mode 1: 198.356 um, Mode 2: 3.044 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.07	7.962	0.37	158.866	6.31
0.022	0.00	0.448	0.11	8.934	0.36	178.250	6.50
0.025	0.00	0.502	0.15	10.024	0.34	200.000	6.48
0.028	0.00	0.564	0.18	11.247	0.32	224.404	6.26
0.032	0.00	0.632	0.21	12.619	0.31	251.785	5.83
0.036	0.00	0.710	0.24	14.159	0.29	282.508	5.24
0.040	0.00	0.796	0.26	15.887	0.27	316.979	4.51
0.045	0.00	0.893	0.29	17.825	0.25	355.656	3.72
0.050	0.00	1.002	0.31	20.000	0.24	399.052	2.91
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.00	1.416	[illegible]	[illegible]	0.22	563.677	1.43
[illegible]	0.00	[illegible]	[illegible]	28.251	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	0.40	[illegible]	[illegible]	0.24	[illegible]	0.66

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679958 20058511262 0.7-0.85m - Average

Record No.: 218

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 13:04:06 **Result Type:** Averaged

Measured: 09/29/05 13:04:05 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

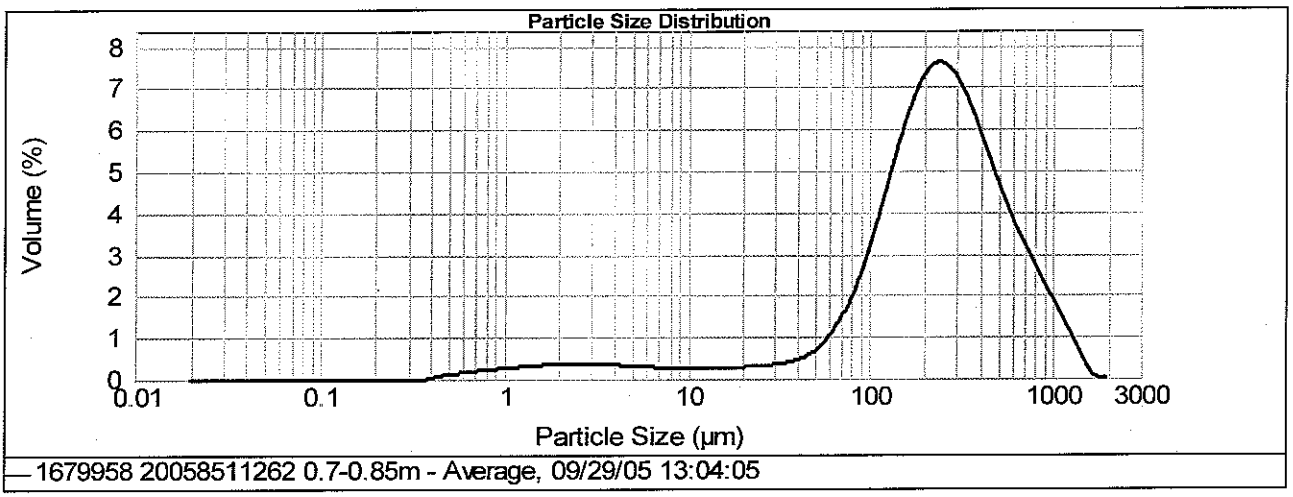
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 13.90 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.945 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0566 %Vol **Vol. Weighted Mean D[4,3]:** 312.339 um **Specific Surface Area:** 0.234 m²/g

d(0.1): 56.915 um **d(0.5): 236.396 um** d(0.9): 676.965 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	312.339	269.115	1.655	3.155

Distribution Modal Sizes

Mode 1: 241.083 um, Mode 2: 2.514 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.03	7.962	0.20	158.866	4.98
0.022	0.00	0.448	0.07	8.934	0.20	178.250	5.37
0.025	0.00	0.502	0.10	10.024	0.20	200.000	5.63
0.028	0.00	0.564	0.12	11.247	0.20	224.404	5.73
0.032	0.00	0.632	0.14	12.619	0.20	251.785	5.67
0.036	0.00	0.710	0.15	14.159	0.20	282.508	5.46
0.040	0.00	0.796	0.17	15.887	0.20	316.979	5.13
0.045	0.00	0.893	0.19	17.825	0.21	355.656	4.72
0.050	0.00	1.002	0.20	20.000	0.22	399.052	4.26
0.056	0.00	1.125	0.21	22.440	0.23	447.744	3.79
0.063	0.00	1.262	0.22	25.179	0.23	502.077	3.34
0.071	0.00	1.416	0.24	28.251	0.24	563.677	2.93

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679959 20058511271 0-0.1m - Average

Record No.: 222

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 13:15:59 **Result Type:** Averaged

Measured: 09/29/05 13:15:58 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

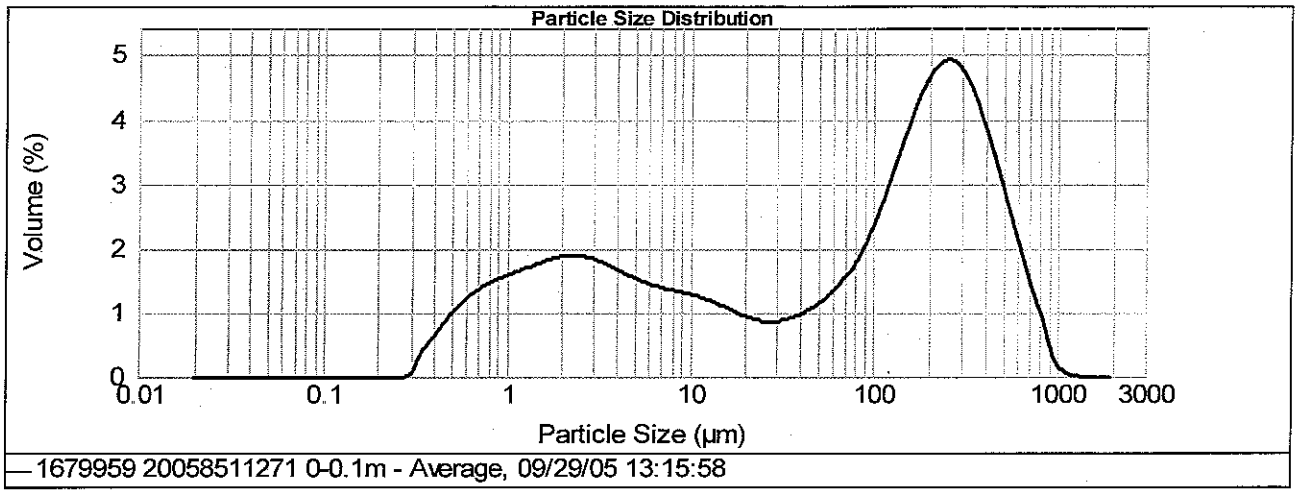
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 44.51 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.857 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0407 %Vol **Vol. Weighted Mean D[4,3]:** 161.334 um **Specific Surface Area:** 1.44 m²/g

d(0.1): 1.217 um **d(0.5): 95.486 um** d(0.9): 433.655 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	161.334	191.432	1.429	1.867

Distribution Modal Sizes

Mode 1: 251.615 um, Mode 2: 2.238 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.54	7.962	1.00	158.866	3.16
0.022	0.00	0.448	0.68	8.934	0.98	178.250	3.41
0.025	0.00	0.502	0.80	10.024	0.95	200.000	3.60
0.028	0.00	0.564	0.91	11.247	0.92	224.404	3.69
0.032	0.00	0.632	1.00	12.619	0.88	251.785	3.69
0.036	0.00	0.710	1.07	14.159	0.83	282.508	3.59
0.040	0.00	0.796	1.12	15.887	0.78	316.979	3.40
0.045	0.00	0.893	1.16	17.825	0.73	355.656	3.12
0.050	0.00	1.002	1.20	20.000	0.69	399.052	2.79
0.056	0.00	1.125	1.24	22.440	0.66	447.744	2.43
0.063	0.00	1.262	1.29	25.179	0.65	502.377	2.04
0.071	0.00	1.416	1.33	28.251	0.65	563.677	1.66

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679960 20058511272 0.7-0.8m - Average

Record No.: 226

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 13:25:40 **Result Type:** Averaged

Measured: 09/29/05 13:25:39 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

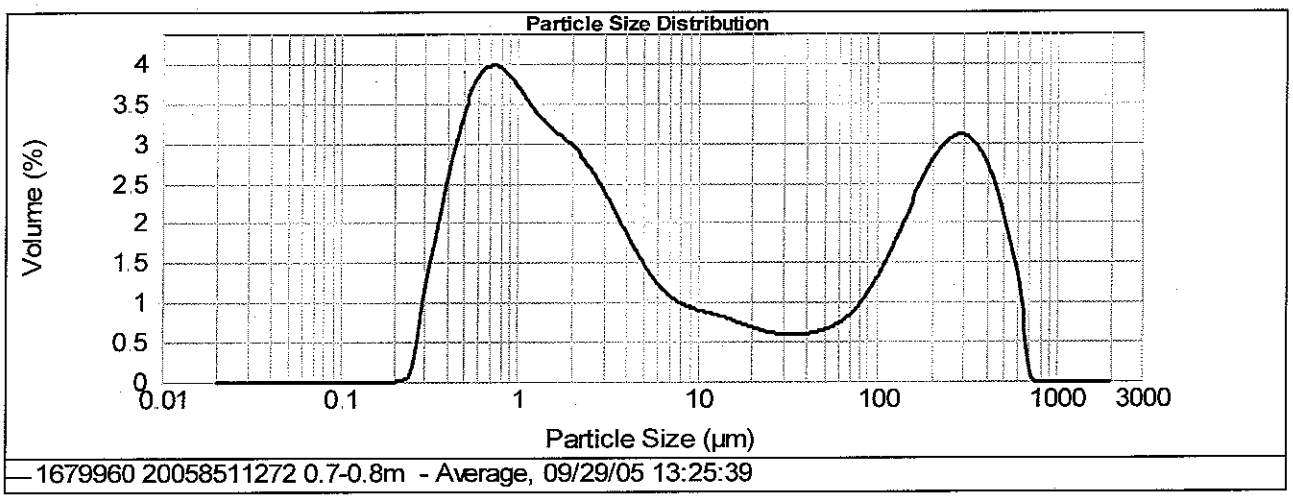
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 58.85 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.575 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0276 %Vol **Vol. Weighted Mean D[4,3]:** 91.022 um **Specific Surface Area:** 3.85 m²/g

d(0.1): 0.532 um **d(0.5): 3.415 um** d(0.9): 331.980 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	91.022	149.802	1.731	2.134

Distribution Modal Sizes

Mode 1: 734 um, Mode 2: 289.262 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	2.09	7.962	0.72	158.866	1.82
0.022	0.00	0.448	2.42	8.934	0.69	178.250	1.99
0.025	0.00	0.502	2.69	10.024	0.67	200.000	2.14
0.028	0.00	0.564	2.87	11.247	0.64	224.404	2.25
0.032	0.00	0.632	2.97	12.619	0.62	251.785	2.32
0.036	0.00	0.710	2.99	14.159	0.59	282.508	2.33
0.040	0.00	0.796	2.95	15.887	0.56	316.979	2.28
0.045	0.00	0.893	2.85	17.825	0.53	355.656	2.17
0.050	0.00	1.002	2.73	20.000	0.50	399.052	1.98
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.46	[illegible]	1.36
[illegible]	0.00	1.416	2.41	28.251	0.44	563.677	1.03

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679961 20058511281 0-0.1m - Average

Record No.: 230

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 14:43:35 **Result Type:** Averaged

Measured: 09/29/05 14:43:34 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

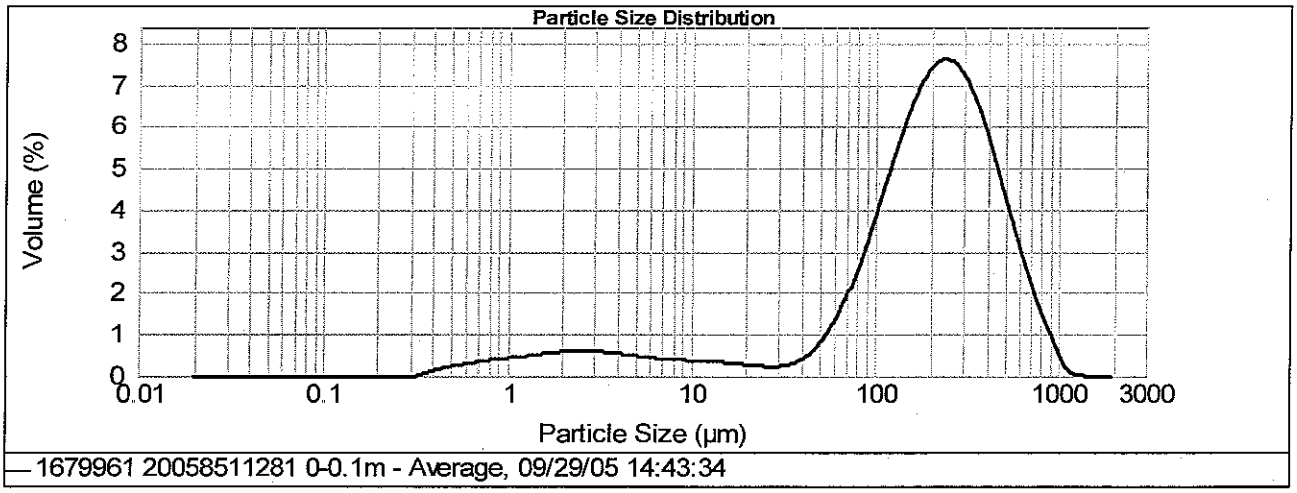
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 17 89 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 955 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0459 %Vol **Vol. Weighted Mean D[4,3]:** 245 828 um **Specific Surface Area:** 0 4 m²/g

d(0 1): 12 116 um **d(0 5): 202 427 um** d(0 9): 513 211 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	245 828	196 215	1 238	1 763

Distribution Modal Sizes

Mode 1: 236 687 um, Mode 2: 2 518 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0 020	0 00	0 399	0 12	7 962	0 30	158 866	5 18
0 022	0 00	0 448	0 16	8 934	0 29	178 250	5 48
0 025	0 00	0 502	0 19	10 024	0 28	200 000	5 67
0 028	0 00	0 564	0 23	11 247	0 28	224 404	5 73
0 032	0 00	0 632	0 25	12 619	0 27	251 785	5 66
0 036	0 00	0 710	0 28	14 159	0 26	282 508	5 45
0 040	0 00	0 796	0 29	15 887	0 24	316 979	5 11
0 045	0 00	0 893	0 31	17 825	0 22	355 656	4 67
0 050	0 00	1 002	0 33	20 000	0 20	399 052	4 14
0 056	0 00	1 125	[illegible]	22 440	[illegible]	447 744	[illegible]
0 063	0 00	1 262	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0 00	1 416	[illegible]	28 251	0 18	563 677	2 98
[illegible]	0 00	[illegible]	0 39	[illegible]	0 18	[illegible]	2 41

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679962 20058511282 0.7-0.8m - Average

Record No.: 234

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 14:58:40 **Result Type:** Averaged

Measured: 09/29/05 14:58:39 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

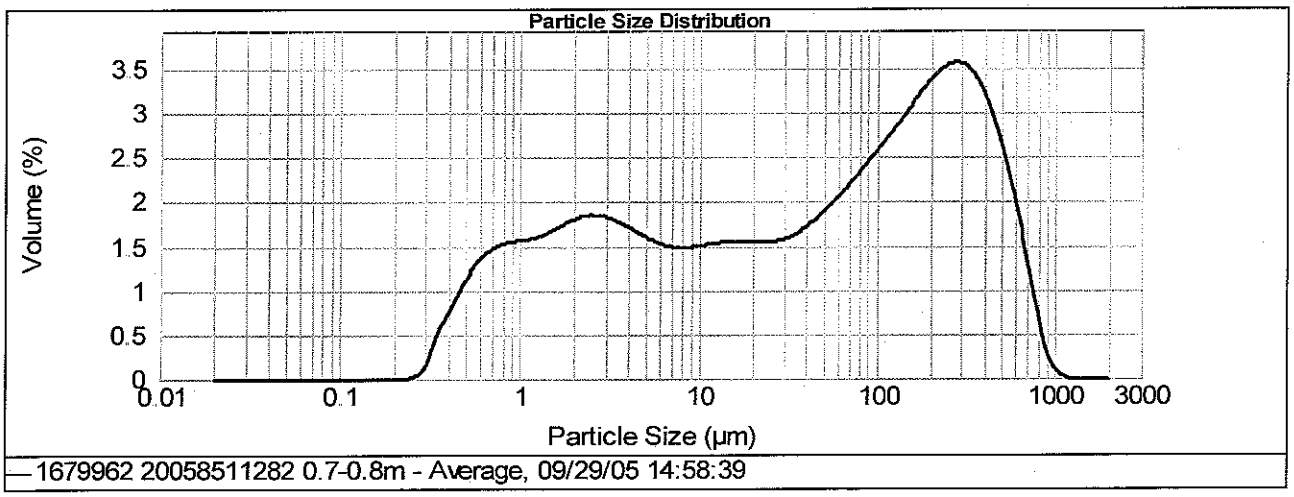
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 46.32 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0 902 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0.020 to 2000 0 um

Concentration: 0.0410 %Vol **Vol. Weighted Mean D[4,3]:** 134.576 um **Specific Surface Area:** 1.56 m²/g

d(0.1): 1.119 um **d(0.5): 47.747 um** d(0.9): 403.614 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	134.576	180.485	1.686	2.56

Distribution Modal Sizes

Mode 1: 282.656 um, Mode 2: 2.515 um, Mode 3: 15.444 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.65	7.962	1.11	158.866	2.39
0.022	0.00	0.448	0.80	8.934	1.12	178.250	2.48
0.025	0.00	0.502	0.92	10.024	1.14	200.000	2.57
0.028	0.00	0.564	1.02	11.247	1.15	224.404	2.64
0.032	0.00	0.632	1.09	12.619	1.16	251.785	2.68
0.036	0.00	0.710	1.13	14.159	1.16	282.508	2.68
0.040	0.00	0.796	1.16	15.887	1.16	316.979	2.63
0.045	0.00	0.893	1.17	17.825	1.16	355.656	2.51
0.050	0.00	1.002	1.18	20.000	1.16	399.052	2.33
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	1.17	[illegible]	1.81
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	[illegible]	1.26	[illegible]	1.19	[illegible]	1.49

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679963 20058511291 0-0.1m - Average

Record No.: 242

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 15:21:28 **Result Type:** Averaged

Measured: 09/29/05 15:21:27 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

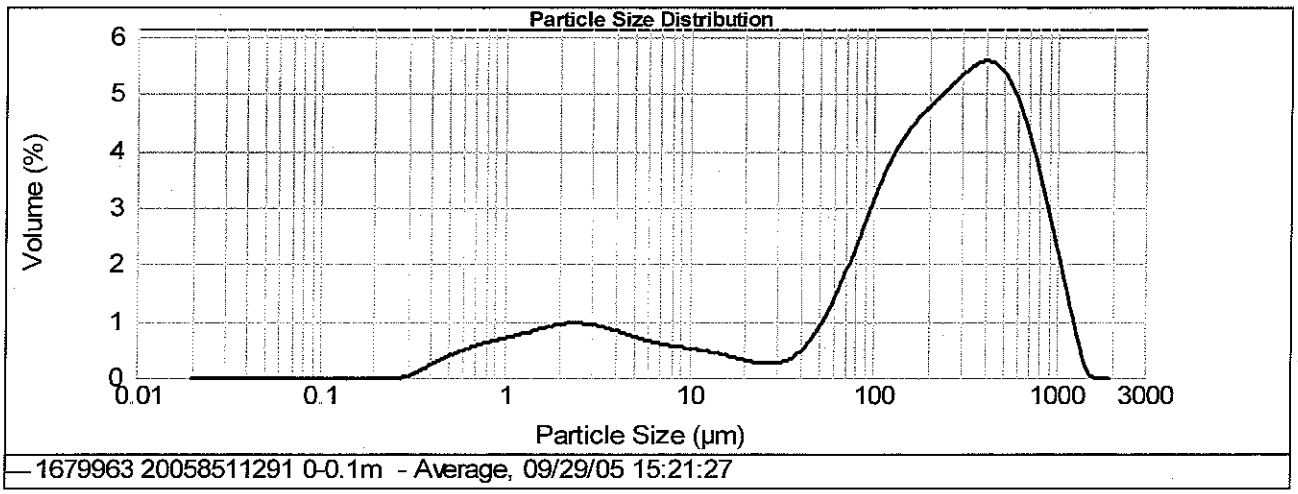
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 25.74 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.126 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0451 %Vol **Vol. Weighted Mean D[4,3]:** 304.345 um **Specific Surface Area:** 0.629 m²/g

d(0.1): 3.314 um **d(0.5): 223.513 um** d(0.9): 720.192 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	304.345	285.19	1.165	0.965

Distribution Modal Sizes

Mode 1: 410.923 um, Mode 2: 2.382 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.20	7.962	0.41	158.866	3.39
0.022	0.00	0.448	0.26	8.934	0.40	178.250	3.53
0.025	0.00	0.502	0.31	10.024	0.38	200.000	3.65
0.028	0.00	0.564	0.36	11.247	0.36	224.404	3.76
0.032	0.00	0.632	0.40	12.619	0.34	251.785	3.89
0.036	0.00	0.710	0.44	14.159	0.31	282.508	4.00
0.040	0.00	0.796	0.47	15.887	0.29	316.979	4.11
0.045	0.00	0.893	0.50	17.825	0.25	355.656	4.18
0.050	0.00	1.002	0.53	20.000	0.22	399.052	4.20
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.19	[illegible]	4.00
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	[illegible]	0.64	[illegible]	0.19	[illegible]	3.75

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679964 20058511292 0.6-0.7m - Average

Record No.: 246

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 15:41:26 **Result Type:** Averaged

Measured: 09/29/05 15:41:25 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

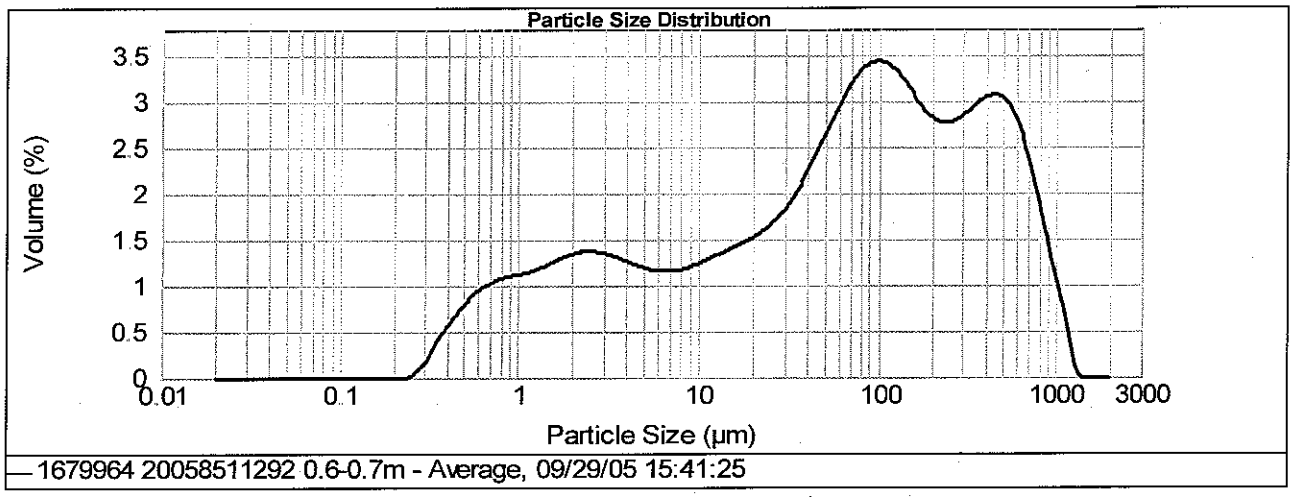
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 41.32 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.691 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0471 %Vol **Vol. Weighted Mean D[4,3]:** 174.935 um **Specific Surface Area:** 1.17 m²/g

d(0.1): 1.606 um **d(0.5): 72.465 um** d(0.9): 532.131 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	174.935	236.018	1.821	2.965

Distribution Modal Sizes

Mode 1: 98.997 um, Mode 2: 444.824 um, Mode 3: 2.45 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.47	7.962	0.89	158.866	2.25
0.022	0.00	0.448	0.56	8.934	0.91	178.250	2.16
0.025	0.00	0.502	0.64	10.024	0.94	200.000	2.10
0.028	0.00	0.564	0.71	11.247	0.98	224.404	2.07
0.032	0.00	0.632	0.76	12.619	1.01	251.785	2.09
0.036	0.00	0.710	0.79	14.159	1.05	282.508	2.13
0.040	0.00	0.796	0.82	15.887	1.08	316.979	2.20
0.045	0.00	0.893	0.83	17.825	1.12	355.656	2.26
0.050	0.00	1.002	0.85	20.000	1.17	399.052	2.30
0.056	0.00	1.125	0.87	22.440	1.22	447.744	2.30
0.063	0.00	1.262	0.89	25.179	1.29	502.377	2.23
0.071	0.00	1.416	0.93	28.251	1.37	563.677	2.10

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679965 20058511301 0-0.1m - Average

Record No.: 250

Operator Notes: Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 15:53:33 **Result Type:** Averaged

Measured: 09/29/05 15:53:32 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

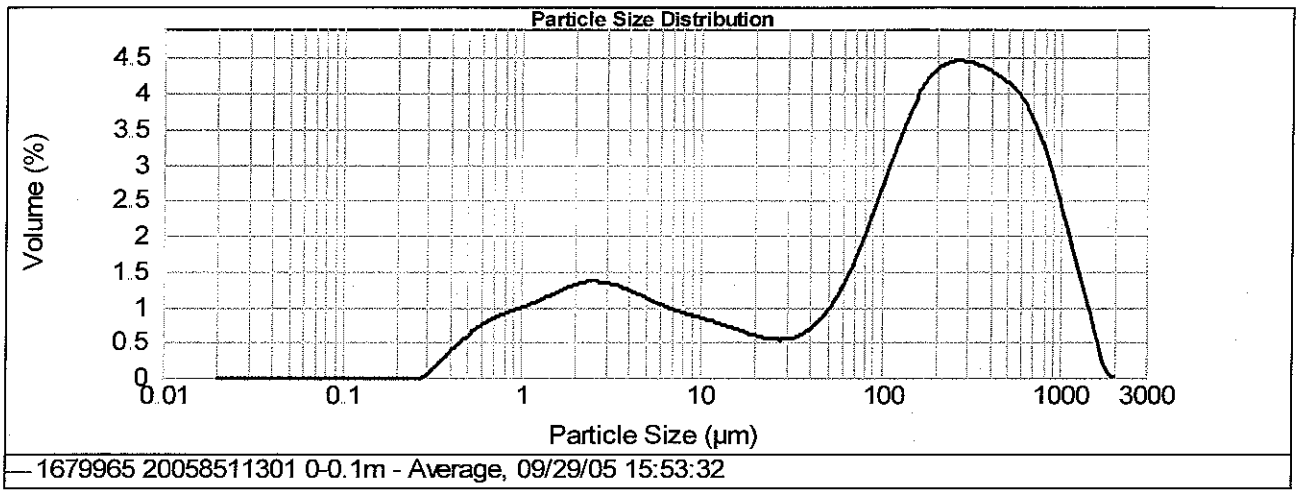
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 34 29 %

Particle RI: 1.544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 999 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0440 %Vol **Vol. Weighted Mean D[4,3]:** 287 551 um **Specific Surface Area:** 0 927 m²/g

d(0 1): 1 996 um **d(0.5): 178.077 um** d(0 9): 762 337 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	287.551	325.152	1.517	2.095

Distribution Modal Sizes

Mode 1: 266.512 um, Mode 2: 2.545 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.33	7.962	0.68	158.866	3.06
0.022	0.00	0.448	0.41	8.934	0.65	178.250	3.20
0.025	0.00	0.502	0.49	10.024	0.62	200.000	3.29
0.028	0.00	0.564	0.55	11.247	0.60	224.404	3.34
0.032	0.00	0.632	0.61	12.619	0.57	251.785	3.35
0.036	0.00	0.710	0.65	14.159	0.53	282.508	3.34
0.040	0.00	0.796	0.69	15.887	0.50	316.979	3.31
0.045	0.00	0.893	0.73	17.825	0.46	355.656	3.27
0.050	0.00	1.002	0.76	20.000	0.44	399.052	3.21
0.056	0.00	1.125	0.80	22.440	0.41	447.744	3.15
0.063	0.00	1.262	0.84	25.179	0.40	502.377	3.07
0.071	0.00	1.416	0.89	28.251	0.41	563.677	2.96

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679966 20058511302 0.4-0.5m - Average

Record No.: 254

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 16:07:12 **Result Type:** Averaged

Measured: 09/29/05 16:07:11 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

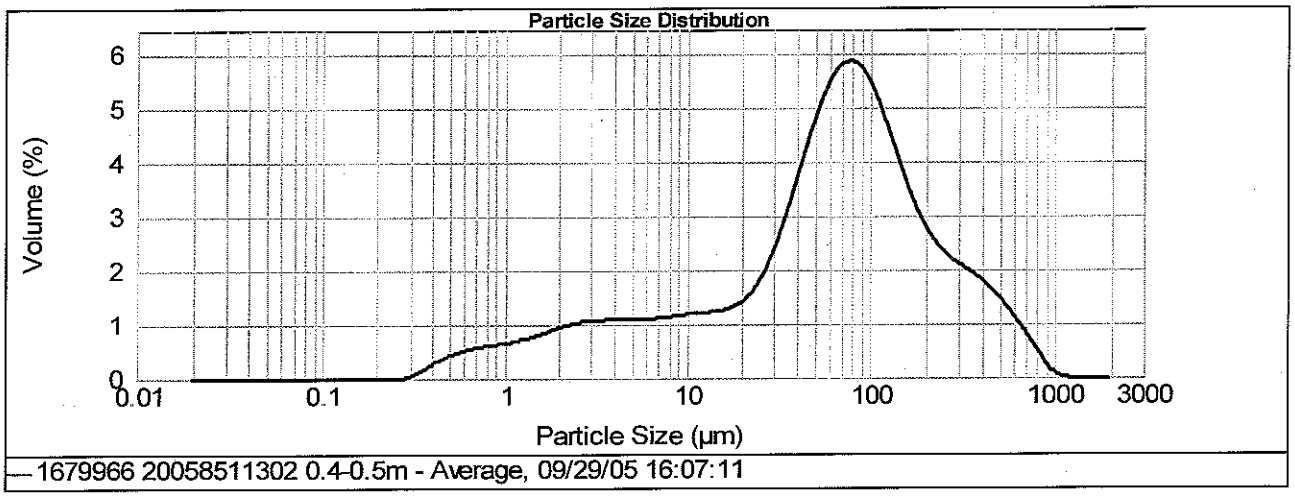
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 39.94 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.519 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0669 %Vol **Vol. Weighted Mean D[4,3]:** 114.217 um **Specific Surface Area:** 0.724 m²/g

d(0.1): 3.236 um **d(0.5): 66.244 um** d(0.9): 295.864 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	114.217	146.711	2.461	6.993

Distribution Modal Sizes

Mode 1: 77.22 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.23	7.962	0.87	158.866	2.50
0.022	0.00	0.448	0.29	8.934	0.88	178.250	2.21
0.025	0.00	0.502	0.34	10.024	0.90	200.000	1.98
0.028	0.00	0.564	0.38	11.247	0.91	224.404	1.80
0.032	0.00	0.632	0.41	12.619	0.92	251.785	1.68
0.036	0.00	0.710	0.44	14.159	0.93	282.508	1.58
0.040	0.00	0.796	0.46	15.887	0.96	316.979	1.50
0.045	0.00	0.893	0.48	17.825	1.02	355.656	1.42
0.050	0.00	1.002	0.50	20.000	1.12	399.052	1.32
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	1.49	[illegible]	1.04
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	[illegible]	0.60	[illegible]	1.77	[illegible]	0.88

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679967 20058511311 0-0.1m - Average

Record No.: 258

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 16:23:40 **Result Type:** Averaged

Measured: 09/29/05 16:23:39 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

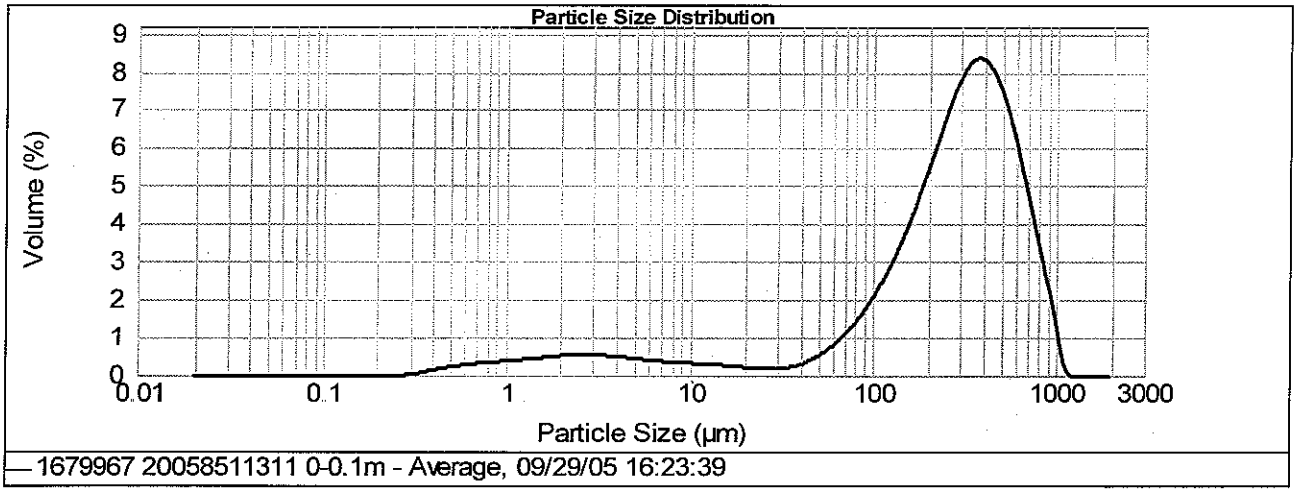
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 18.44 %

Particle RI: 1.544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1.087 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0525 %Vol **Vol. Weighted Mean D[4,3]:** 326.209 um **Specific Surface Area:** 0.372 m²/g

d(0.1): 20.811 um **d(0.5): 292.332 um** d(0.9): 652.547 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	326.209	230.974	0.685	0.018

Distribution Modal Sizes

Mode 1: 380.238 um, Mode 2: 2.611 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.12	7.962	0.26	158.866	3.39
0.022	0.00	0.448	0.16	8.934	0.25	178.250	3.91
0.025	0.00	0.502	0.18	10.024	0.24	200.000	4.44
0.028	0.00	0.564	0.21	11.247	0.23	224.404	4.98
0.032	0.00	0.632	0.23	12.619	0.21	251.785	5.48
0.036	0.00	0.710	0.25	14.159	0.20	282.508	5.89
0.040	0.00	0.796	0.26	15.887	0.18	316.979	6.18
0.045	0.00	0.893	0.28	17.825	0.16	355.656	6.29
0.050	0.00	1.002	0.29	20.000	0.15	399.052	6.20
0.056	0.00	1.125	0.31	22.440	0.14	447.744	5.89
0.063	0.00	1.262	0.33	25.179	0.13	502.371	5.39
[illegible]	0.00	1.416	0.35	28.251	0.13	563.677	4.72

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679968 20058511312 0.65-0.75m - Average

Record No.: 262

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/29/05 16:33:03 **Result Type:** Averaged

Measured: 09/29/05 16:33:02 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

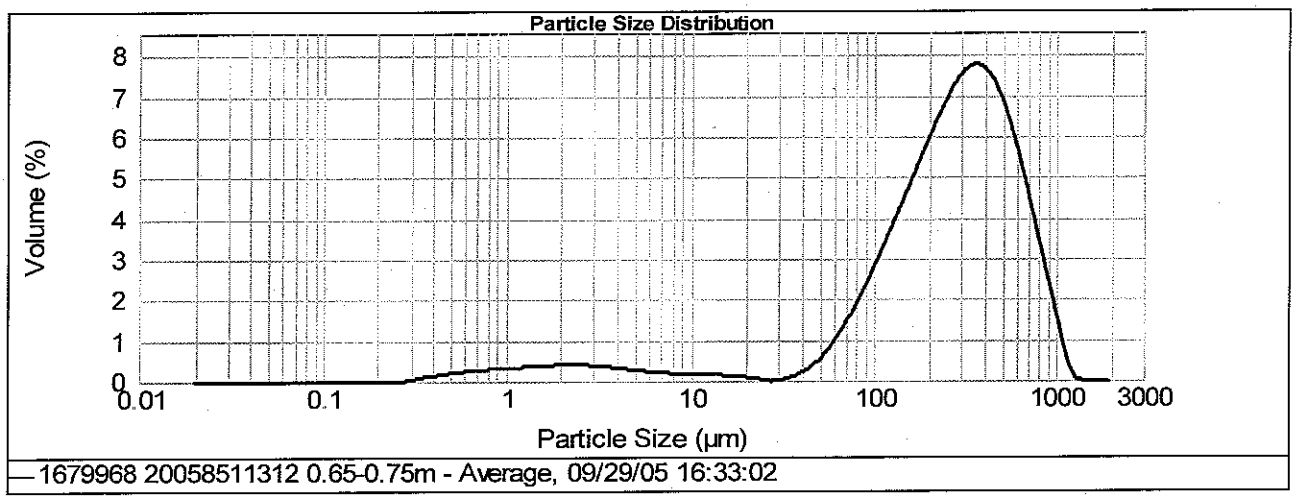
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 15.24 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.053 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0522 %Vol **Vol. Weighted Mean D[4,3]:** 327.981 um **Specific Surface Area:** 0.314 m²/g

d(0.1): 70.483 um **d(0.5): 279.736 um** d(0.9): 664.769 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	327.981	236.282	0.915	0.526

Distribution Modal Sizes

Mode 1: 359.592 um, Mode 2: 2.245 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.11	7.962	0.14	158.866	3.96
0.022	0.00	0.448	0.14	8.934	0.13	178.250	4.36
0.025	0.00	0.502	0.16	10.024	0.13	200.000	4.75
0.028	0.00	0.564	0.18	11.247	0.12	224.404	5.11
0.032	0.00	0.632	0.20	12.619	0.12	251.785	5.44
0.036	0.00	0.710	0.21	14.159	0.11	282.508	5.68
0.040	0.00	0.796	0.23	15.887	0.10	316.979	5.83
0.045	0.00	0.893	0.24	17.825	0.08	355.656	5.85
0.050	0.00	1.002	0.25	20.000	0.07	399.052	5.71
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262			0.00		4.96
	0.00	1.416		28.251		563.677	
	0.00		0.28		0.01		4.39

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679969 2005811321 0-0.1m - Average

Record No.: 266

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 11:18:25 **Result Type:** Averaged

Measured: 09/30/05 11:18:24 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

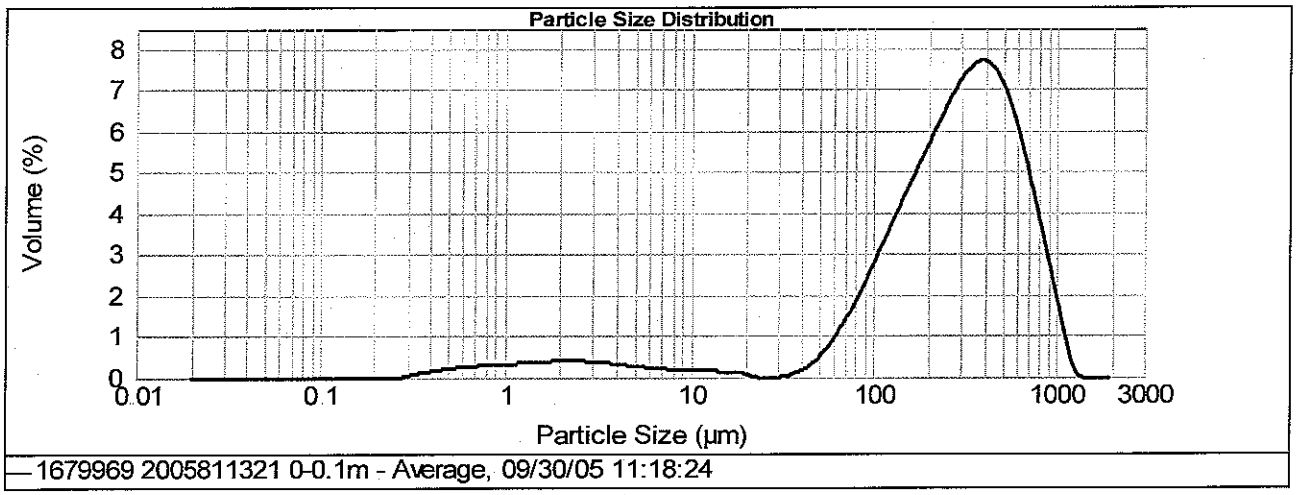
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 12.95 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 1.160 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0.020 to 2000.0 um

Concentration: 0 0433 %Vol **Vol. Weighted Mean D[4,3]:** 342.011 um **Specific Surface Area:** 0 322 m²/g

d(0 1): 72.963 um **d(0.5): 292.155 um** d(0.9): 694 530 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	342.011	246.444	0.883	0.403

Distribution Modal Sizes

Mode 1: 389.008 um, Mode 2: 2.222 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.13	7.962	0.14	158.866	3.77
0.022	0.00	0.448	0.15	8.934	0.13	178.250	4.13
0.025	0.00	0.502	0.17	10.024	0.13	200.000	4.49
0.028	0.00	0.564	0.19	11.247	0.12	224.404	4.84
0.032	0.00	0.632	0.21	12.619	0.11	251.785	5.18
0.036	0.00	0.710	0.22	14.159	0.10	282.508	5.48
0.040	0.00	0.796	0.23	15.887	0.09	316.979	5.70
0.045	0.00	0.893	0.24	17.825	0.08	355.656	5.80
0.050	0.00	1.002	0.25	20.000	0.03	399.052	5.76
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.00	[illegible]	5.21
[illegible]	0.00	1.416	0.28	28.251	0.00	563.677	4.70

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679970 20058511322 0.65-0.75m - Average

Record No.: 270

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 11:27:47 **Result Type:** Averaged

Measured: 09/30/05 11:27:46 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

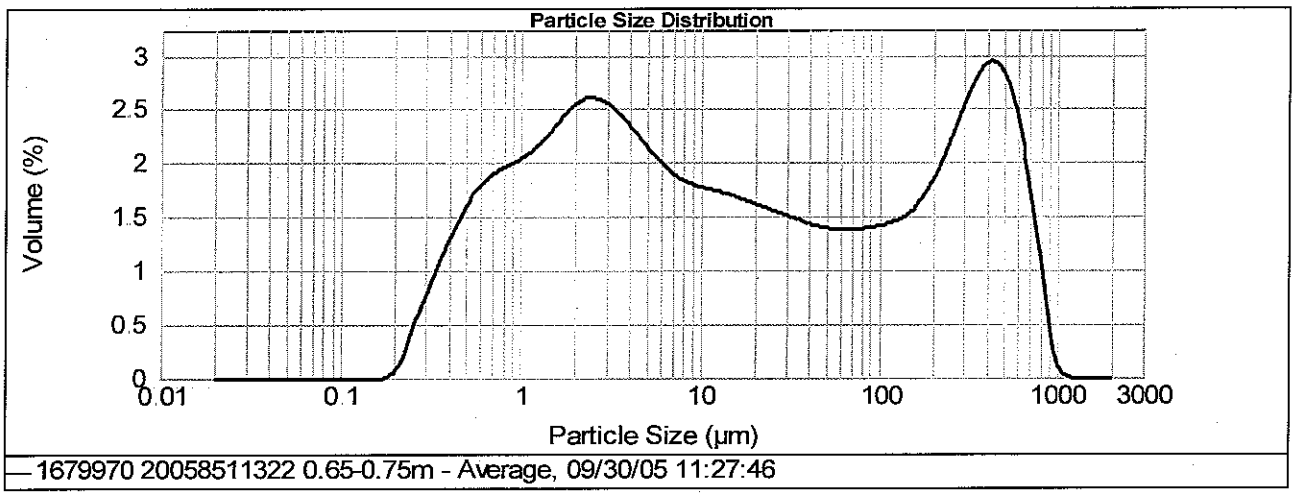
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 60.53 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0 594 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0437 %Vol **Vol. Weighted Mean D[4,3]:** 120 143 um **Specific Surface Area:** 2 45 m²/g

d(0.1): 0 760 um **d(0.5): 12.624 um** d(0.9): 437 350 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	120.143	196.596	1.865	2.754

Distribution Modal Sizes

Mode 1: 427.583 um, Mode 2: 2.45 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	1.04	7.962	1.37	158.866	1.23
0.022	0.00	0.448	1.16	8.934	1.34	178.250	1.32
0.025	0.00	0.502	1.26	10.024	1.33	200.000	1.44
0.028	0.00	0.564	1.34	11.247	1.31	224.404	1.58
0.032	0.00	0.632	1.41	12.619	1.30	251.785	1.74
0.036	0.00	0.710	1.45	14.159	1.28	282.508	1.91
0.040	0.00	0.796	1.49	15.887	1.25	316.979	2.06
0.045	0.00	0.893	1.52	17.825	1.23	355.656	2.17
0.050	0.00	1.002	1.56	20.000	1.21	399.052	2.21
0.056	0.00	1.125	1.61	22.440	1.18	447.744	2.18
0.063	0.00	1.262	1.65	25.179	1.16	502.377	2.04
0.071	0.00	1.416	1.74	28.251	1.14	563.677	1.81

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MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679971 20058511331 0-0.1m - Average

Record No.: 274

Operator Notes: Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 11:37:47 **Result Type:** Averaged

Measured: 09/30/05 11:37:46 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

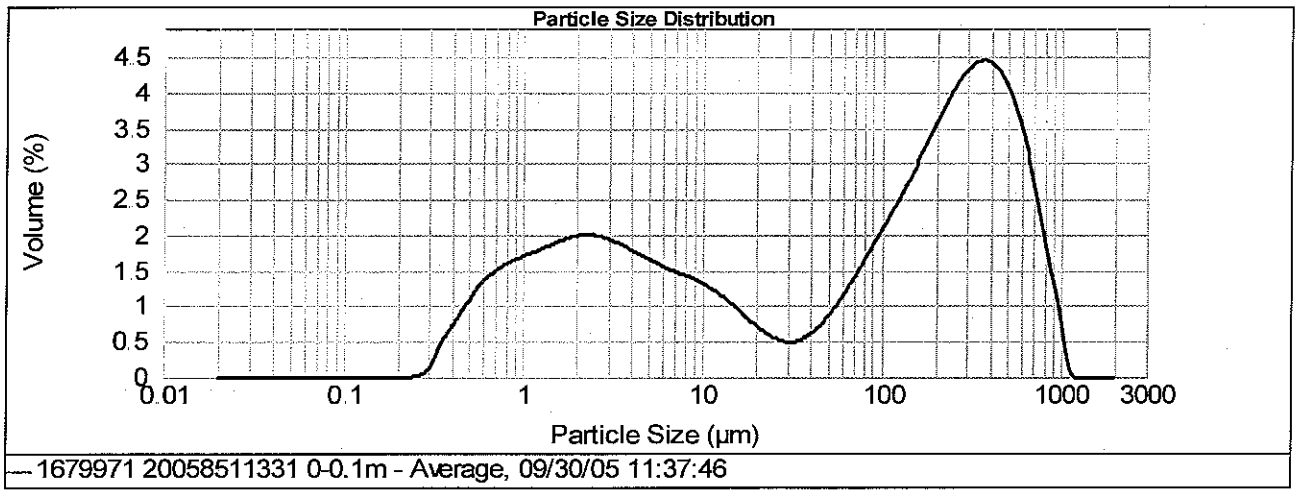
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 38.51 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.066 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0311 %Vol **Vol. Weighted Mean D[4,3]:** 191.716 um **Specific Surface Area:** 1.59 m²/g

d(0.1): 1.103 um **d(0.5): 98.980 um** d(0.9): 542.688 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	191.716	232.111	1.292	1.002

Distribution Modal Sizes

Mode 1: 366.437 um, Mode 2: 2.24 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.62	7.962	1.06	158.866	2.38
0.022	0.00	0.448	0.77	8.934	1.02	178.250	2.58
0.025	0.00	0.502	0.90	10.024	0.97	200.000	2.77
0.028	0.00	0.564	1.01	11.247	0.91	224.404	2.96
0.032	0.00	0.632	1.10	12.619	0.84	251.785	3.12
0.036	0.00	0.710	1.17	14.159	0.76	282.508	3.25
0.040	0.00	0.796	1.22	15.887	0.68	316.979	3.33
0.045	0.00	0.893	1.26	17.825	0.59	355.656	3.35
0.050	0.00	1.002	1.30	20.000	0.51	399.052	3.29
0.056	0.00	1.125	1.34	22.440	0.44	447.744	3.15
0.063	0.00	1.262	1.38	25.179	0.40	502.377	2.93
0.071	0.00	1.416	1.42	28.251	0.37	563.677	2.62

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679972 20058511332 0.5-0.6m - Average

Record No.: 278

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 11:48:27 **Result Type:** Averaged

Measured: 09/30/05 11:48:26 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

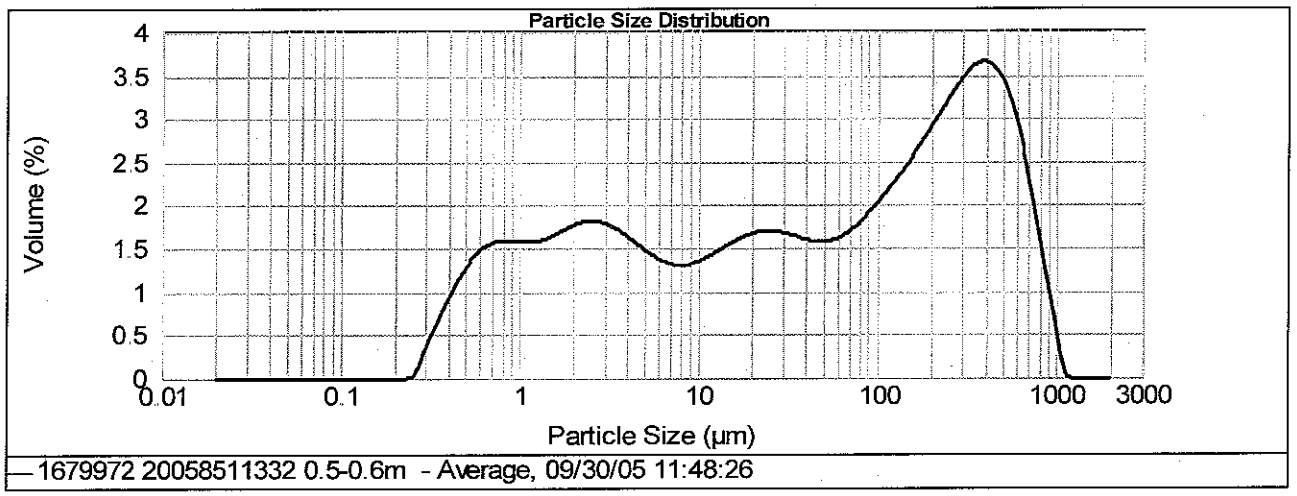
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 48.99 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.897 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0429 %Vol **Vol. Weighted Mean D[4,3]:** 162.729 um **Specific Surface Area:** 1.7 m²/g

d(0.1): 1.005 um **d(0.5): 47.309 um** d(0.9): 501.255 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	162.729	218.943	1.545	1.751

Distribution Modal Sizes

Mode 1: 389.84 um, Mode 2: 2.493 um, Mode 3: 24.813 um, Mode 4: .836 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.78	7.962	0.98	158.866	1.99
0.022	0.00	0.448	0.92	8.934	1.00	178.250	2.11
0.025	0.00	0.502	1.03	10.024	1.03	200.000	2.24
0.028	0.00	0.564	1.11	11.247	1.08	224.404	2.37
0.032	0.00	0.632	1.16	12.619	1.12	251.785	2.50
0.036	0.00	0.710	1.19	14.159	1.17	282.508	2.61
0.040	0.00	0.796	1.20	15.887	1.21	316.979	2.70
0.045	0.00	0.893	1.19	17.825	1.25	355.656	2.75
0.050	0.00	1.002	1.18	20.000	1.27	399.052	2.73
0.056	0.00	1.125	1.18	22.440	1.28	447.744	2.64
0.063	0.00	1.262	1.19	25.179	1.28	502.377	2.47
0.071	0.00	1.416	1.20	28.251	1.27	563.677	2.22

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MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679973 20058511341 0-0.1m - Average

Record No.: 282

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 11:59:33 **Result Type:** Averaged

Measured: 09/30/05 11:59:32 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

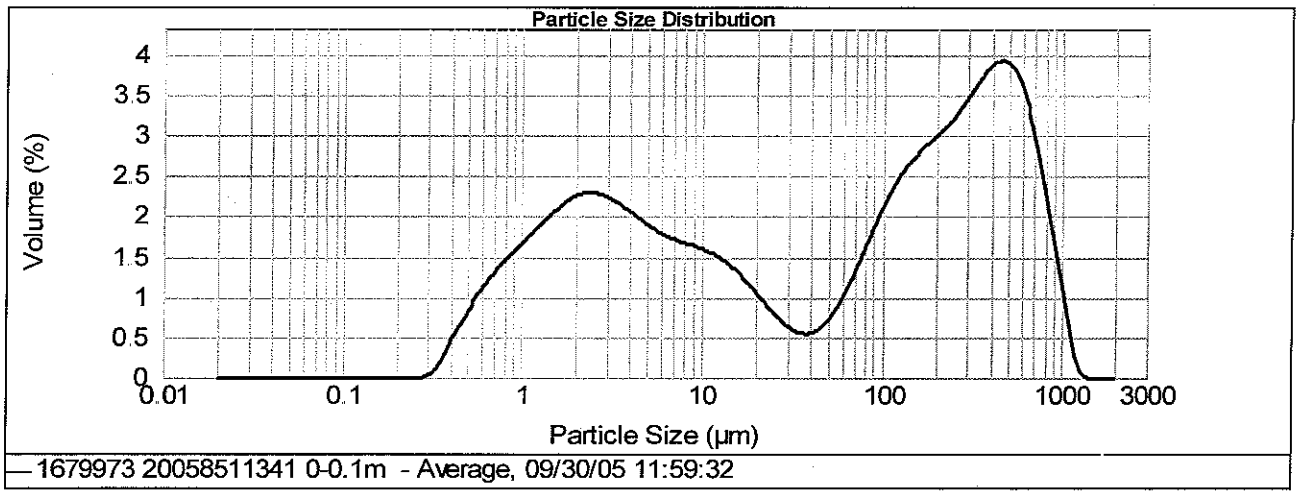
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 42.19 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.049 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0356 %Vol **Vol. Weighted Mean D[4,3]:** 191.554 um **Specific Surface Area:** 1.44 m²/g

d(0.1): 1.273 um **d(0.5): 74.195 um** d(0.9): 577.310 um



	Mean	Stand Dev	Skewness	Kurtosis
Volume:	191.554	249.504	1.431	1.376

Distribution Modal Sizes

Mode 1: 456.877 um, Mode 2: 2.379 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.43	7.962	1.24	158.866	2.13
0.022	0.00	0.448	0.56	8.934	1.22	178.250	2.20
0.025	0.00	0.502	0.70	10.024	1.19	200.000	2.28
0.028	0.00	0.564	0.83	11.247	1.15	224.404	2.37
0.032	0.00	0.632	0.94	12.619	1.09	251.785	2.48
0.036	0.00	0.710	1.04	14.159	1.02	282.508	2.61
0.040	0.00	0.796	1.13	15.887	0.94	316.979	2.74
0.045	0.00	0.893	1.21	17.825	0.84	355.656	2.86
0.050	0.00	1.002	1.30	20.000	0.74	399.052	2.94
0.056	0.00	1.125	1.38	22.440	0.64	447.744	2.95
0.063	0.00	1.262	1.45	25.179	0.55	502.377	2.87
0.071	0.00	1.416	1.54	28.251	0.48	563.677	2.69

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SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679974 20058511342 0.7-0.8m - Average

Record No.: 286

Operator Notes

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 12:11:59 **Result Type:** Averaged

Measured: 09/30/05 12:11:58 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

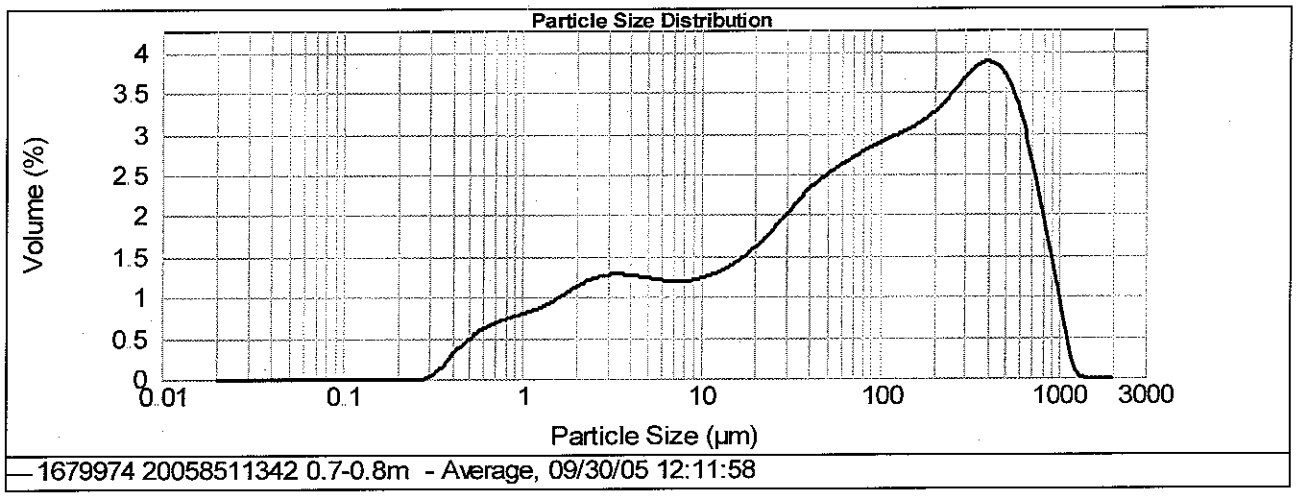
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 30.44 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.808 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0415 %Vol **Vol. Weighted Mean D[4,3]:** 193.321 um **Specific Surface Area:** 0.831 m²/g

d(0.1): 2.514 um **d(0.5): 89.934 um** d(0.9): 550.378 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	193.321	235.353	1.522	1.824

Distribution Modal Sizes

Mode 1: 400.332 um, Mode 2: 3.372 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.27	7.962	0.90	158.866	2.36
0.022	0.00	0.448	0.34	8.934	0.92	178.250	2.41
0.025	0.00	0.502	0.41	10.024	0.94	200.000	2.49
0.028	0.00	0.564	0.46	11.247	0.97	224.404	2.57
0.032	0.00	0.632	0.50	12.619	1.00	251.785	2.67
0.036	0.00	0.710	0.54	14.159	1.05	282.508	2.77
0.040	0.00	0.796	0.56	15.887	1.10	316.979	2.86
0.045	0.00	0.893	0.59	17.825	1.17	355.656	2.91
0.050	0.00	1.002	0.61	20.000	1.25	399.052	2.91
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262			1.42		2.70
	0.00	1.416		28.251		563.677	
	0.00		0.73		1.52		2.47

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MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679975 20058511351 0-0.1m - Average

Record No.: 290

Operator Notes :

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 12:24:12 **Result Type:** Averaged

Measured: 09/30/05 12:24:11 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

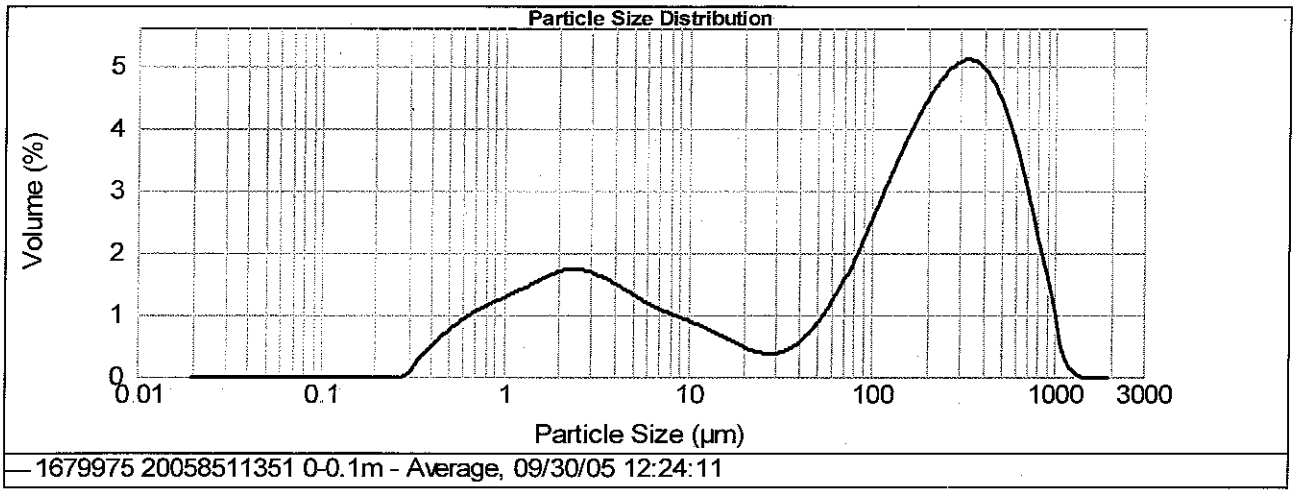
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 40 53 %

Particle RI: 1 544 **Absorption:** 0 1 **Analysis model:** General purpose **Weighted Residual:** 0 914 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0 020 to 2000 0 um

Concentration: 0 0437 %Vol **Vol. Weighted Mean D[4,3]:** 223 739 um **Specific Surface Area:** 1 16 m²/g

d(0 1): 1 534 um **d(0 5): 155 633 um** d(0 9): 575 179 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	223.739	239.499	1.207	0.996

Distribution Modal Sizes

Mode 1: 332 096 um, Mode 2: 2 374 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.40	7.962	0.74	158.866	3.06
0.022	0.00	0.448	0.51	8.934	0.70	178.250	3.27
0.025	0.00	0.502	0.60	10.024	0.66	200.000	3.46
0.028	0.00	0.564	0.69	11.247	0.61	224.404	3.61
0.032	0.00	0.632	0.76	12.619	0.56	251.785	3.73
0.036	0.00	0.710	0.82	14.159	0.50	282.508	3.81
0.040	0.00	0.796	0.88	15.887	0.45	316.979	3.83
0.045	0.00	0.893	0.93	17.825	0.39	355.656	3.79
0.050	0.00	1.002	0.98	20.000	0.34	399.052	3.68
0.056	0.00	1.125	[illegible]	22.440	[illegible]	447.744	[illegible]
0.063	0.00	1.262	[illegible]	[illegible]	0.28	[illegible]	3.22
[illegible]	0.00	1.416	[illegible]	28.251	[illegible]	563.677	[illegible]
[illegible]	0.00	[illegible]	1.15	[illegible]	0.28	[illegible]	2.88

Australian Government
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MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679976 20058511352 0.7-0.8m - Average

Record No.: 294

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 12:37:44 **Result Type:** Averaged

Measured: 09/30/05 12:37:43 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

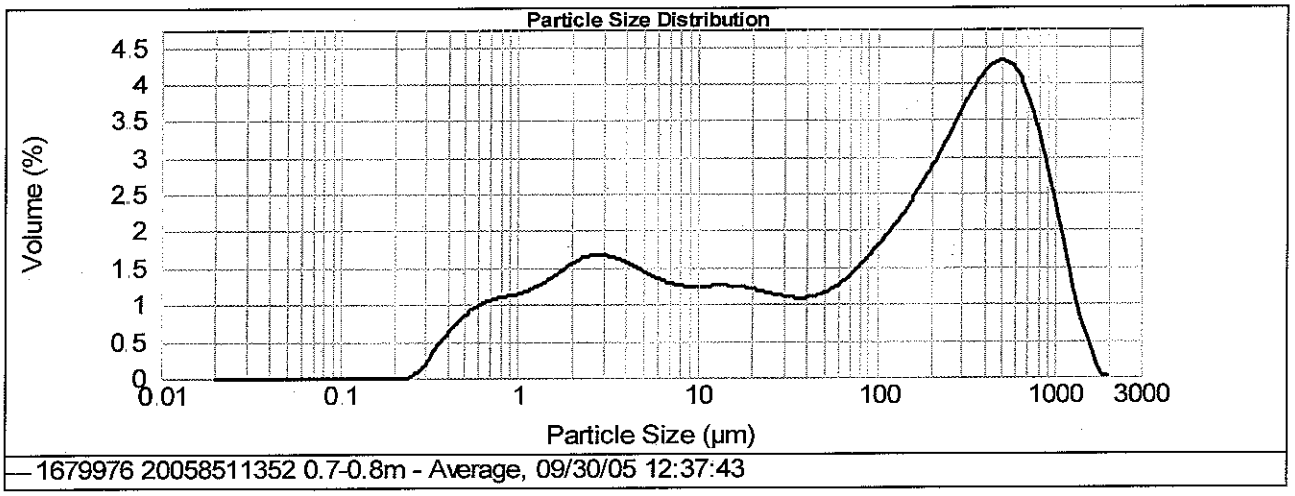
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 28.32 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 1.028 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0275 %Vol **Vol. Weighted Mean D[4,3]:** 264.198 um **Specific Surface Area:** 1.25 m²/g

d(0.1): 1.513 um **d(0.5): 127.264 um** d(0.9): 744.763 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	264.198	325.332	1.456	1.755

Distribution Modal Sizes

Mode 1: 501.503 um, Mode 2: 2.821 um, Mode 3: 13.577 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.51	7.962	0.94	158.866	1.90
0.022	0.00	0.448	0.60	8.934	0.93	178.250	2.05
0.025	0.00	0.502	0.68	10.024	0.94	200.000	2.21
0.028	0.00	0.564	0.74	11.247	0.94	224.404	2.38
0.032	0.00	0.632	0.78	12.619	0.94	251.785	2.56
0.036	0.00	0.710	0.81	14.159	0.94	282.508	2.73
0.040	0.00	0.796	0.83	15.887	0.93	316.979	2.91
0.045	0.00	0.893	0.85	17.825	0.92	355.656	3.05
0.050	0.00	1.002	0.87	20.000	0.90	399.052	3.17
0.056	0.00	1.125	0.91	22.440	0.88	447.744	3.23
0.063	0.00	1.262	0.96	25.179	0.85	502.377	3.23
0.071	0.00	1.416	1.01	28.251	0.83	563.677	3.15

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Australian Government
Geoscience Australia

MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679977 20058511361 0-0.1m - Average

Record No.: 298

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 12:50:47 **Result Type:** Averaged

Measured: 09/30/05 12:50:46 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

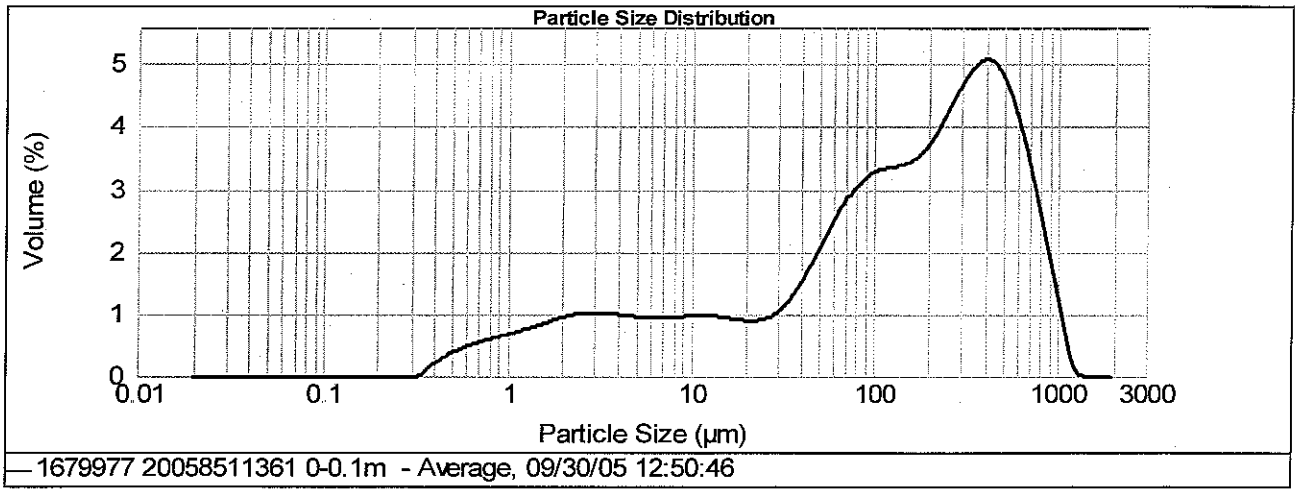
Particle Name: Silica 0 1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 30.35 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0 808 %

Dispersant Name: Water **Dispersant RI:** 1 330 **Size range:** 0.020 to 2000 0 um

Concentration: 0.0516 %Vol **Vol. Weighted Mean D[4,3]:** 238.336 um **Specific Surface Area:** 0.648 m²/g

d(0.1): 3.329 um **d(0.5): 150.308 um** d(0.9): 607 398 um



	Mean	Stand. Dev	Skewness	Kurtosis
Volume:	238.336	248.046	1.21	0.896

Distribution Modal Sizes

Mode 1: 406.142 um, Mode 2: 2.936 um, Mode 3: 11.477 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.18	7.962	0.72	158.866	2.62
0.022	0.00	0.448	0.26	8.934	0.73	178.250	2.73
0.025	0.00	0.502	0.31	10.024	0.73	200.000	2.88
0.028	0.00	0.564	0.36	11.247	0.74	224.404	3.08
0.032	0.00	0.632	0.40	12.619	0.73	251.785	3.30
0.036	0.00	0.710	0.43	14.159	0.72	282.508	3.51
0.040	0.00	0.796	0.46	15.887	0.70	316.979	3.69
0.045	0.00	0.893	0.49	17.825	0.68	355.656	3.80
0.050	0.00	1.002	0.52	20.000	0.67	399.052	3.82
0.056	0.00	1.125	0.55	22.440	0.68	447.744	3.72
0.063	0.00	1.262	0.58	25.179	0.71	502.377	3.51
	0.00	1.416	0.62	28.251	0.78	563.677	3.18

Australian Government
Geoscience Australia

MASTERSIZER 2000

SEDIMENTOLOGY LABORATORY

Laser Grainsize Analysis

Sample Name : 1679978 20058511362 0.7-0.8m - Average

Record No.: 302

Operator Notes : Laser Top Cut 1.7mm sieve

SOP Name: Silicious (Regolith) **Analysed:** 09/30/05 13:03:44 **Result Type:** Averaged

Measured: 09/30/05 13:03:42 **Measured by:** morris robbie **CRC LEME Funded Prog 3 =** **Job No.:** Lab Subs Job # 7926

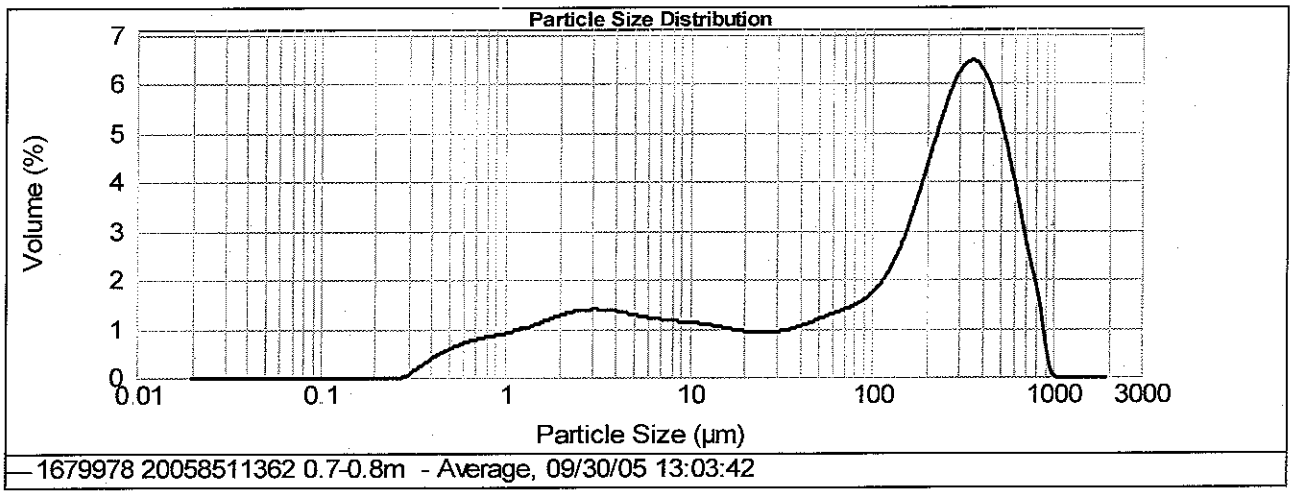
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 31.46 %

Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose **Weighted Residual:** 0.955 %

Dispersant Name: Water **Dispersant RI:** 1.330 **Size range:** 0.020 to 2000.0 um

Concentration: 0.0402 %Vol **Vol. Weighted Mean D[4,3]:** 223.670 um **Specific Surface Area:** 0.909 m²/g

d(0.1): 2.158 um **d(0.5): 182.574 um** d(0.9): 538.933 um



	Mean	Stand. Dev.	Skewness	Kurtosis
Volume:	223.67	217.046	0.841	-0.083

Distribution Modal Sizes

Mode 1: 352.315 um, Mode 2: 3.047 um,

Volume Under %

Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %	Size (µm)	Volume In %
0.020	0.00	0.399	0.32	7.962	0.87	158.866	2.58
0.022	0.00	0.448	0.39	8.934	0.85	178.250	3.03
0.025	0.00	0.502	0.46	10.024	0.84	200.000	3.51
0.028	0.00	0.564	0.52	11.247	0.82	224.404	3.98
0.032	0.00	0.632	0.56	12.619	0.80	251.785	4.39
0.036	0.00	0.710	0.60	14.159	0.77	282.508	4.70
0.040	0.00	0.796	0.63	15.887	0.74	316.979	4.86
0.045	0.00	0.893	0.66	17.825	0.72	355.656	4.84
0.050	0.00	1.002	0.69	20.000	0.70	399.052	4.64
0.056	0.00	1.125		22.440		447.744	
0.063	0.00	1.262			0.68		3.75
	0.00	1.416		28.251		563.677	
	0.00		0.82		0.69		3.13

Appendix 5.6. AutoGeoSEM data for heavy mineral separates (regolith)

Appendix 5.6

Classification	002002NM			009001NM			009002NM			012002NM		
	Grains	Area%	Size	Grains	Area%	Size	Grains	Area%	Size	Grains	Area%	Size
Al2O3(58)+SiO2(34)	54	2.28%	113	6	0.14%	106	2	0.08%	144	11	0.32%	129
Al2O3+MgO		0.00%			0.00%			0.00%		148	8.60%	175
Al2O3+SiO2+CaO		0.00%			0.00%			0.00%			0.00%	
Al2O3 + Other	4	0.09%	83	2	0.04%	93		0.00%		3	0.12%	159
BaSO4	26	0.69%	90		0.00%		2	0.02%	76	350	26.28%	189
Chromite		0.00%			0.00%			0.00%			0.00%	
Fe Oxide	262	13.09%	117	204	19.72%	184	124	16.92%	218	95	3.64%	146
Fe Oxide + SiO2+Al2O3	565	40.09%	131	301	37.90%	208	179	31.74%	257	508	33.40%	191
Monazite	6	0.10%	76		0.00%			0.00%			0.00%	
Other	14	0.20%	70	4	0.24%	157	13	0.49%	130	56	3.13%	173
SiO2	18	1.34%	141	14	0.36%	105	11	0.80%	165	5	0.09%	109
SiO2+Al2O3		0.00%			0.00%			0.00%			0.00%	
SiO2+Al2O3+CaO+FeO	3	0.11%	114	1	0.01%	79	1	0.02%	91	1	0.02%	132
SiO2+Al2O3+FeO+K2O+TiO2	11	0.23%	74	1	0.01%	53		0.00%		3	0.02%	64
SiO2+Al2O3+FeO+MgO(40+38+14+5)	52	1.63%	103	7	0.23%	126	3	0.09%	125	11	0.26%	122
SiO2+Al2O3+FeO+Na2O+CaO+K2O	2	0.03%	78	1	0.08%	200	1	0.05%	170	2	0.11%	185
SiO2+CaO+Al2O3+FeO(36+22+20+17)		0.00%			0.00%			0.00%			0.00%	
Other Al Silicates	14	0.26%	80	4	0.31%	155	2	0.02%	63	80	2.45%	137
SiO2+FeO	46	4.58%	164	217	26.28%	214	165	33.41%	275	36	3.52%	244
SiO2+FeO+Al2O3	17	2.41%	192	57	6.17%	204	42	9.73%	285	30	3.26%	245
SiO2+FeO+Al2O3+CaO+MgO	3	0.07%	86		0.00%		1	0.07%	188		0.00%	
SiO2+FeO+Al2O3+MgO+CaO	16	1.34%	146	3	0.07%	110		0.00%		15	1.47%	232
SiO2+FeO+CaO+Al2O3+MgO	10	0.42%	118		0.00%			0.00%			0.00%	
SiO2+FeO+CaO+Al2O3+MgO(55+18+10+9+6)	7	0.23%	105		0.00%		1	0.01%	85		0.00%	
SiO2+FeO+MgO+Al2O3(55+20+16+6)		0.00%			0.00%			0.00%			0.00%	
SiO2+MgO+Al2O3+CaO+FeO	6	0.17%	101		0.00%			0.00%			0.00%	
Other Silicates	2	0.17%	156	5	0.48%	204	10	2.05%	256		0.00%	
Silicate + Titanate	38	2.07%	127	14	0.56%	125	3	0.93%	358	35	5.00%	279
TiO2(0%-40%)+FeO Goethite	1	0.06%	148	1	0.03%	120		0.00%			0.00%	
TiO2(40%-56%)+FeO Ilmenite	51	1.41%	92	15	0.65%	136	3	0.21%	185	9	0.28%	133
TiO2(56%-64%)+FeO Altered Ilmenite	111	3.52%	102	6	0.12%	97	2	0.03%	96	14	0.34%	125
TiO2(64%-85%)+FeO Leucoxene	214	5.34%	92	14	0.48%	125	3	0.05%	93	16	0.45%	137
TiO2(85%-95%)+FeO Psudorutile	138	3.60%	94	8	0.15%	93	1	0.02%	103	21	0.46%	120
TiO2(95%-100%)+FeO Rutile	36	1.12%	101	1	0.01%	56		0.00%		9	0.14%	103
TiO2+Al2O3(81+19)		0.00%			0.00%			0.00%		105	3.77%	142
Titanate + Silicate	273	9.33%	103	76	4.80%	154	26	3.12%	215	72	2.67%	152
Xenotime		0.00%			0.00%			0.00%			0.00%	
Zircon	182	3.87%	84	37	0.91%	106	5	0.14%	112	10	0.14%	98
Zircon + Other	5	0.16%	108	6	0.24%	134		0.00%		1	0.04%	166
Grand Total	2187	100.0%	111	1005	100.0%	187	600	100.0%	244	1646	100.0%	178

NM: Non-magnetic fraction

Appendix 5.7. Bulk properties data (regolith)

SAMPLEID	ZONE	Clay (%)	Silt (%)	Sand (%)	Field pH	pH 1:5	EC 1:5 (uS/cm)	Munsell color (dry)	Munsell color (moist)
2004851001001	1	12.8	19.1	68.0	8.5	8.5	102	10YR6/4	10YR4/6
2004851002001	1	19.3	20.4	60.3	7.5	8.4	46	5YR5/8	5YR3/4
2004851004001	1	8.0	12.9	79.2	8.0	8.5	23	5YR5/6	5YR4/6
2004851006001	1	31.8	22.7	45.5	8.0	9.4	156	5YR5/6	5YR4/6
2004851009001	1	9.1	13.6	77.4	7.5	8.7	148	5YR5/6	2.5YR3/6
2004851012001	1	26.7	28.6	44.7	8.0	8.1	55	5YR4/6	2.5YR3/4
20058511011	1	13.0	31.4	55.6	9.0	8.3	166	7.5YR4/3	5YR3/3
20058511021	1	9.3	19.1	71.5	8.5	8.4	962	7.5YR6/4	7.5YR5/3
20058511031	1	3.0	5.7	91.4	7.0	8.4	38	7.5YR6/4	7.5YR4/4
20058511041	1	6.9	13.4	79.7	7.5	8.9	70	7.5YR4/6	7.5YR3/4
20058511051	1	27.7	24.0	48.3	8.0	8.7	52	2.5YR5/6	2.5YR3/6
20058511061	1	21.0	34.0	45.0	7.5	8.5	1536	7.5YR6/6	2.5YR4/6
20058511071	1	18.3	34.9	46.8	8.0	9.1	91	10YR5/4	7.5YR4/4
20058511081	1	15.2	17.1	67.7	8.0	8.7	25	5YR5/6	2.5YR3/6
20058511091	1	26.2	23.9	49.9	9.0	8.9	77	5YR6/8	5YR4/6
20058511101	1	30.4	31.4	38.3	8.5	9.0	114	7.5YR6/6	5YR4/6
20058511111	1	9.1	17.4	73.5	7.5	8.8	42	7.5YR6/6	7.5YR3/4
20058511121	1	25.5	22.7	51.7	9.0	8.6	102	7.5YR5/6	7.5YR3/4
20058511131	1	45.4	34.8	19.8	8.0	8.7	136	7.5YR6/4	7.5YR3/4
20058511141	1	3.8	14.0	82.2	7.5	9.1	97	5YR5/8	5YR4/4
20058511151	1	1.4	4.7	93.9	7.0	7.9	12	5YR5/8	2.5YR4/6
20058511161	1	4.4	5.7	89.9	8.5	8.2	7	7.5YR5/6	5YR4/8
20058511171	1	2.7	3.8	93.5	7.0	8.5	8	5YR5/8	5YR4/6
20058511181	1	4.1	6.9	89.0	6.0	8.2	9	7.5YR5/6	5YR4/6
20058511191	1	11.6	9.9	78.5	7.0	7.9	17	2.5YR4/8	2.5YR3/6
20058511201	1	16.3	15.0	68.6	8.0	9.2	52	5YR5/8	5YR4/6
20058511211	1	13.2	9.8	76.9	8.0	9.1	48	5YR5/8	2.5YR4/6
20058511221	1	15.6	11.8	72.6	8.5	9.0	58	2.5YR5/8	5YR4/6
20058511231	1	2.6	2.9	94.5	7.0	9.2	15	5YR5/8	5YR4/6
20058511241	1	10.0	8.9	81.0	8.0	8.7	24	5YR5/6	5YR4/6
20058511251	1	5.1	9.3	85.6	7.5	7.8	609	5YR6/6	5YR4/6
20058511261	1	6.9	10.0	83.1	9.0	8.1	341	7.5YR6/6	5YR4/4
20058511271	1	23.8	21.4	54.9	9.0	9.4	125	5YR5/8	5YR4/6
20058511281	1	6.8	7.9	85.4	7.0	9.1	7	2.5YR5/8	2.5YR4/6
20058511291	1	10.9	9.8	79.2	7.5	8.8	15	5YR4/6	2.5YR3/6
20058511301	1	15.8	14.9	69.2	8.5	9.4	62	5YR5/8	5YR4/6
20058511311	1	6.2	6.1	87.6	7.0	8.5	16	2.5YR5/6	2.5YR3/6
20058511321	1	5.0	3.7	91.3	7.0	7.7	23	5YR5/8	5YR3/4
20058511331	1	25.8	19.3	54.8	8.5	8.9	49	5YR5/8	2.5YR4/6
20058511341	1	25.9	22.7	51.4	7.5	9.6	97	7.5YR6/6	5YR4/6
20058511351	1	20.1	14.8	65.1	8.0	8.8	18	5YR5/8	2.5YR4/6
20058511361	1	11.0	20.8	68.1	8.0	8.5	2940	5YR6/6	5YR4/8
2004851001002	2	10.7	10.8	78.4	9.0	9.4	608	7.5YR6/6	5YR6/8
2004851002002	2	30.3	14.6	55.1	9.0	8.8	1240	5YR6/8	5YR4/6
2004851004002	2	10.0	14.0	76.0	8.5	8.3	4260	5YR5/8	5YR6/8
2004851006002	2	42.5	31.7	25.9	8.5	8.3	3500	5YR5/6	5YR4/6
2004851009002	2	27.4	14.8	57.9	9.0	8.4	4570	5YR5/6	5YR5/6
2004851012002	2	42.6	28.0	29.4	7.5	8.6	159	5YR5/8	5YR4/6
20058511012	2	7.9	20.1	72.0	9.5	9.3	94	7.5YR8/3	2.5YR7/6
20058511022	2	16.2	25.4	58.4	9.0	9.3	1374	7.5YR6/4	7.5YR5/4
20058511032	2	11.3	17.0	71.6	7.5	9.1	525	5Y4/6	5YR4/4
20058511042	2	16.4	10.7	73.0	8.0	9.0	47	2.5YR4/8	2.5YR4/8
20058511052	2	21.3	19.5	59.3	8.5	8.7	930	5YR4/6	2.5YR3/6
20058511062	2	20.6	26.6	52.9	7.5	8.4	6710	7.5YR4/4	7.5YR6/4

SAMPLEID	ZONE	Clay (%)	Silt (%)	Sand (%)	Field pH	pH 1:5	EC 1:5 (uS/cm)	Munsell color (dry)	Munsell color (moist)
20058511072	2	16.2	24.4	59.4	8.5	9.7	316	5YR6/7	5YR4/4
20058511082	2	12.2	19.3	68.5	9.0	9.6	575	5YR7/4	2.5YR4/6
20058511092	2	45.8	23.0	31.2	9.0	8.6	1940	7.5YR6/6	2.5YR5/6
20058511102	2	53.2	23.8	23.0	8.5	9.2	1139	5YR6/6	5YR5/6
20058511112	2	10.2	10.6	79.2	5.0	9.0	164	5YR6/6	5YR5/6
20058511122	2	33.9	32.5	33.6	9.5	8.9	163	7.5YR6/6	5YR4/6
20058511132	2	48.2	31.3	20.5	8.5	9.1	954	7.5YR6/6	7.5YR5/6
20058511142	2	12.4	20.2	67.4	8.5	9.2	715	5YR5/6	2.5YR4/6
20058511152	2	4.1	9.7	86.2	8.0	9.0	31	5YR5/6	5YR4/6
20058511162	2	6.4	8.1	85.5	8.5	9.3	46	7.5YR7/4	7.5YR6/6
20058511172	2	5.7	6.0	88.3	8.5	9.2	47	5YR5/8	2.4YR4/8
20058511182	2	4.1	5.1	90.9	8.0	8.5	10	5YR5/8	2.5YR4/8
20058511192	2	21.5	19.3	59.1	8.5	9.1	74	5YR5/8	2.5YR4/6
20058511202	2	31.6	18.7	49.7	8.5	9.0	1009	5YR5/8	5YR5/6
20058511212	2	24.8	15.0	60.2	9.0	9.4	332	5YR6/6	5YR4/6
20058511222	2	31.7	15.9	52.4	9.5	9.2	772	5YR6/6	2.5YR4/6
20058511232	2	3.0	4.3	92.7	8.5	9.6	37	5YR6/8	5YR5/8
20058511242	2	15.6	17.1	67.3	8.5	8.7	44	2.5YR4/8	2.5YR3/6
20058511252	2	9.4	14.7	75.9	8.0	7.6	6240	5YR5/8	5YR4/6
20058511262	2	4.0	6.6	89.4	8.0	7.9	3030	7.5YR6/6	7.5YR6/6
20058511272	2	51.8	16.1	32.1	8.5	8.8	2060	5YR7/4	5YR5/6
20058511282	2	24.3	29.1	46.6	8.0	9.7	1305	5YR6/8	5YR5/6
20058511292	2	17.7	29.3	53.0	8.5	9.8	71		2.5YR4/6
20058511302	2	11.3	36.5	52.1	8.5	9.5	216	2.5YR4/8	2.5YR5/8
20058511312	2	5.0	4.0	91.0	7.5	8.4	12	2.5YR4/8	10R3/6
20058511322	2	35.0	31.1	34.0	8.0	8.4	25	2.5YR5/8	10R4/8
20058511332	2	25.1	27.8	47.1	9.0	9.3	83	2.5YR5/8	2.5YR4/8
20058511342	2	13.6	29.8	56.5	7.5	8.6	1224	7.5YR6/6	7.5YR4/6
20058511352	2	19.8	22.5	57.7	8.5	9.6	88	5YR5/6	2.5YR4/8
20058511362	2	15.3	19.9	64.8	8.5	8.8	3010	5YR5/8	5YR4/6

Appendix 5.8. Field data (groundwater)

SampleID	StationID	Well_Bore (w/b)	Pump_type	Casing	Sample_Date (dd_mm_yyyy)	Lat (dec degree)	Long (dec degree)	Elevation (m asl)	Water_Depth (m)
G003	Wilgena Homestead Dams	b	windmill		2_11_2004	-30.80	134.74	124	
G005		w	windmill	wood	2_11_2004	-30.86	135.12	156	
G007	Payminers Well NE	w	windmill	cement	2_11_2004	-30.93	135.40	136	
G008	Horse well	w	windmill	wood	2_11_2004	-31.27	135.25	163	
G010		b	windmill		3_11_2004	-32.01	135.14	191	
G011	Yardea Home Bore	b	windmill		3_11_2004	-32.38	135.53	346	
201	Yardea Home Bore	b	windmill		29_04_2005	-32.38	135.53	248	
202	Teatree	w	windmill		29_04_2005	-32.30	135.74	167	
203	? Near to Nuckulla	w	windmill		1_05_2005	-31.73	134.94	156	
204	Black Hill Well	w	windmill		1_05_2005	-31.66	135.14	140	14
205	Milda	b	windmill		1_05_2005	-32.30	135.28	242	
206	Hiern Well	w	abandoned	cement	5_05_2005	-30.79	134.33	115	28
207	Claysons Well	w	abandoned	wood	5_05_2005	-30.75	134.36	137	15.5
208	Geologists Well	w	abandoned	wood	6_05_2005	-30.70	134.55	130	25
209	Mullina Well	w	abandoned	wood	6_05_2005	-30.80	134.69	131	15.5
210	Campbells bore (new)	b	windmill		7_05_2005	-30.66	134.75	151	
211	Welcome Well	w	diesel generator	wood	7_05_2005	-30.74	134.79	128	
212	Carters Well	w	windmill	wood	7_05_2005	-30.86	134.93	144	
213	North Well	w	windmill	wood	9_05_2005	-31.20	135.26	143	19
214	New Monties Well	w	windmill	wood	9_05_2005	-31.22	135.36	152	
215	Chanda Booka Well	b	windmill		9_05_2005	-31.27	135.41		
217	Mulga no 2	w	windmill	wood	10_05_2005	-30.84	135.52	132	15
218	Cooks Dam	w	solar submersible	wood	11_05_2005	-30.97	135.48	141	14.5
219	Charlotte Well	w	new windmill	wood	11_05_2005	-31.21	135.76	138	
220	North Swamp Well	w	windmill	cement	11_05_2005	-31.00	135.85		16.5

SampleID	Sample_Depth (m)	Temp (deg C)	Cond (uS/cm)	Eh (RmV)	pH	Dissolved_Oxygen (mg/L)	Sulfide (mg/L)	Fe2+ (mg/L)	HCO3 (mg/L)
G003		21.0	457		8.3				
G005		22.3	9150		7.3				
G007		22.9	3847		7.6				
G008		24.0	5970		8.0				
G010		22.0	18928		6.8				
G011		21.7	6960		6.9				
201		21.3	7130	263	6.9	4.93	0.01	0.04	266.0
202		22.7	7910	239	7.3	0.25	0.01	0.01	299.0
203		21.2	10230	164	7.3	3.40	0.01	0.01	351.5
204		22.4	21300	187	7.1	4.95	0.01	1.36	322.9
205		25.2	11920	230	7.1	4.93	0.01	0.04	589.4
206	29	24.3	14920	-29	8.2	0.74	0.16	0.04	712.7
207	14	23.2	2710	150	7.9	2.08	0.01	0.01	325.3
208	30	21.6	8100	167	7.6	0.14	0.01	0.07	296.1
209	20.5	21.8	6960	-28	7.5	0.81	0.50	0.09	614.4
210		24.0	7910	247	7.1	1.83	0.01	0.01	257.5
211		23.5	11950	235	7.4	5.60	0.01	0.03	219.7
212		22.8	11940	223	7.3	2.32	0.01	0.09	165.4
213	20.5	22.9	8630	232	7.3	3.90	0.01	0.01	291.1
214		21.6	11410	232	7.1	3.00	0.01	0.06	254.4
215		23.2	16200	241	7.1	2.33	0.01	0.01	274.6
217	15.5	20.7	4730	249	8.4	5.89	0.01	0.02	146.4
218	15	21.3	15060	247	7.7	6.60	0.01	0.01	198.9
219		22.6	3010	242	8.6	7.06	0.04	0.04	249.6
220		21.7	2650	256	8.1	8.50	0.01	0.02	372.2

Appendix 5.9. ICP-ES and IC data for multiple elements (groundwater)

Cation and Anion Analysis					08-Mar-05															
	Al	B	Ba	Ca	Cu	Fe	K	Li	Mg	Mn	Na	Si	Sr	Zn	F	Cl	Br	NO3	PO4	SO4
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
G003	0.014	0.110	0.065	27.7	0.004	0.007	9.21	0.057	6.12	0.073	55.3	3.09	0.127	0.003	0.15	56.4	0.11			10.5
G005	0.020	3.13	0.064	349	-0.003	0.232	46.0	-0.023	194	0.008	1338	30.2	8.19	0.249	1.1	2433	9	262		860
G007	0.018	1.22	0.332	138	-0.019	0.154	13.1	-0.013	47.3	0.002	576	44.6	1.11	0.063	0.7	991	2.4	79		148
G008	0.019	1.55	0.048	194	0.029	0.080	13.8	-0.017	84.8	0.006	955	35.5	1.93	0.353	1.1	1628	4.8	79		331
G010	0.017	5.71	0.031	275	0.059	1.35	79.9	-0.029	343	0.257	3526	22.2	5.62	0.736	3.3	6049	20.4	13		1004
G011	0.017	1.17	0.264	293	0.000	0.101	15.1	-0.023	156	0.003	918	46.8	2.68	0.020	1.3	2084	7	27		217
GD1	0.022	5.94	0.033	273	0.053	1.20	82.4	-0.027	335	0.254	3517	22.6	5.58	0.725						
GD2	0.016	3.04	0.063	340	0.008	0.291	42.1	-0.023	195	2.90	1310	28.1	5.27	3.48						
det limit (ppm)	0.10	0.50	0.01	0.10	0.02	0.05	0.20	0.20	0.10	0.02	0.10	0.50	0.01	0.05						

Cation and Anion Analysis					16/06/05															
	Al	**B**	**Ba**	**Ca**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Na**	**Si**	**Sr**	**Zn**	**F**	**Cl**	**Br**	**NO3**	**PO4**	**SO4**
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
201	-0.037	0.928	0.184	293	0.047	0.009	23.4	-0.038	162	-0.001	851	40.7	3.09	0.019	1.4	2076	8.1	27	0.00	230
202	-0.034	2.25	0.065	212	0.015	-0.003	31.6	-0.024	147	-0.001	1233	31.2	3.35	0.021	3.0	2313	11	59	0.00	393
203	-0.024	3.72	0.013	211	0.009	0.002	60.5	0.008	184	-0.001	1750	28.1	4.06	0.013	2.5	3236	15	77	0.00	835
204	-0.027	5.86	0.021	423	0.041	0.225	121	0.045	508	-0.001	3568	20.5	9.60	0.021	4.3	7037	24	77	0.00	1146
205	-0.025	2.91	0.023	199	0.020	0.040	68.7	0.007	202	0.183	2026	16.5	3.87	0.058	3.4	3929	19	7.9	0.00	616
206	-0.022	2.06	0.273	184	0.007	0.131	76.7	0.090	228	0.496	2756	19.8	3.40	-0.002	4.7	4731	24	10	0.00	519
207	-0.026	1.67	0.092	77.4	-0.008	-0.007	25.7	-0.036	19.5	-0.003	446	47.3	0.589	-0.006	0.71	579	3.6	125	0.00	119
208	-0.037	0.938	0.099	569	0.000	-0.006	50.3	-0.020	175	-0.001	845	25.0	3.54	0.019	0.37	2535	11	27	0.00	299
209	-0.033	0.810	0.091	185	-0.007	0.025	60.5	-0.034	145	0.675	1005	50.1	1.81	-0.005	0.63	2050	5.9	6.7	0.00	124
210	-0.036	1.97	-0.009	343	0.037	-0.008	44.7	0.056	168	-0.003	1049	27.4	5.00	-0.001	2.8	2255	12	135	0.00	527
211	-0.026	1.47	0.023	174	0.008	0.023	51.0	-0.004	181	-0.001	2024	26.4	2.19	0.326	1.5	3706	13	156	0.00	543
212	-0.028	2.72	0.061	582	0.035	0.014	28.8	0.005	213	-0.001	1637	30.4	7.47	0.083	0.65	3803	18	218	0.00	552
213	-0.034	1.78	0.019	268	0.004	-0.005	33.5	0.009	149	0.000	1299	27.6	3.36	-0.004	3.3	2589	11	103	0.00	426
214	-0.021	2.69	0.021	445	0.016	0.021	22.5	0.013	182	0.035	1724	15.4	5.78	0.023	2.6	3530	13	94	0.00	620
215	-0.029	4.22	0.031	428	0.038	0.006	34.2	0.053	296	0.000	2815	26.3	6.73	0.016	2.5	5187	19	70	0.00	754
216	-0.001	0.035	0.011	2.62	0.002	-0.007	1.34	-0.009	0.743	0.018	4.13	0.385	0.013	5.73	0.015	7.658	1.445	5.241	0.18	6.527
217	-0.036	0.853	0.083	192	-0.008	0.066	33.9	-0.009	83.0	0.158	609	30.4	2.67	0.014	0.74	1215	6.9	118	0.00	339
218	-0.024	4.40	0.067	491	0.009	0.005	64.5	0.100	305	0.000	2419	41.1	6.86	-0.009	1.7	4937	20	137	0.00	901
219	-0.034	0.715	0.176	117	0.001	0.069	19.4	-0.026	57.1	-0.003	393	41.3	1.47	0.053	0.72	760	3.2	99	0.00	115
220	-0.027	1.03	0.051	76.8	-0.001	0.004	40.1	-0.027	30.8	0.000	407	30.0	1.17	0.069	0.64	562	2.4	65	0.00	141
221	-0.001	0.028	0.003	0.050	-0.002	-0.006	0.063	-0.003	0.008	0.000	0.074	0.032	0.001	0.026	-0.01	0.14	0.00	0.03	0.01	0.02
222	-0.003	0.025	0.000	-0.012	-0.004	-0.007	0.053	-0.004	-0.015	-0.001	0.046	0.017	-0.001	0.001	-0.01	0.29	0.00	0.03	0.02	0.02
223	-0.032	0.939	0.044	77.7	-0.003	-0.004	40.8	-0.025	31.4	-0.002	410	28.2	1.09	0.059	0.66	564	2.4	66	0.00	140
224	-0.033	1.97	-0.009	345	0.037	-0.007	43.6	0.056	168	-0.001	1071	27.3	5.01	0.000	2.9	2276	13	135	0.00	532
225	-0.028	4.20	0.031	411	0.038	0.006	32.0	0.053	266	0.000	2755	26.1	6.69	0.020	2.1	5227	21	72	0.00	762
det limit(mg/L)	0.100	0.100	0.002	0.100	0.010	0.010	0.100	0.100	0.010	0.002	0.100	0.500	0.005	0.010						
Limit																				
%recovery range	99-101	97-107	100-104	95-100	100-102	98-102	94-108	106-110	94-102	101-104	99-103	92-100	97-99	101-102						
for spikes																				
samples spiked 220, 205,203, 204 and UP water																				
Sample 216 (rain water) run on IC with 500 uL loading loop, 5 mL sample size																				

Appendix 5.10. ICP-MS data for multiple elements (groundwater)

UNIVERSITY OF CANBERRA
ECOCHEMISTRY LABORATORY

Trace Elements in Borewater

Samples as received 21th April 20(From:- Dirk Kirste / Patrice de Caritat

Sample No.	Lab No.	Analyte	Li ug/L	Be ug/L	B ug/L	Al ug/L	Sc ug/L	V ug/L	Cr ug/L	Fe ug/L	Mn ug/L	Co ug/L	Ni ug/L	Cu ug/L	Zn ug/L	Ga ug/L	Ge ug/L	As ug/L	Rb ug/L	Sr ug/L	Y ug/L	Zr ug/L	Nb ug/L	Mo ug/L	Ag ug/L	Cd ug/L	Sn ug/L
G003	C050652	Conc. Mean	<1	<1	75	<1	<1	2	<1	4	61	<1	<1	1	1	<1	<1	<1	1	107	<1	<1	<1	<1	<1	<1	<1
G007	C050654	Conc. Mean	10	<1	598	<1	<1	36	<1	64	<1	<1	2	5	41	3	<1	3	8	1090	<1	<1	<1	1	<1	<1	<1
G008	C050655	Conc. Mean	7	<1	684	<1	<1	<1	<1	14	3	<1	3	28	228	<1	<1	1	9	1896	<1	<1	<1	1	<1	<1	<1
G005	C050653	Conc. Mean	<1	<1	2252	<1	<1	114	<1	261	<1	<1	18	25	356	<1	<1	<1	22	6071	<1	<1	<1	<1	<1	<1	<1
G010	C050656	Conc. Mean	76	<1	3988	<1	<1	<1	<1	1317	238	<1	19	58	725	<1	<1	<1	45	6518	<1	<1	<1	<1	<1	<1	<1
G011	C050657	Conc. Mean	<1	<1	790	<1	<1	5	<1	131	<1	<1	<1	24	46	<1	<1	<1	<1	3101	<1	<1	<1	<1	<1	<1	<1
GD 1	C050658	Conc. Mean	76	<1	3871	<1	<1	<1	<1	1292	236	<1	17	56	730	<1	<1	<1	44	6492	<1	<1	<1	<1	<1	<1	<1
GD 2	C050659	Conc. Mean	<1	<1	2351	<1	<1	110	<1	250	<1	<1	17	21	339	<1	<1	<1	22	6095	<1	<1	<1	<1	<1	<1	<1

Sample No.	Lab No.	Analyte	Sb ug/L	Cs ug/L	Ba ug/L	La ug/L	Ce ug/L	Pr ug/L	Nd ug/L	Sm ug/L	Eu ug/L	Gd ug/L	Tb ug/L	Gd ug/L	Dy ug/L	Ho ug/L	Er ug/L	Yb ug/L	Lu ug/L	Hf ug/L	Ta ug/L	W ug/L	Pb ug/L	Bi ug/L	Th ug/L	U ug/L
G003	C050652	Conc. Mean	<1	<1	55	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
G007	C050654	Conc. Mean	<1	<1	165	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3
G008	C050655	Conc. Mean	<1	<1	24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	10
G005	C050653	Conc. Mean	<1	<1	47	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	24	<1	<1	10
G010	C050656	Conc. Mean	<1	<1	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	6
G011	C050657	Conc. Mean	<1	<1	179	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
GD 1	C050658	Conc. Mean	<1	<1	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	6
GD 2	C050659	Conc. Mean	<1	<1	47	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	9

UNIVERSITY OF CANBERRA
ECOCHEMISTRY LABORATORY

Trace Elements in Borewater

Samples as received 6th June 2005 **From:- Dirk Kirste / Amy Kernich**

		Analyte	Li	Be	B	Al	Sc	V	Cr	Fe	Mn	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	Cd	Sn
		Mass	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
201 FA	**C050893**	Conc. Mean	3	<1.0	641	1	13	2	<1.0	<1.0	2	<1.0	<1.0	33	23	<1.0	<1.0	<1.0	5	3821	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
202 FA	**C050894**	Conc. Mean	9	<1.0	1715	<1.0	7	<1.0	<1.0	<1.0	<1.0	<1.0	1	10	16	<1.0	<1.0	<1.0	7	3834	<1.0	<1.0	<1.0	3	<1.0	<1.0	<1.0
203 FA	**C050895**	Conc. Mean	18	<1.0	2787	<1.0	6	14	<1.0	<1.0	<1.0	<1.0	<1.0	3	8	<1.0	<1.0	4	14	4804	<1.0	<1.0	<1.0	3	<1.0	<1.0	<1.0
204 FA	**C050896**	Conc. Mean	36	<1.0	3346	<1.0	5	3	<1.0	85	4	<1.0	2	15	12	<1.0	<1.0	5	14	11403	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0
205 FA	**C050897**	Conc. Mean	18	<1.0	1715	<1.0	4	<1.0	<1.0	3	160	<1.0	<1.0	7	25	<1.0	<1.0	<1.0	11	4133	<1.0	<1.0	<1.0	3	<1.0	<1.0	<1.0
206 FA	**C050898**	Conc. Mean	49	<1.0	1197	2	4	5	<1.0	38	516	<1.0	1	2	4	<1.0	<1.0	2	8	4296	<1.0	1	<1.0	3	<1.0	<1.0	<1.0
207 FA	**C050899**	Conc. Mean	2	<1.0	1107	<1.0	10	13	<1.0	<1.0	<1.0	<1.0	<1.0	1	7	<1.0	<1.0	6	4	622	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
208 FA	**C050900**	Conc. Mean	8	<1.0	495	<1.0	5	<1.0	<1.0	<1.0	5	<1.0	<1.0	4	14	<1.0	<1.0	2	5	4047	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
209 FA	**C050901**	Conc. Mean	3	<1.0	333	<1.0	10	12	<1.0	<1.0	624	<1.0	<1.0	<1.0	3	<1.0	<1.0	<1.0	3	1967	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
210 FA	**C050902**	Conc. Mean	37	<1.0	1093	<1.0	5	<1.0	<1.0	<1.0	<1.0	<1.0	1	19	6	<1.0	<1.0	3	8	5466	<1.0	<1.0	<1.0	12	<1.0	<1.0	<1.0
211 FA	**C050903**	Conc. Mean	13	<1.0	598	<1.0	5	5	<1.0	<1.0	<1.0	<1.0	<1.0	3	212	<1.0	<1.0	1	9	2202	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0
212 FA	**C050904**	Conc. Mean	16	<1.0	1363	<1.0	7	7	<1.0	<1.0	3	<1.0	1	15	33	<1.0	<1.0	4	8	8727	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0
213 FA	**C050905**	Conc. Mean	21	<1.0	863	<1.0	6	15	<1.0	<1.0	3	<1.0	<1.0	3	5	<1.0	<1.0	2	7	3773	<1.0	<1.0	<1.0	4	<1.0	<1.0	<1.0
214 FA	**C050906**	Conc. Mean	19	<1.0	1284	2	4	<1.0	<1.0	<1.0	24	<1.0	2	5	13	<1.0	<1.0	2	6	6635	<1.0	<1.0	<1.0	4	<1.0	<1.0	<1.0
215 FA	**C050907**	Conc. Mean	41	<1.0	1794	<1.0	7	9	<1.0	<1.0	2	<1.0	2	15	14	<1.0	<1.0	4	9	7270	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0
216 FA	**C050908**	Conc. Mean	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	10	<1.0	3	5	5262	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
217 FA	**C050909**	Conc. Mean	15	<1.0	319	<1.0	7	3	<1.0	27	149	<1.0	2	2	17	<1.0	<1.0	<1.0	19	3160	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
218 FA	**C050910**	Conc. Mean	63	<1.0	1923	4	11	8	<1.0	<1.0	<1.0	<1.0	3	4	5	<1.0	<1.0	5	31	8017	<1.0	<1.0	<1.0	4	<1.0	<1.0	<1.0
219 FA	**C050911**	Conc. Mean	8	<1.0	210	<1.0	11	65	<1.0	31	3	<1.0	1	9	40	<1.0	<1.0	5	8	1521	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0
220 FA	**C050912**	Conc. Mean	5	<1.0	368	<1.0	7	113	<1.0	<1.0	<1.0	<1.0	<1.0	5	37	<1.0	<1.0	12	8	1228	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0
221 FA	**C050913**	Conc. Mean	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
222 FA	**C050914**	Conc. Mean	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
223 FA	**C050915**	Conc. Mean	5	<1.0	317	<1.0	6	111	<1.0	<1.0	<1.0	<1.0	<1.0	4	35	<1.0	<1.0	12	8	1183	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0
224 FA	**C050916**	Conc. Mean	38	<1.0	833	<1.0	6	1	<1.0	<1.0	<1.0	<1.0	1	23	8	<1.0	<1.0	3	9	5353	<1.0	<1.0	<1.0	12	<1.0	<1.0	<1.0
225 FA	**C050917**	Conc. Mean	41	<1.0	1544	1	7	7	<1.0	<1.0	2	1	3	15	14	<1.0	<1.0	3	9	6934	<1.0	<1.0	<1.0	4	<1.0	<1.0	<1.0

		Analyte	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Gd	Dy	Ho	Er	Yb	Lu	Hf	Ta	W	Pb	Bi	Th	U
		Mass	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
201 FA	**C050893**	Conc. Mean	<1.0	<1.0	219	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2
202 FA	**C050894**	Conc. Mean	<1.0	<1.0	81	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4
203 FA	**C050895**	Conc. Mean	<1.0	<1.0	22	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7
204 FA	**C050896**	Conc. Mean	<1.0	<1.0	30	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	10
205 FA	**C050897**	Conc. Mean	<1.0	1	31	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
206 FA	**C050898**	Conc. Mean	<1.0	<1.0	320	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	13	<1.0	<1.0	<1.0	3
207 FA	**C050899**	Conc. Mean	<1.0	<1.0	106	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1
208 FA	**C050900**	Conc. Mean	<1.0	<1.0	119	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	9
209 FA	**C050901**	Conc. Mean	<1.0	<1.0	106	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
210 FA	**C050902**	Conc. Mean	<1.0	<1.0	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	26
211 FA	**C050903**	Conc. Mean	<1.0	<1.0	30	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
212 FA	**C050904**	Conc. Mean	<1.0	<1.0	74	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2
213 FA	**C050905**	Conc. Mean	<1.0	<1.0	35	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	17
214 FA	**C050906**	Conc. Mean	<1.0	<1.0	29	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8
215 FA	**C050907**	Conc. Mean	<1.0	<1.0	38	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11
216 FA	**C050908**	Conc. Mean	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0
217 FA	**C050909**	Conc. Mean	<1.0	<1.0	111	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
218 FA	**C050910**	Conc. Mean	<1.0	<1.0	79	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
219 FA	**C050911**	Conc. Mean	<1.0	<1.0	192	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3
220 FA	**C050912**	Conc. Mean	<1.0	<1.0	63	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4
221 FA	**C050913**	Conc. Mean	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
222 FA	**C050914**	Conc. Mean	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
223 FA	**C050915**	Conc. Mean	<1.0	<1.0	62	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3
224 FA	**C050916**	Conc. Mean	<1.0	<1.0	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	30
225 FA	**C050917**	Conc. Mean	<1.0	<1.0	38	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11

Appendix 5.11. Oxygen and deuterium isotope data (groundwater)

Sample	^{18}O	Repeat	2H '	Repeat
G003	-2.8		-26	
G005	-3.9	-2.4	-34	-33
G007	-4.6		-35	
G008	-4.7		-34	
G010	-4.5		-33	
G011	-4.8		-33	
201	-5.2		-26	
202	-5.4		-35	
203	-4.3		-22	-21
204	-4.6		-28	-28
205	-5.2		-27	
206	-0.9		-9	
207	-4.4	-4.2	-21	
208	-3.3		-18	
209	-3.4		-18	
210	-4.2		-29	
211	-4.6		-29	
212	-3.3		-23	
213	-4.6		-29	
214F	-3.9		-26	
214NF	-3.8		-29	-28
215F	-3.3		-22	
215NF	-3.5	-3.5	-22	
216	0.6		11	10
217F	-5.8	-5.7	-38	
217NF	-5.9		-39	
218	-4.7		-33	
219	-4.5		-36	
220	-2.3	-2.3	-16	

NF: Not filtered (default)
F: Filtered 0.45 um

Appendix 5.12. Sulfur and oxygen isotope data (groundwater)

ISOTOPE SCIENCE LABORATORY
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University of Calgary
2500 University Dr. NW, Calgary, Alta.
T2N-1N4

Results

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Name: Patrice de Caritat
Address: CRC LEME c/- Geoscience Australia
GPO Box 378
Canberra ACT 2601
Australia

IN December 20, 2004
OUT January 13, 2005

Project: Gawler groundwaters

#	SAMPLE NAME	$\delta^{34}S_{BaSO4}$	$\delta^{18}O_{BaSO4}$	%O	Comments
1	G005S	15.8	8.7	26.0	BASO4 precipitate
2	G007S	15.5	9.6	26.4	BASO4 precipitate
3	G008S	16.3	9.1	25.4	BASO4 precipitate
4	G010S	18.4	9.9	29.9	BASO4 precipitate
5	G011S	18.5	8.7	26.9	BASO4 precipitate
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					5 samples in total

All results reported in the usual permil notation relative to international CDT and SMOW stds
Precision and accuracy as 1 sigma (n=10) lab stds = 0.5 for d34S
0.5 for d18O

ISOTOPE SCIENCE LABORATORY
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T2N-1N4

Results
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Name: Patrice de Caritat
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GPO Box 378
Canberra ACT 2601
Australia

IN Sent 3 June 2005
OUT June 29, 2005

Project: Gawler groundwaters

#	SAMPLE NAME	$\delta^{34}S_{BaSO4}$	$\delta^{18}O_{BaSO4}$	%O	Comments/repeats
1	201	18.5	9.0	30.9	
2	202	17.5	9.0	28.4	
3	203	17.7	9.0	30.4	
4	204	17.2	9.5	28.8	
5	205	18.8	13.5	30.2	
6	206	28.4	14.3	28.7	
7	207	17.2	7.0	39.7	
8	208	17.0	9.2	29.9	
9	209	44.6	16.7	33.0	45.2
10	210	16.2	8.5	28.9	
11	211	15.7	10.6	30.2	
12	212	16.4	8.2	28.8	
13	213	17.2	10.2	30.3	
14	214	16.5	9.6	30.5	
15	215	16.5	9.8	28.5	
16	217	16.0	9.6	31.1	
17	218	15.6	9.2	30.6	
18	219	16.9	9.3	30.6	
19	220	15.9	11.5	30.2	

d34S-CDT and d18O-SMOW of BaSO4 by EA-IRMS (Prism) & TC/EA (Delta+)

All results reported in the usual permil notation relative to IAEA stds

IAEA values used to normalize data

	34S	18O
NBS 127	20.3	9.3
IAEA S05	0.49	12.0
IAEA S06	-34.05	-11.0

Precision and accuracy as 1 sigma of (n=10) lab standards is: 0.3 for d34S
0.2 for d18O

Appendix 5.13. Carbon and oxygen isotope data (groundwater)

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University of Calgary
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T2N-1N4

Results
Contact : *S. Taylor*
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Name: Patrice de Caritat
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GPO Box 378
Canberra ACT 2601
Australia

IN December 20, 2004
OUT January 13, 2005

Project: Gawler groundwaters

#	SAMPLE NAME	$\delta^{13}C_{BaCO3}$	$\delta^{18}O_{BaCO3}$	Comments
1	G003C	4.5	-8.8	BACO3 precipitate
2	G005C	-0.2	-13.3	BACO3 precipitate
3	G007C	0.0	-12.2	BACO3 precipitate
4	G008C	-0.4	-10.3	BACO3 precipitate
5	G010C	-3.6	-12.7	BACO3 precipitate
6	G011C	-1.1	-13.9	BACO3 precipitate
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				6 Samples in total

All results reported in the usual permil notation relative to international PDB std
Precision and accuracy as 1 sigma (n=10) lab stds = 0.5 for d13C
0.5 for d18O
Note: d18O values are uncorrected for phosphoric acid fractionation

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Results
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Australia

IN Sent 3 June 2005
OUT June 29, 2005

Project: Gawler groundwaters

#	SAMPLE NAME	$\delta^{13}C_{SrCO3}$	$\delta^{18}O_{SrCO3}$	Comments
1	201	-10.2	-8.9	
2	202	-8.8	-10.4	
3	203	-9.2	-5.0	
4	204	-7.3	-3.3	
5	205	-11.6	-4.9	
6	206	-8.9	0.3	
7	207	-9.5	-3.3	
8	208	-10.9	-3.6	
9	209	-10.9	-2.2	
10	210	-10.0	-4.5	
11	211	-9.0	-5.5	
12	212	-9.1	-5.9	
13	213	-10.6	-2.8	
14	214	-6.6	-3.9	
15	215	-6.3	-3.7	

d13C-PDB and d18O-PDB of calcite/dolomite (Y-tube + VG 903)

All results reported in the usual permil notation relative to IAEA stds

IAEA values used to normalize data

	13C	18O
NBS 18	-5.0	-23.0
NBS 19	2.0	-2.2
IAEA CO-1	2.5	-2.4
IAEA CO-8	-5.8	-22.7
IAEA CO-9	-47.1	-15.3

Precision and accuracy as 1 sigma of (n=10) lab stds are: 0.2 for 13C
0.2 for 18O

Appendix 5.14. Gold (and other elements by carbon sachet) data (groundwater)

Sample	Au	Pt	Pd	Bi	Mo	W	Ag	Cu	Ni	WT822	Water Vol
UNITS	ppb	ppb	ppb	ppb	ppm	ppm	ppb	ppm	ppm	Grams	Litres
2004 851 007	0.5	0.5	0.5	0.5	1.2	0.08	0.5	1	0.05	1.1985	1
2004 851 010	0.5	0.5	0.5	0.5	3.5	0.11	16	13.5	0.2	1.2721	1
2005 851 005	0.5	0.5	0.5	0.5	0.8	0.07	0.5	0.25	0.2	1.2599	1
2005 851 008	0.5	0.5	0.5	0.5	2	0.14	33	1.5	0.1	1.231	1
2005 851 011	0.5	0.5	0.5	0.5	0.8	0.07	11	1	0.05	1.3273	1
2005 851 201	0.5	0.5	0.5	0.5	1.1	0.13	13	1	0.2	1.2458	1
2005 851 202	0.5	0.5	0.5	0.5	4.1	0.12	12	2.5	0.1	1.2527	1
2005 851 203	0.5	0.5	0.5	0.5	4	0.12	12	1.5	0.4	1.2367	1
2005 851 204	0.5	0.5	0.5	3	4.9	0.11	6	2	0.5	1.1908	1
2005 851 205	0.5	0.5	0.5	0.5	3.5	0.17	3	2	0.2	1.1765	1
2005 851 206	0.5	0.5	0.5	0.5	0.5	0.16	9	1	0.4	1.3041	1
2005 851 207	0.5	0.5	0.5	2	0.8	0.17	8	0.5	0.05	1.2253	1
2005 851 208	0.5	0.5	0.5	8	1.2	0.07	55	1	0.2	1.249	1
2005 851 209	0.5	0.5	0.5	2	0.1	0.06	0.5	1	0.4	1.2853	1
2005 851 210	0.5	0.5	0.5	0.5	13.8	0.07	19	2	0.2	1.2557	1
2005 851 211	0.5	0.5	0.5	0.5	3.5	0.06	3	1	1.2	1.1801	1
2005 851 212	0.5	0.5	0.5	0.5	1.7	0.09	0.5	1.5	0.2	1.2895	1
2005 851 213	0.5	0.5	0.5	2	1.8	0.03	12	4	0.2	1.2717	1
2005 851 214	0.5	0.5	0.5	3	4.1	0.18	35	3	0.2	1.2285	1
2005 851 215	0.5	0.5	0.5	27	5	0.08	101	5	0.4	1.2814	1
2005 851 230	0.5	0.5	0.5	1	0.1	0.06	97	5	0.5	1.2399	1
2005 851 231	0.5	0.5	0.5	2	0.1	0.02	0.5	11	0.6	1.1901	1

I have modified the values that were below detection limits, to half the detection limits, and adjusted Ni values due to a slightly higher blank
Values below detection are coloured green
All you need to do to get your final values is put the amount of water in the blue column in litres and it should all work fine.

Au	Pt	Pd	Bi	Mo	W	Ag	Cu	Ni
ppt	ppt	ppt	ppt	ppb	ppb	ppb	ppb	ppb
0.59925	0.59925	0.59925	0.59925	1.4382	0.09588	0.59925	1.1985	0.059925
0.63605	0.63605	0.63605	0.63605	4.45235	0.139931	20.3536	17.17335	0.25442
0.62995	0.62995	0.62995	0.62995	1.00792	0.088193	0.62995	0.314975	0.25198
0.6155	0.6155	0.6155	0.6155	2.462	0.17234	40.623	1.8465	0.1231
0.66365	0.66365	0.66365	0.66365	1.06184	0.092911	14.6003	1.3273	0.066365
0.6229	0.6229	0.6229	0.6229	1.37038	0.161954	16.1954	1.2458	0.24916
0.62635	0.62635	0.62635	0.62635	5.13607	0.150324	15.0324	3.13175	0.12527
0.61835	0.61835	0.61835	0.61835	4.9468	0.148404	14.8404	1.85505	0.49468
0.5954	0.5954	0.5954	3.5724	5.83492	0.130988	7.1448	2.3816	0.5954
0.58825	0.58825	0.58825	0.58825	4.11775	0.200005	3.5295	2.353	0.2353
0.65205	0.65205	0.65205	0.65205	0.65205	0.208656	11.7369	1.3041	0.52164
0.61265	0.61265	0.61265	2.4506	0.98024	0.208301	9.8024	0.61265	0.061265
0.6245	0.6245	0.6245	9.992	1.4988	0.08743	68.695	1.249	0.2498
0.64265	0.64265	0.64265	2.5706	0.12853	0.077118	0.64265	1.2853	0.51412
0.62785	0.62785	0.62785	0.62785	17.32866	0.087899	23.8583	2.5114	0.25114
0.59005	0.59005	0.59005	0.59005	4.13035	0.070806	3.5403	1.1801	1.41612
0.64475	0.64475	0.64475	0.64475	2.19215	0.116055	0.64475	1.93425	0.2579
0.63585	0.63585	0.63585	2.5434	2.28906	0.038151	15.2604	5.0868	0.25434
0.61425	0.61425	0.61425	3.6855	5.03685	0.22113	42.9975	3.6855	0.2457
0.6407	0.6407	0.6407	34.5978	6.407	0.102512	129.4214	6.407	0.51256
0.61995	0.61995	0.61995	1.2399	0.12399	0.074394	120.2703	6.1995	0.61995
0.59505	0.59505	0.59505	2.3802	0.11901	0.023802	0.59505	13.0911	0.71406

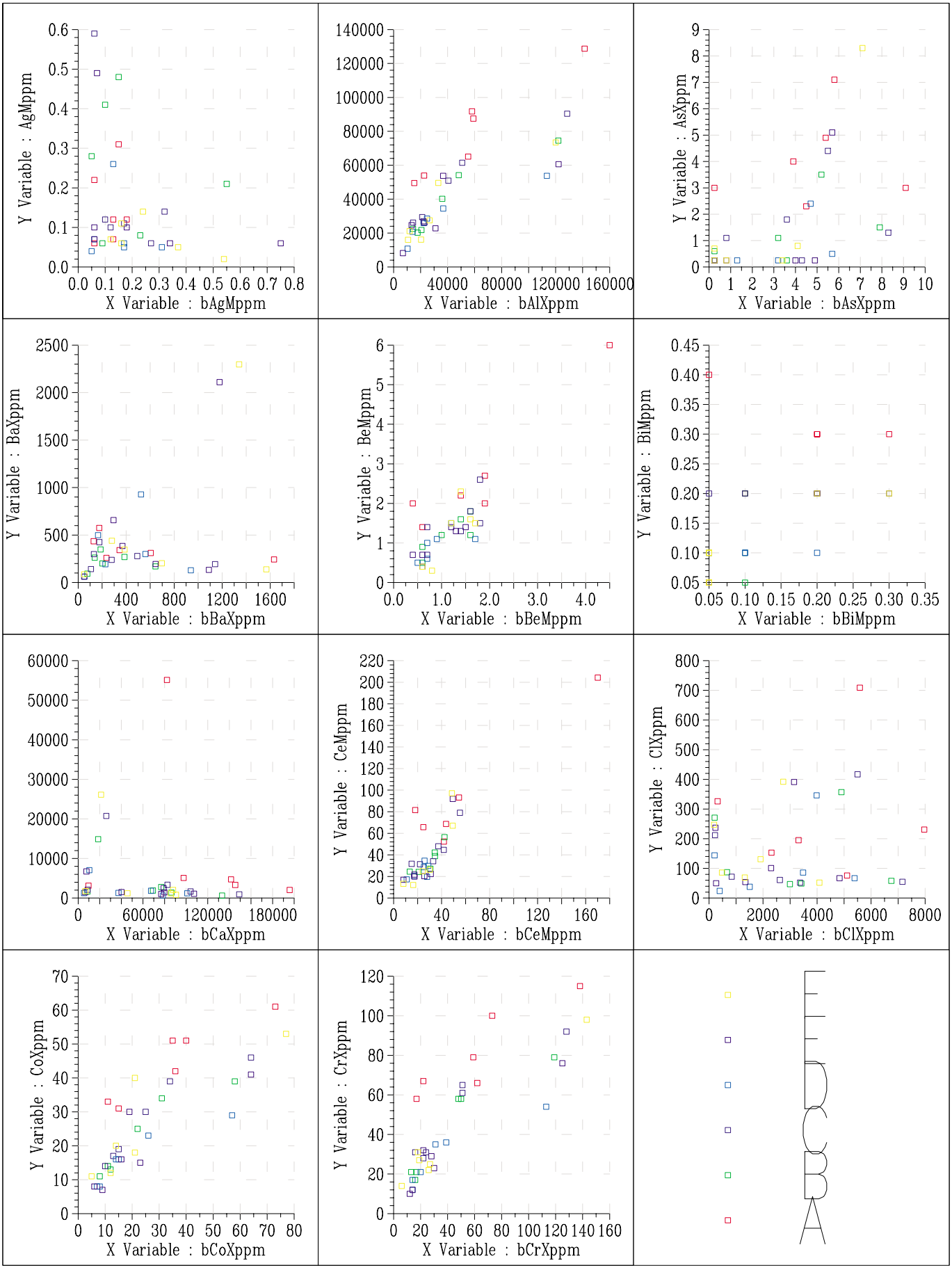
Same, but with 1/2DL values converted back to <DL:

Au	Pt	Pd	Bi	Mo	W	Ag	Cu	Ni
ppt	ppt	ppt	ppt	ppb	ppb	ppb	ppb	ppb
<1.2	<1.2	<1.2	<1.2	1.4382	0.09588	<1.2	1.1985	<0.12
<1.2	<1.2	<1.2	<1.2	4.45235	0.139931	20.3536	17.17335	0.25442
<1.2	<1.2	<1.2	<1.2	1.00792	0.088193	<1.2	<0.6	0.25198
<1.2	<1.2	<1.2	<1.2	2.462	0.17234	40.623	1.8465	0.1231
<1.2	<1.2	<1.2	<1.2	1.06184	0.092911	14.6003	1.3273	<0.12
<1.2	<1.2	<1.2	<1.2	1.37038	0.161954	16.1954	1.2458	0.24916
<1.2	<1.2	<1.2	<1.2	5.13607	0.150324	15.0324	3.13175	0.12527
<1.2	<1.2	<1.2	<1.2	4.9468	0.148404	14.8404	1.85505	0.49468
<1.2	<1.2	<1.2	3.5724	5.83492	0.130988	7.1448	2.3816	0.5954
<1.2	<1.2	<1.2	<1.2	4.11775	0.200005	3.5295	2.353	0.2353
<1.2	<1.2	<1.2	<1.2	0.65205	0.208656	11.7369	1.3041	0.52164
<1.2	<1.2	<1.2	2.4506	0.98024	0.208301	9.8024	0.61265	<0.12
<1.2	<1.2	<1.2	9.992	1.4988	0.08743	68.695	1.249	0.2498
<1.2	<1.2	<1.2	2.5706	0.12853	0.077118	<1.2	1.2853	0.51412
<1.2	<1.2	<1.2	<1.2	17.32866	0.087899	23.8583	2.5114	0.25114
<1.2	<1.2	<1.2	<1.2	4.13035	0.070806	3.5403	1.1801	1.41612
<1.2	<1.2	<1.2	<1.2	2.19215	0.116055	<1.2	1.93425	0.2579
<1.2	<1.2	<1.2	2.5434	2.28906	0.038151	15.2604	5.0868	0.25434
<1.2	<1.2	<1.2	3.6855	5.03685	0.22113	42.9975	3.6855	0.2457
<1.2	<1.2	<1.2	34.5978	6.407	0.102512	129.4214	6.407	0.51256
<1.2	<1.2	<1.2	1.2399	0.12399	0.074394	120.2703	6.1995	0.61995
<1.2	<1.2	<1.2	2.3802	0.11901	0.023802	<1.2	13.0911	0.71406

Appendix 5.15. Grain size scatter and ternary plots (regolith)

Explanation of subgroups
A: <75 um fraction
B: 75-180 um fraction
C: <180 um fraction
D: 180-500 um fraction
E: 500-1000 um fraction
F: 1000-2000 um fraction

S01: Site 1 Reconnaissance trip (2004851001)
S02: Site 2 Reconnaissance trip (2004851002)
S04: Site 4 Reconnaissance trip (2004851004)
S06: Site 6 Reconnaissance trip (2004851006)
S09: Site 9 Reconnaissance trip (2004851009)
S12: Site 12 Reconnaissance trip (2004851012)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Y Variable : AlXppm
X Variable : bAlXppm
Y Variable : AsXppm
X Variable : bAsXppm
Y Variable : BaXppm
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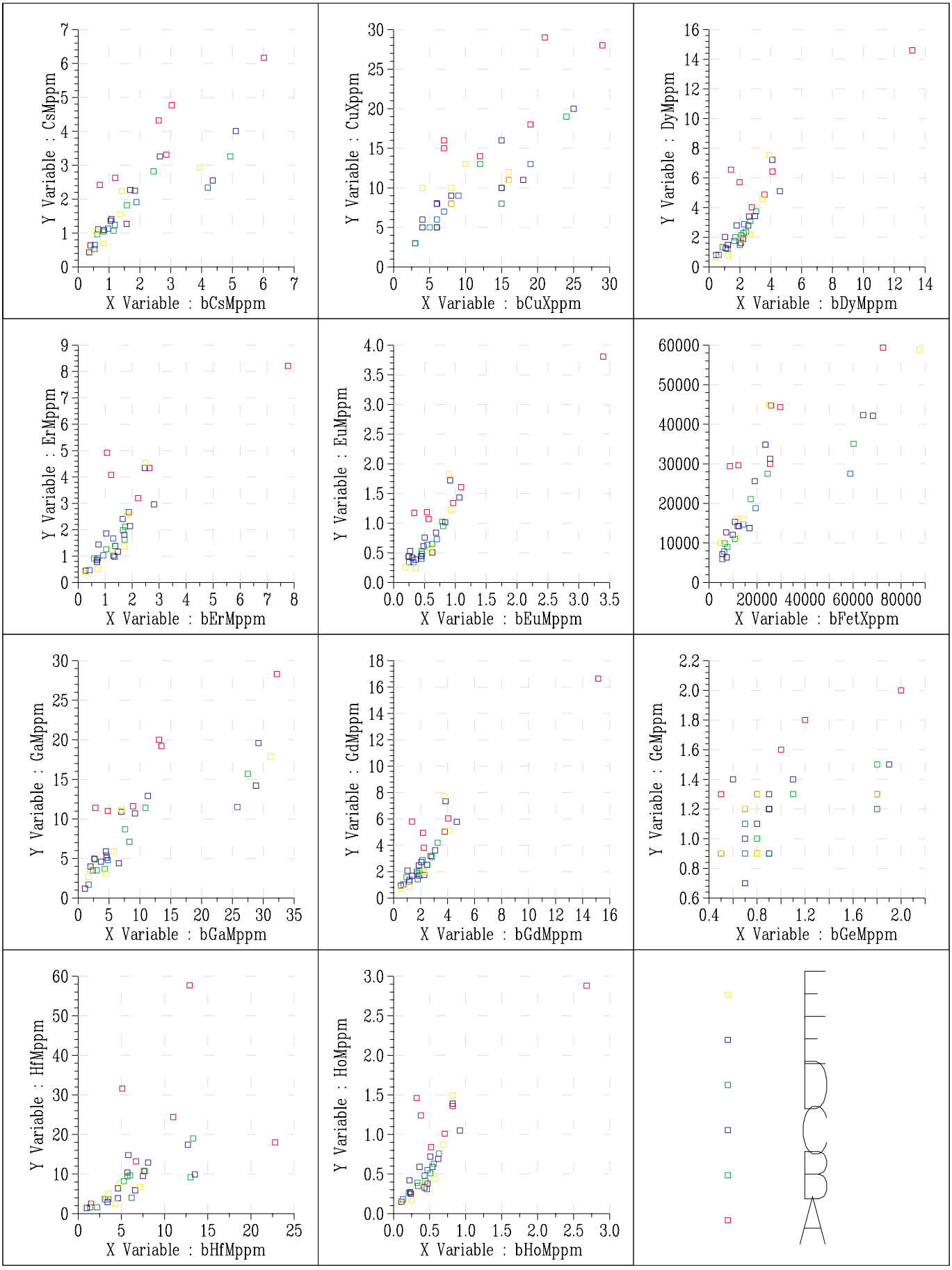
Y Variable : BeMppm
X Variable : bBeMppm
Y Variable : BiMppm
X Variable : bBiMppm
Y Variable : CaXppm
X Variable : bCaXppm
Y Variable : CeMppm
X Variable : bCeMppm
Y Variable : ClXppm
X Variable : bClXppm
Y Variable : CoXppm
X Variable : bCoXppm
Y Variable : CrXppm
X Variable : bCrXppm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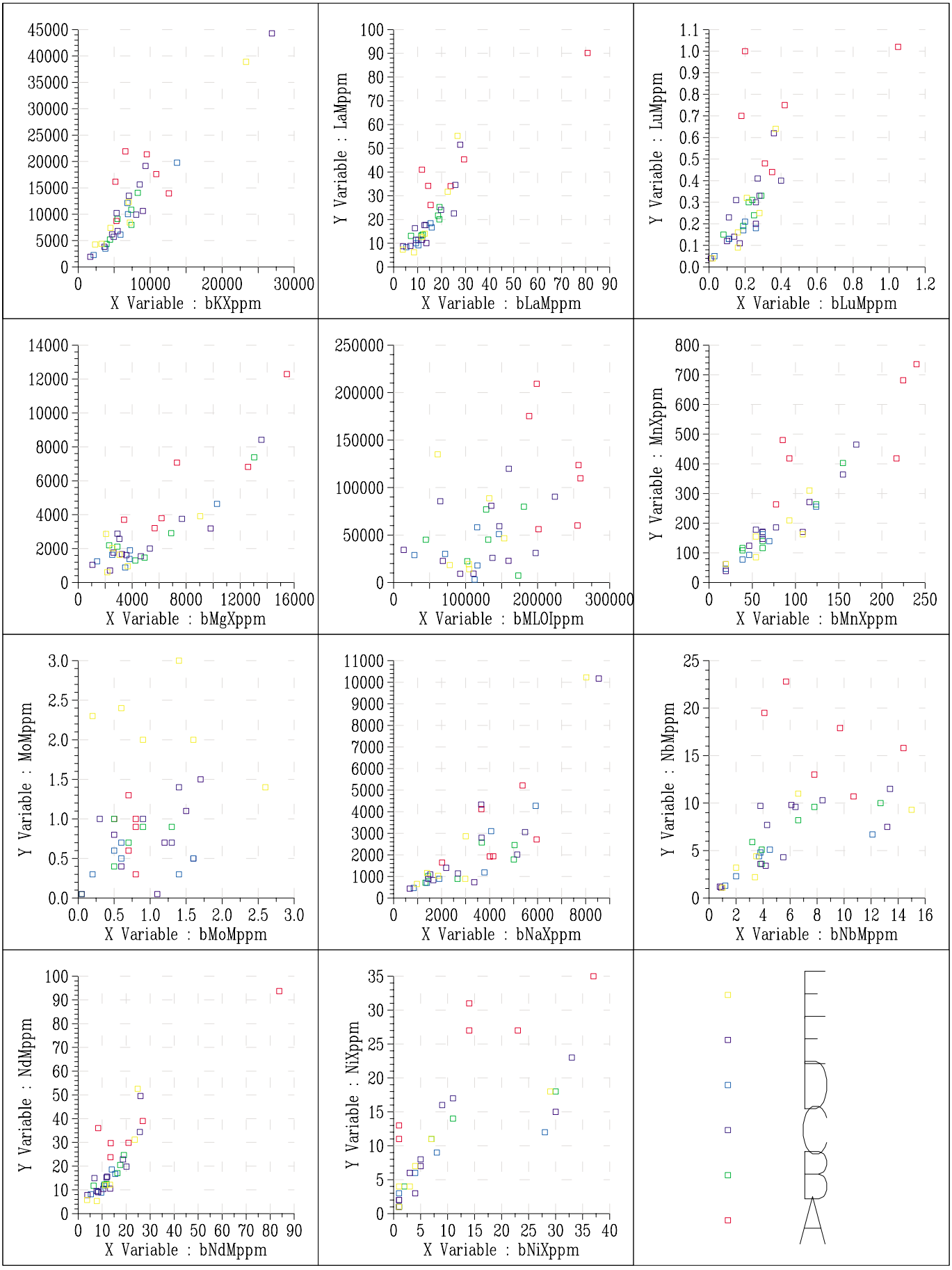
X Variable : bCsMppm
Y Variable : CuXppm
X Variable : bCuXppm
Y Variable : DyMppm
X Variable : bDyMppm
Y Variable : ErMppm
X Variable : bErMppm
Y Variable : EuMppm
X Variable : bEuMppm
X Variable : bFetXppm
Y Variable : GaMppm
X Variable : bGaMppm
Y Variable : GdMppm
X Variable : bGdMppm
Y Variable : GeMppm
X Variable : bGeMppm
Y Variable : HfMppm
X Variable : bHfMppm
Y Variable : HoMppm
X Variable : bHoMppm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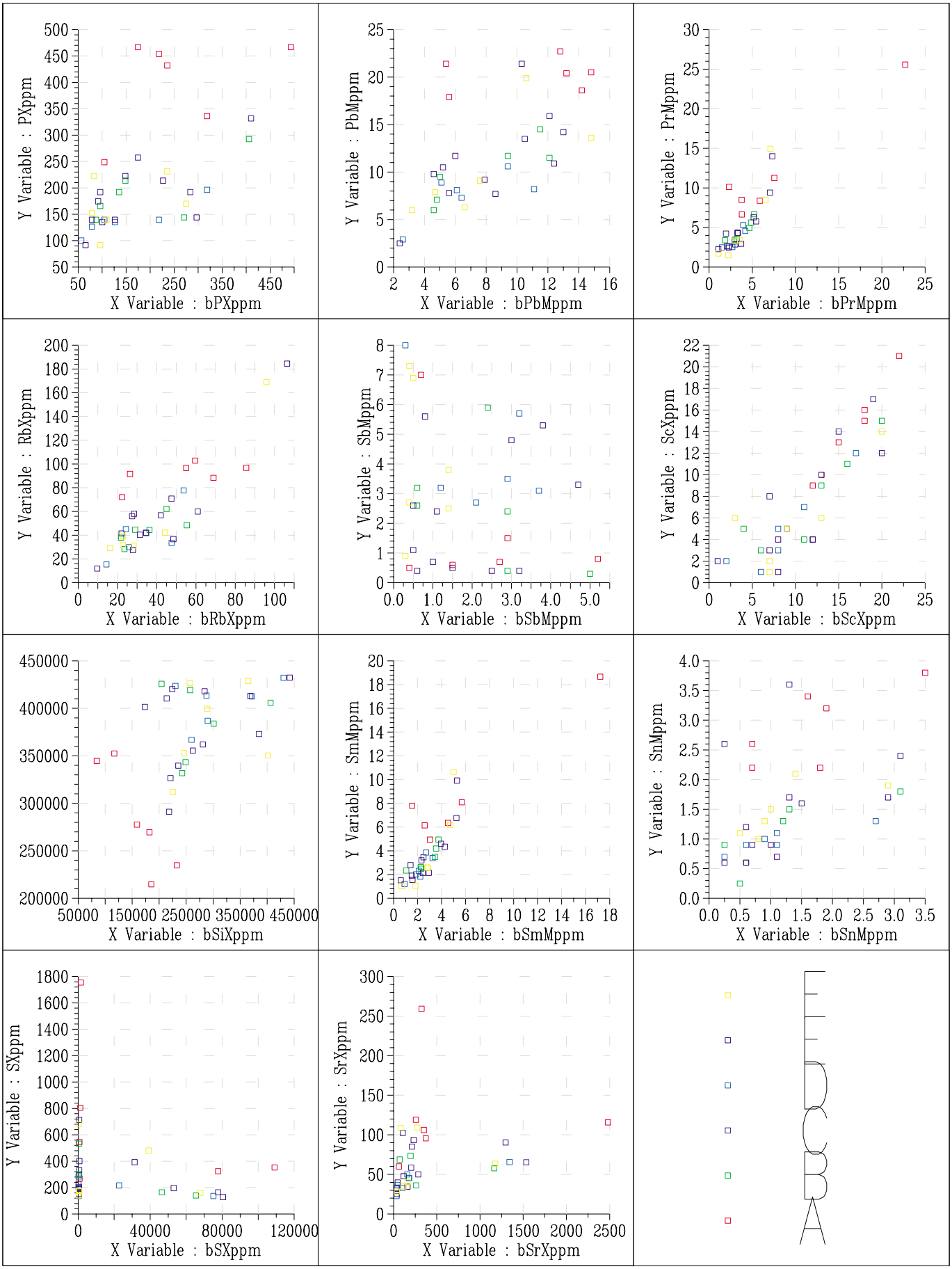
Y Variable : LaMppm
X Variable : bLaMppm
Y Variable : LuMppm
X Variable : bLuMppm
X Variable : bMgXppm
X Variable : bMLOIppm
Y Variable : MnXppm
X Variable : bMnXppm
Y Variable : MoMppm
X Variable : bMoMppm
X Variable : bNaXppm
Y Variable : NbMppm
X Variable : bNbMppm
Y Variable : NdMppm
X Variable : bNdMppm
Y Variable : NiXppm
X Variable : bNiXppm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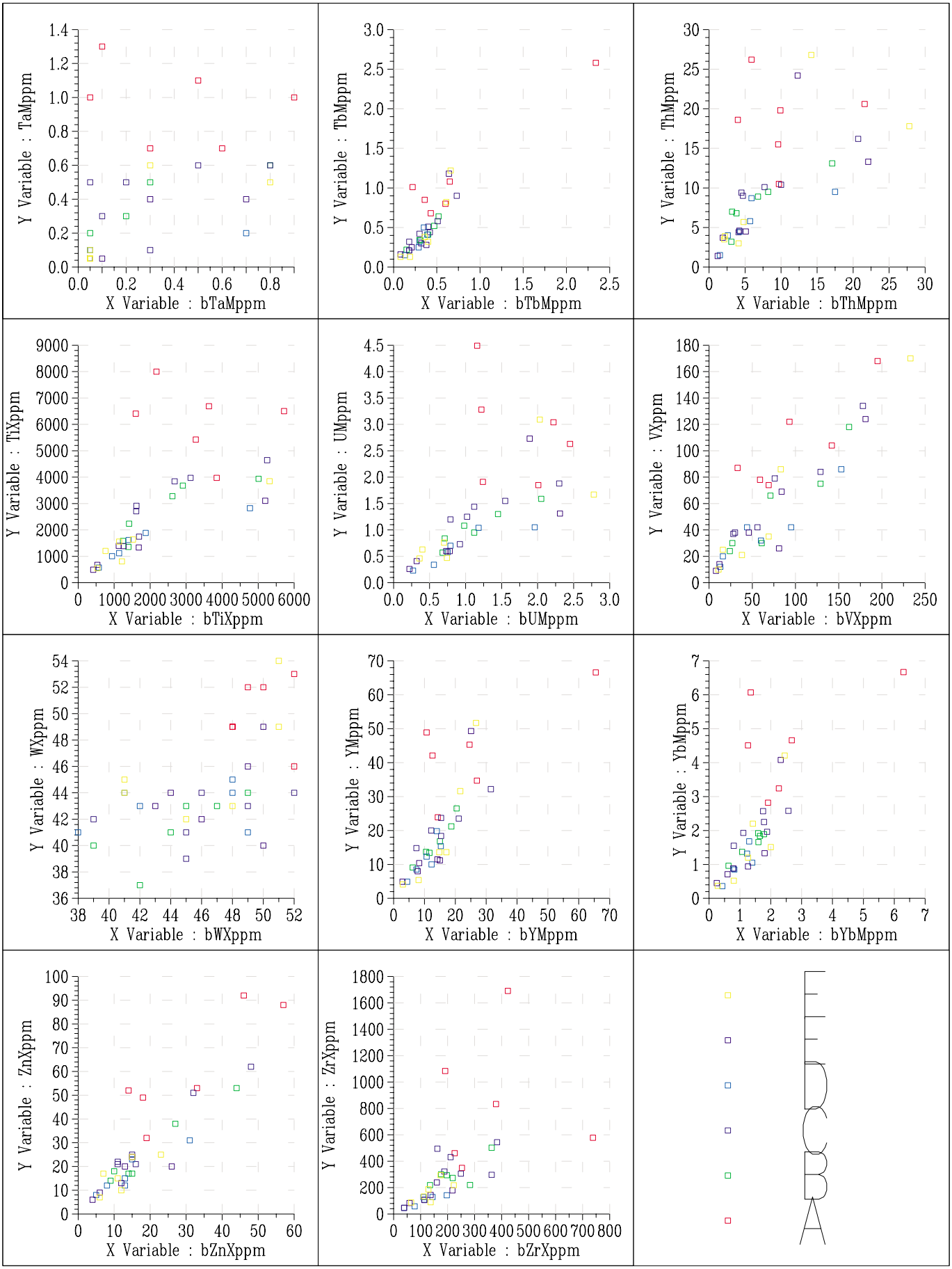
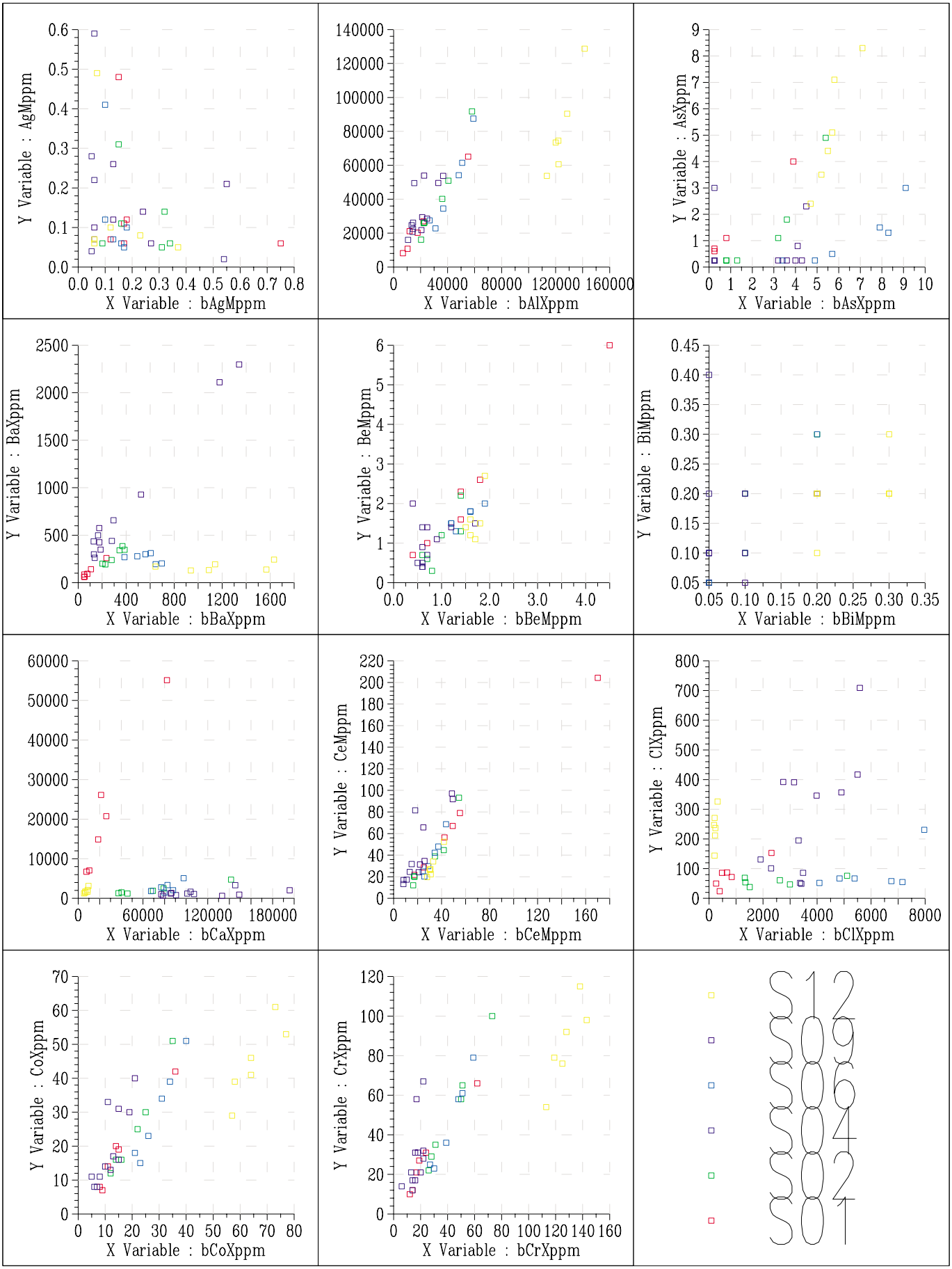
X Variable : bPXppm
Y Variable : PbMppm
X Variable : bPbMppm
Y Variable : PrMppm
X Variable : bPrMppm
Y Variable : RbXppm
X Variable : bRbXppm
Y Variable : SbMppm
X Variable : bSbMppm
Y Variable : ScXppm
X Variable : bScXppm
Y Variable : SiXppm
X Variable : bSiXppm
Y Variable : SmMppm
X Variable : bSmMppm
Y Variable : SnMppm
X Variable : bSnMppm
Y Variable : SXppm
X Variable : bSXppm
Y Variable : SrXppm
X Variable : bSrXppm


Y Variable : TaMppm
X Variable : bTaMppm
Y Variable : TbMppm
X Variable : bTbMppm
Y Variable : ThMppm
X Variable : bThMppm
Y Variable : TiXppm
X Variable : bTiXppm
Y Variable : UMppm
X Variable : bUMppm
Y Variable : VXppm
X Variable : bVXppm
Y Variable : WXppm
X Variable : bWXppm
Y Variable : YMppm
X Variable : bYMppm
Y Variable : YbMppm
X Variable : bYbMppm
Y Variable : ZnXppm
X Variable : bZnXppm
Y Variable : ZrXppm
X Variable : bZrXppm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Y Variable : AlXppm
X Variable : bAlXppm
Y Variable : AsXppm
X Variable : bAsXppm
Y Variable : BaXppm
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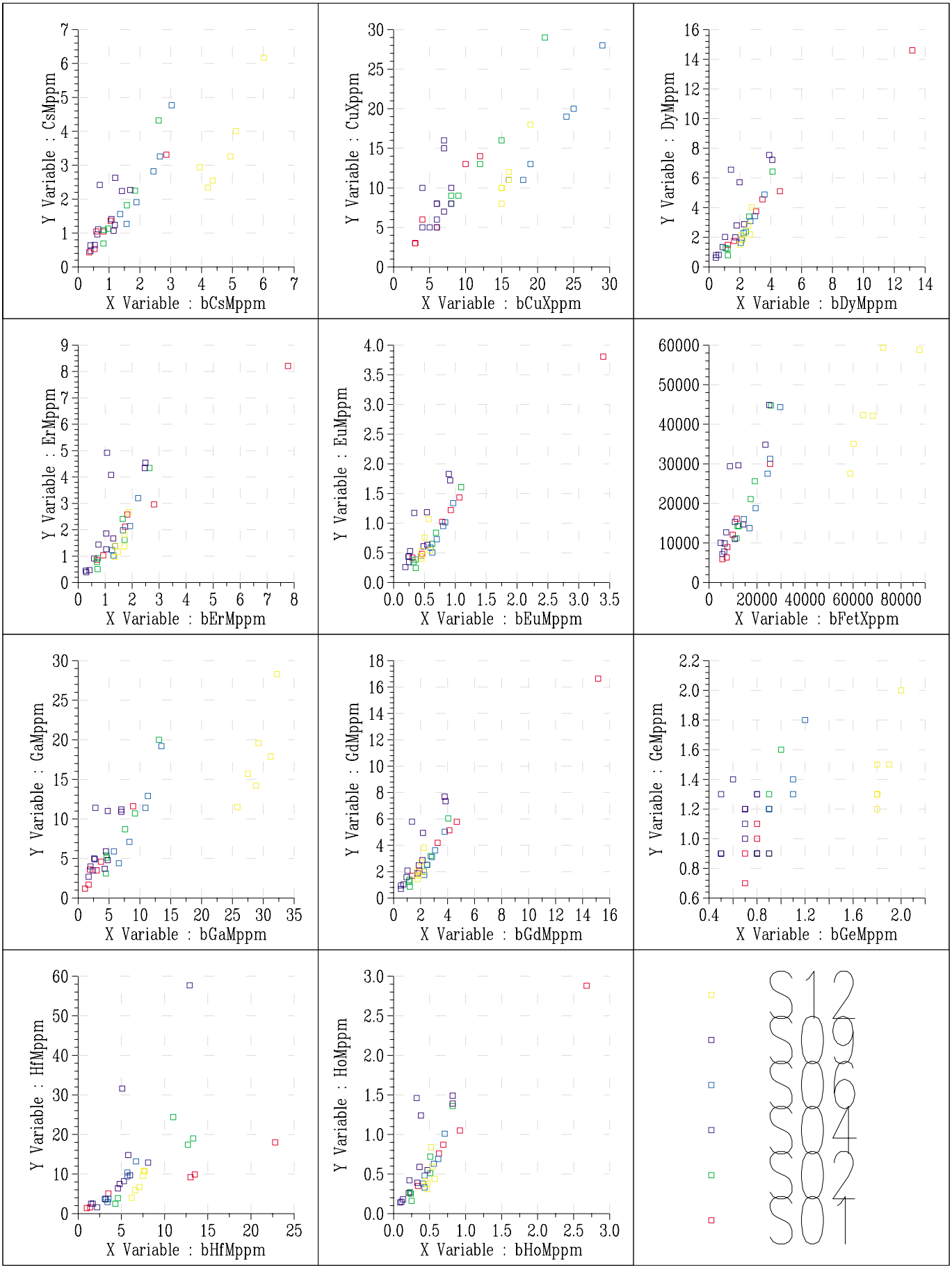
Y Variable : BeMppm
X Variable : bBeMppm
Y Variable : BiMppm
X Variable : bBiMppm
Y Variable : CaXppm
X Variable : bCaXppm
Y Variable : CeMppm
X Variable : bCeMppm
Y Variable : ClXppm
X Variable : bClXppm
Y Variable : CoXppm
X Variable : bCoXppm
Y Variable : CrXppm
X Variable : bCrXppm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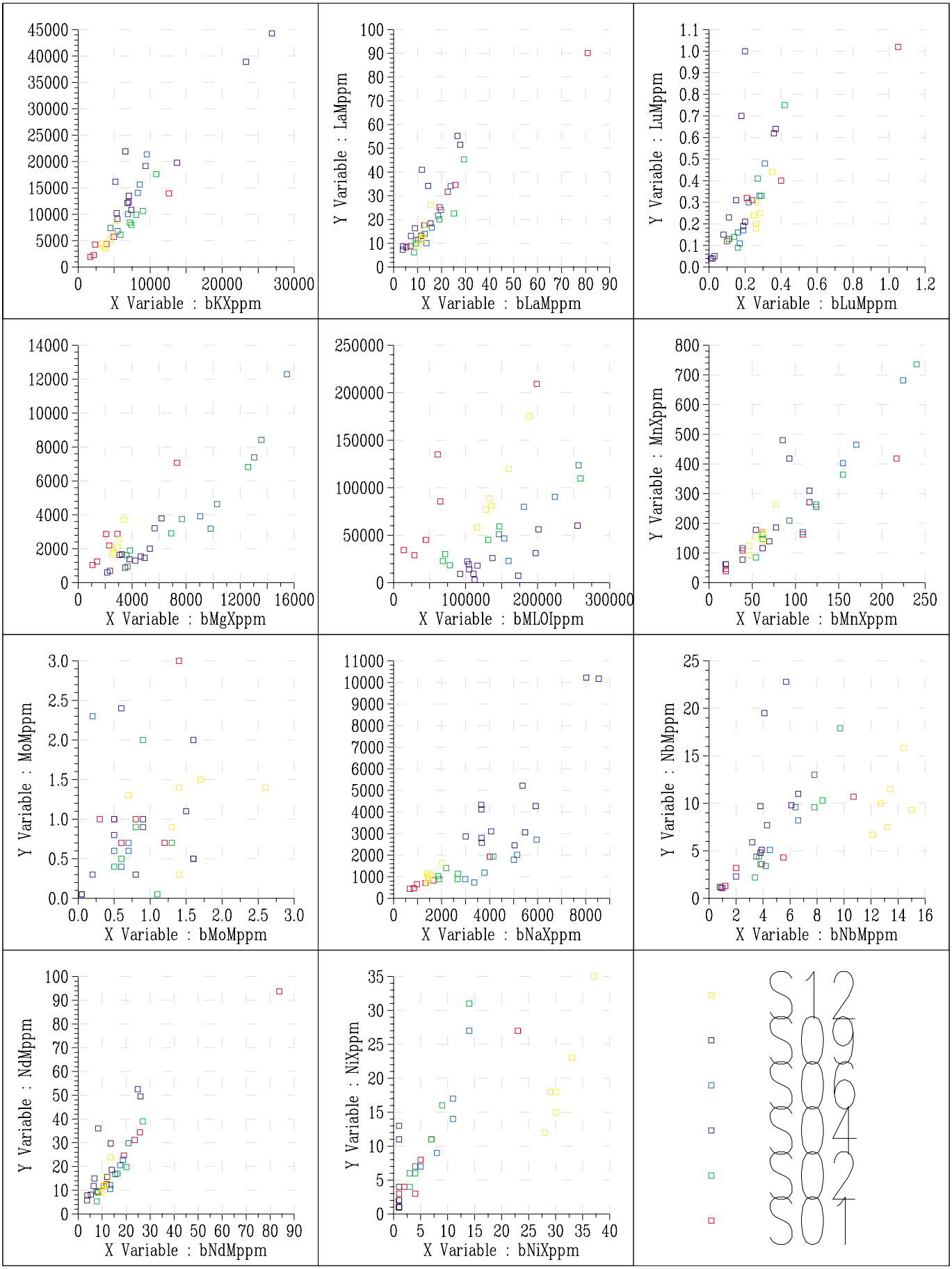
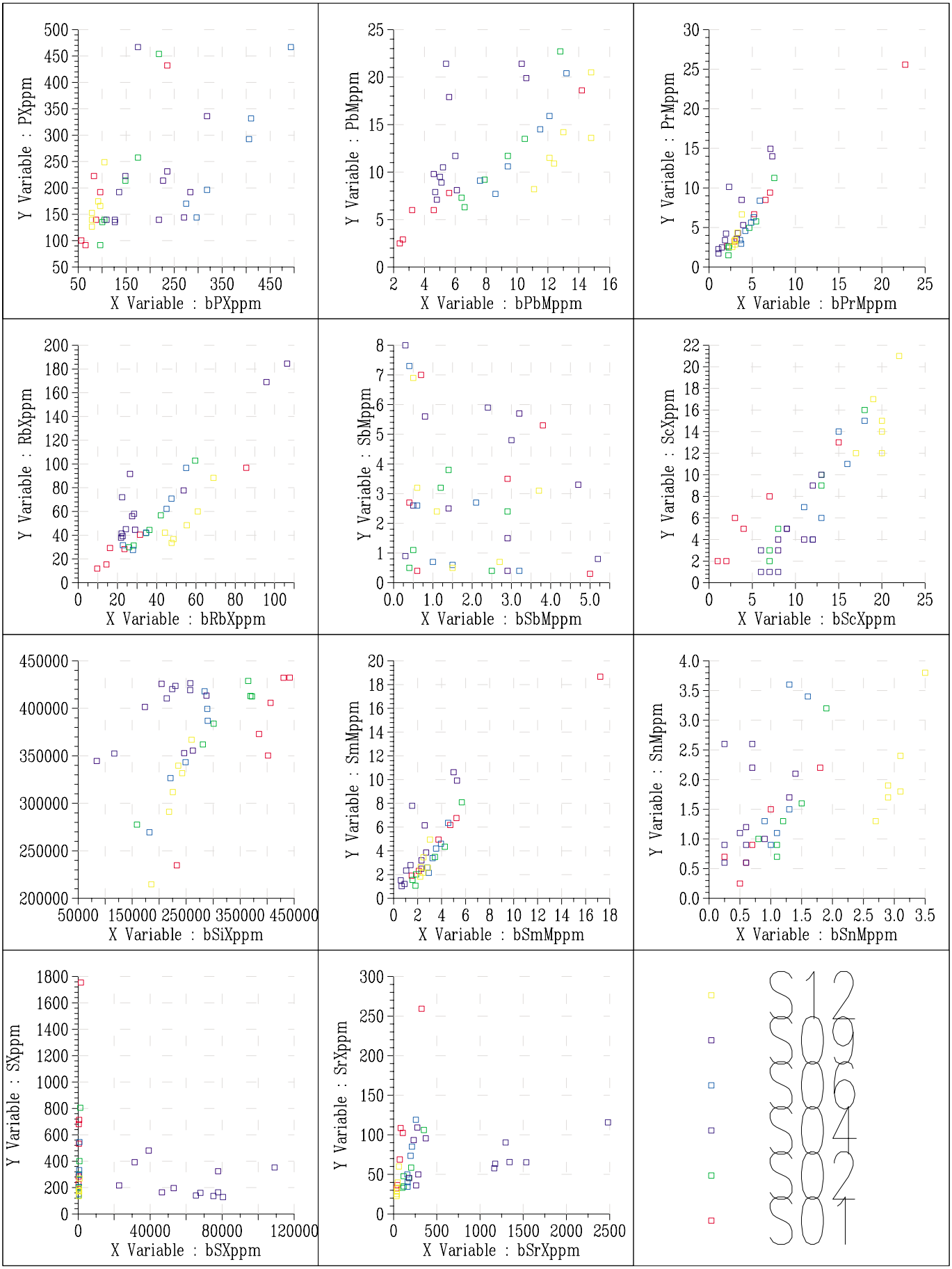
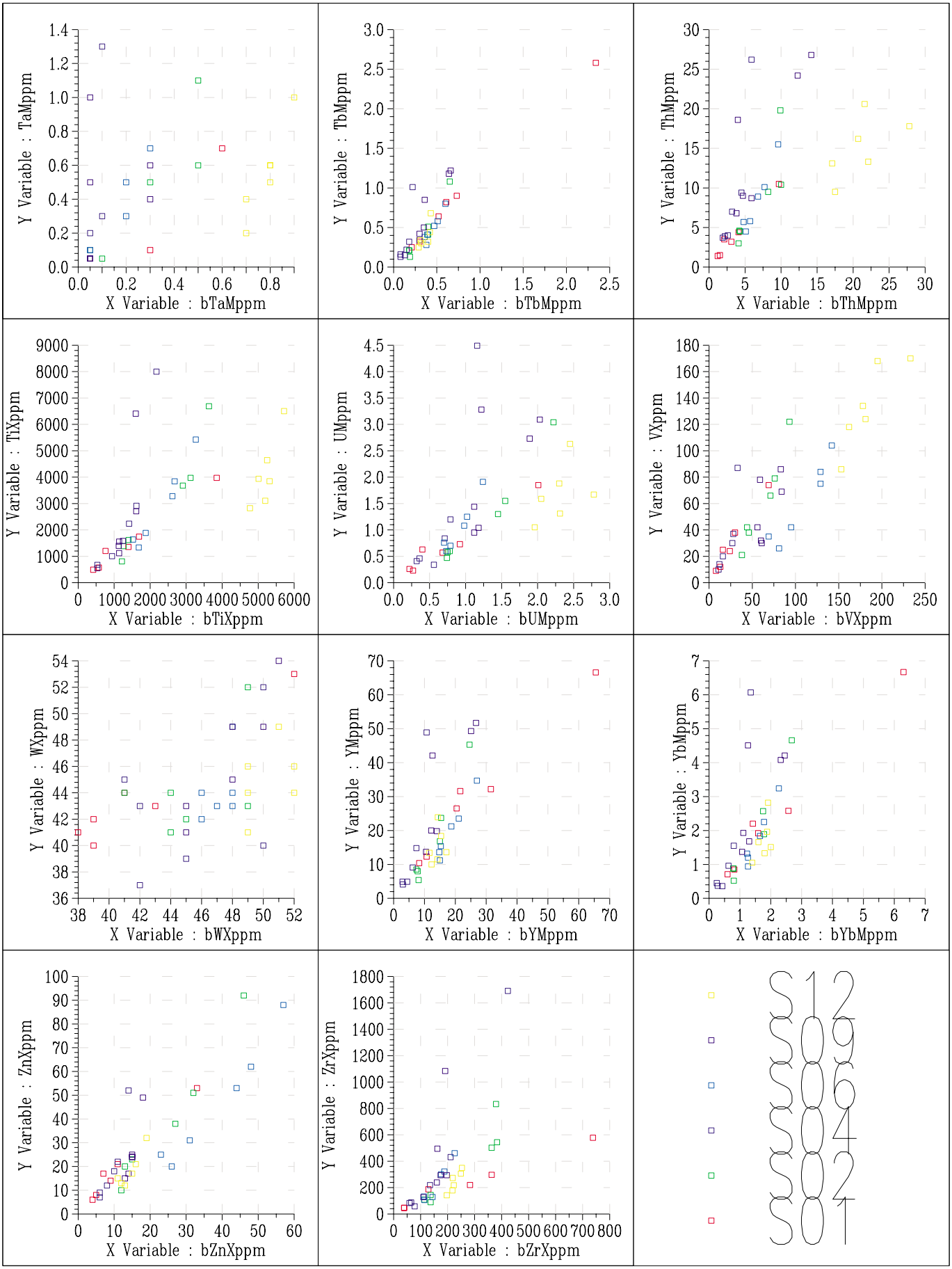
Y Variable : CuXppm
X Variable : bCuXppm
Y Variable : DyMppm
X Variable : bDyMppm
Y Variable : ErMppm
X Variable : bErMppm
Y Variable : EuMppm
X Variable : bEuMppm
X Variable : bFetXppm
Y Variable : GaMppm
X Variable : bGaMppm
Y Variable : GdMppm
X Variable : bGdMppm
Y Variable : GeMppm
X Variable : bGeMppm
Y Variable : HfMppm
X Variable : bHfMppm
Y Variable : HoMppm
X Variable : bHoMppm


X Variable : bKXppm
Y Variable : LaMppm
X Variable : bLaMppm
Y Variable : LuMppm
X Variable : bLuMppm
X Variable : bMgXppm
X Variable : bMLOlppm
Y Variable : MnXppm
X Variable : bMnXppm
Y Variable : MoMppm
X Variable : bMoMppm
X Variable : bNaXppm
Y Variable : NbMppm
X Variable : bNbMppm
Y Variable : NdMppm
X Variable : bNdMppm
Y Variable : NiXppm
X Variable : bNiXppm


Y Variable : PXppm
X Variable : bPXppm
Y Variable : PbMppm
X Variable : bPbMppm
Y Variable : PrMppm
X Variable : bPrMppm
Y Variable : RbXppm
X Variable : bRbXppm
Y Variable : SbMppm
X Variable : bSbMppm
Y Variable : ScXppm
X Variable : bScXppm
Y Variable : SiXppm
X Variable : bSiXppm
Y Variable : SmMppm
X Variable : bSmMppm
Y Variable : SnMppm
X Variable : bSnMppm
Y Variable : SXppm
X Variable : bSXppm
Y Variable : SrXppm
X Variable : bSrXppm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Y Variable : TbMppm
X Variable : bTbMppm
Y Variable : ThMppm
X Variable : bThMppm
Y Variable : TiXppm
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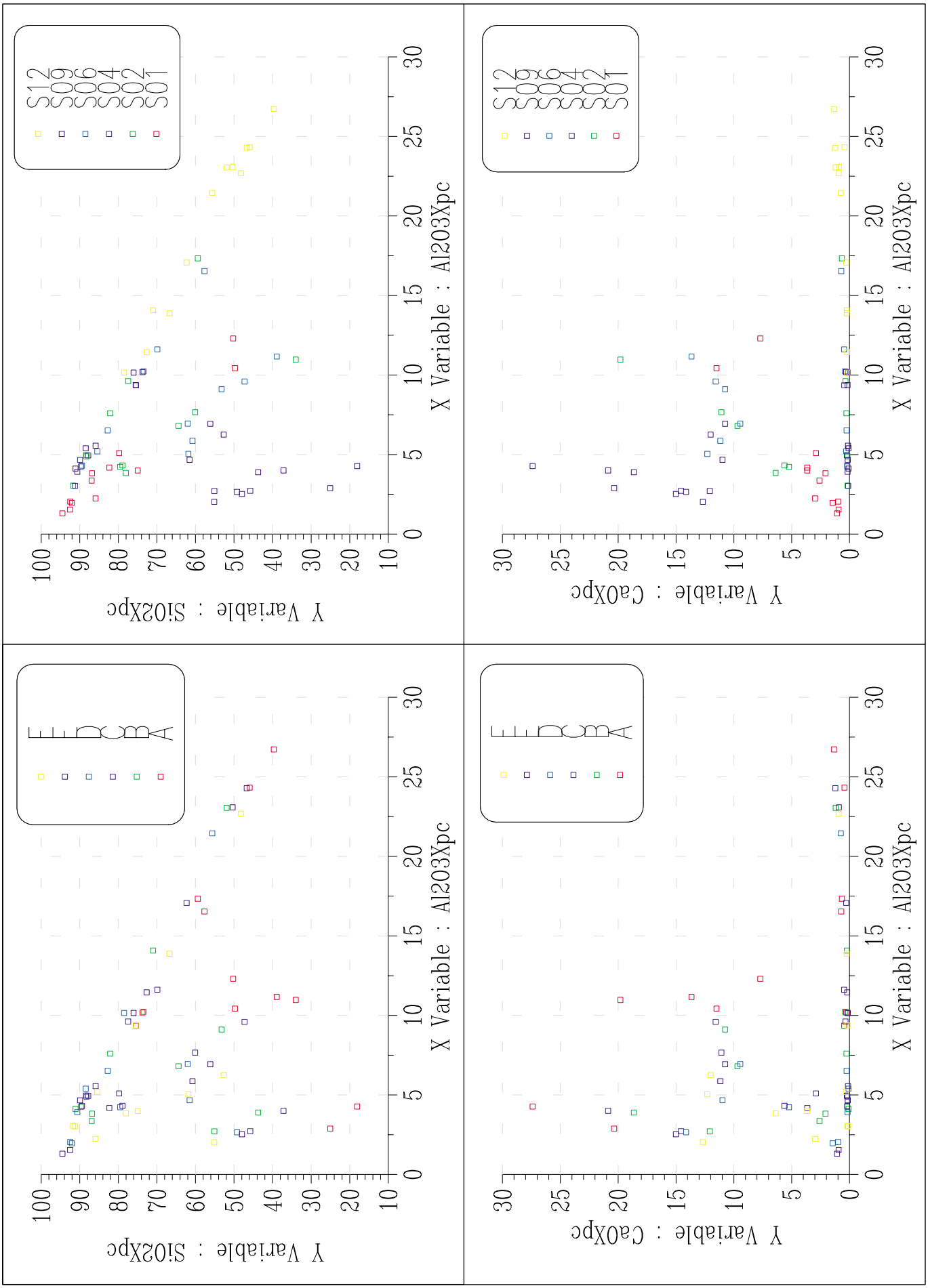
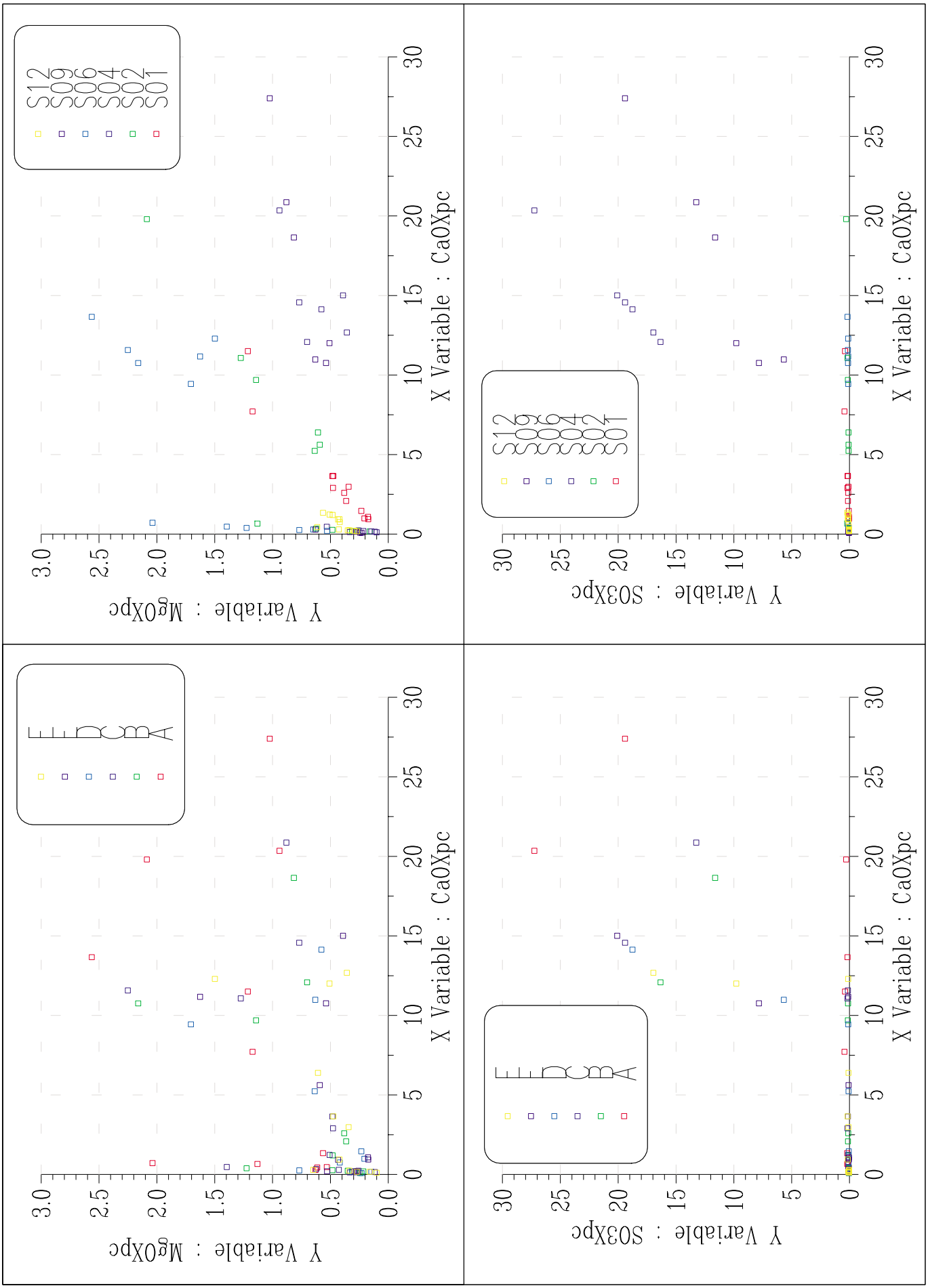
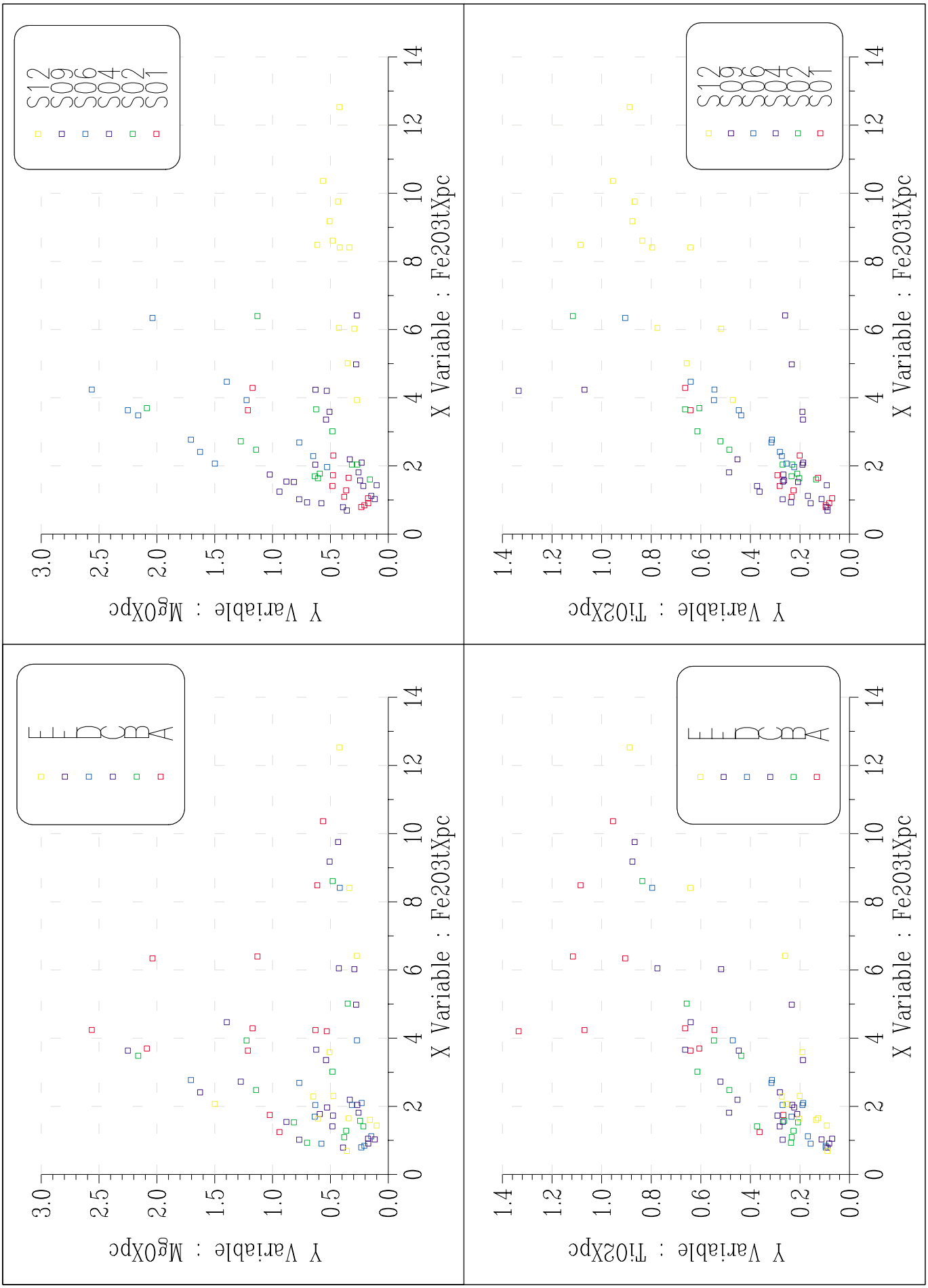
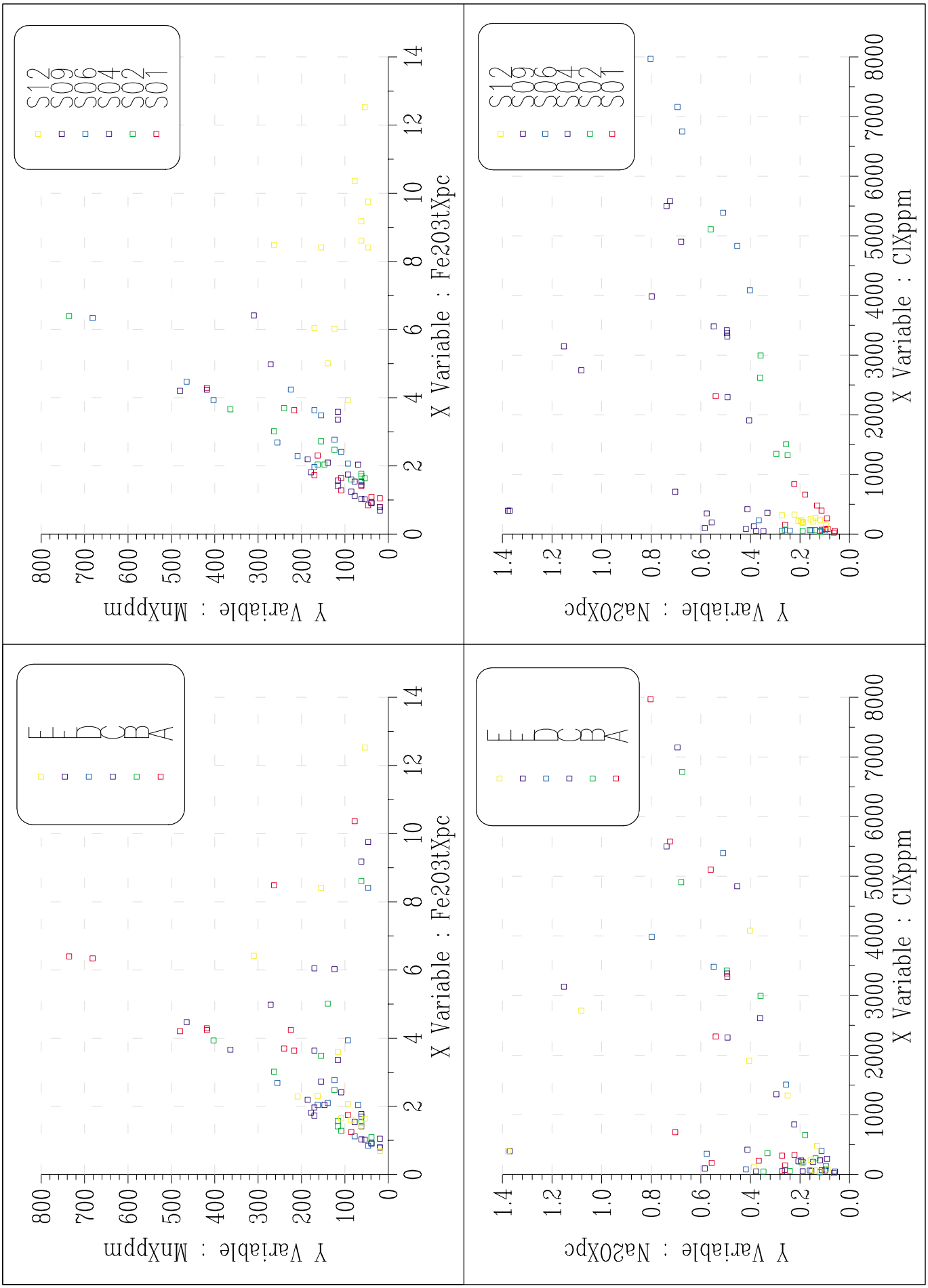
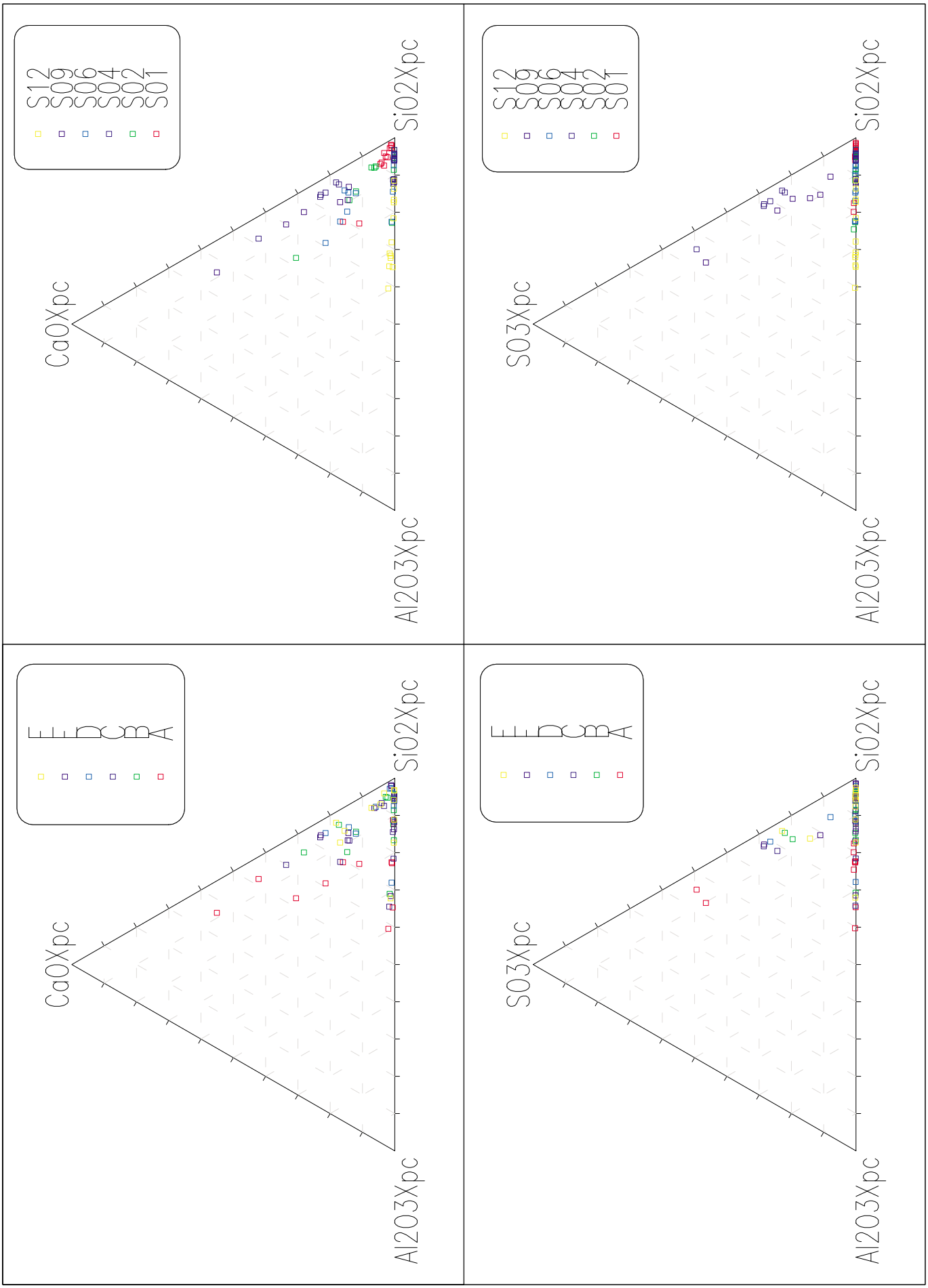
Y Variable : UMppm
X Variable : bUMppm
Y Variable : VXppm
X Variable : bVXppm
Y Variable : WXppm
X Variable : bWXppm
Y Variable : YMppm
X Variable : bYMppm
Y Variable : YbMppm
X Variable : bYbMppm
Y Variable : ZnXppm
X Variable : bZnXppm
Y Variable : ZrXppm
X Variable : bZrXppm

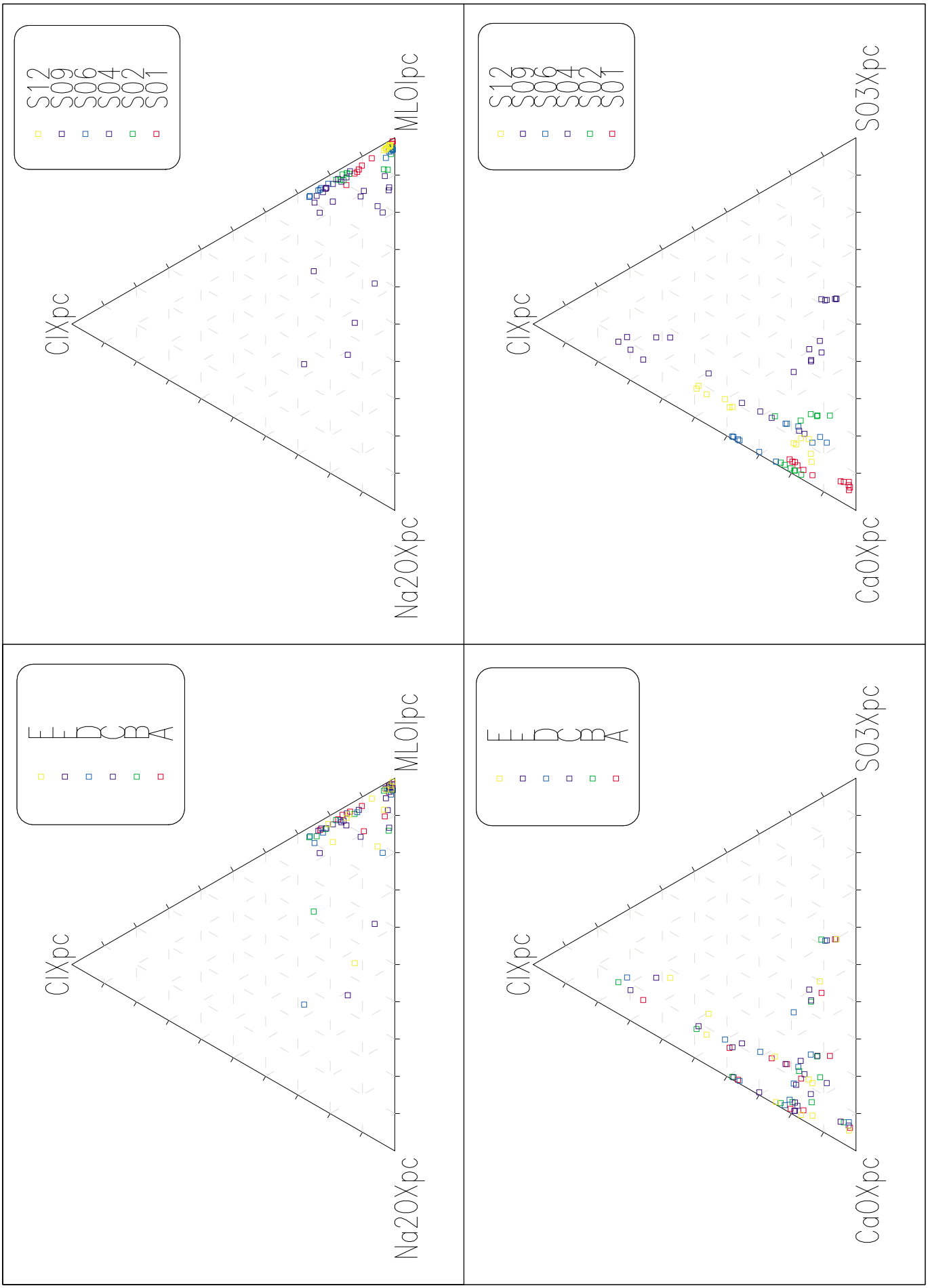

S12
S09
S06
S04
S02
S01
Y Variable : SiO2Xpc
X Variable : Al2O3Xpc
F
E
D
C
B
A
Y Variable : CaOXpc
X Variable : Al2O3Xpc


S12
S09
S06
S04
S02
S01
Y Variable : MgOXpc
X Variable : CaOXpc
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
5
10
15
20
25
30
S12
S09
S06
S04
S02
S01
Y Variable : SO3Xpc
X Variable : CaOXpc
0
5
10
15
20
25
30
E
D
C
B
A
Y Variable : MgOXpc
X Variable : CaOXpc
E
D
C
B
A
Y Variable : SO3Xpc
X Variable : CaOXpc


S12
S09
S06
S04
S02
S01
Y Variable : MgOXpc
X Variable : Fe203tXpc
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
2
4
6
8
10
12
14
S12
S09
S06
S04
S02
S01
Y Variable : TiO2Xpc
X Variable : Fe203tXpc
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0
2
4
6
8
10
12
14
F
E
D
C
B
A
Y Variable : MgOXpc
X Variable : Fe203tXpc
F
E
D
C
B
A
Y Variable : TiO2Xpc
X Variable : Fe203tXpc


S12
S09
S06
S04
S02
S01
Y Variable : MnXppm
X Variable : Fe203tXpc
S12
S06
S04
S02
S01
Y Variable : Na2OXpc
X Variable : ClXppm
E
E
D
C
B
A
Y Variable : MnXppm
X Variable : Fe203tXpc
E
E
D
C
B
A
Y Variable : Na2OXpc
X Variable : ClXppm

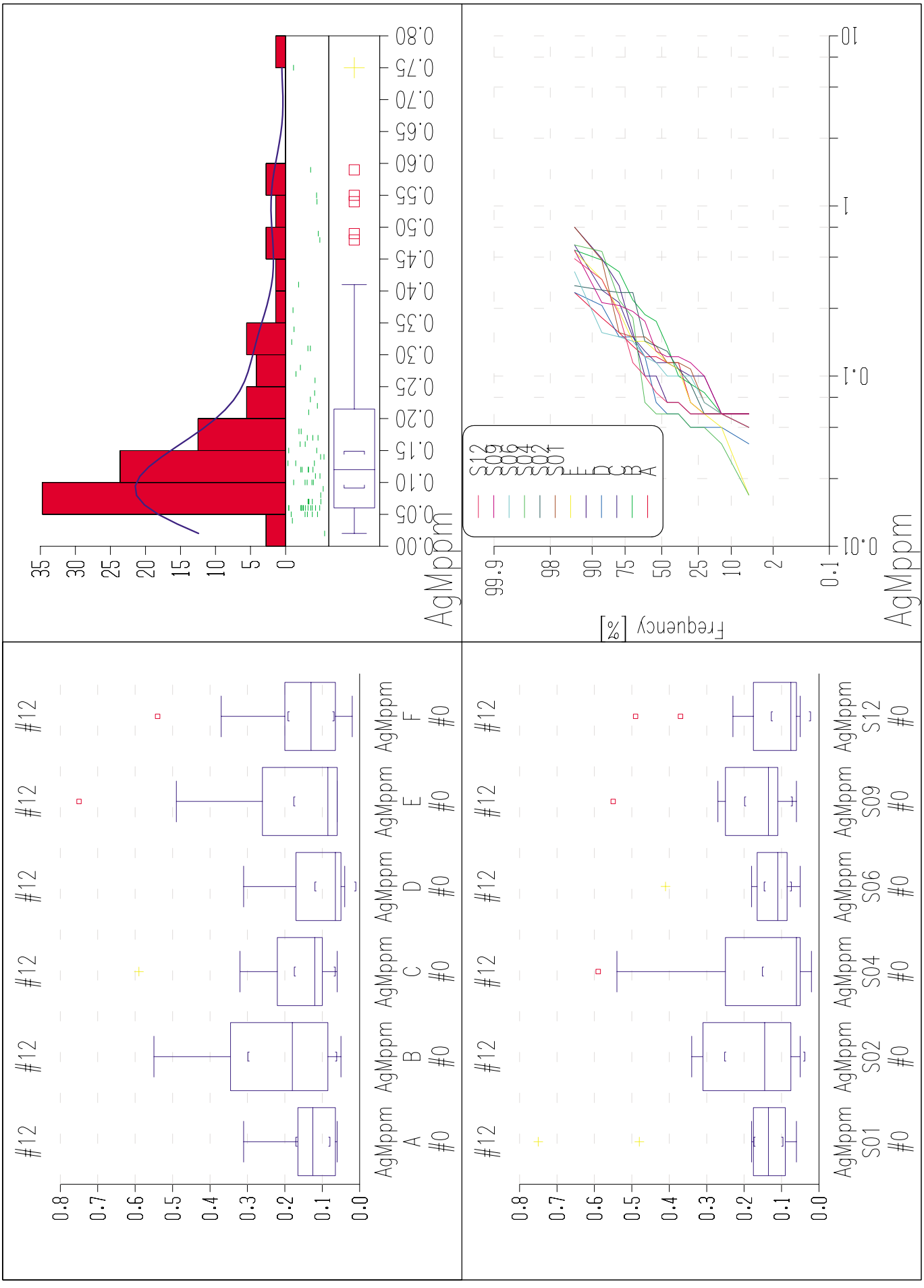

S12
S09
S06
S04
S02
S01
CaOXpc
SiO2Xpc
Al2O3Xpc
S12
S09
S06
S04
S02
S01
SO3Xpc
SiO2Xpc
Al2O3Xpc
F
E
D
C
B
A
CaOXpc
SiO2Xpc
Al2O3Xpc
F
E
D
C
B
A
SO3Xpc
SiO2Xpc
Al2O3Xpc

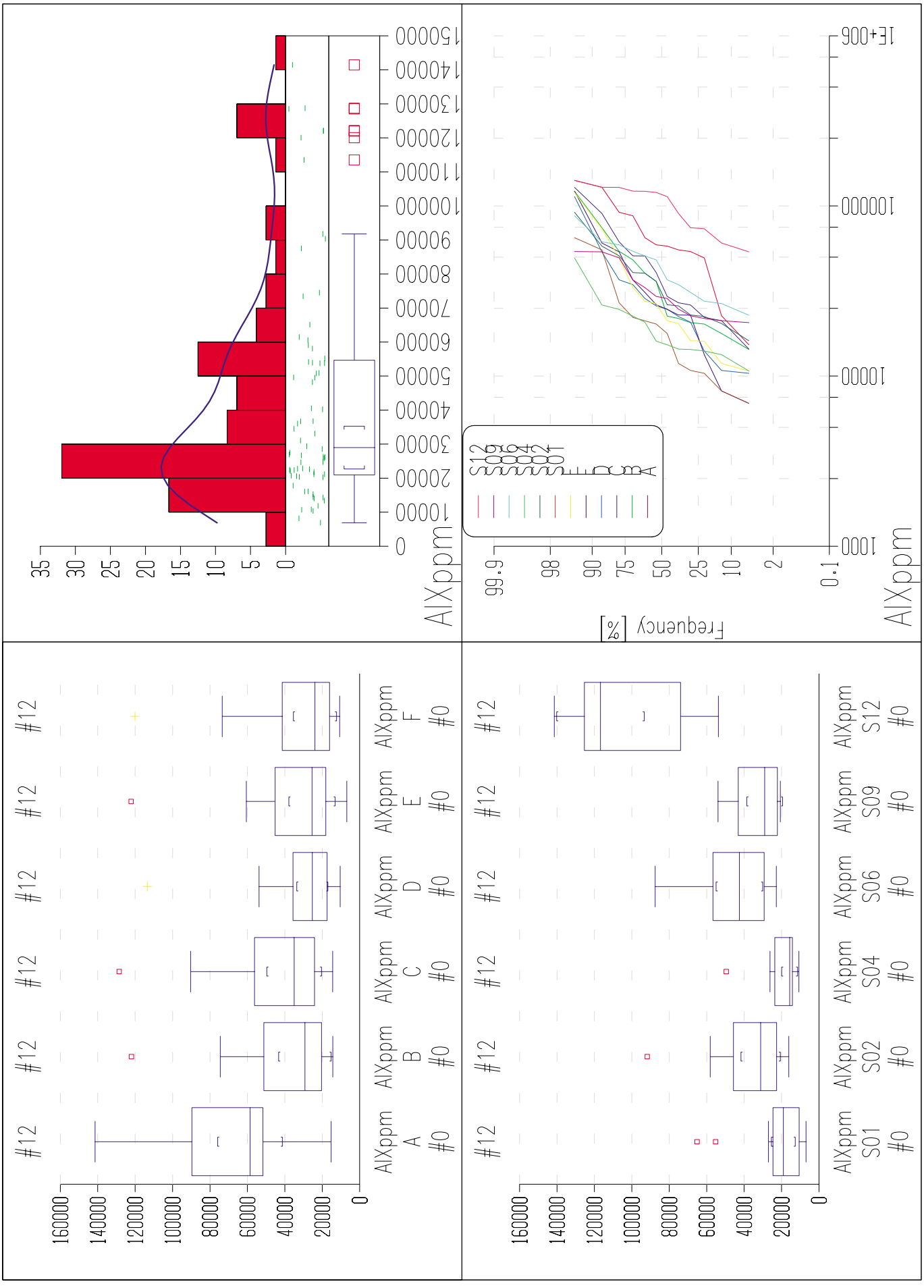

S12
S09
S06
S04
S02
S01
ClXpc
MLOIpc
Na2OXpc
S12
S06
S04
S02
S01
ClXpc
SO3Xpc
CaOXpc
F
E
D
C
B
A
ClXpc
MLOIpc
Na2OXpc
F
E
D
C
B
A
ClXpc
SO3Xpc
CaOXpc

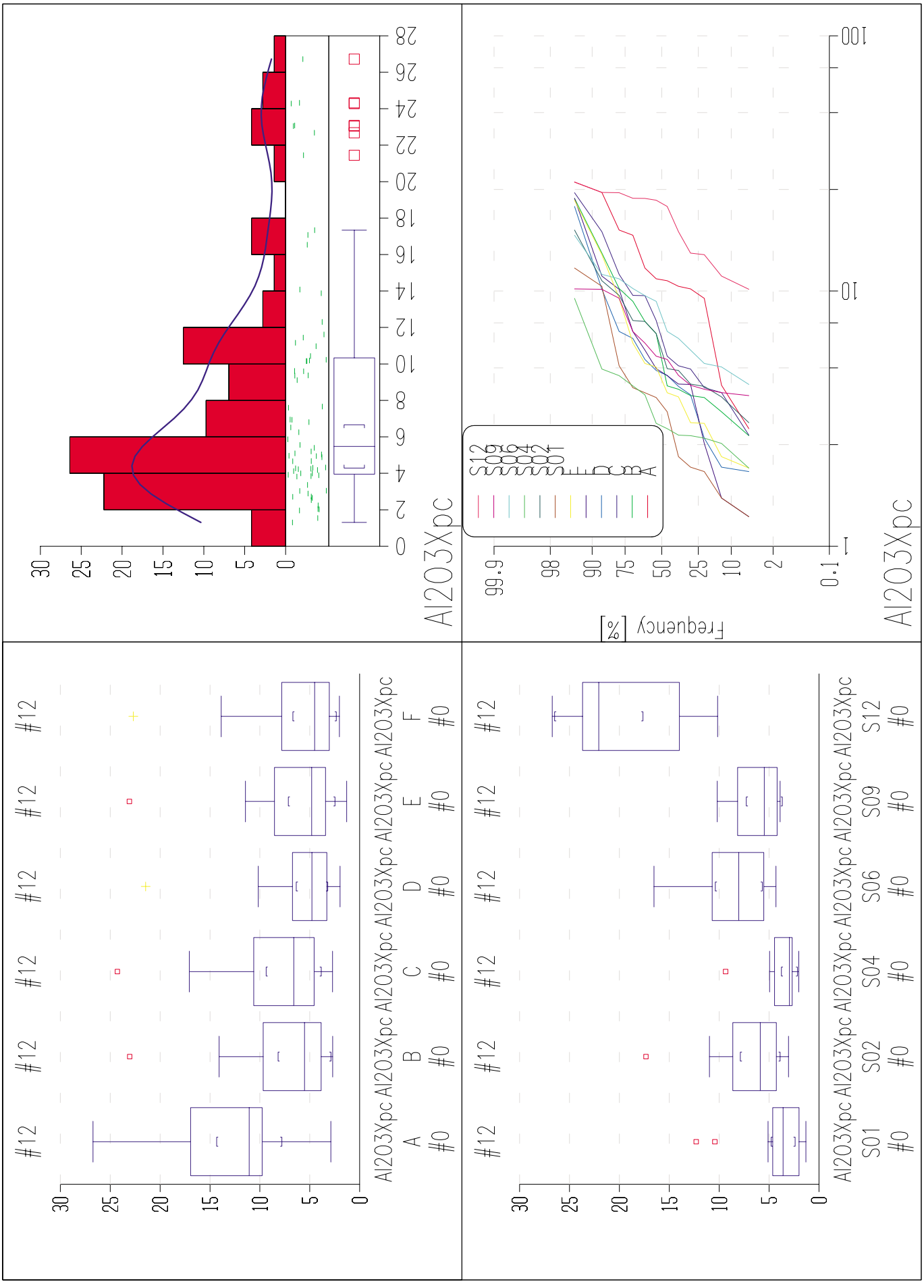
Appendix 5.16. Grain size boxplots, cumulative frequency diagrams and histograms (regolith)

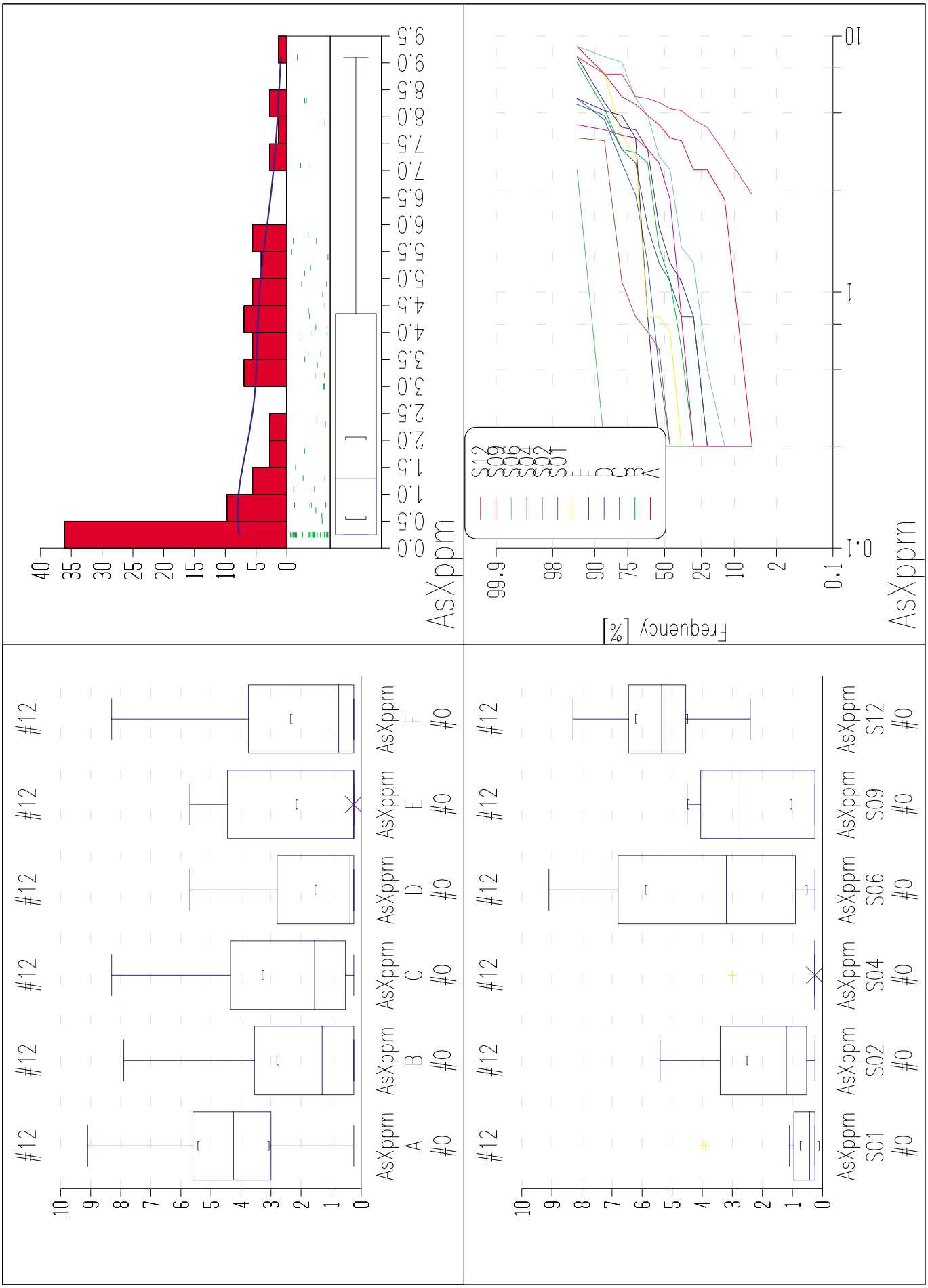
Explanation of subgroups
A: <75 um fraction
B: 75-180 um fraction
C: <180 um fraction
D: 180-500 um fraction
E: 500-1000 um fraction
F: 1000-2000 um fraction

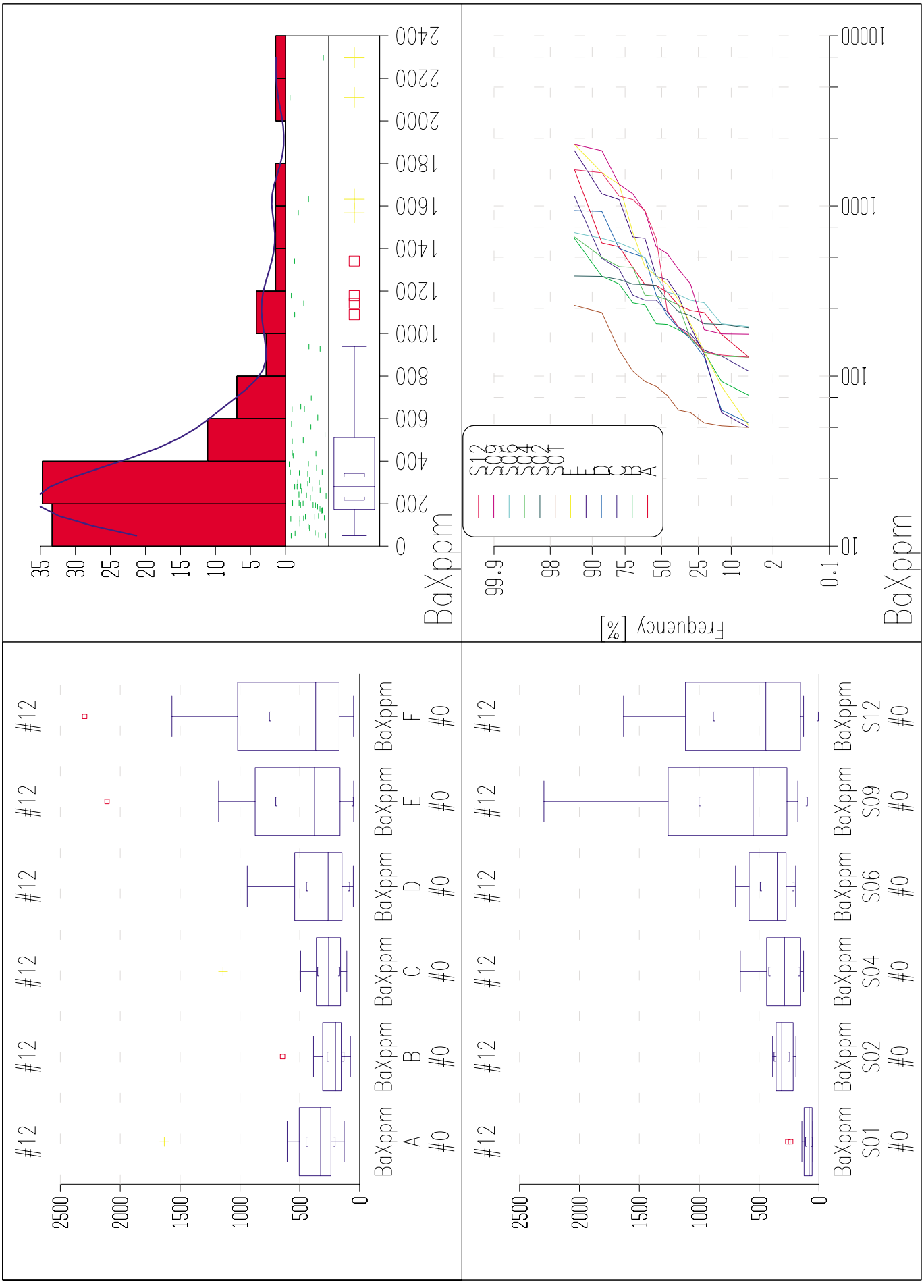
S01: Site 1 Reconnaissance trip (2004851001)
S02: Site 2 Reconnaissance trip (2004851002)
S04: Site 4 Reconnaissance trip (2004851004)
S06: Site 6 Reconnaissance trip (2004851006)
S09: Site 9 Reconnaissance trip (2004851009)
S12: Site 12 Reconnaissance trip (2004851012)

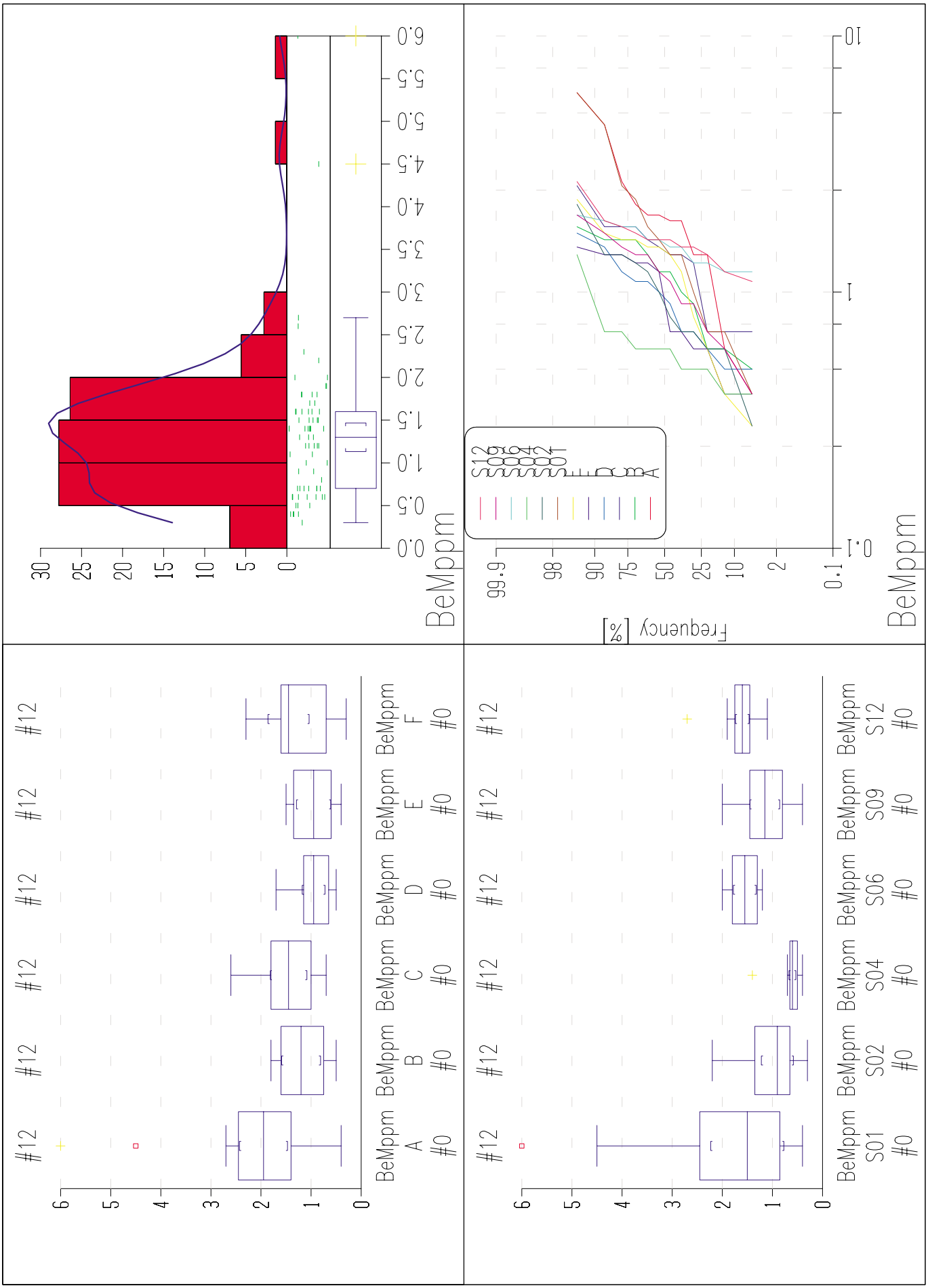

AgMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
S01
S02
S04
S06
S09
S12

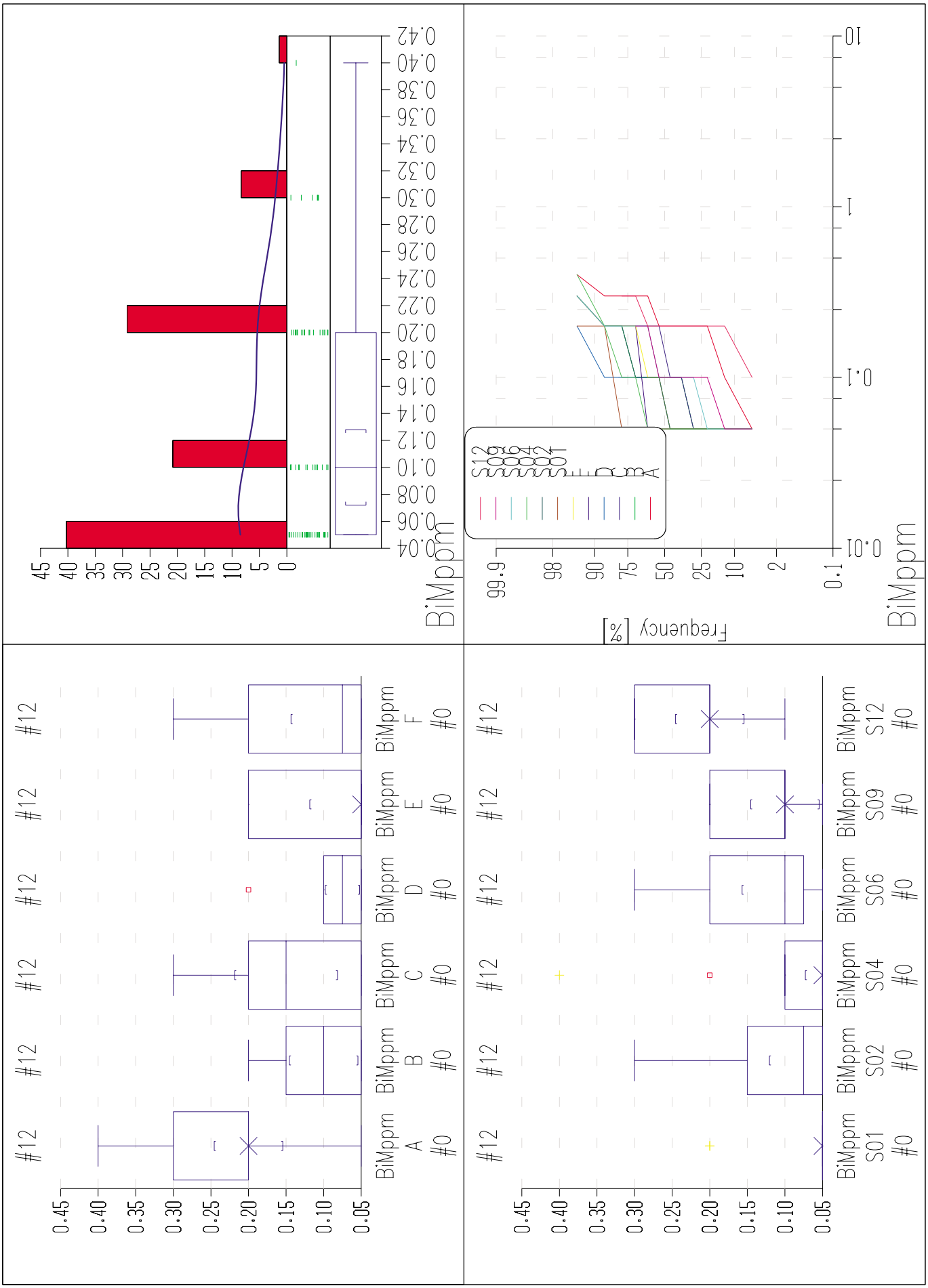

AlXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

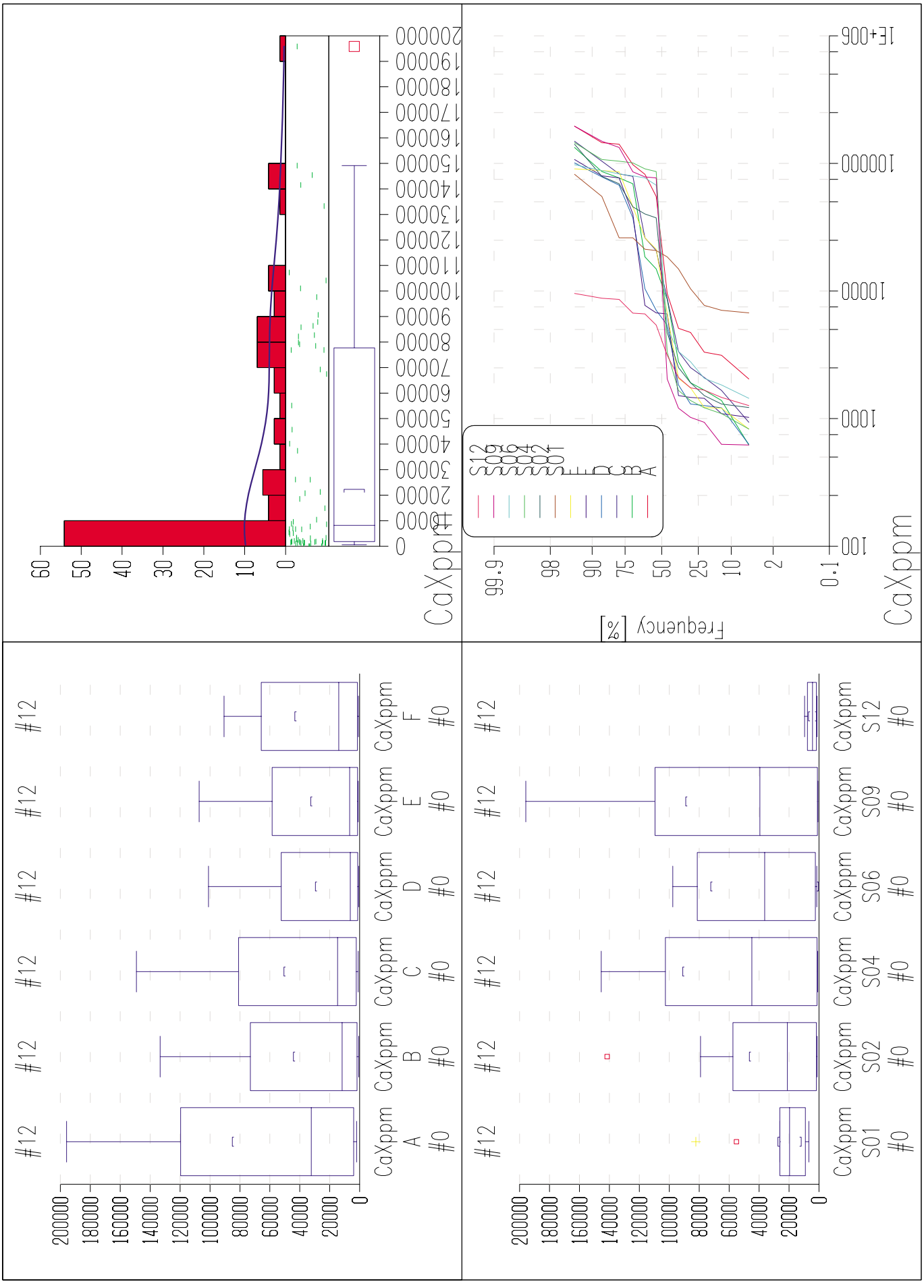

Al2O3Xpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
Al2O3Xpc A
Al2O3Xpc B
Al2O3Xpc C
Al2O3Xpc D
Al2O3Xpc E
Al2O3Xpc F
Al2O3Xpc S01
Al2O3Xpc S02
Al2O3Xpc S04
Al2O3Xpc S06
Al2O3Xpc S09
Al2O3Xpc S12

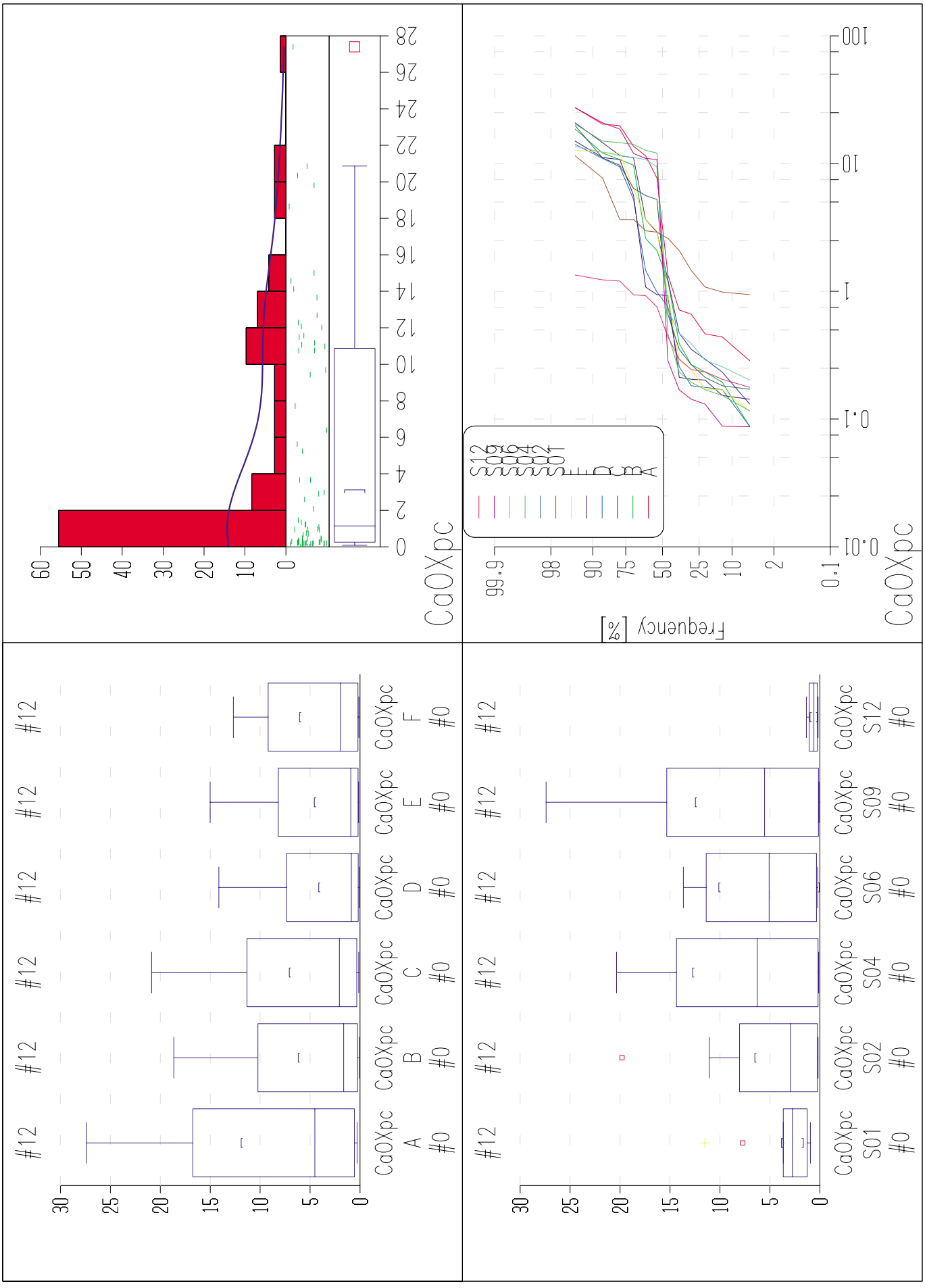

AsXppm
Frequency [%]
S12
S09
S04
S02
S01
F
E
D
C
B
A
#12
#0

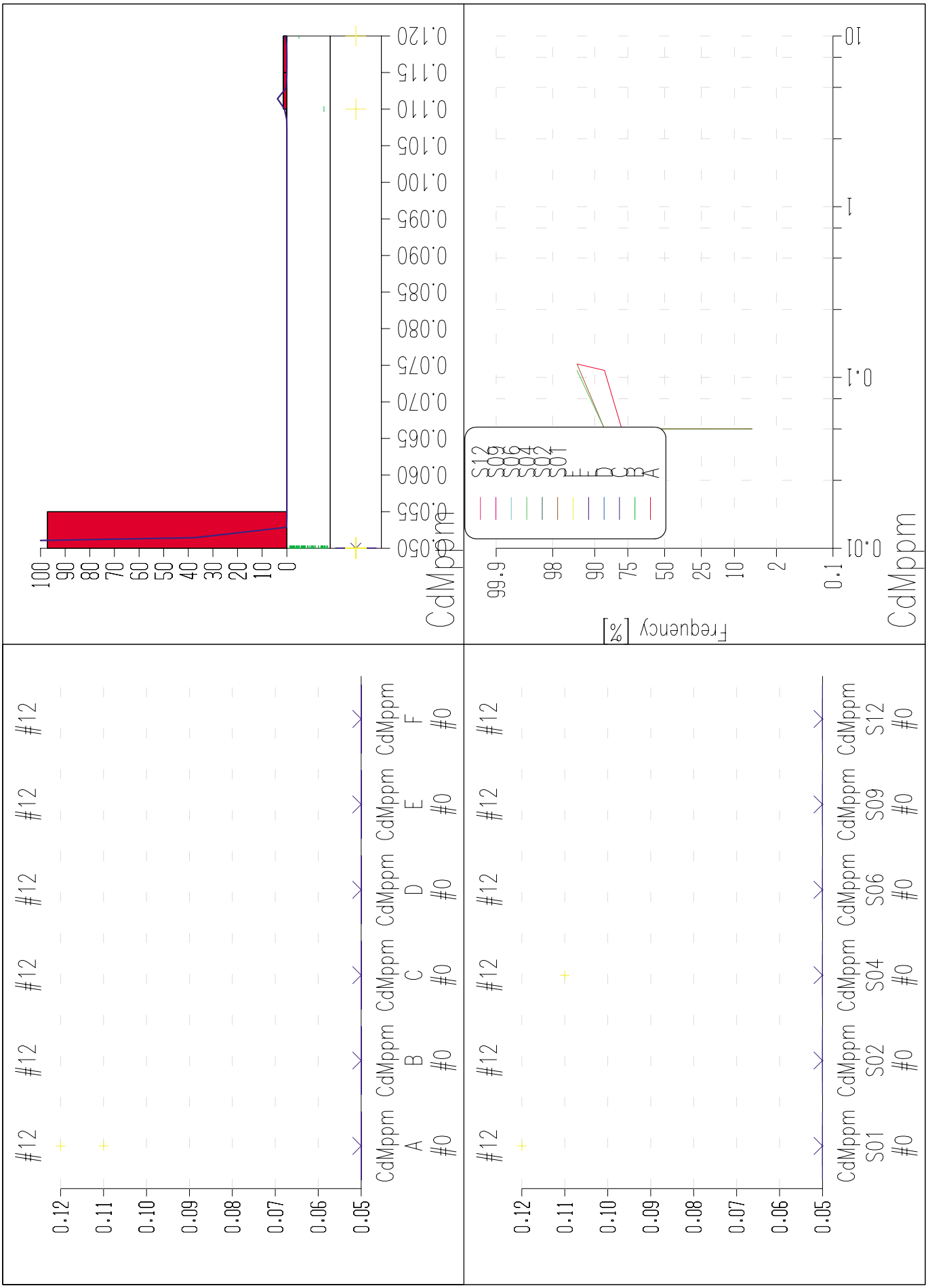

BaXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
BaXppm
S01
S02
S04
S06
S09
S12

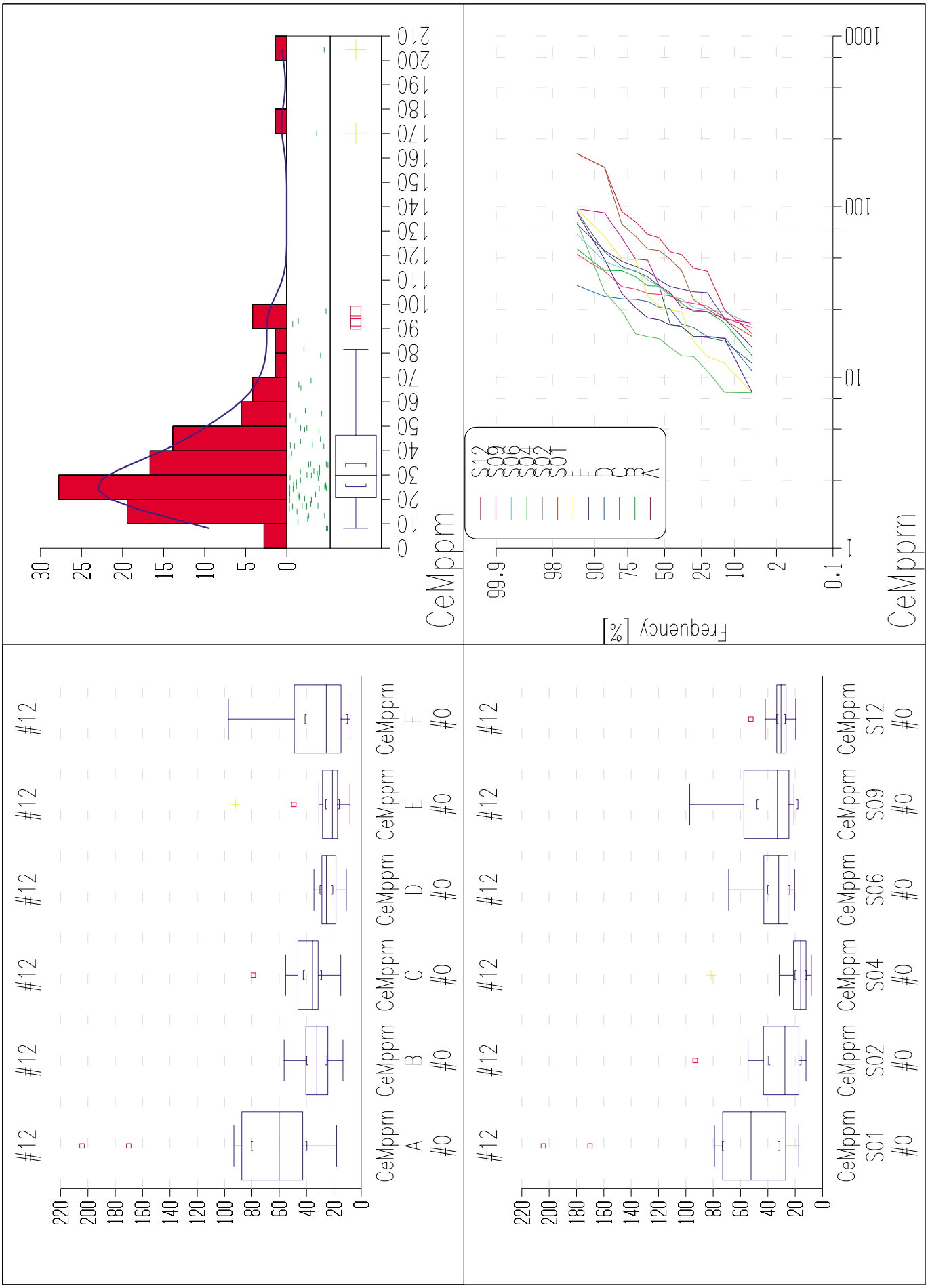

BeMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
BeMppm A #0
BeMppm B #0
BeMppm C #0
BeMppm D #0
BeMppm E #0
BeMppm F #0
BeMppm S01 #0
BeMppm S02 #0
BeMppm S04 #0
BeMppm S06 #0
BeMppm S09 #0
BeMppm S12 #0

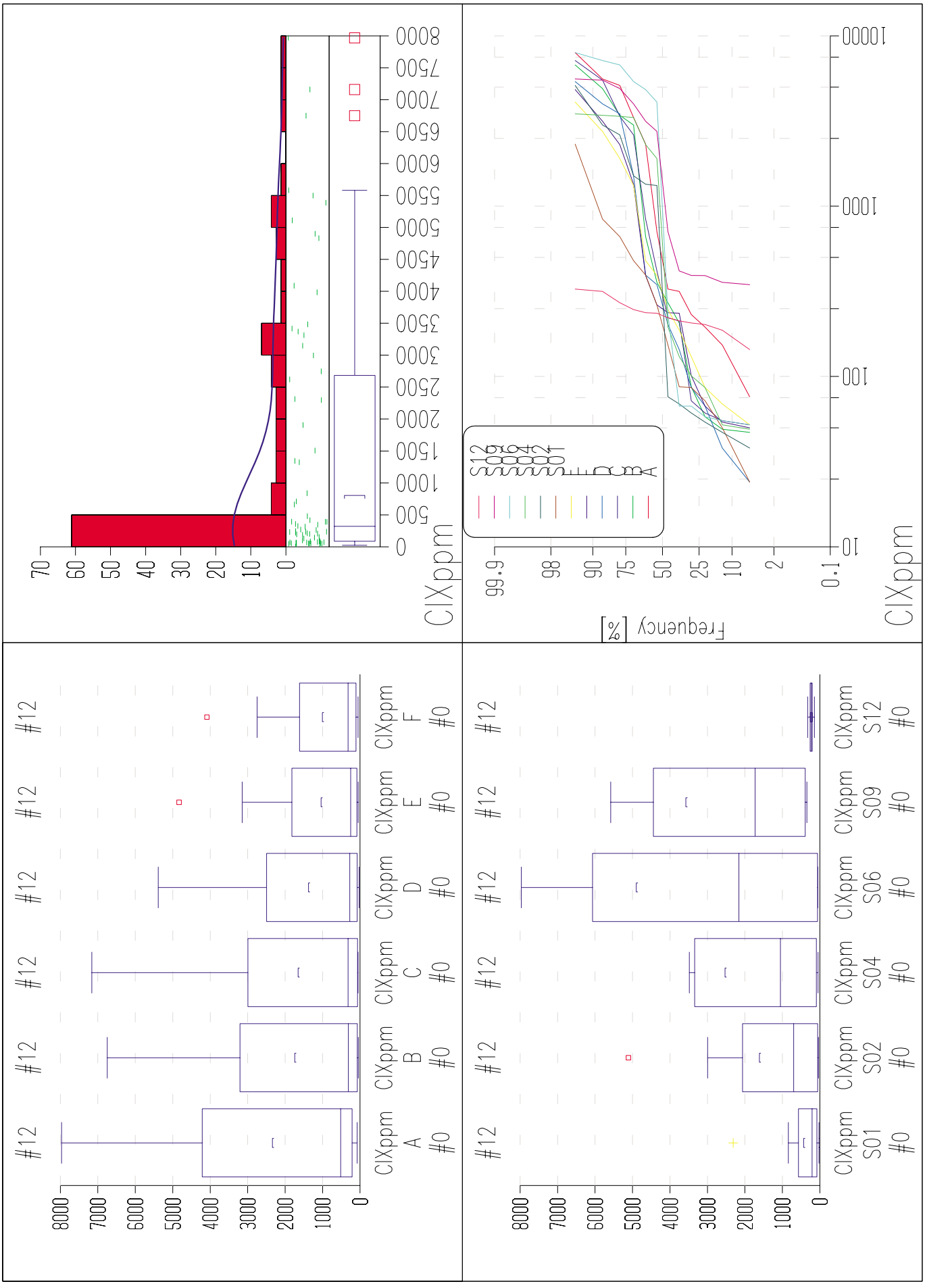

BiMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
BiMppm
S01
S02
S04
S06
S09
S12

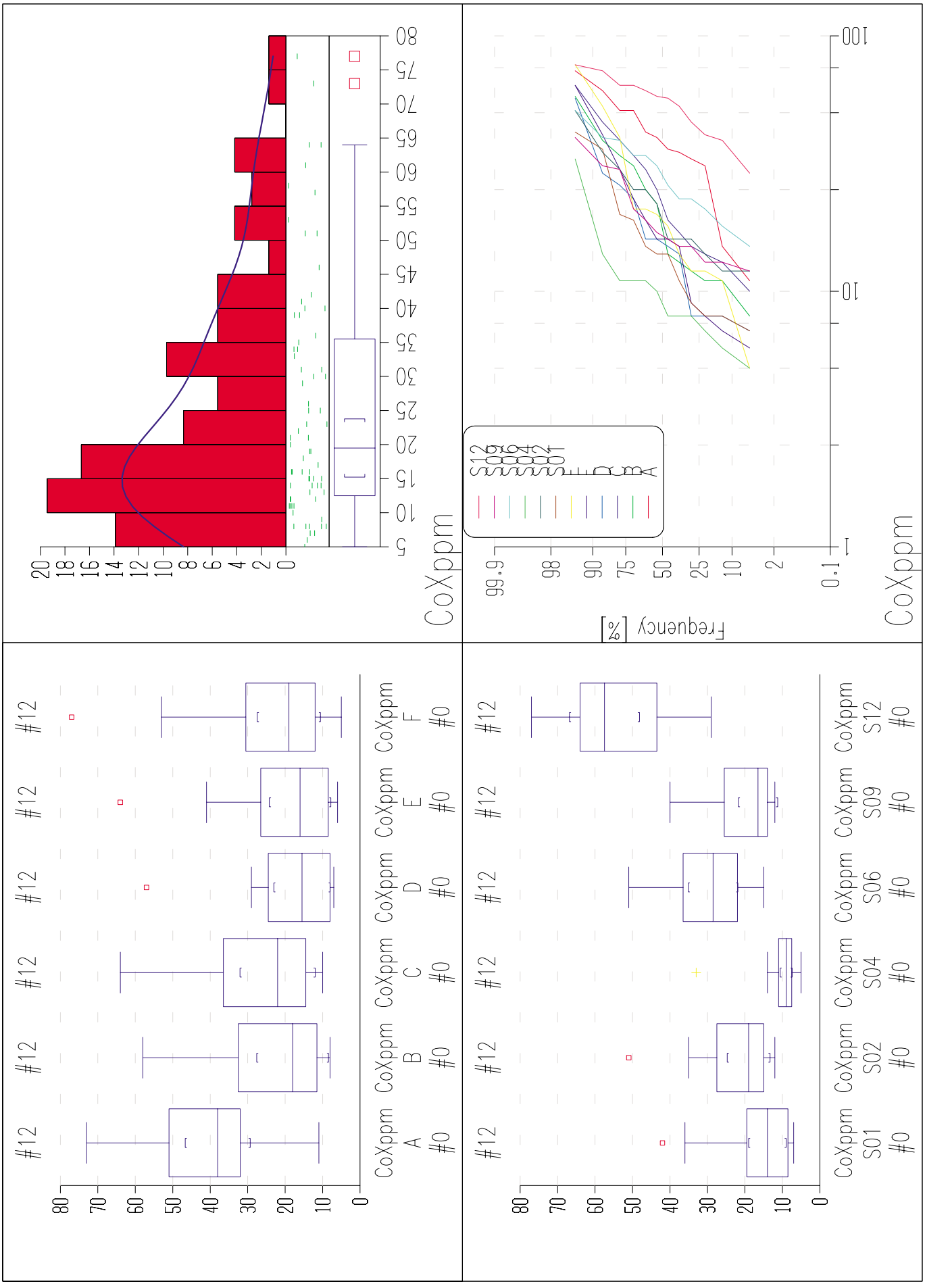

CaXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
CaXppm
S01
S02
S04
S06
S09
S12

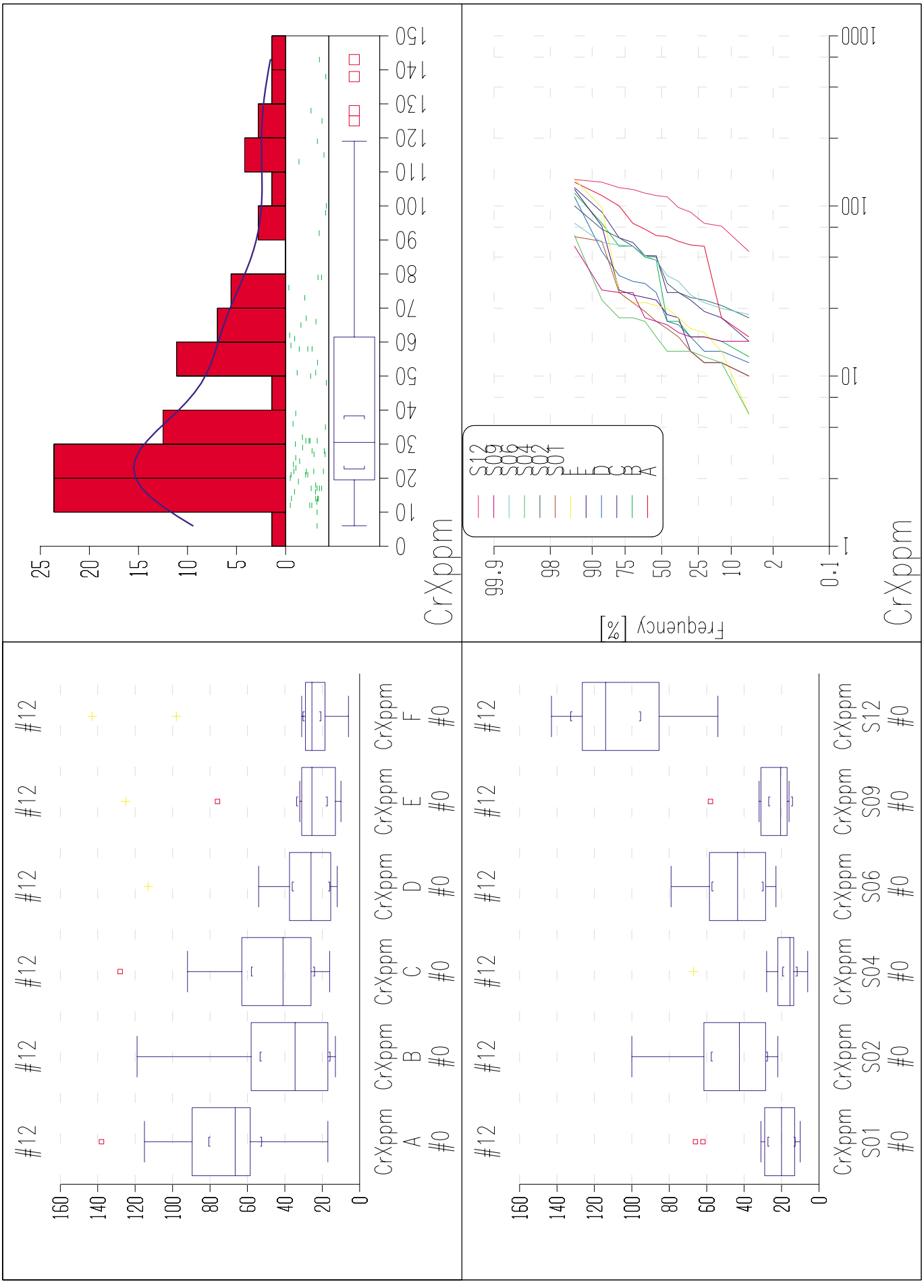

CaOXpc
Frequency [%]
99.9
98
90
75
50
25
10
2
0.1
100
10
1
0.1
0.01
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
CaOXpc
S01
S02
S04
S06
S09
S12

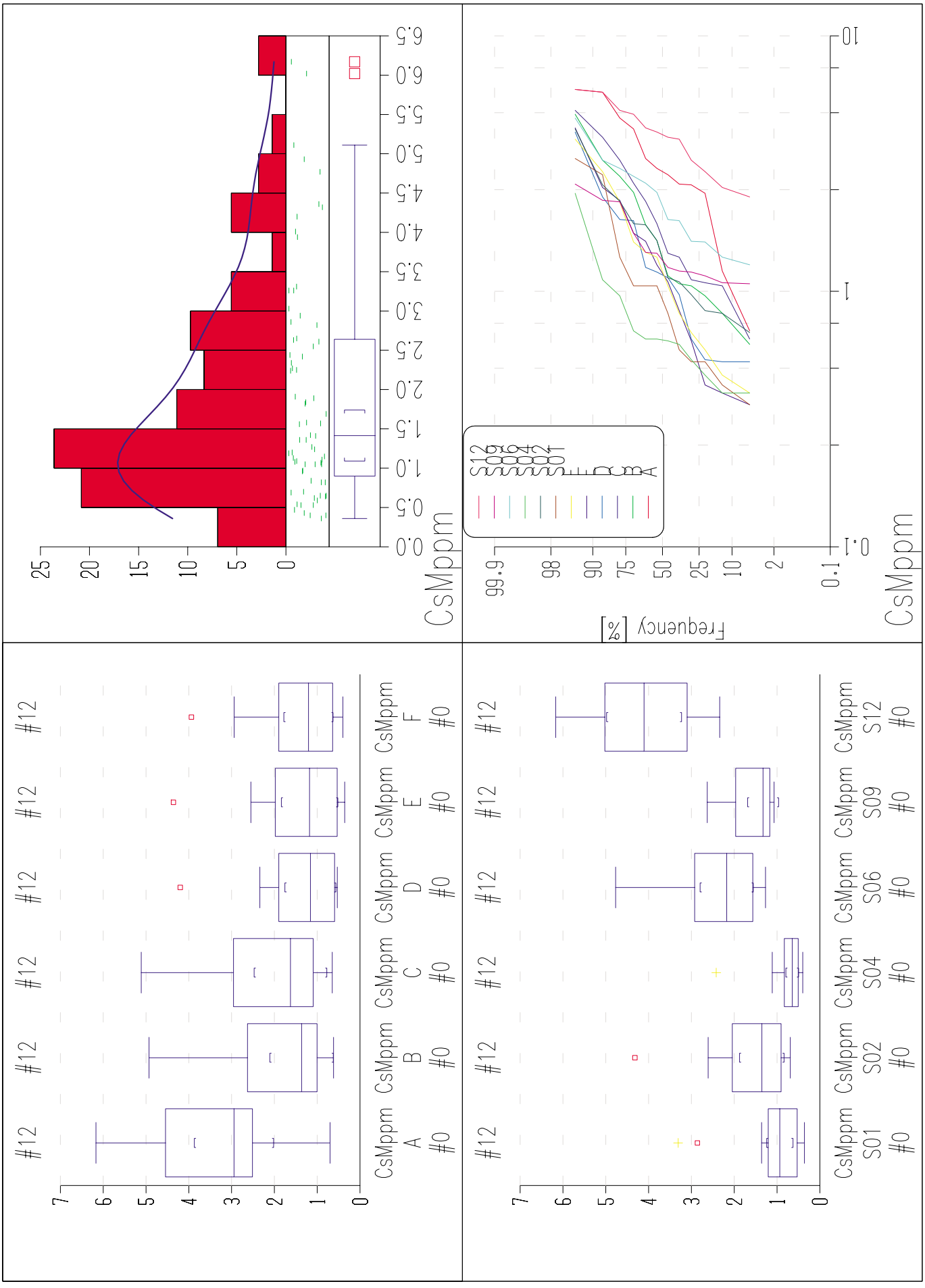

CdMppm
Frequency [%]
99.9
98
90
75
50
25
10
2
0.1
0.01
0.1
1
10
S12
S06
S04
S02
S01
F
E
D
C
B
A
0.120
0.115
0.110
0.105
0.100
0.095
0.090
0.085
0.080
0.075
0.070
0.065
0.060
0.055
0.050
100
90
80
70
60
50
40
30
20
10
0
0.12
0.11
0.10
0.09
0.08
0.07
0.06
0.05
#12
#0
CdMppm
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12

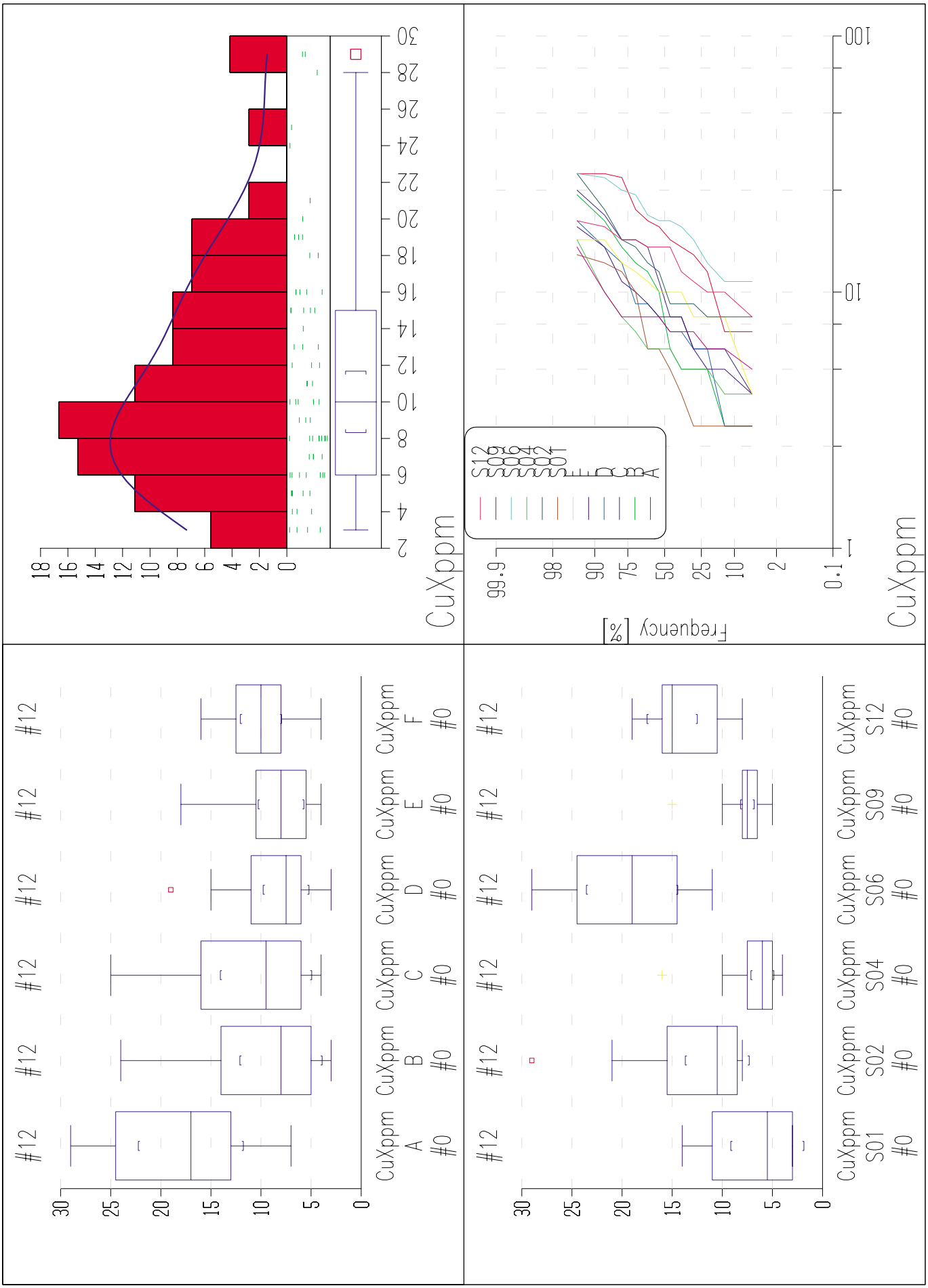

CeMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
CeMppm
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12
#0
#12

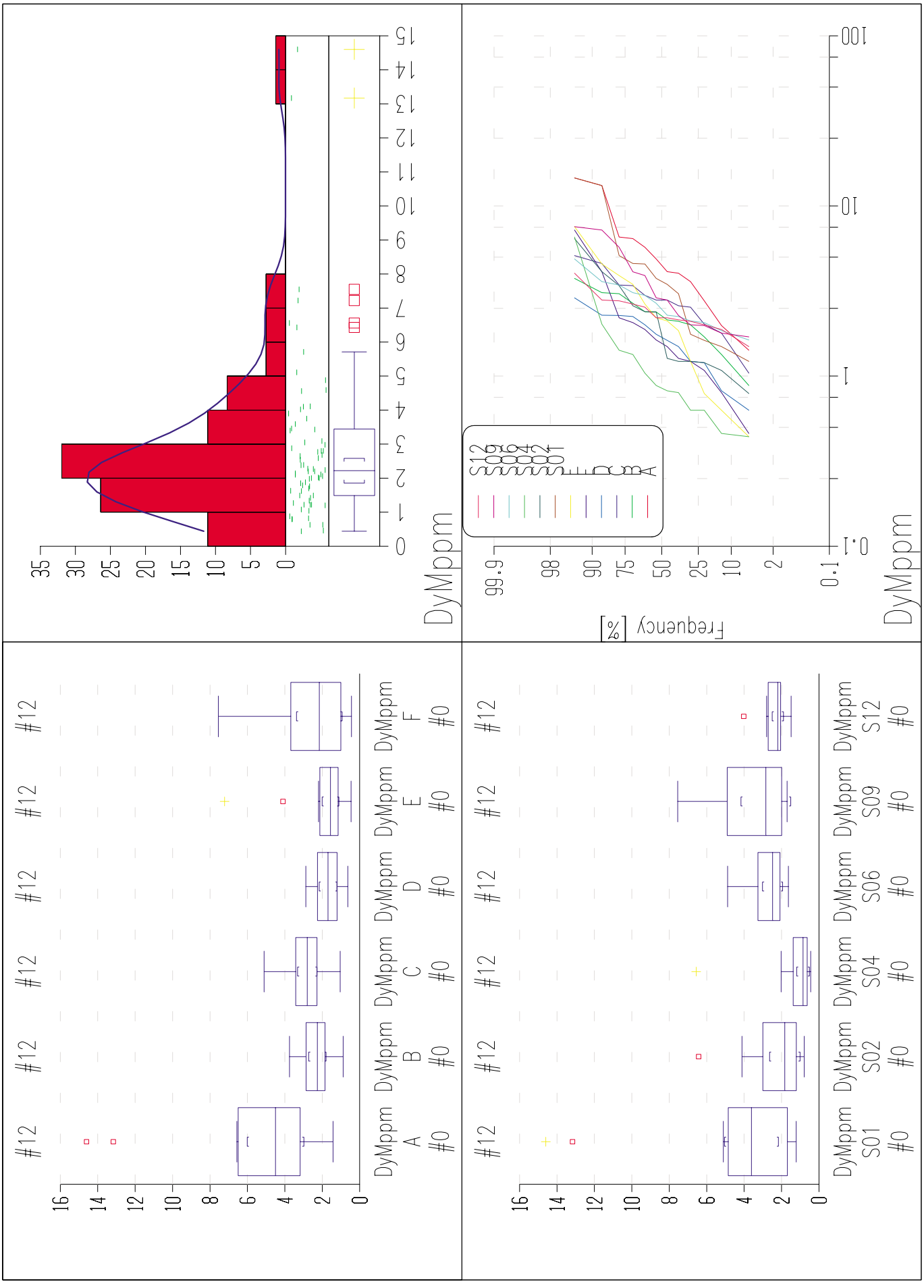

ClXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
S01
S02
S04
S06
S09
S12

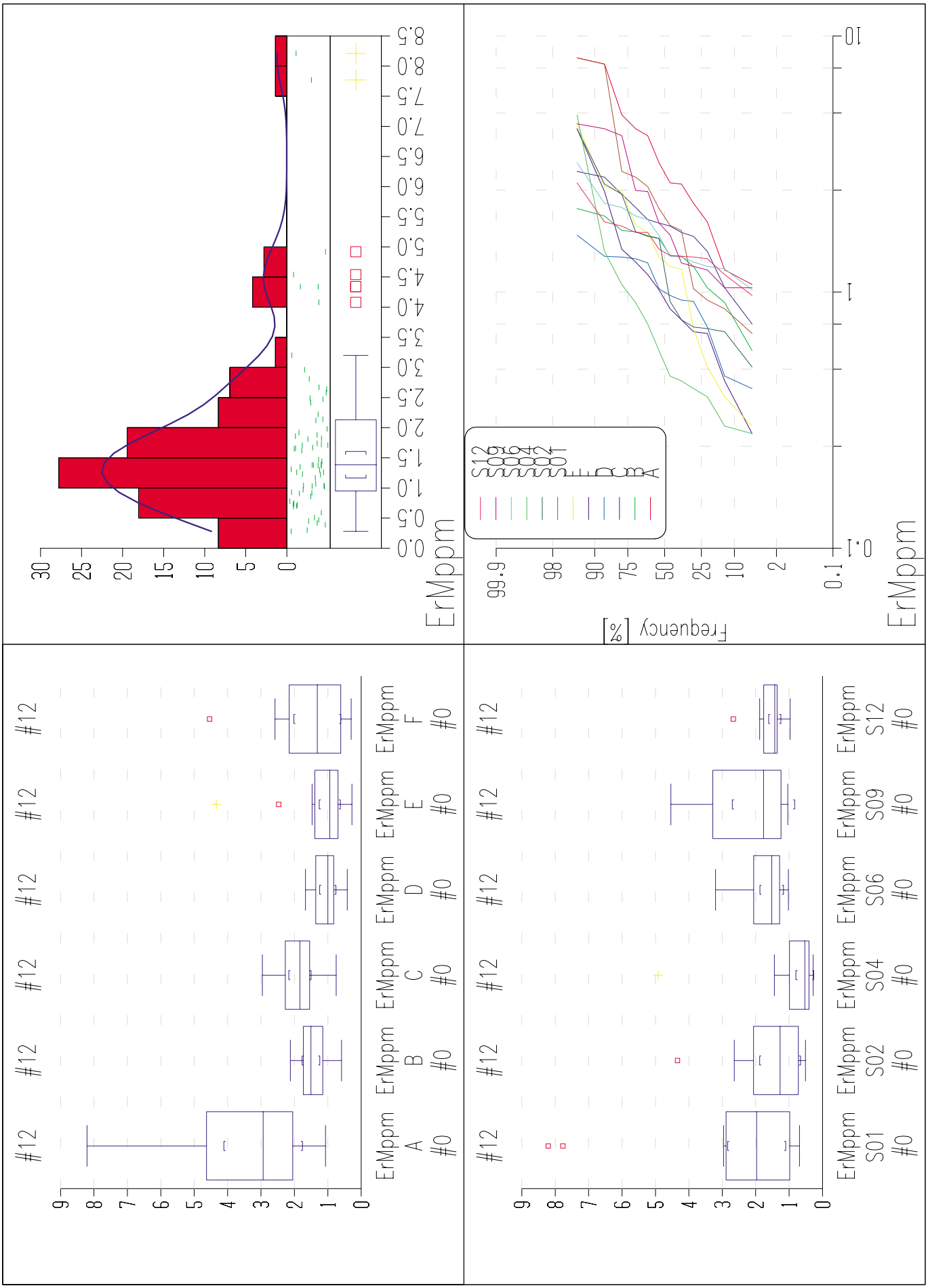

CoXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
CoXppm
S01
S02
S04
S06
S09
S12

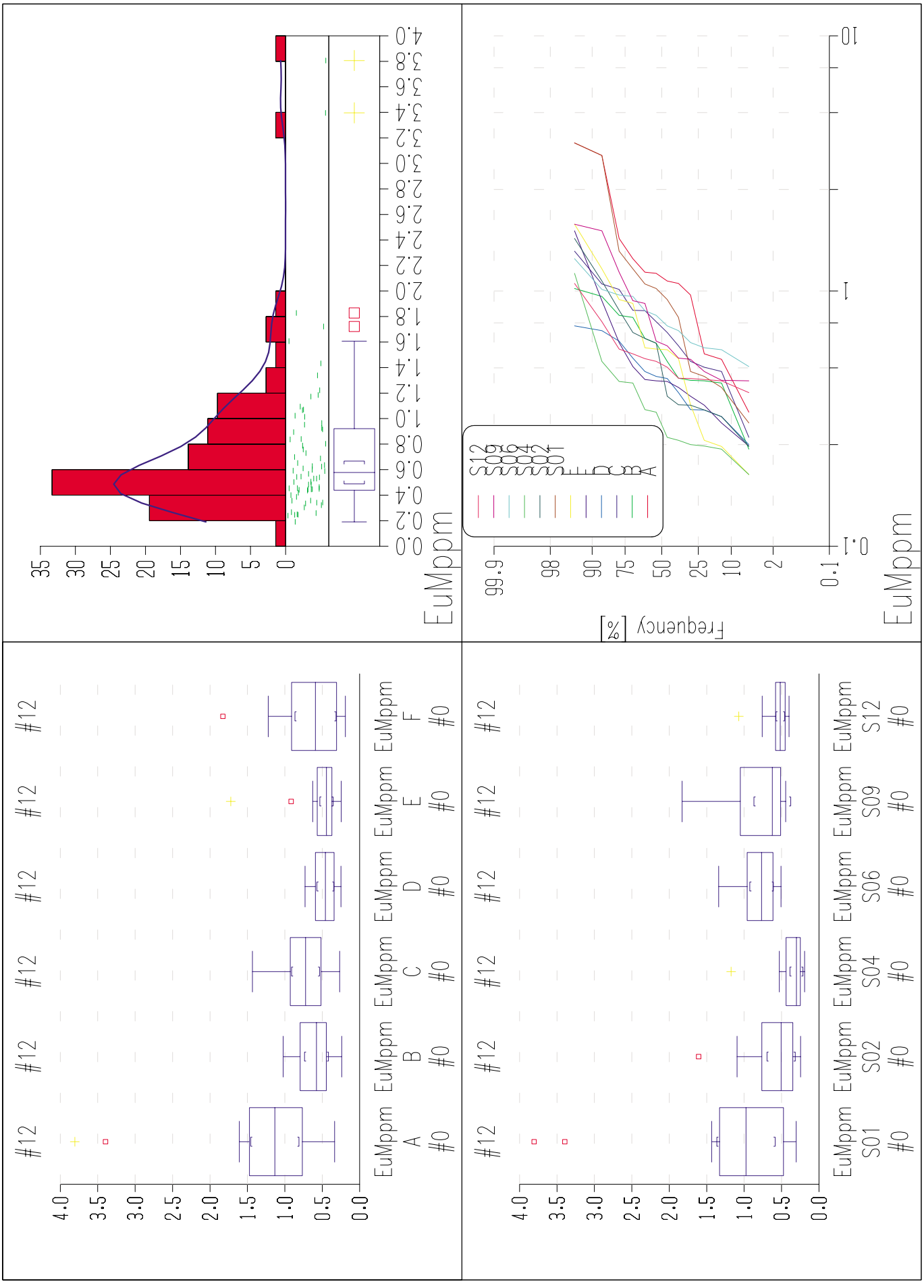

CrXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
CrXppm
S01
S02
S04
S06
S09
S12

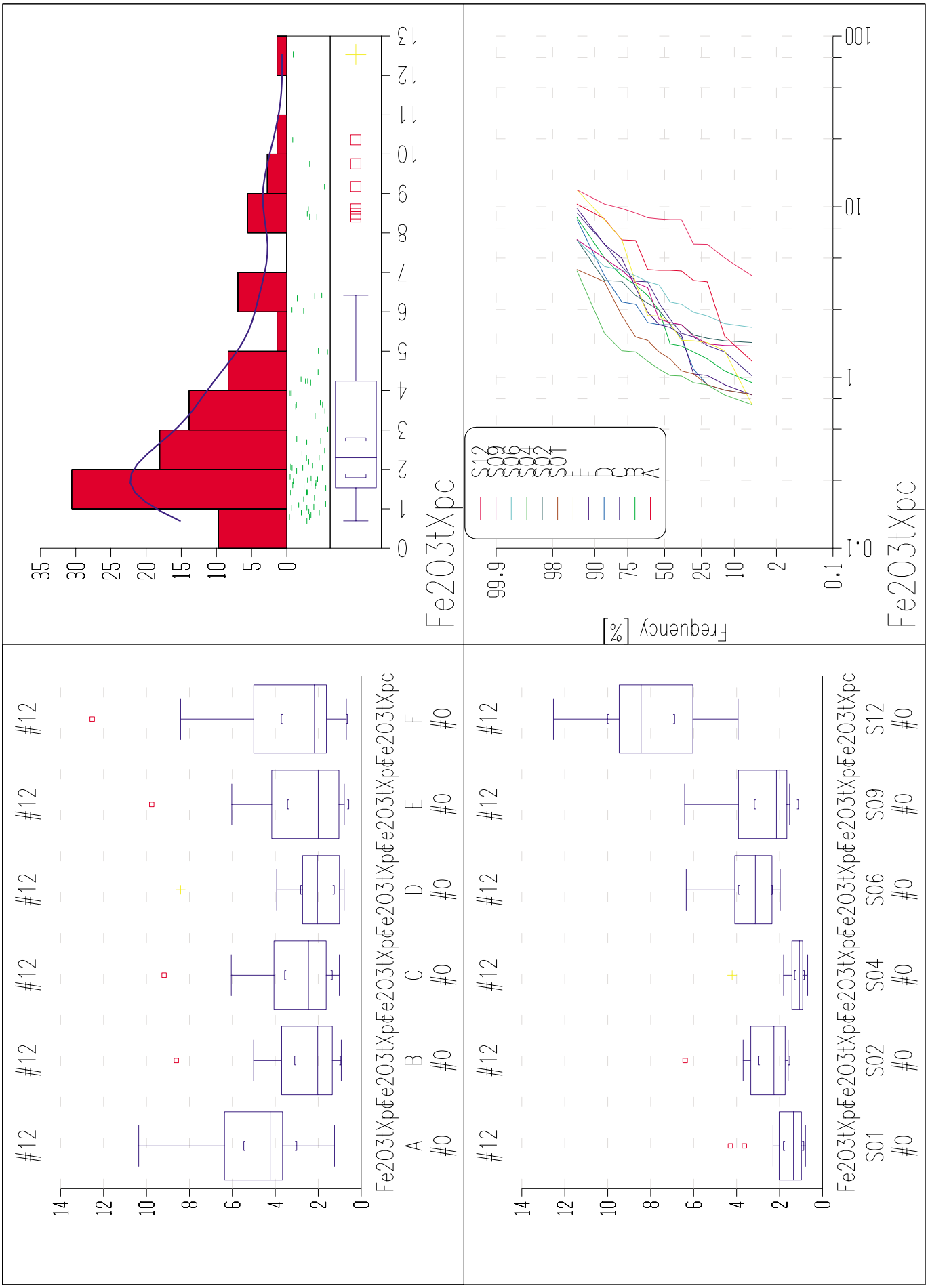

CsMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
CsMppm
#12
#0
S01
S02
S04
S06
S09
S12
A
B
C
D
E
F

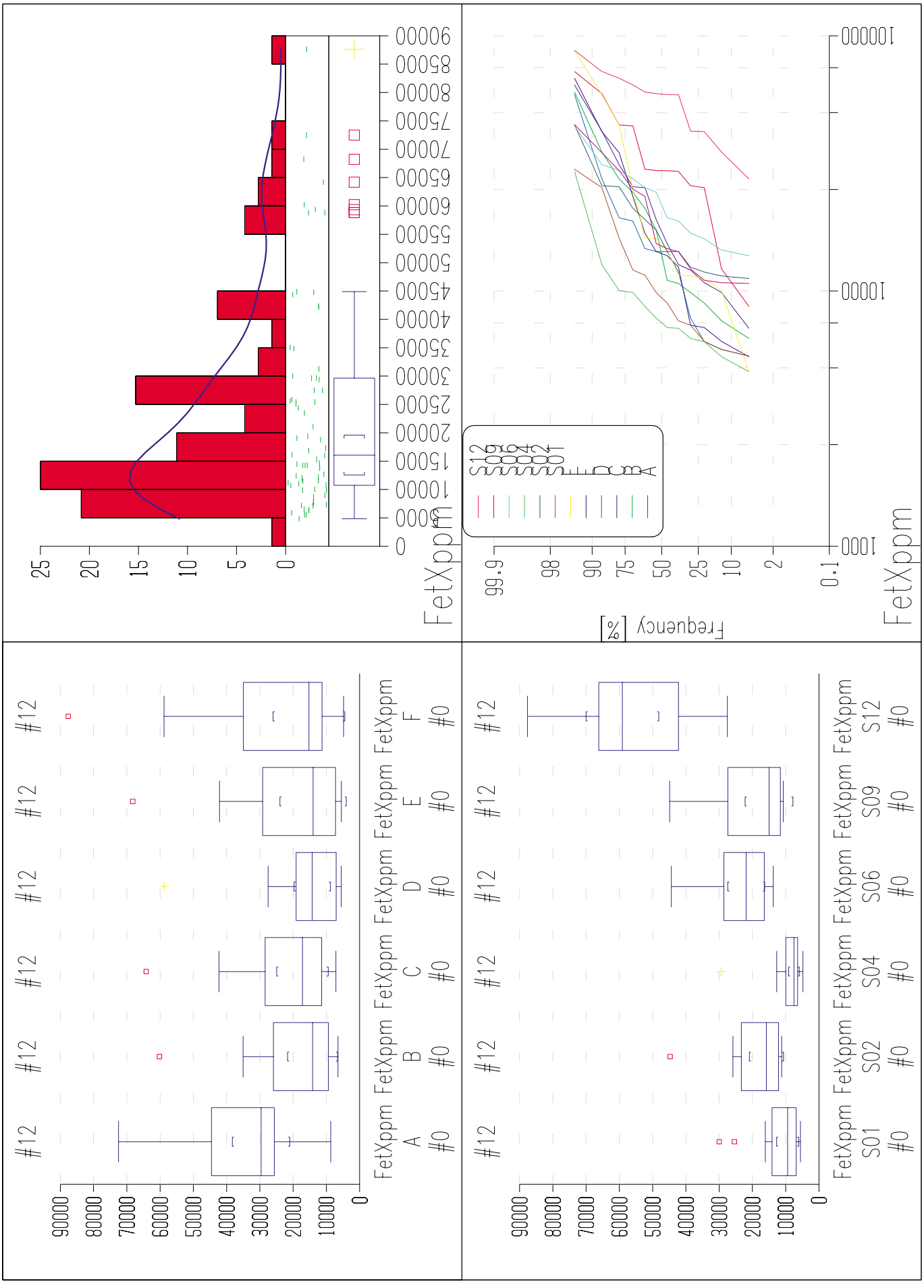

CuXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
CuXppm
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12
#0
#12

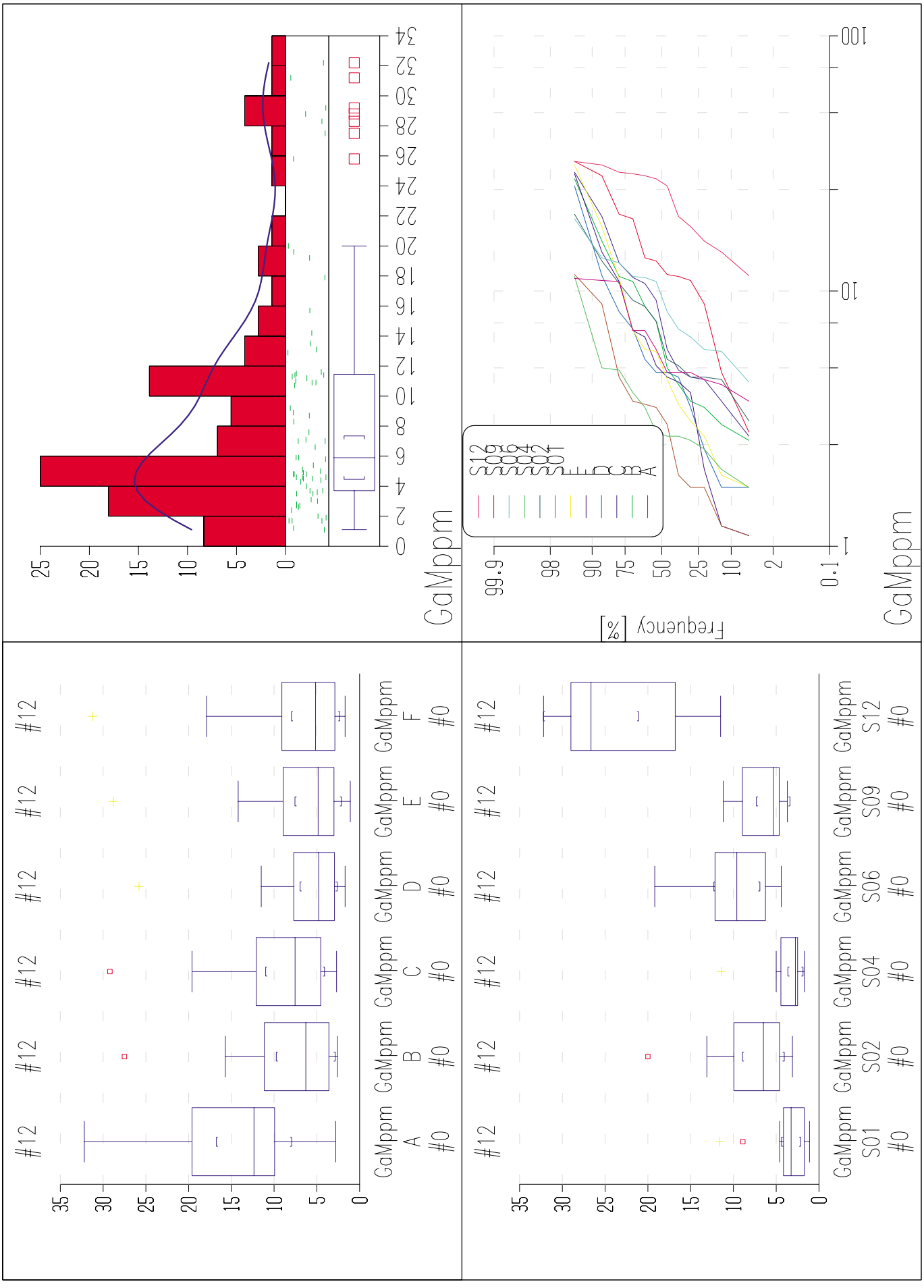

DyMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
DyMppm
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12
#12
#0

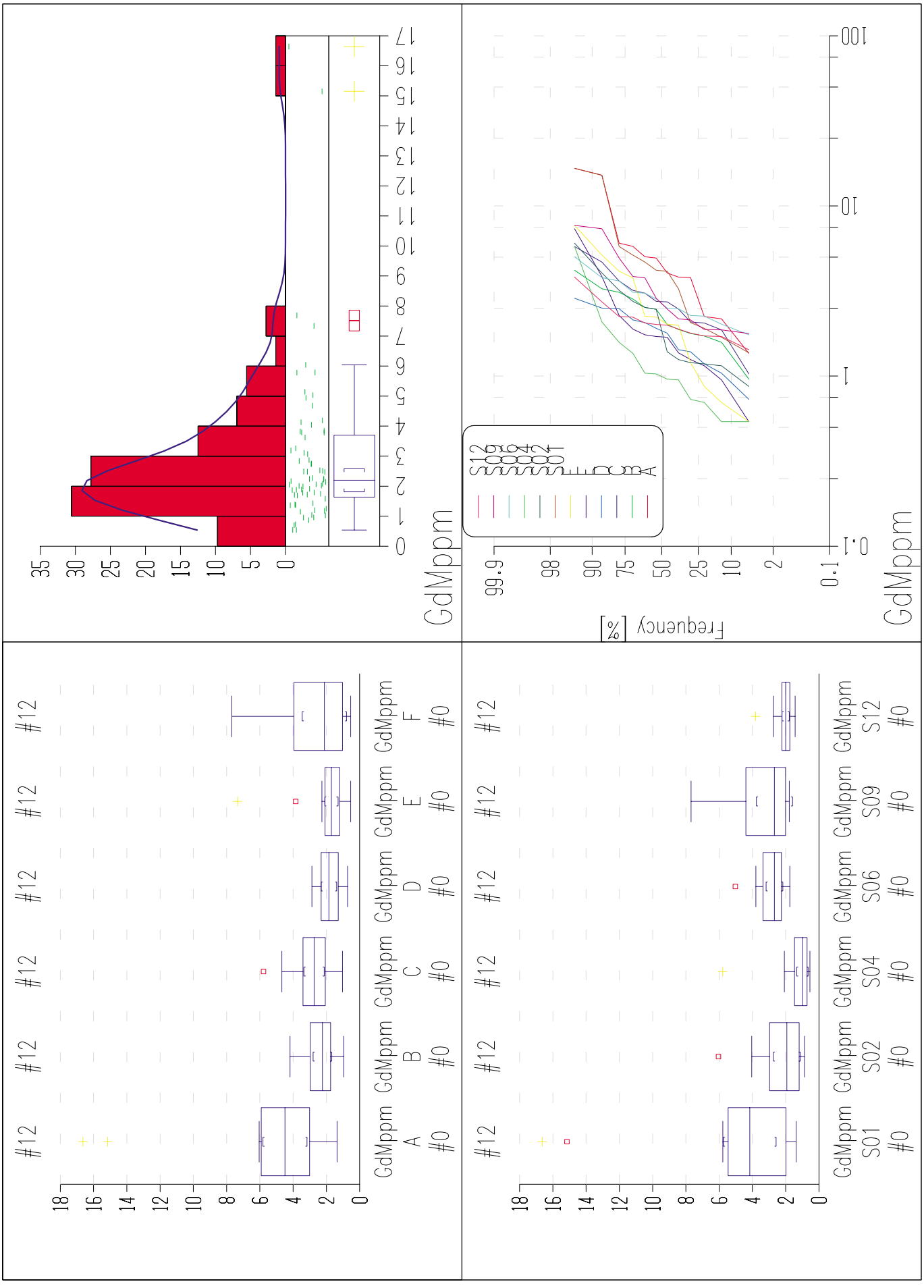

ErMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

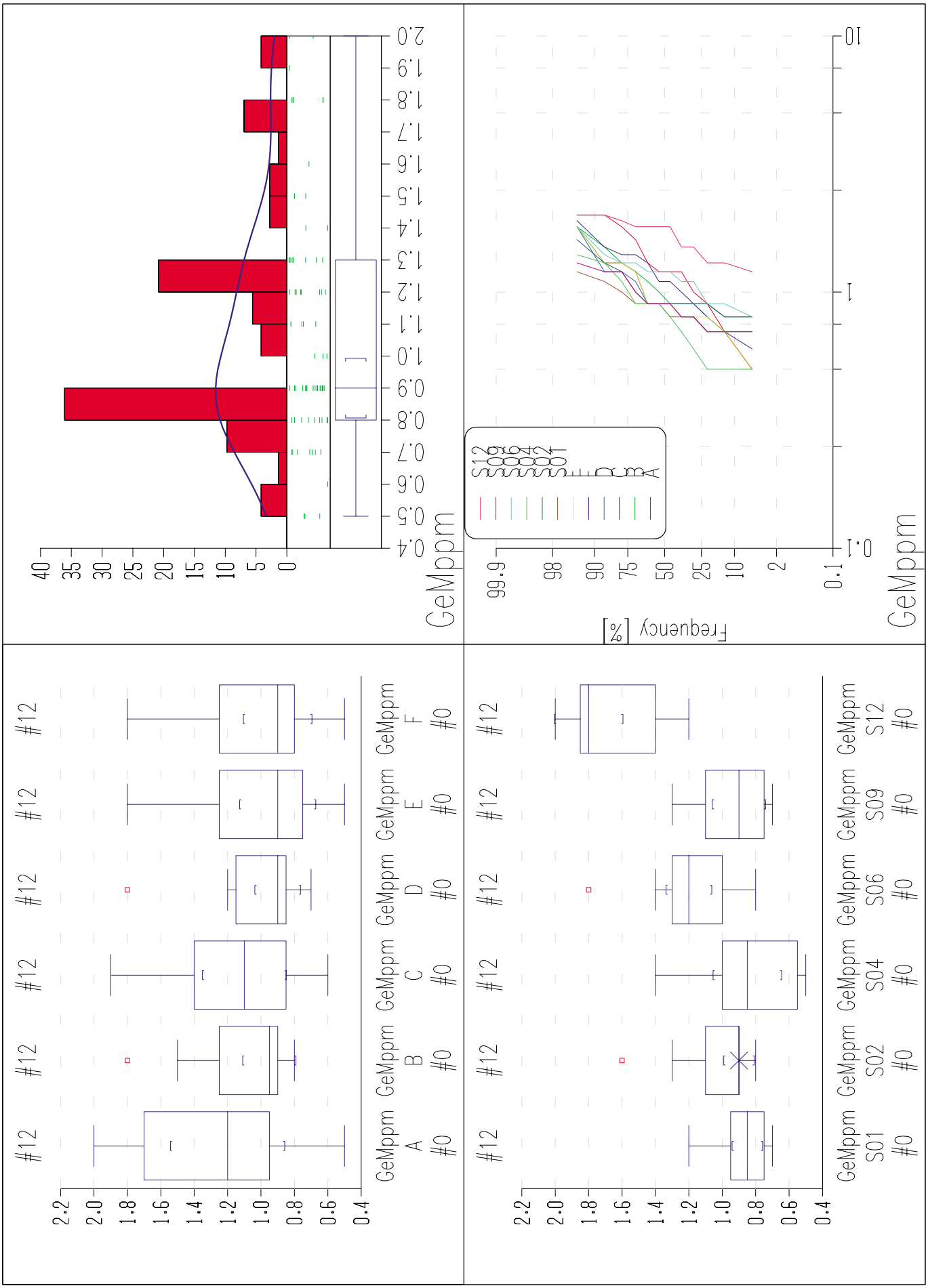

EuMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
EuMppm
S01
S02
S04
S06
S09
S12

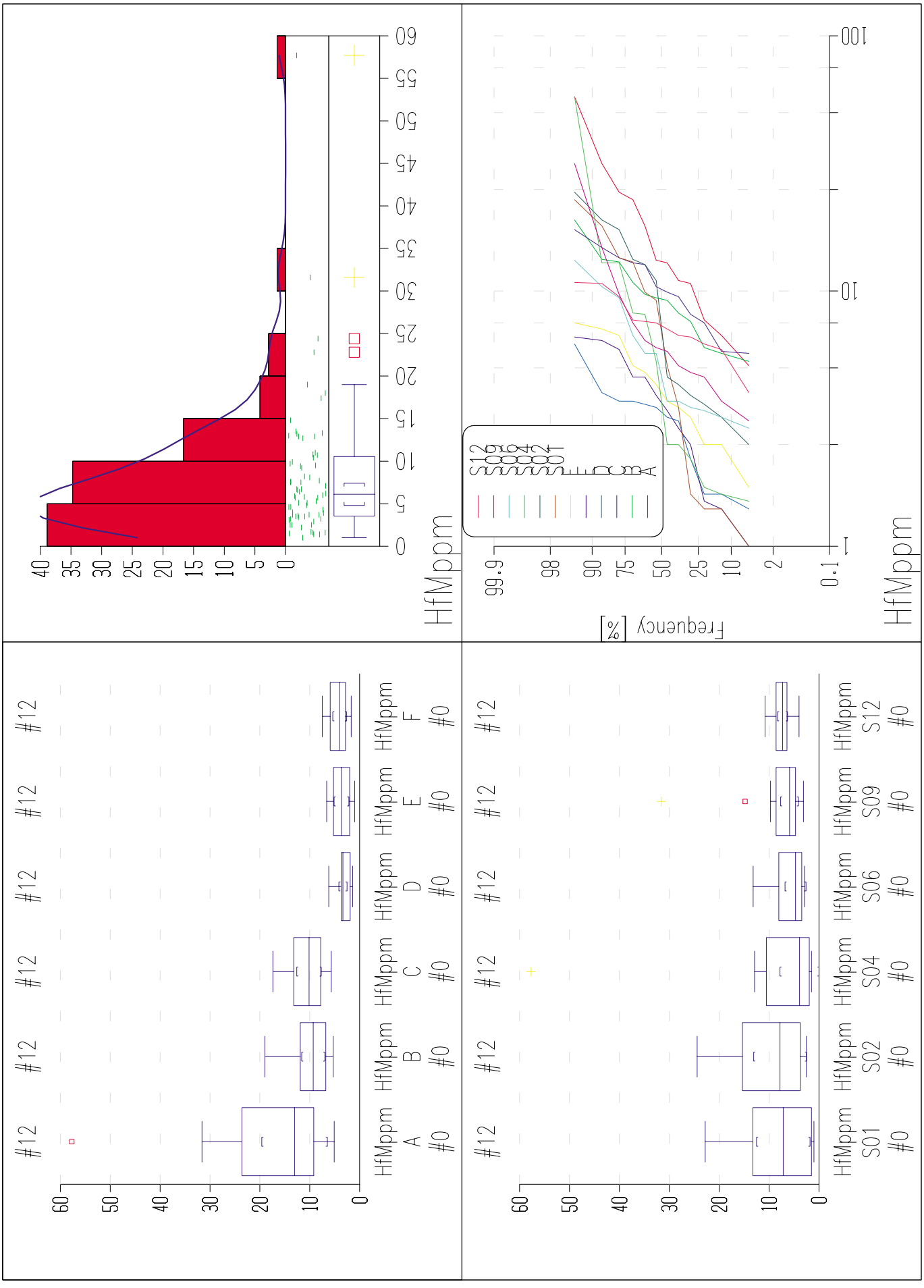

Fe2O3tXpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
Fe2O3tXpcFe2O3tXpcFe2O3tXpcFe2O3tXpcFe2O3tXpcFe2O3tXpc

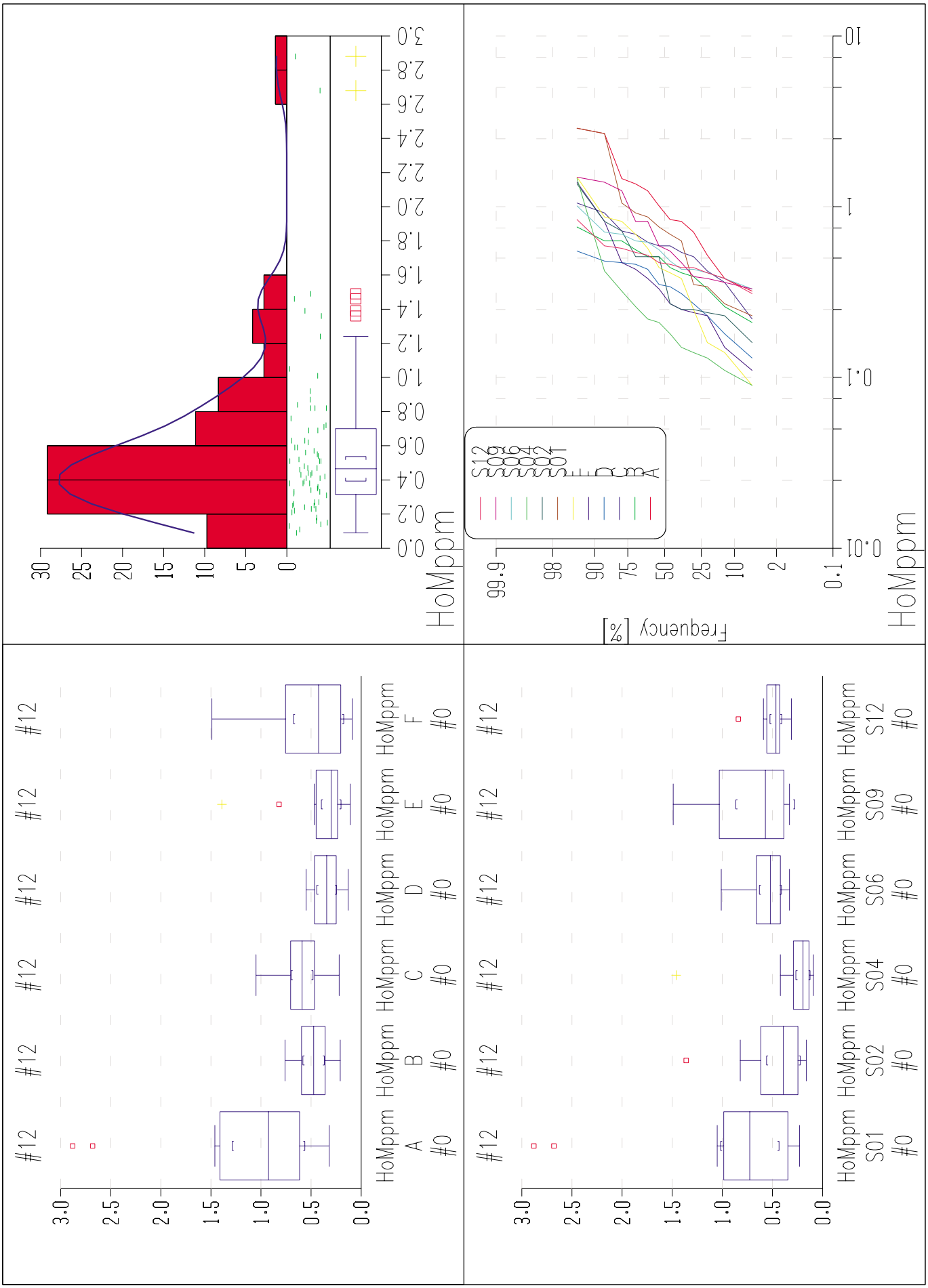

FetXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
SO1 SO2 SO4 SO6 SO9 S12
FetXppm
#0
#12

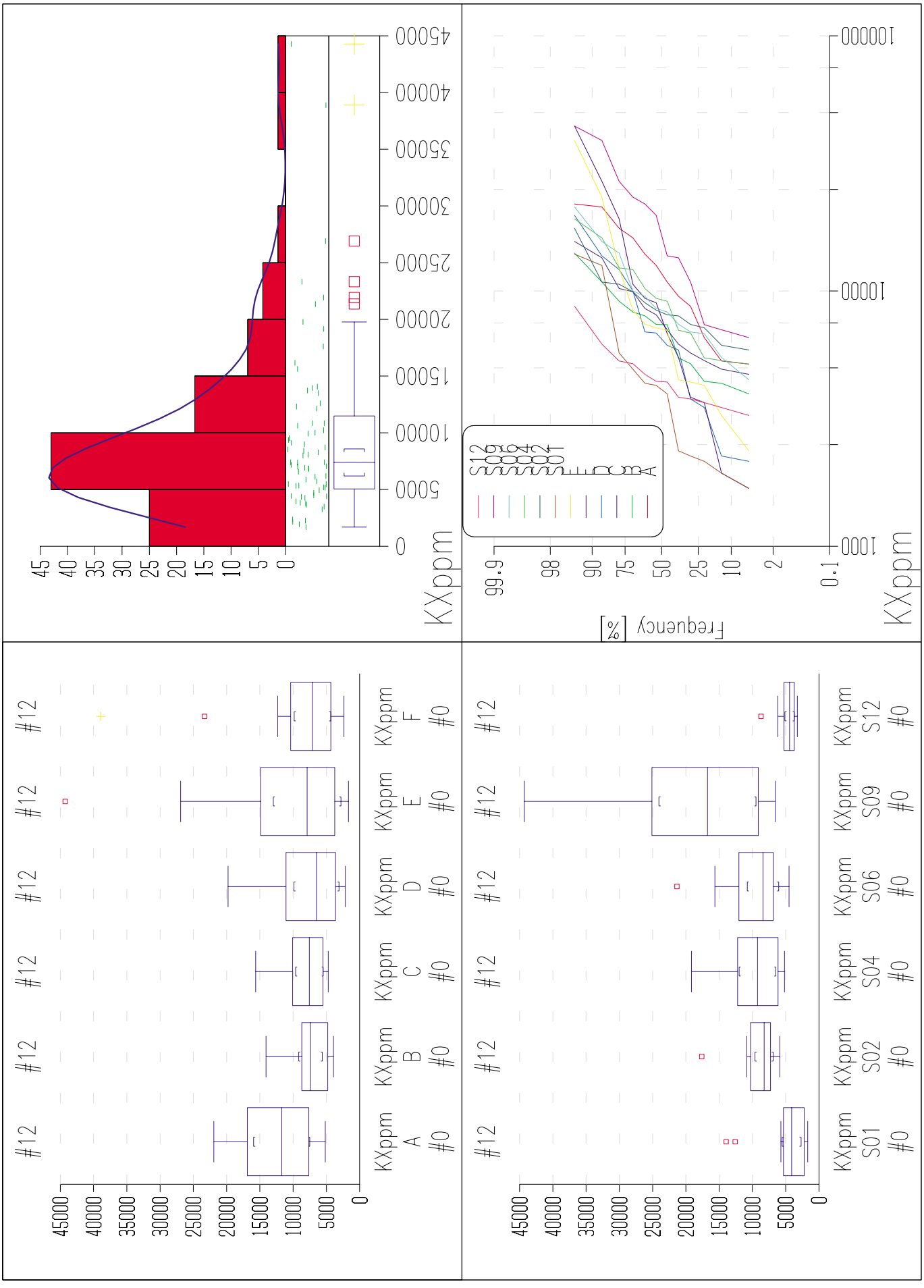

GaMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
GaMppm
S01
S02
S04
S06
S09
S12

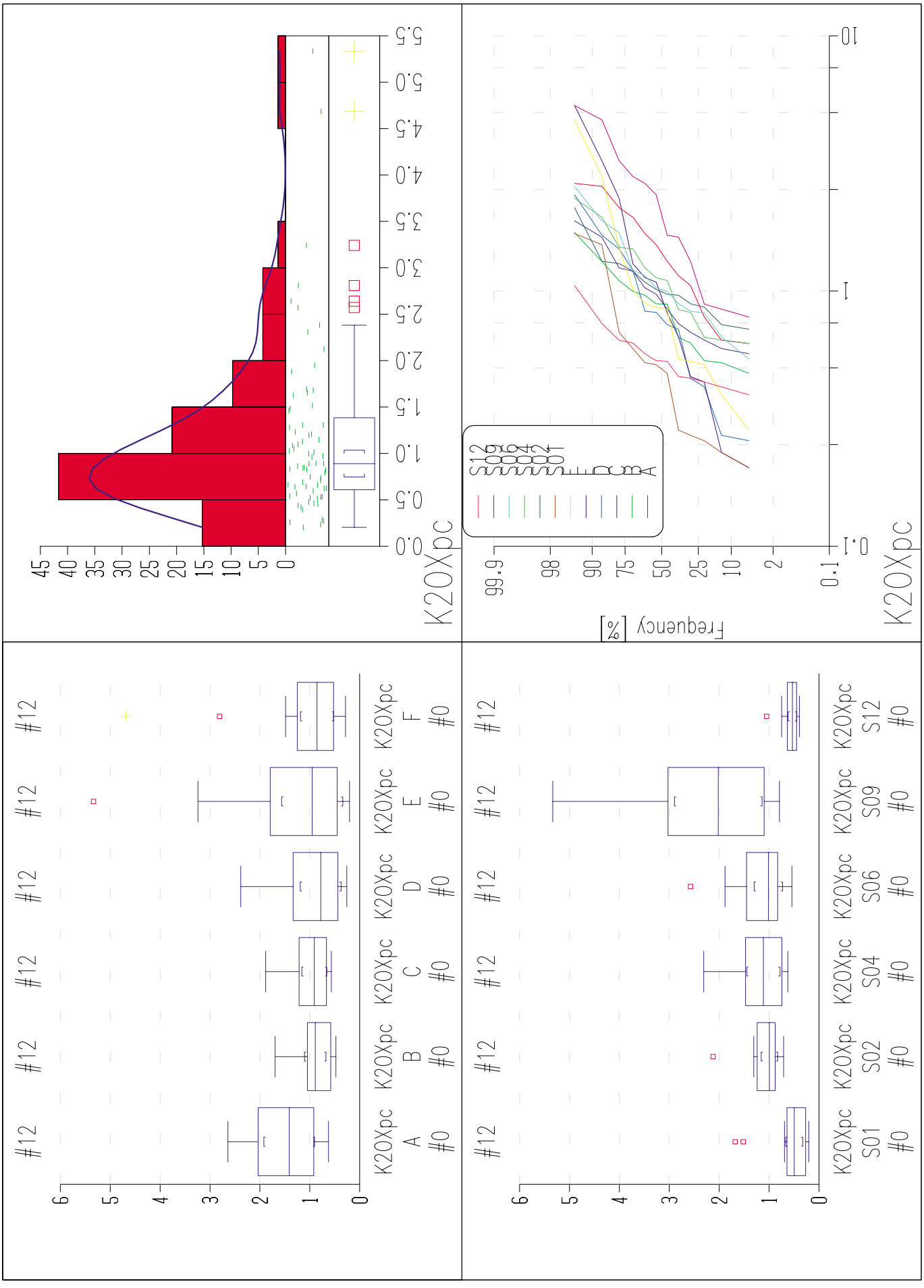

GdMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
GdMppm
S01
S02
S04
S06
S09
S12

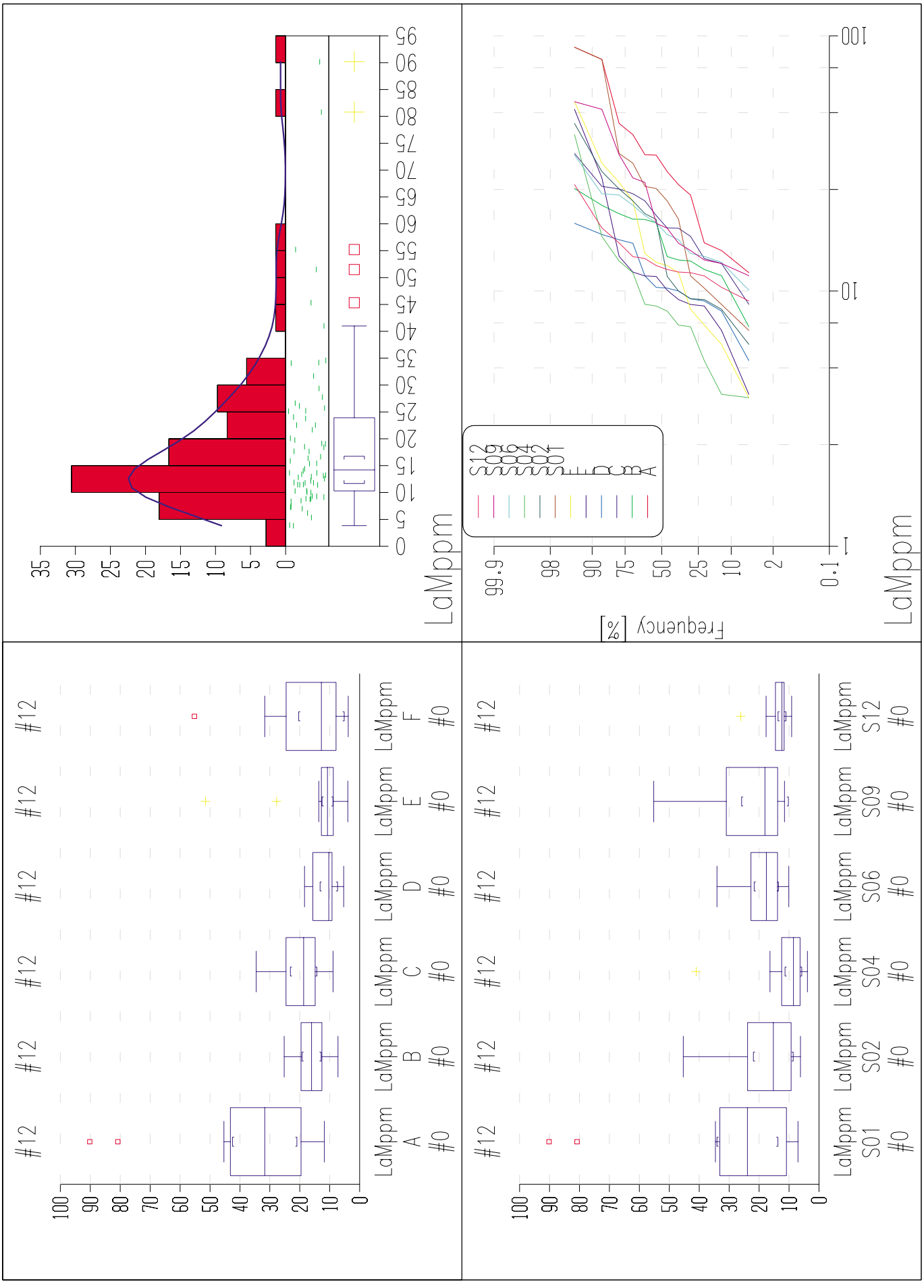

GeMppm
Frequency [%]
S12
S09
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

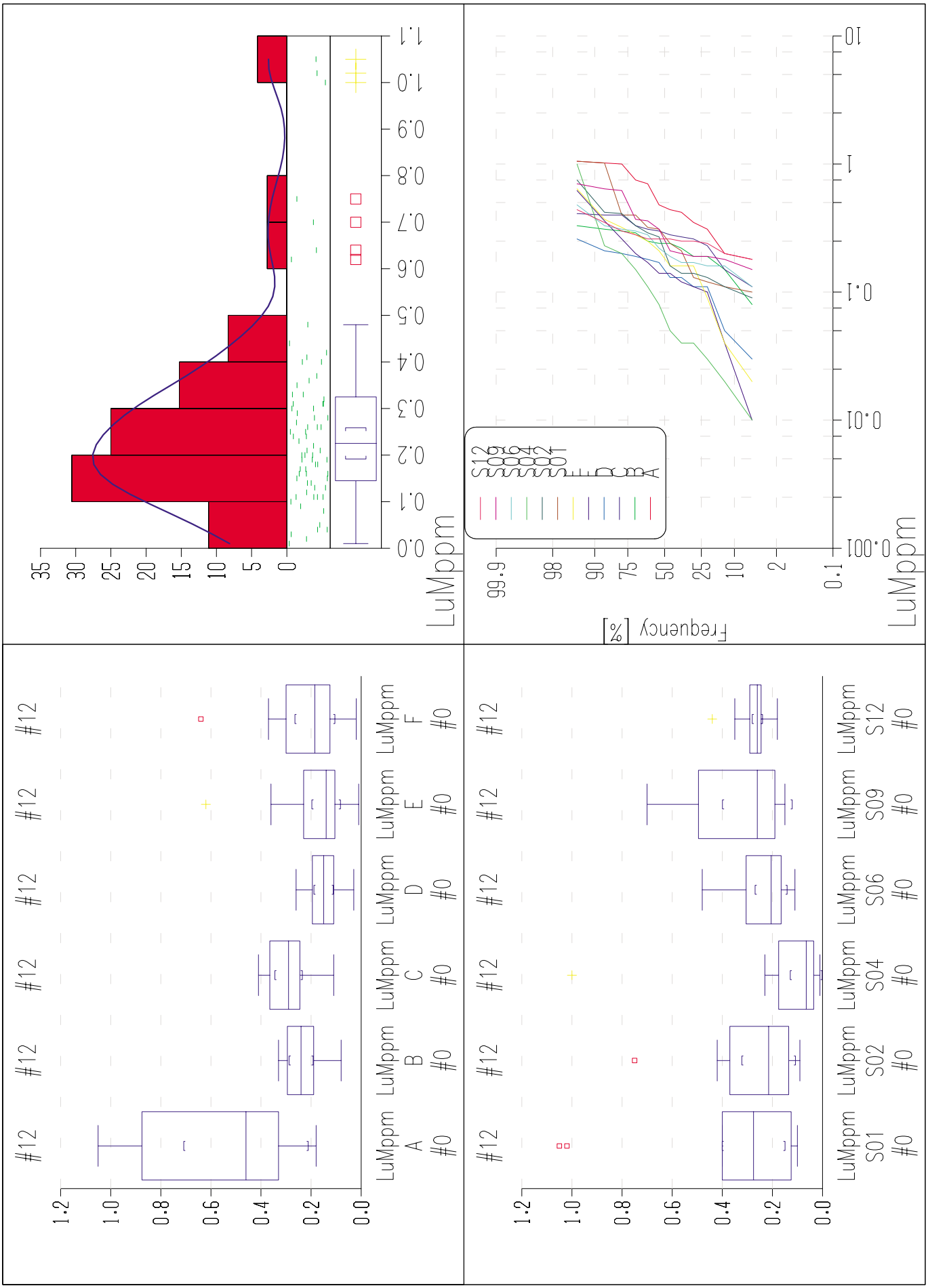

HfMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

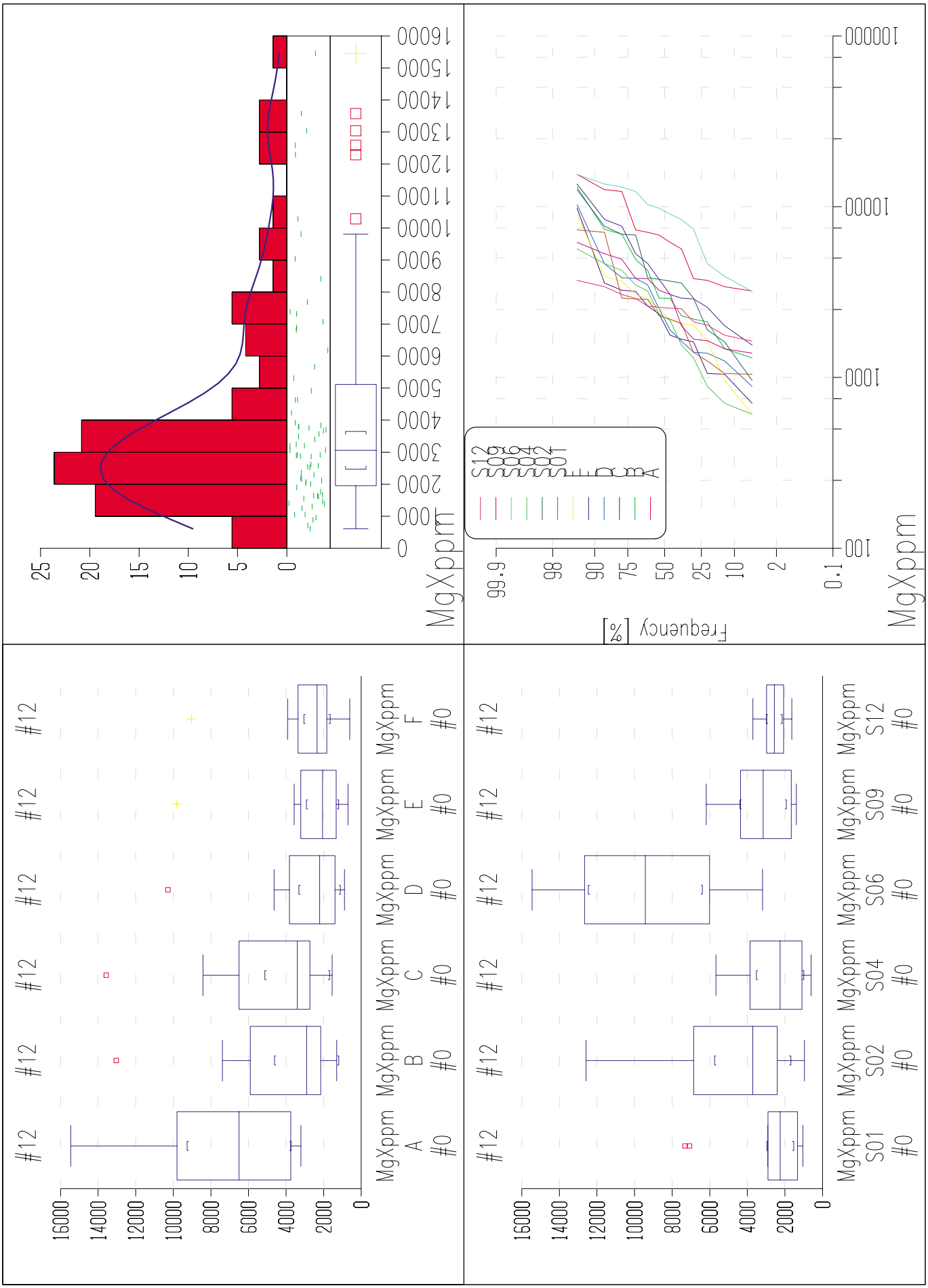

HoMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
S01
S02
S04
S06
S09
S12

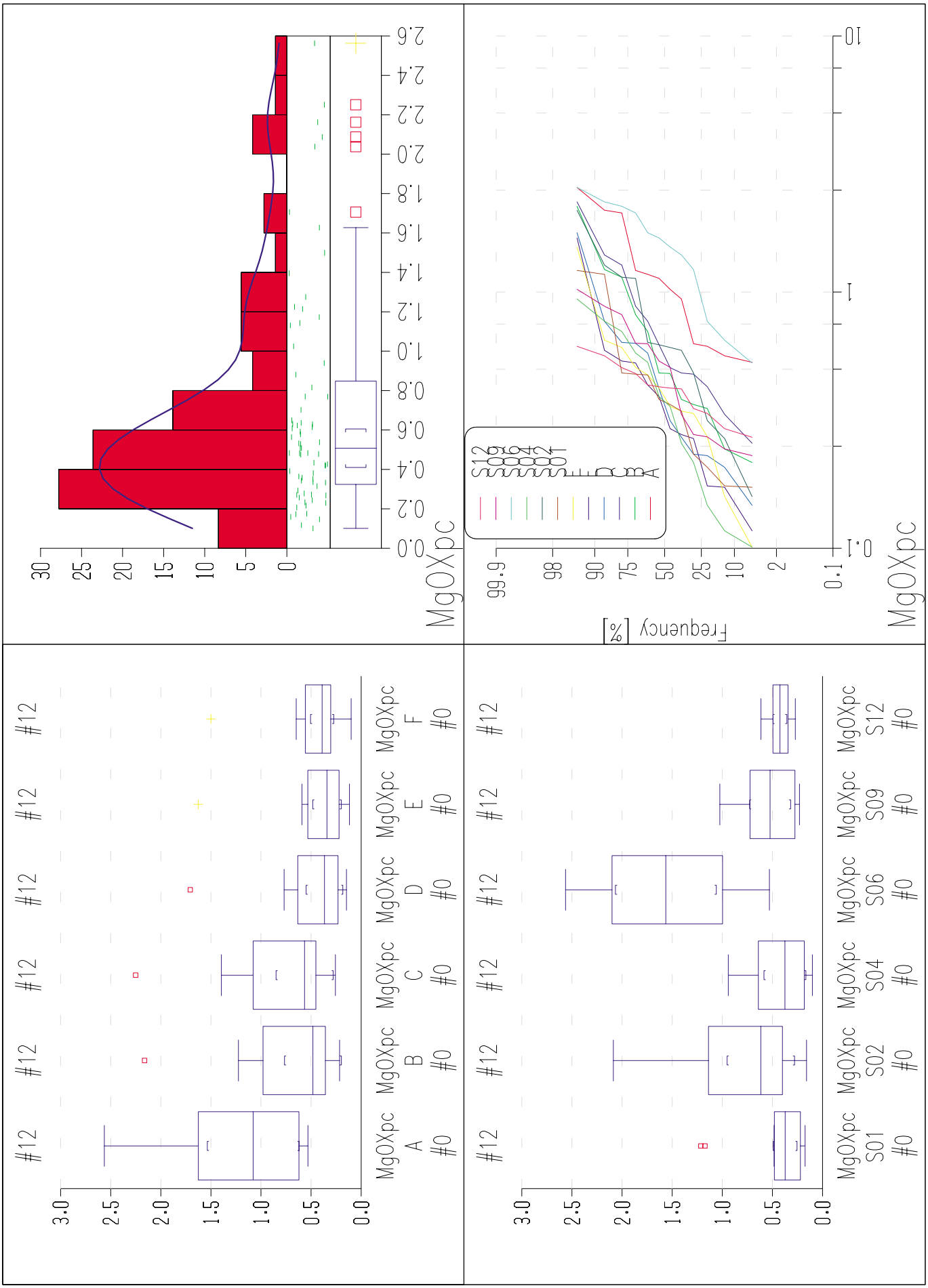

KXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
S01
S02
S04
S06
S09
S12

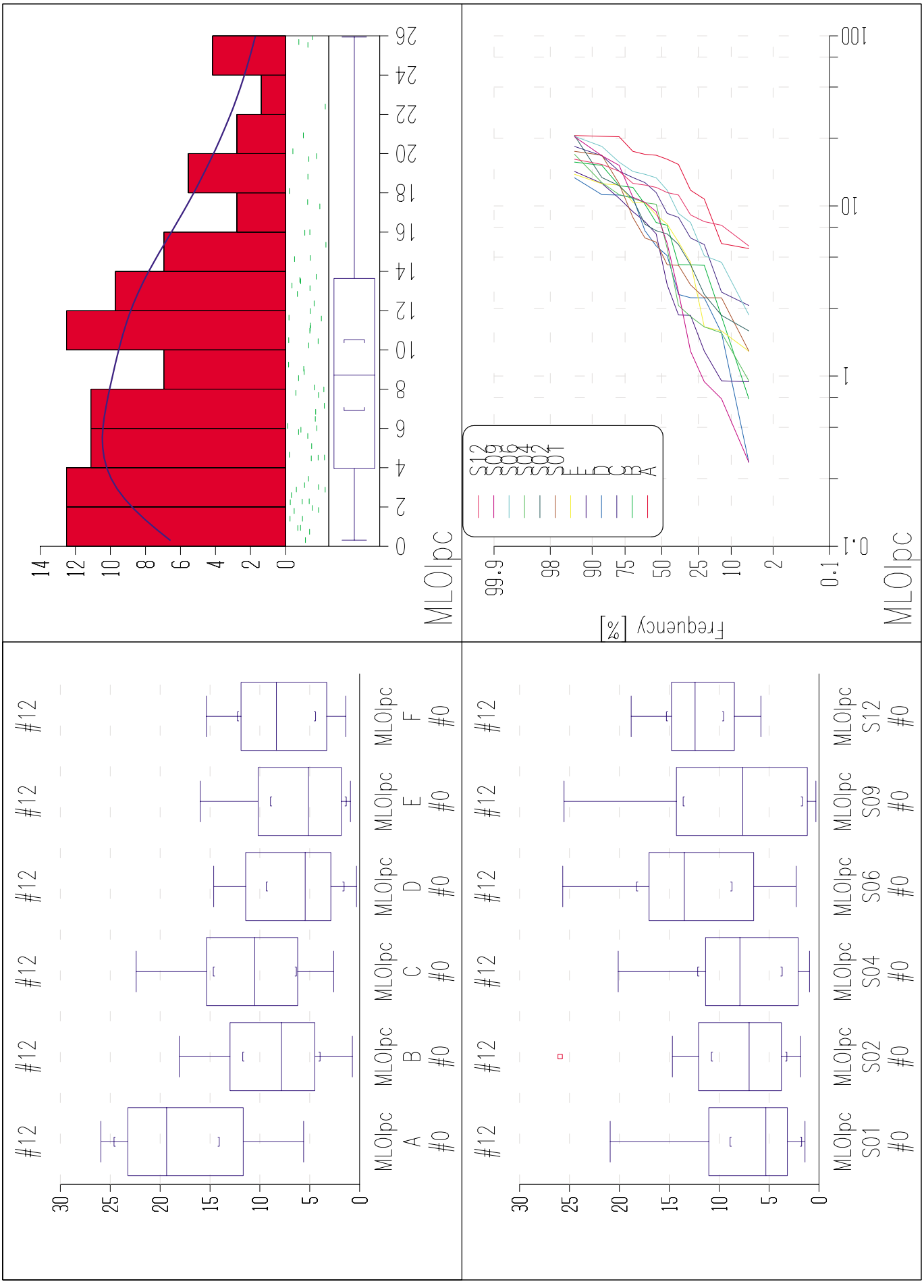

K20Xpc
Frequency [%]
99.9
98
90
75
50
25
10
2
0.1
S12
S06
S04
S01
F
E
D
C
B
A
K20Xpc
S01
S02
S04
S06
S09
S12
#0
#12

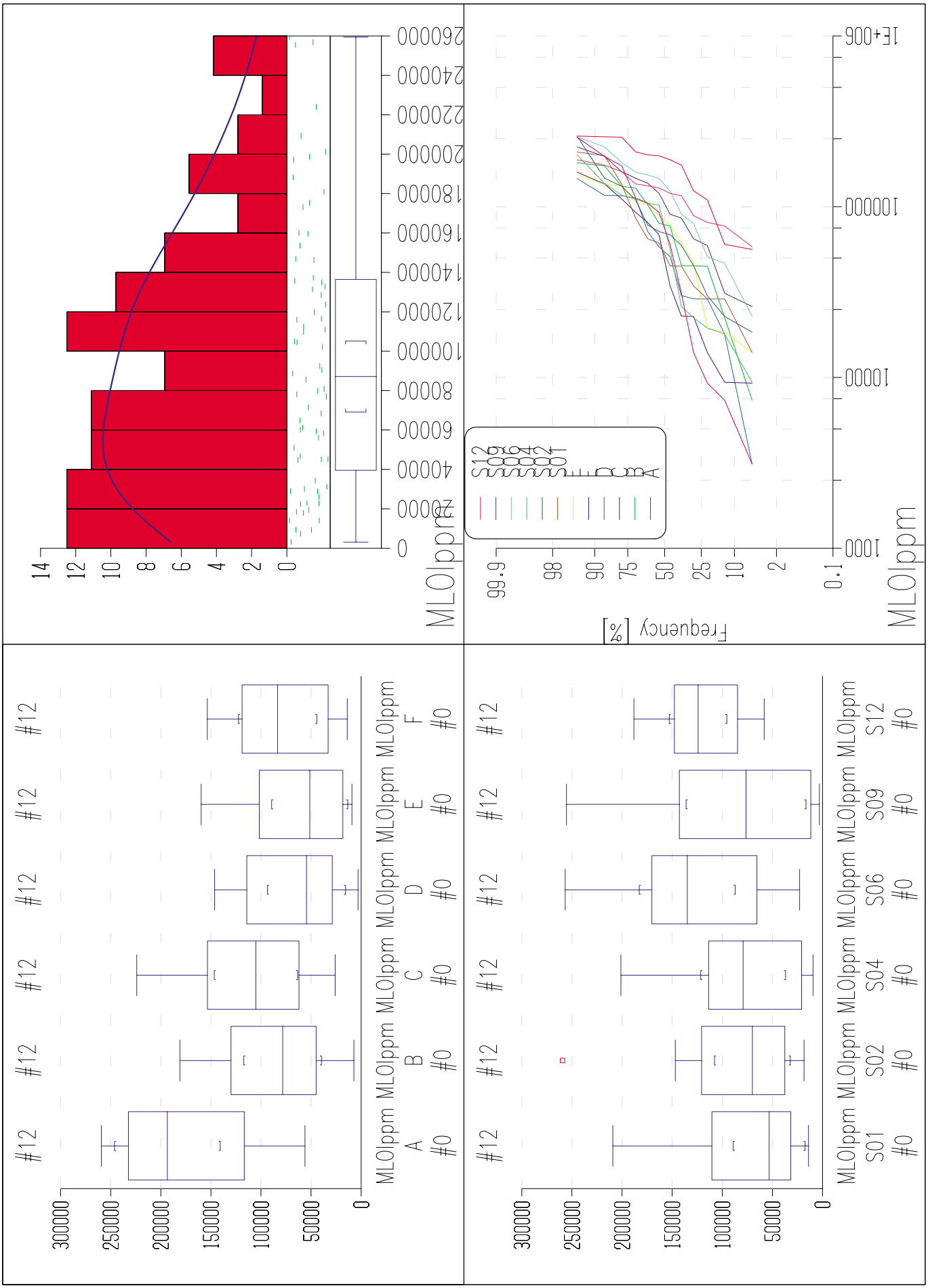

LaMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
LaMppm
S01
S02
S04
S06
S09
S12

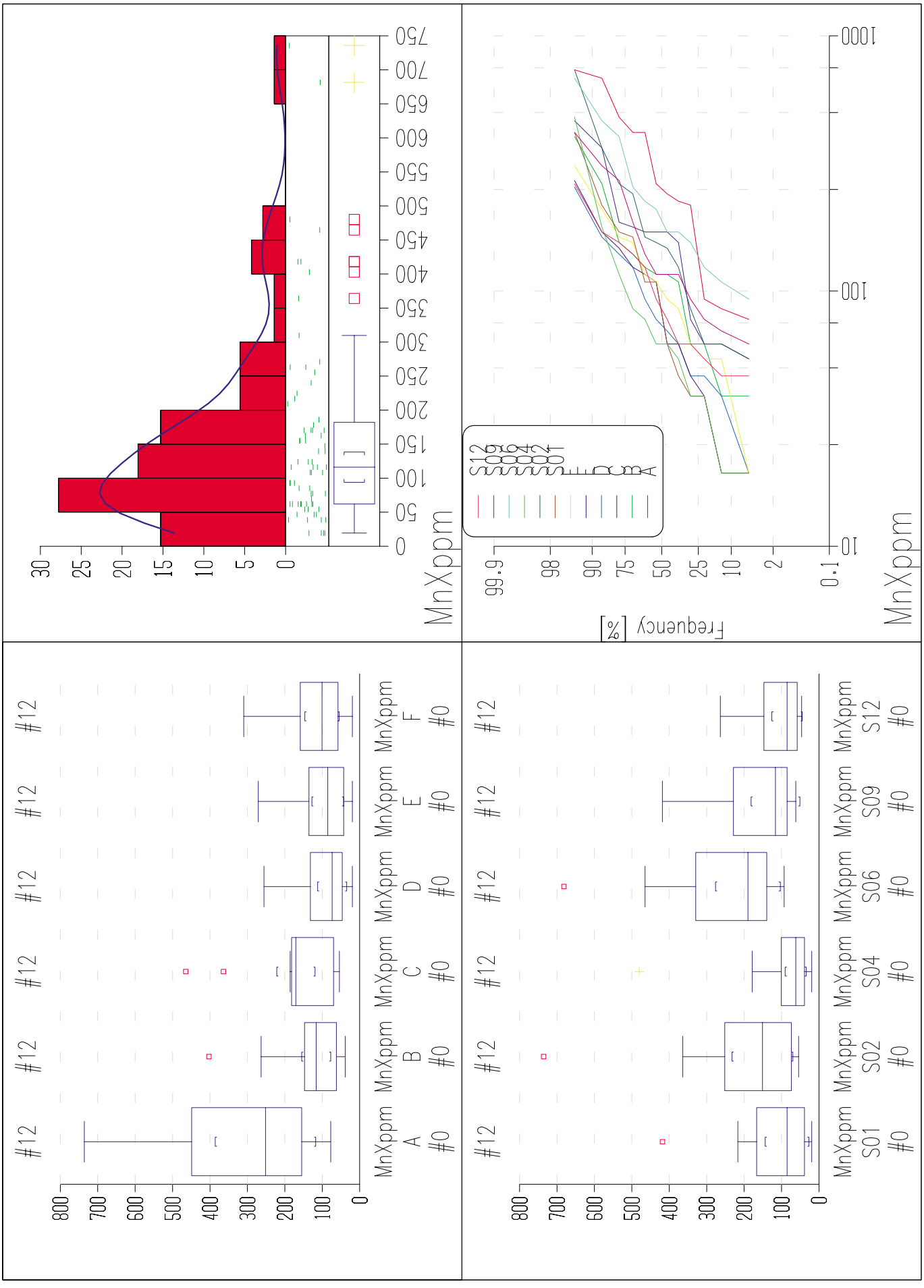

LuMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
LuMppm
S01
S02
S04
S06
S09
S12

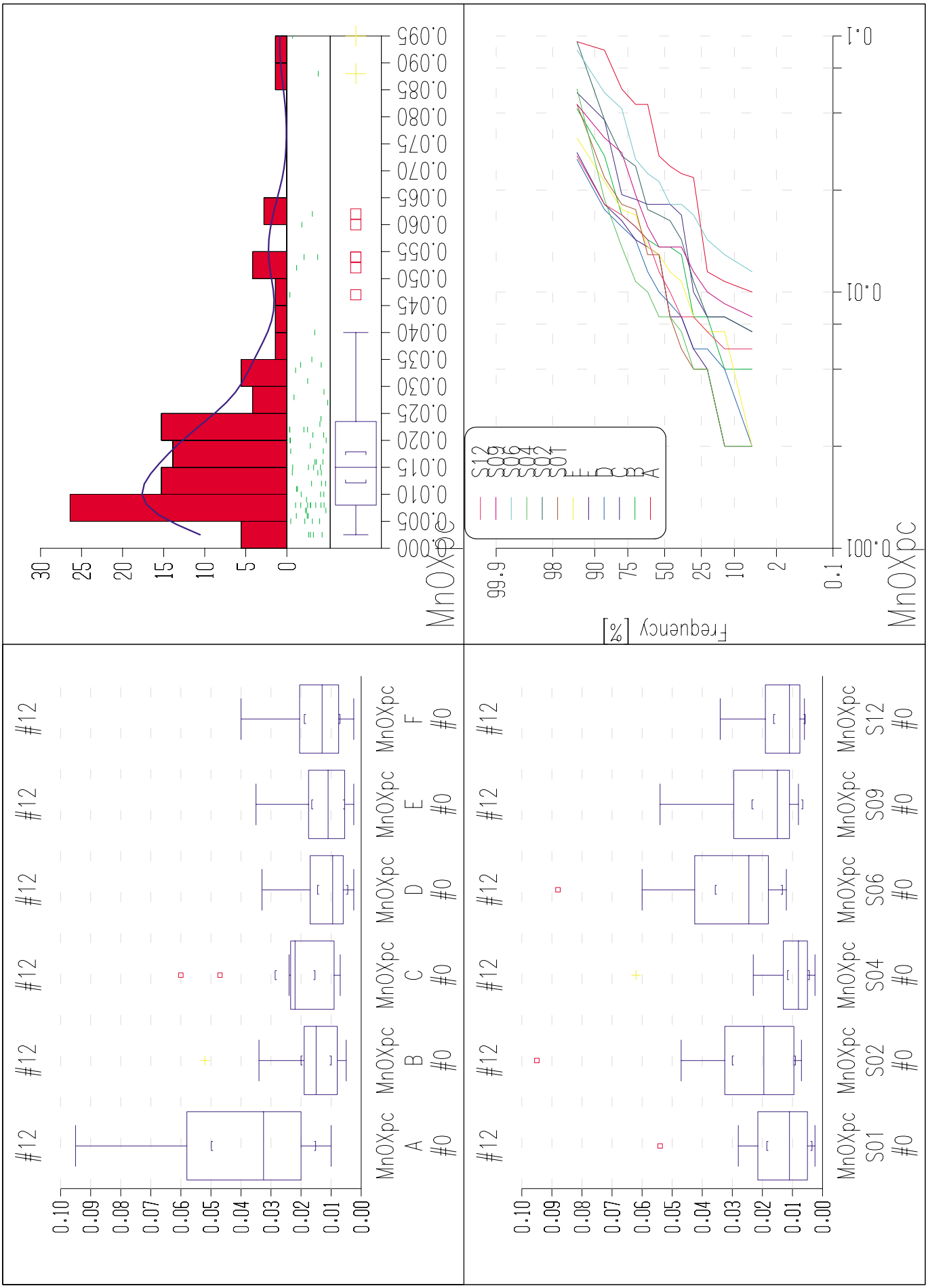

MgXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
MgXppm
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12
#12
#0

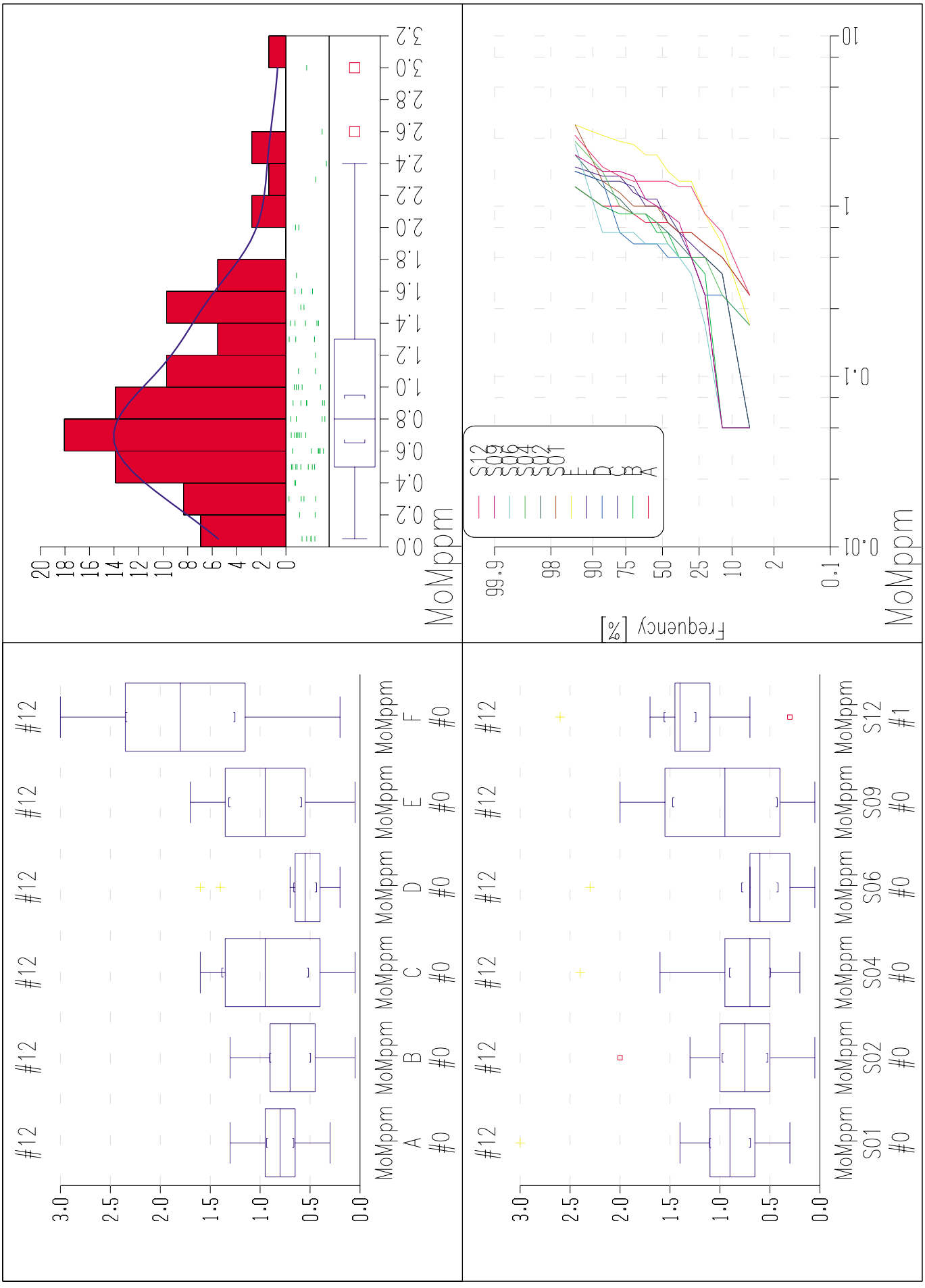

MgOXpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
MgOXpc A #0
MgOXpc B #0
MgOXpc C #0
MgOXpc D #0
MgOXpc E #0
MgOXpc F #0
MgOXpc S01 #0
MgOXpc S02 #0
MgOXpc S04 #0
MgOXpc S06 #0
MgOXpc S09 #0
MgOXpc S12 #0
#12

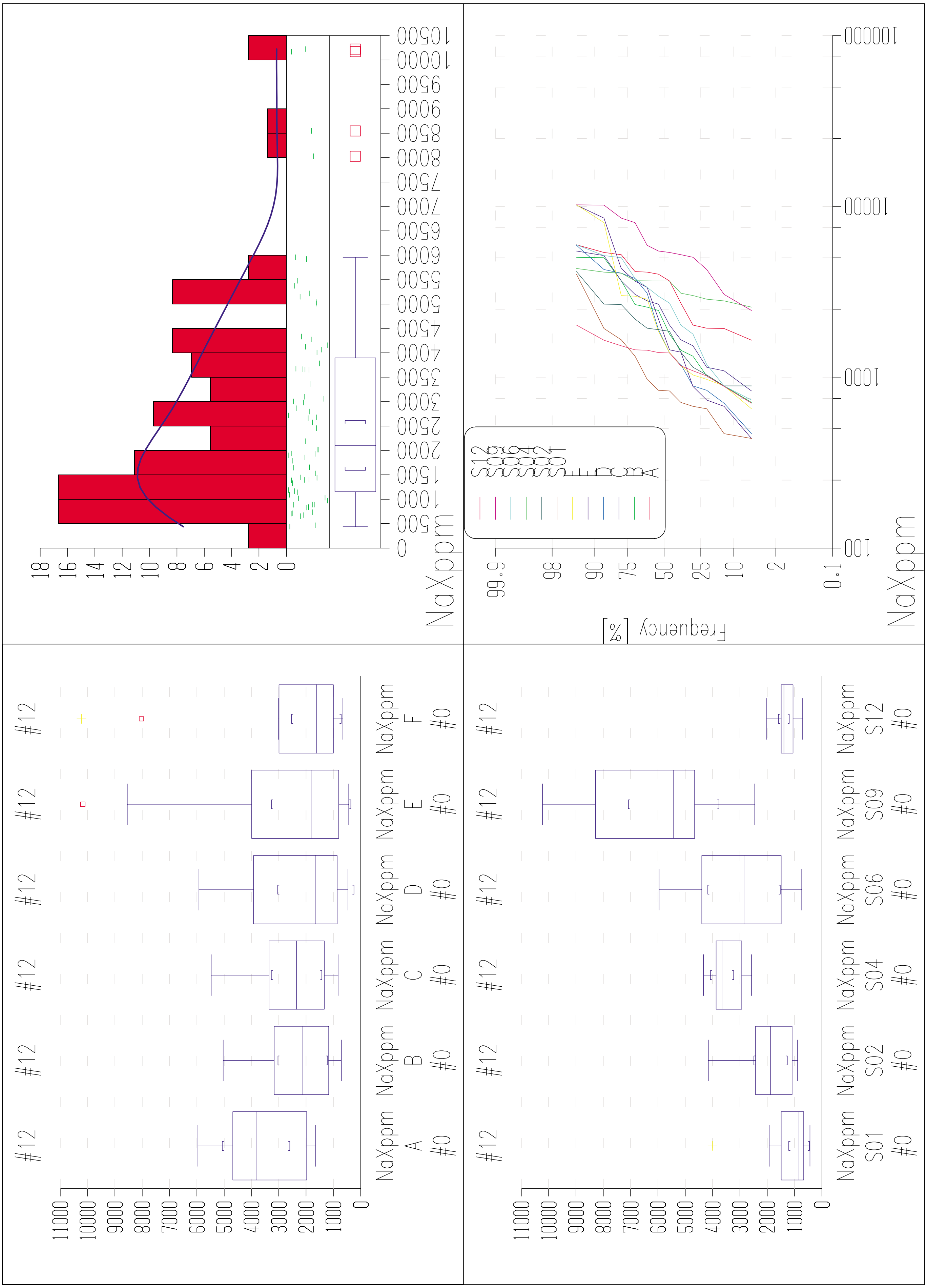

MLOIpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

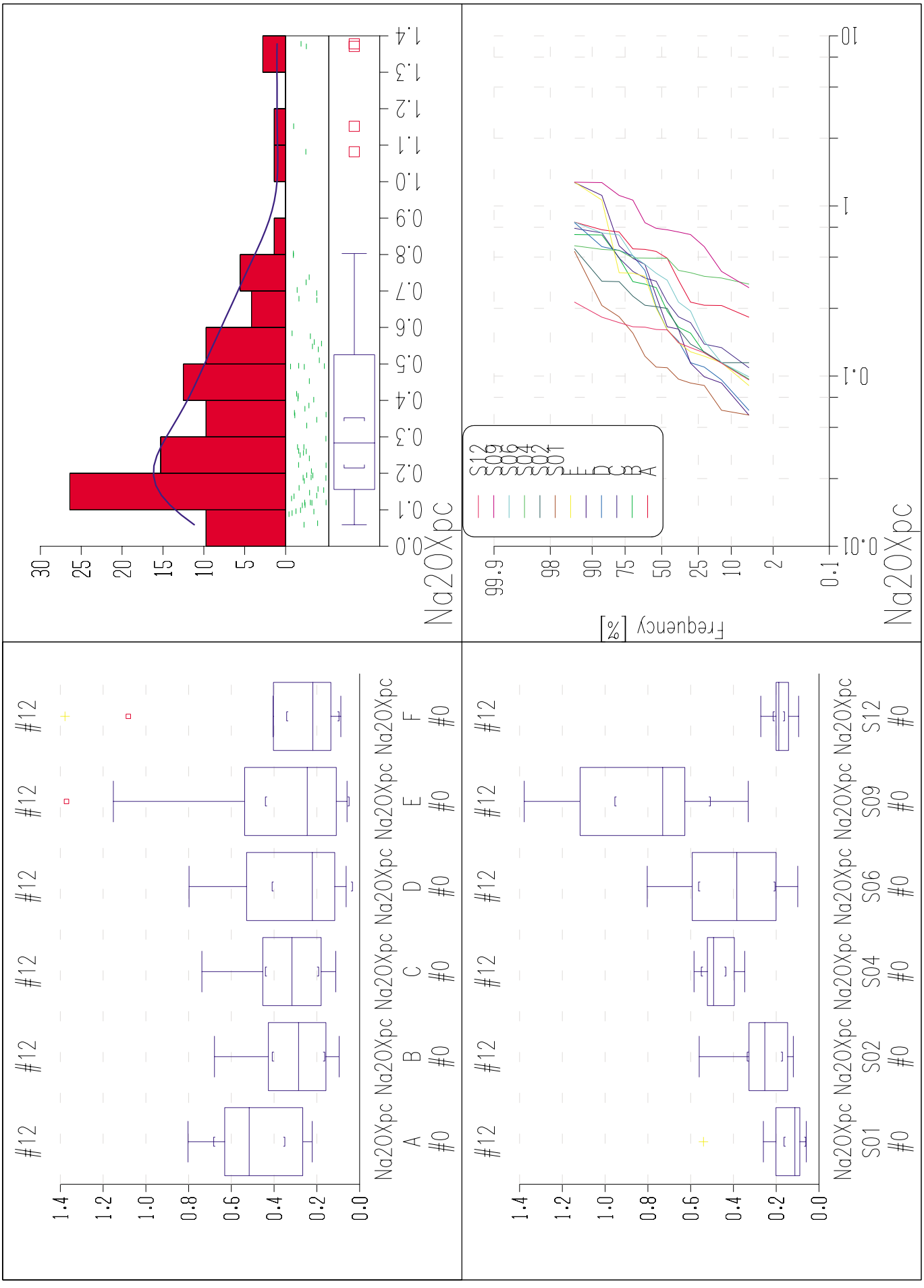

MLOIppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
MLOIppm A #0
MLOIppm B #0
MLOIppm C #0
MLOIppm D #0
MLOIppm E #0
MLOIppm F #0
MLOIppm S01 #0
MLOIppm S02 #0
MLOIppm S04 #0
MLOIppm S06 #0
MLOIppm S09 #0
MLOIppm S12 #0

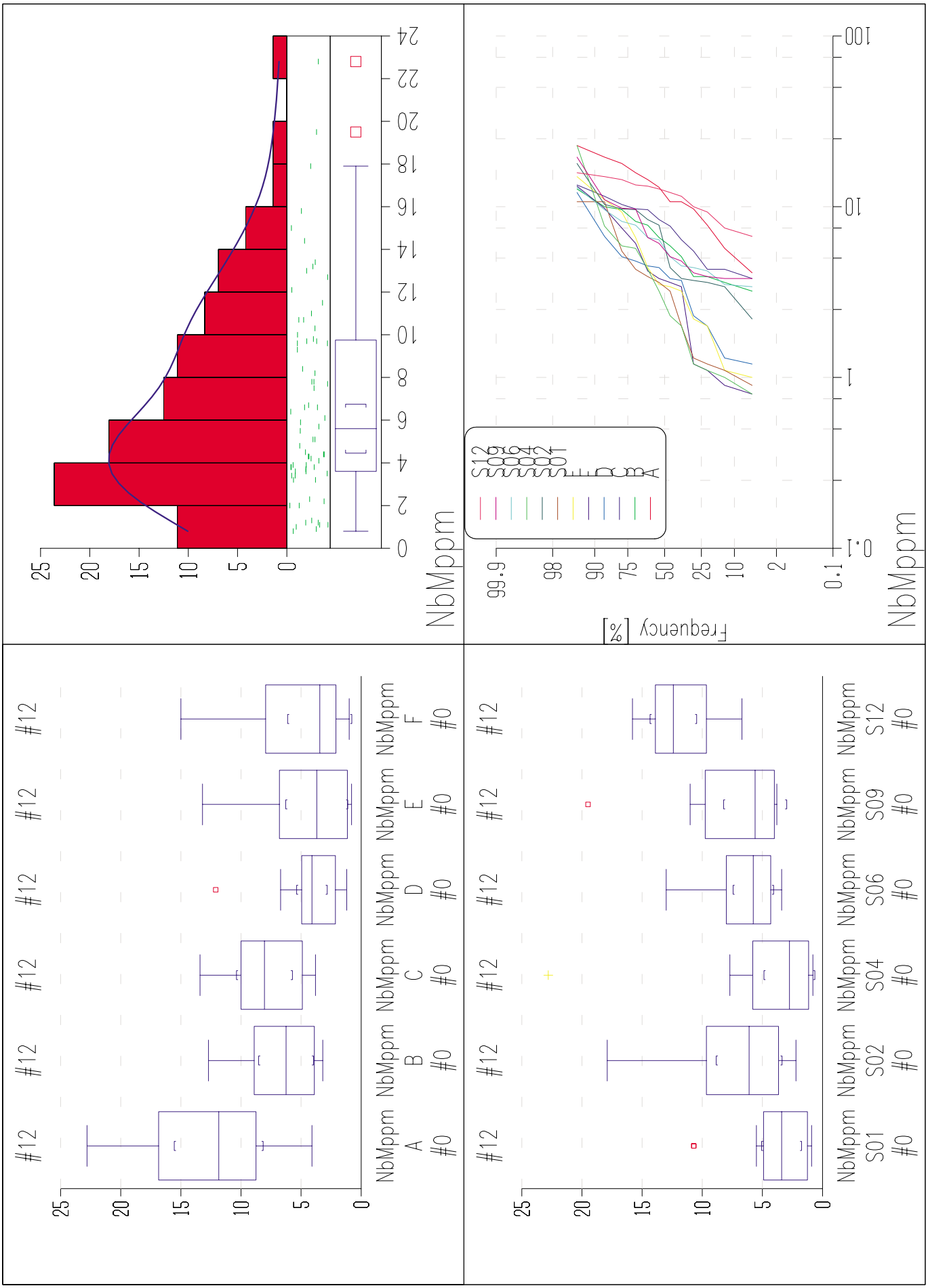

MnXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
MnXppm
S01
S02
S04
S06
S09
S12
#0
#12

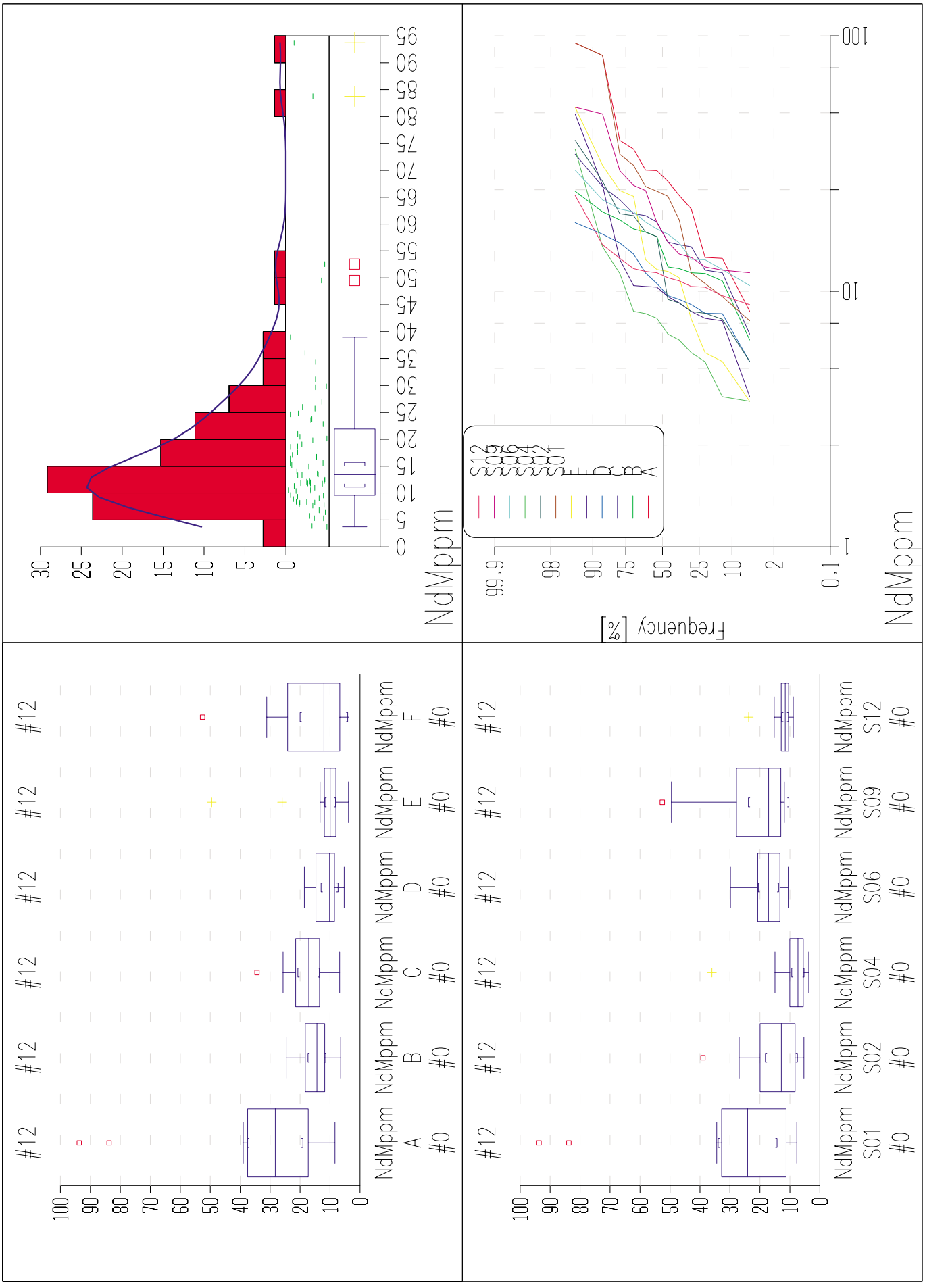

MnOXpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
MnOXpc A #0
MnOXpc B #0
MnOXpc C #0
MnOXpc D #0
MnOXpc E #0
MnOXpc F #0
MnOXpc S01 #0
MnOXpc S02 #0
MnOXpc S04 #0
MnOXpc S06 #0
MnOXpc S09 #0
MnOXpc S12 #0
#12

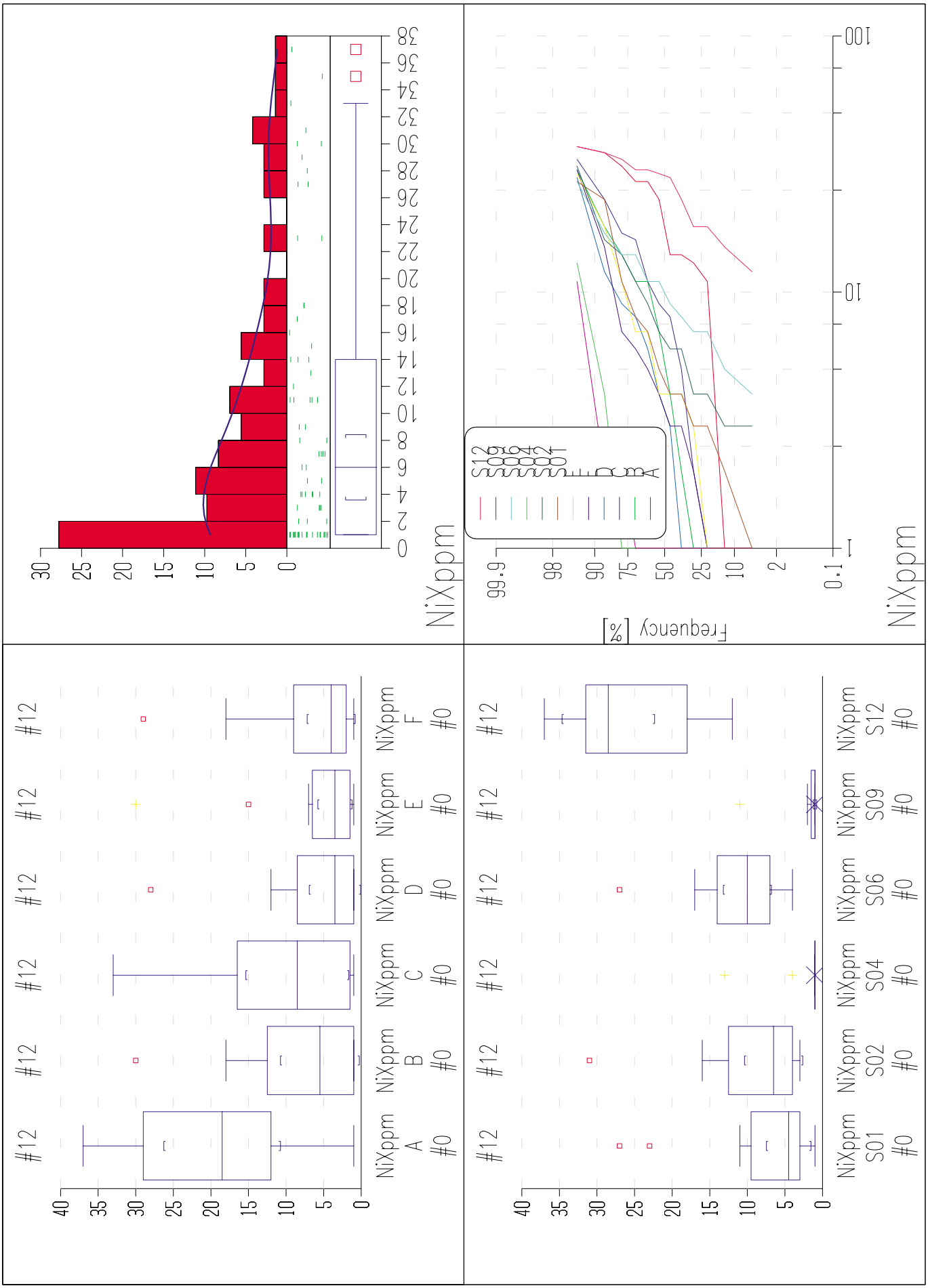

MoMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
MoMppm
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12

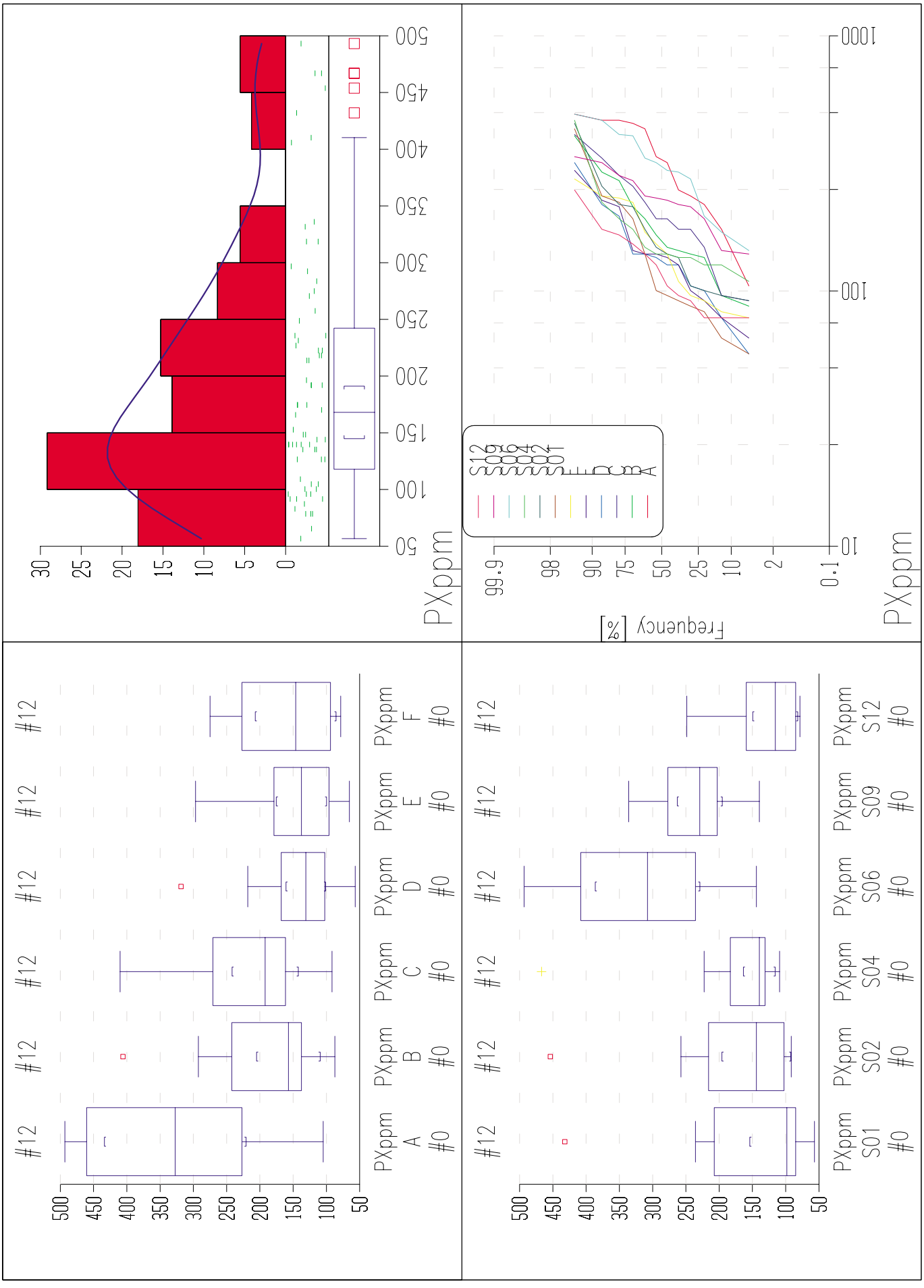

NaXppm
Frequency [%]
S12
S09
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

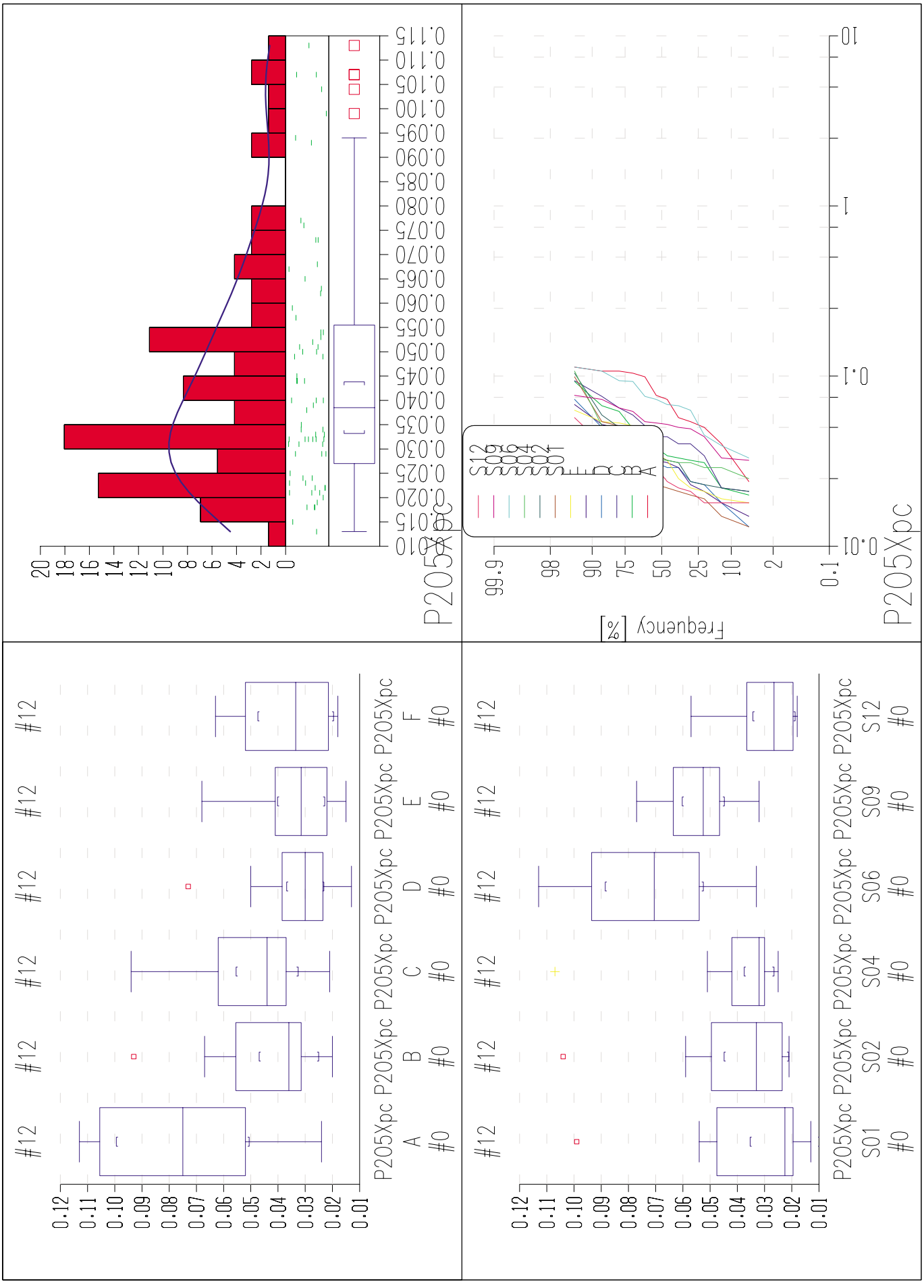

Na2OXpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
Na2OXpc A
Na2OXpc B
Na2OXpc C
Na2OXpc D
Na2OXpc E
Na2OXpc F
Na2OXpc S01
Na2OXpc S02
Na2OXpc S04
Na2OXpc S06
Na2OXpc S09
Na2OXpc S12

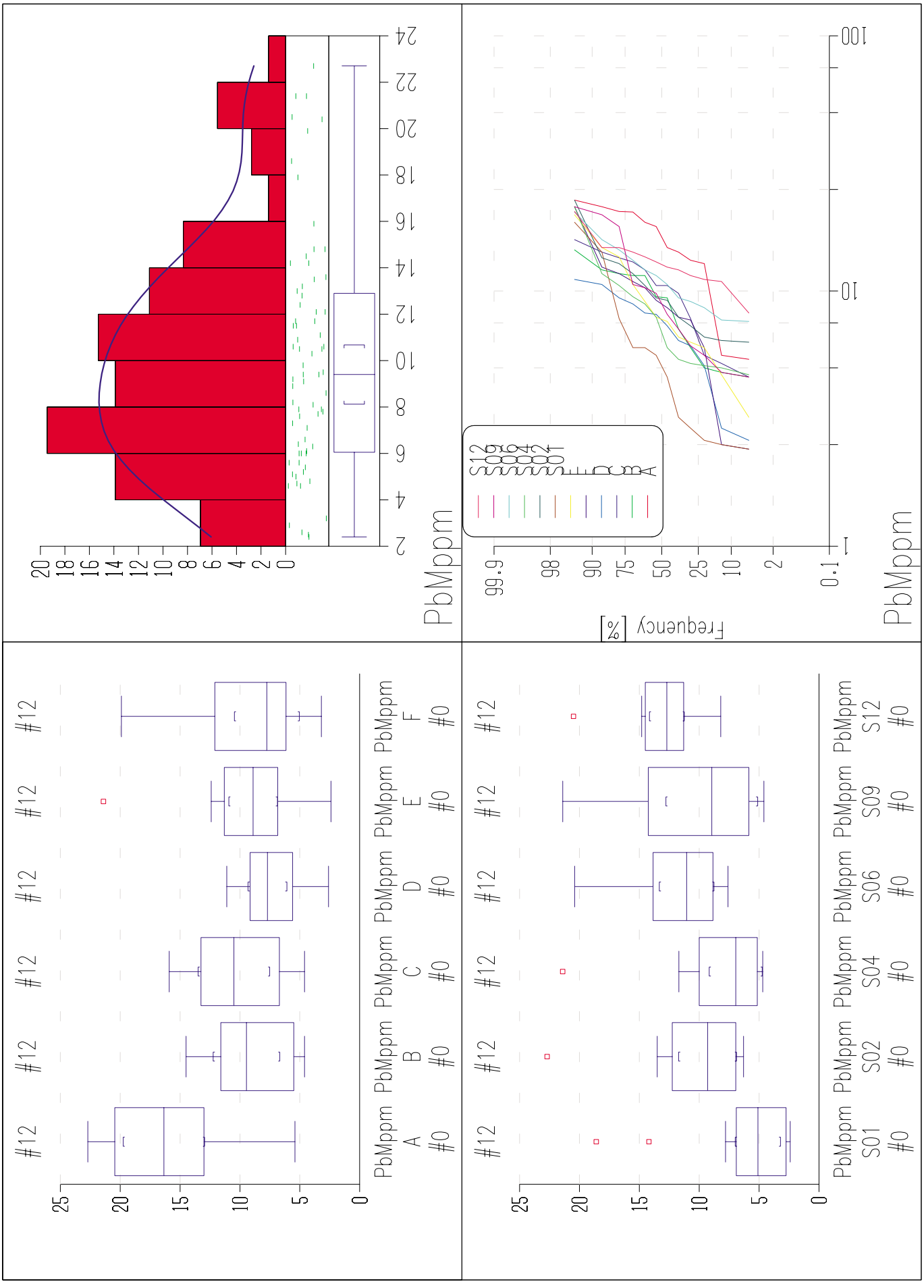

NbMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
NbMppm
S01
S02
S04
S06
S09
S12

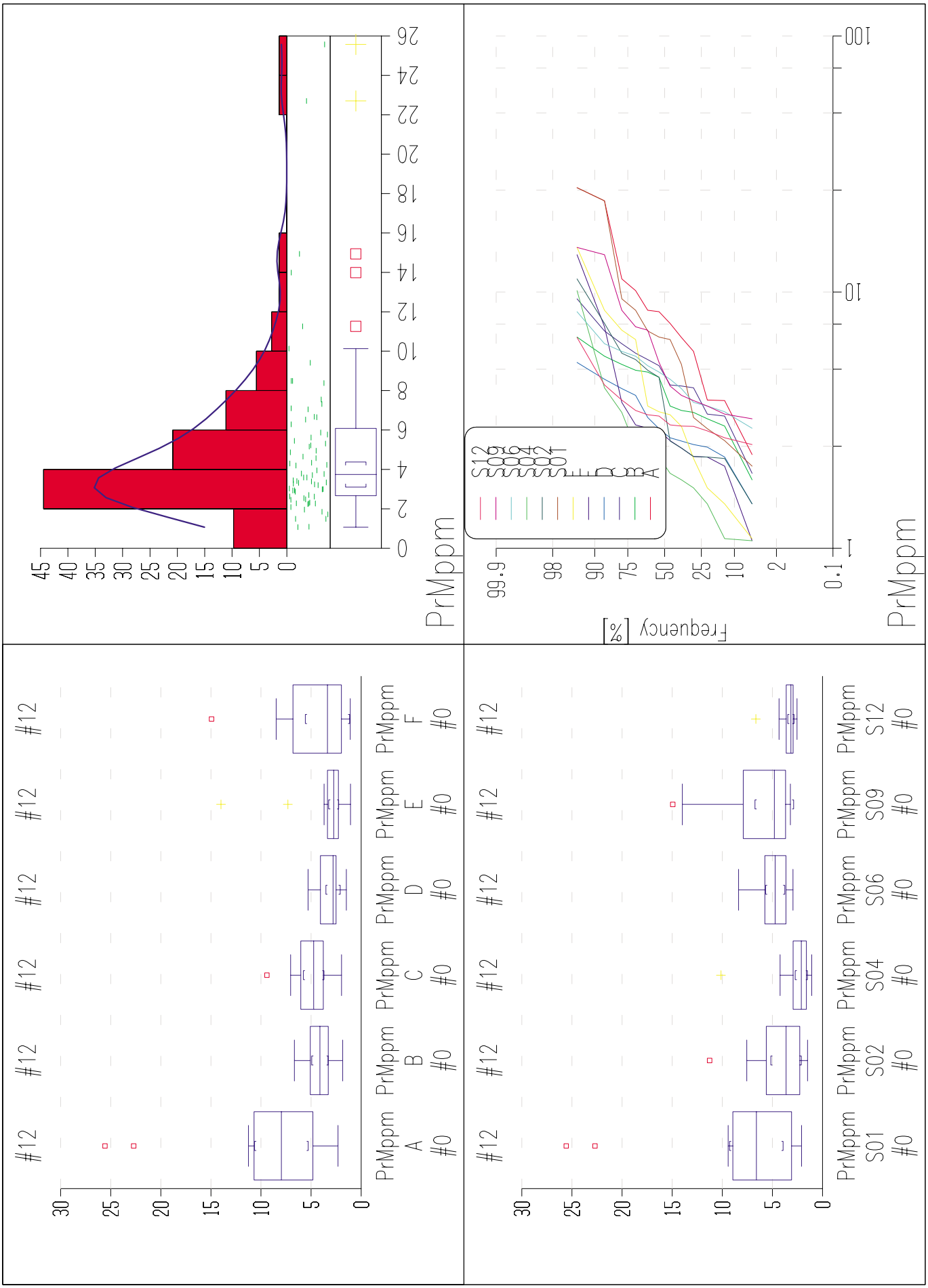

NdMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
NdMppm
S01
S02
S04
S06
S09
S12

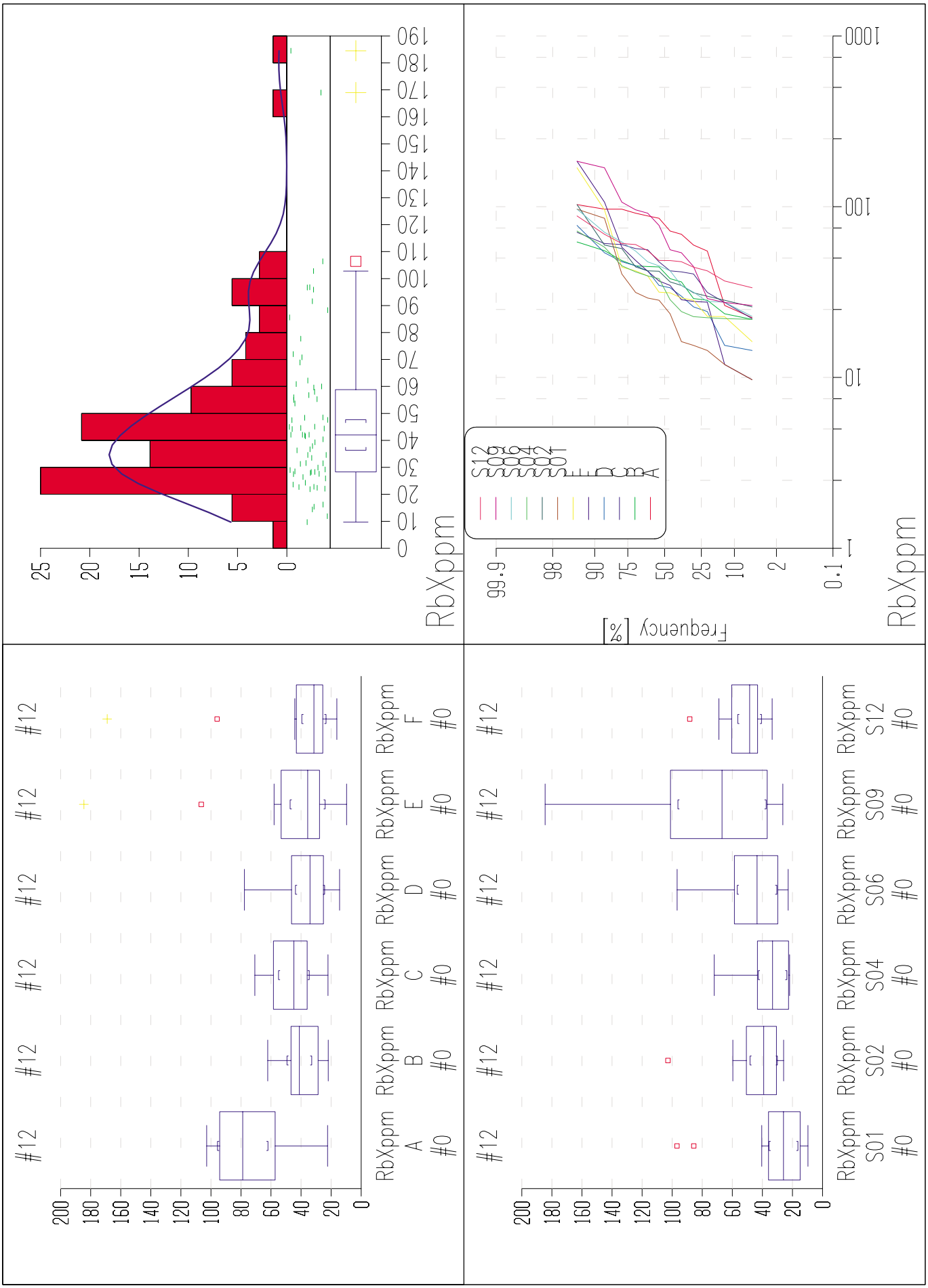

NiXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
NiXppm A #0
NiXppm B #0
NiXppm C #0
NiXppm D #0
NiXppm E #0
NiXppm F #0
NiXppm S01 #0
NiXppm S02 #0
NiXppm S04 #0
NiXppm S06 #0
NiXppm S09 #0
NiXppm S12 #0

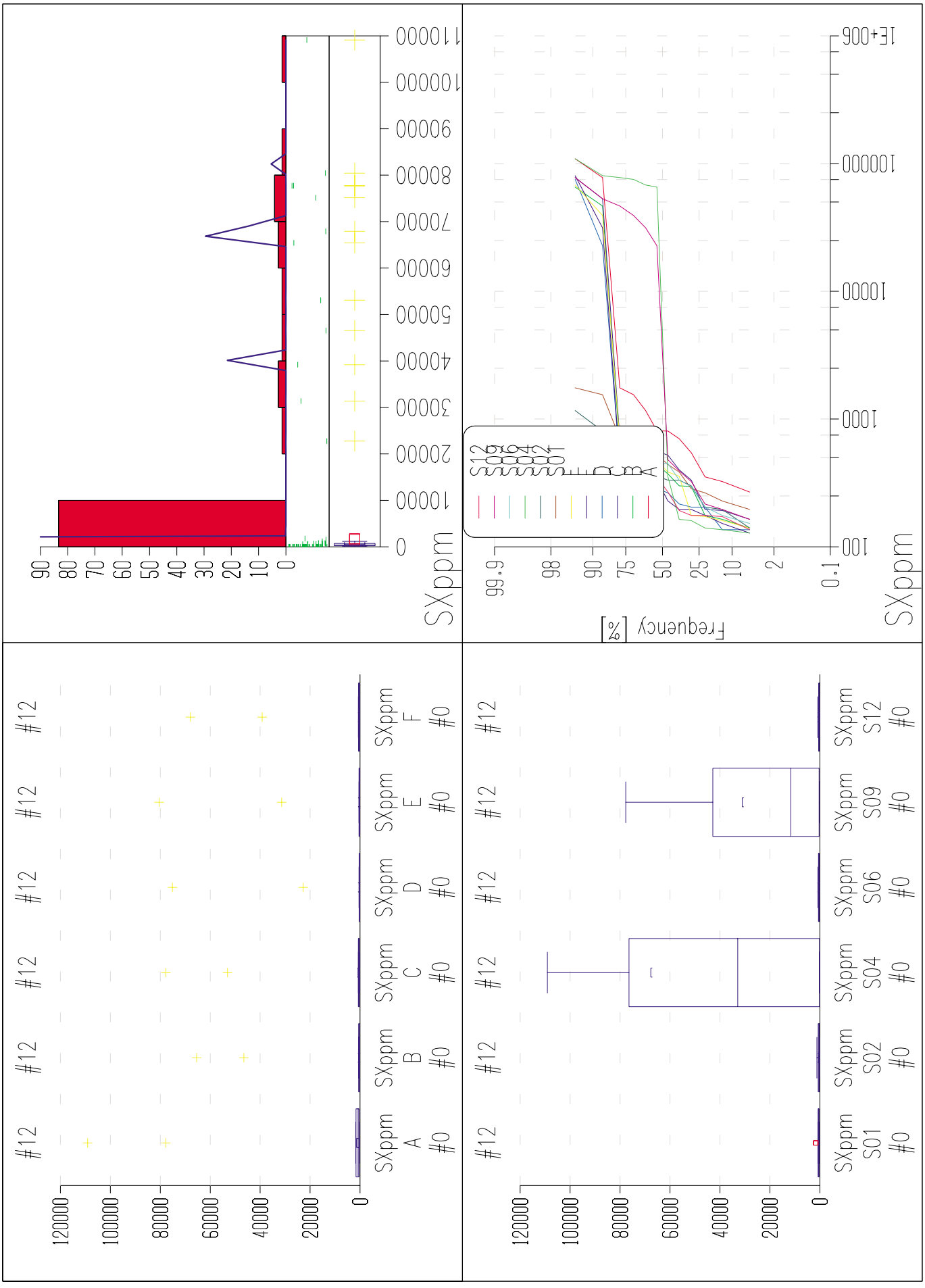

PXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
PXppm
S01
S02
S04
S06
S09
S12

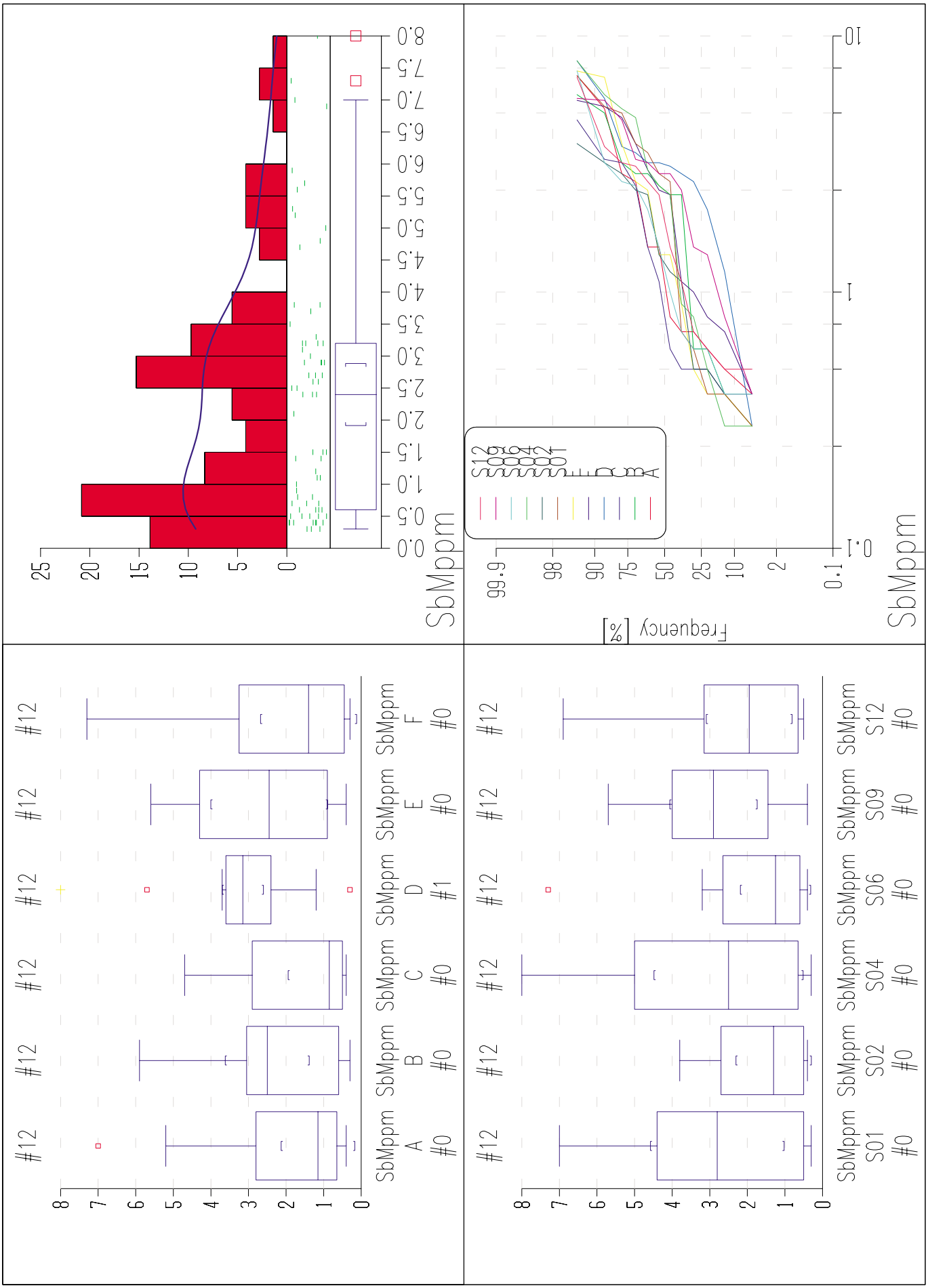

P205Xpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
P205Xpc P205Xpc P205Xpc P205Xpc P205Xpc P205Xpc
A B C D E F
P205Xpc P205Xpc P205Xpc P205Xpc P205Xpc P205Xpc
S01 S02 S04 S06 S09 S12

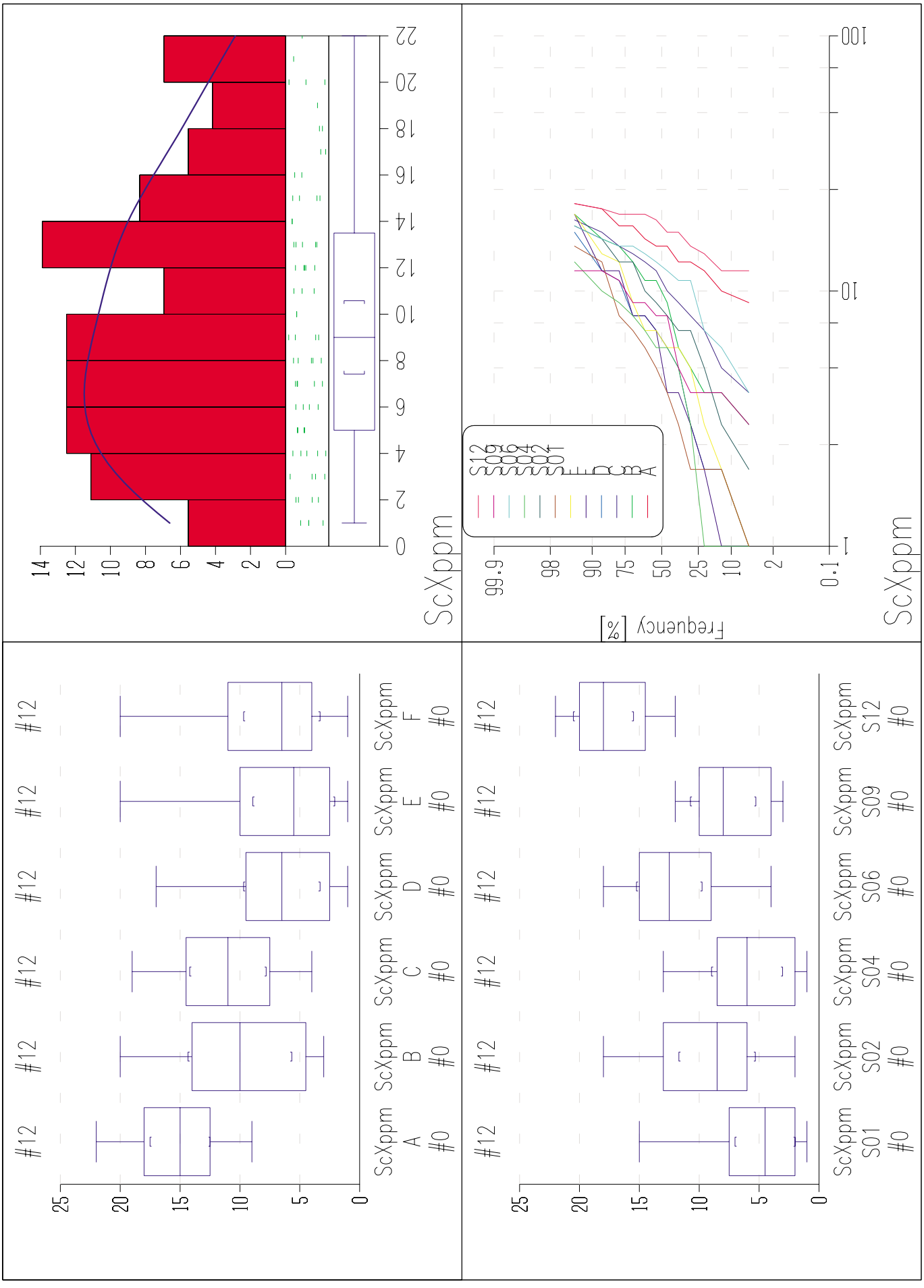

PbMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
PbMppm
S01
S02
S04
S06
S09
S12

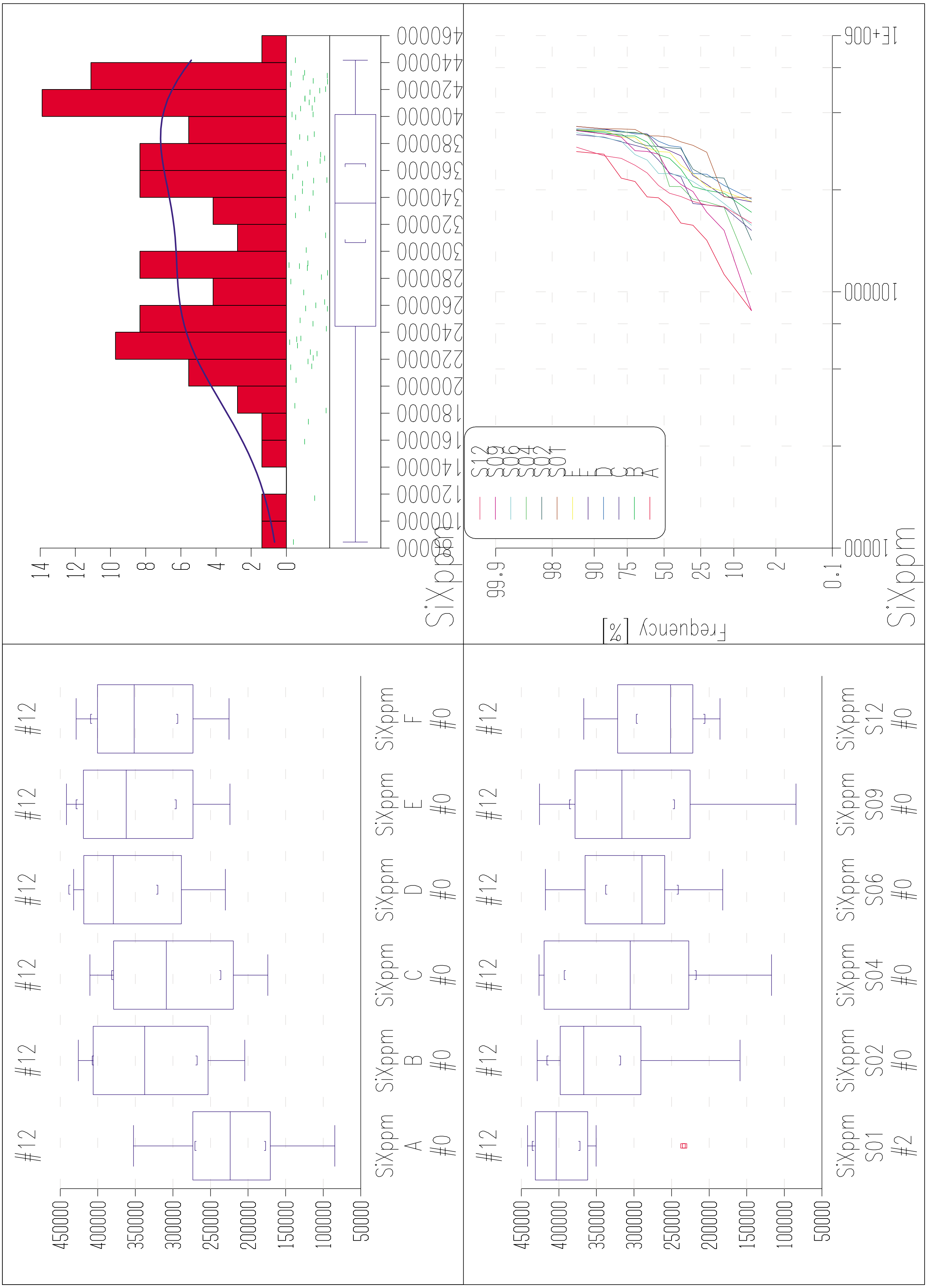

PrMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12

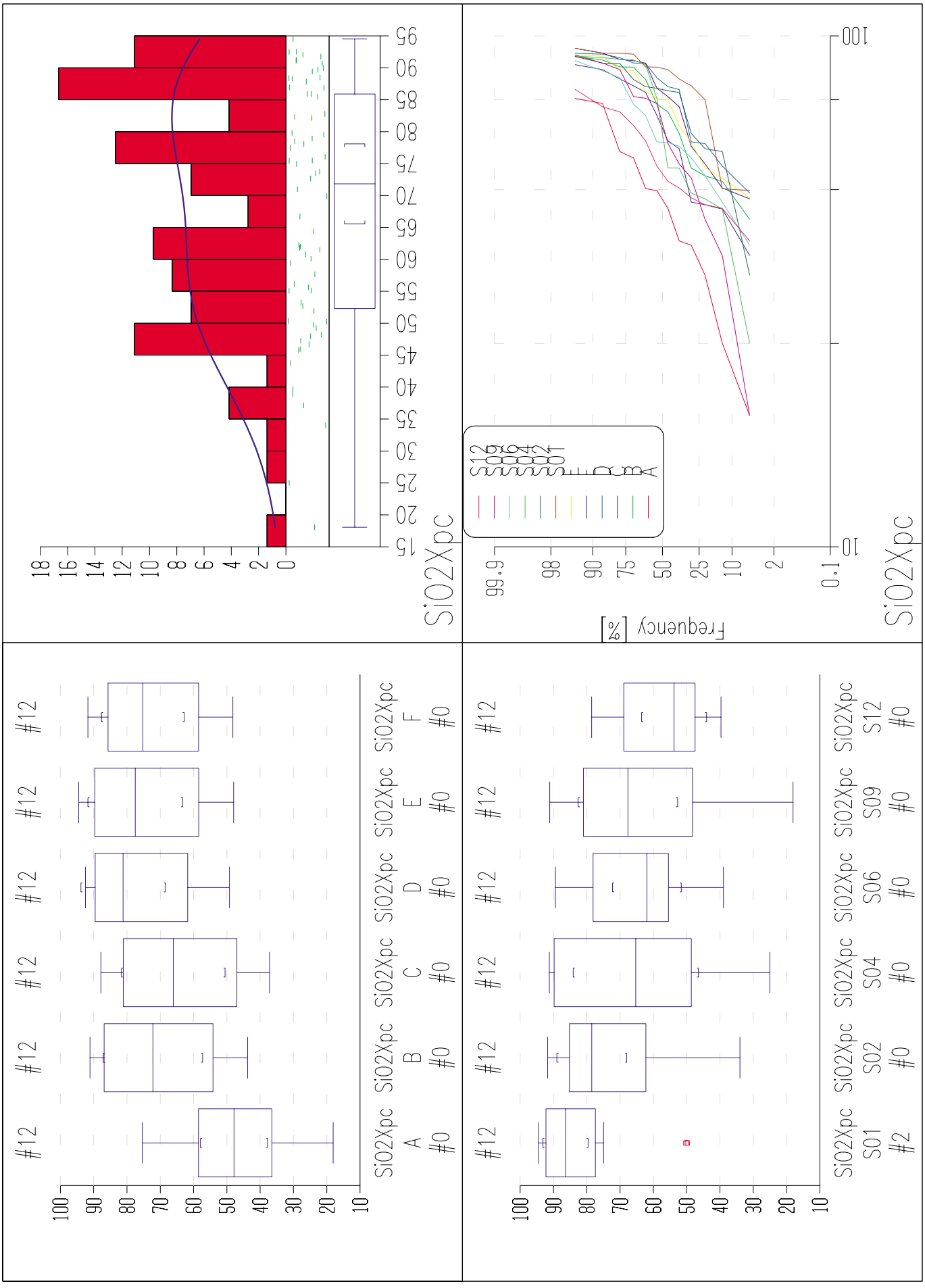

RbXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
RbXppm
S01
S02
S04
S06
S09
S12

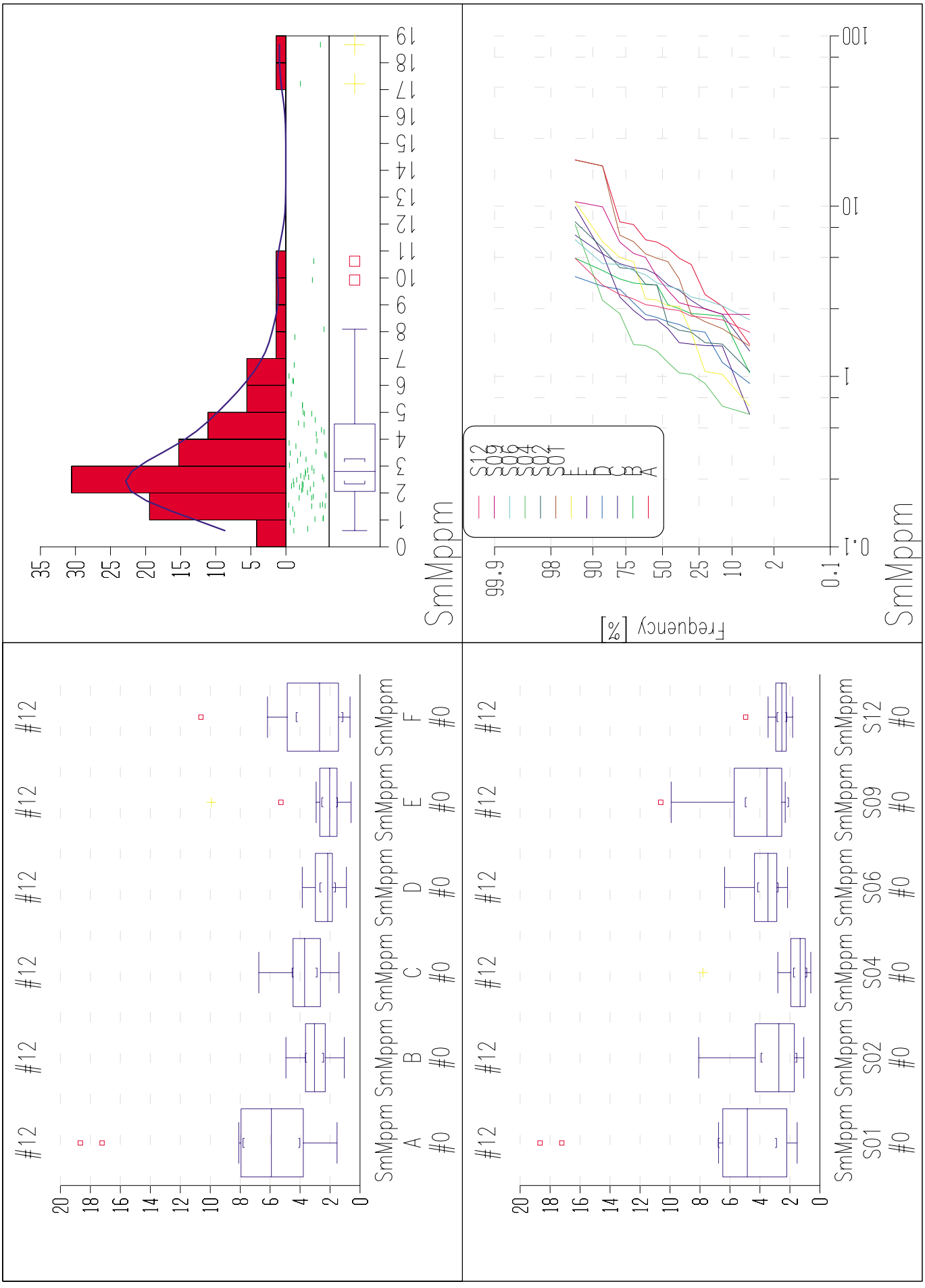

SXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
SXppm
S01
S02
S04
S06
S09
S12

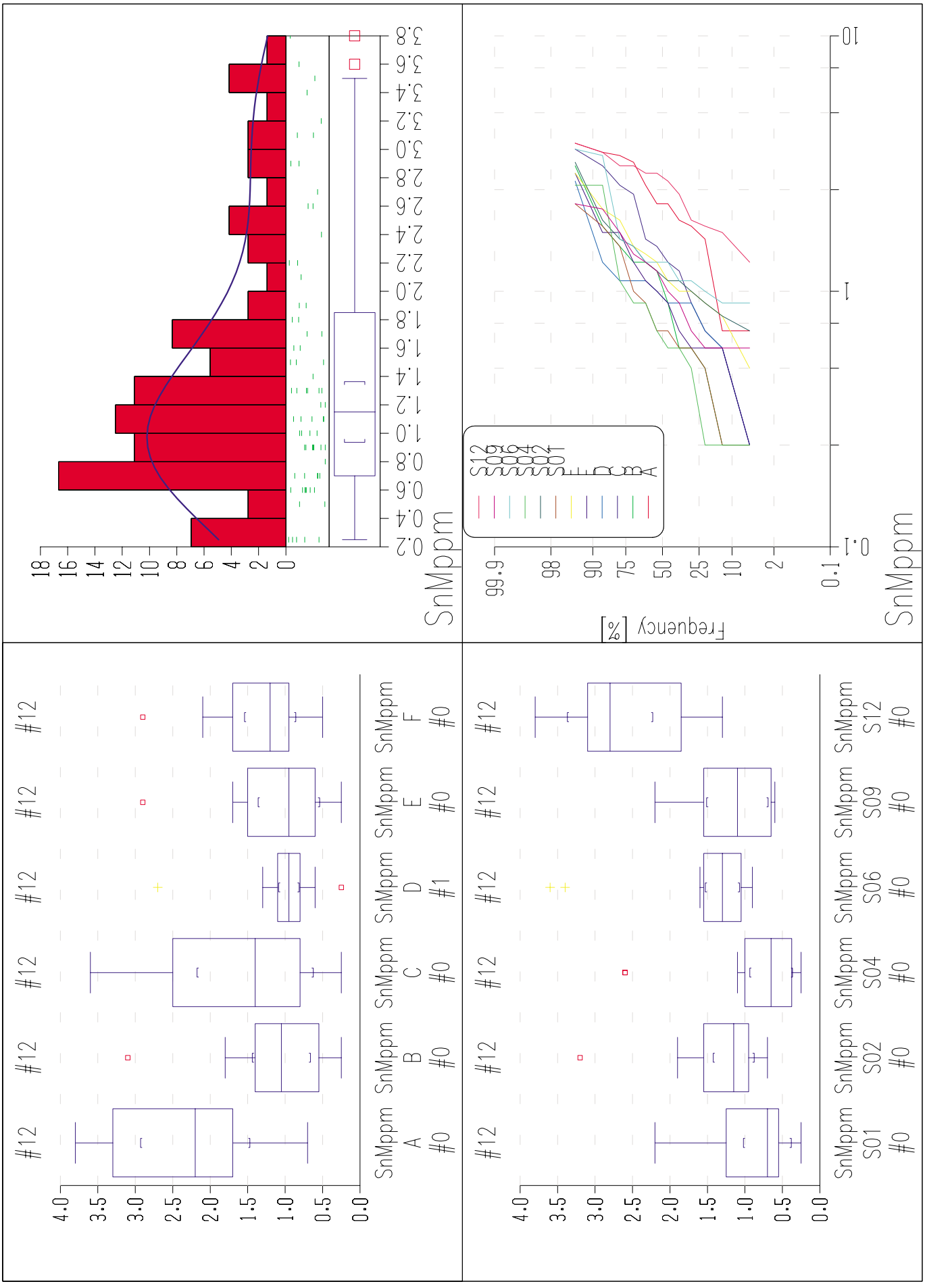

SbMppm
Frequency [%]
S12
S09
S04
S01
F
E
D
C
B
A
SbMppm
S01
S02
S04
S06
S09
S12
A
B
C
D
E
F
#0
#1
#12

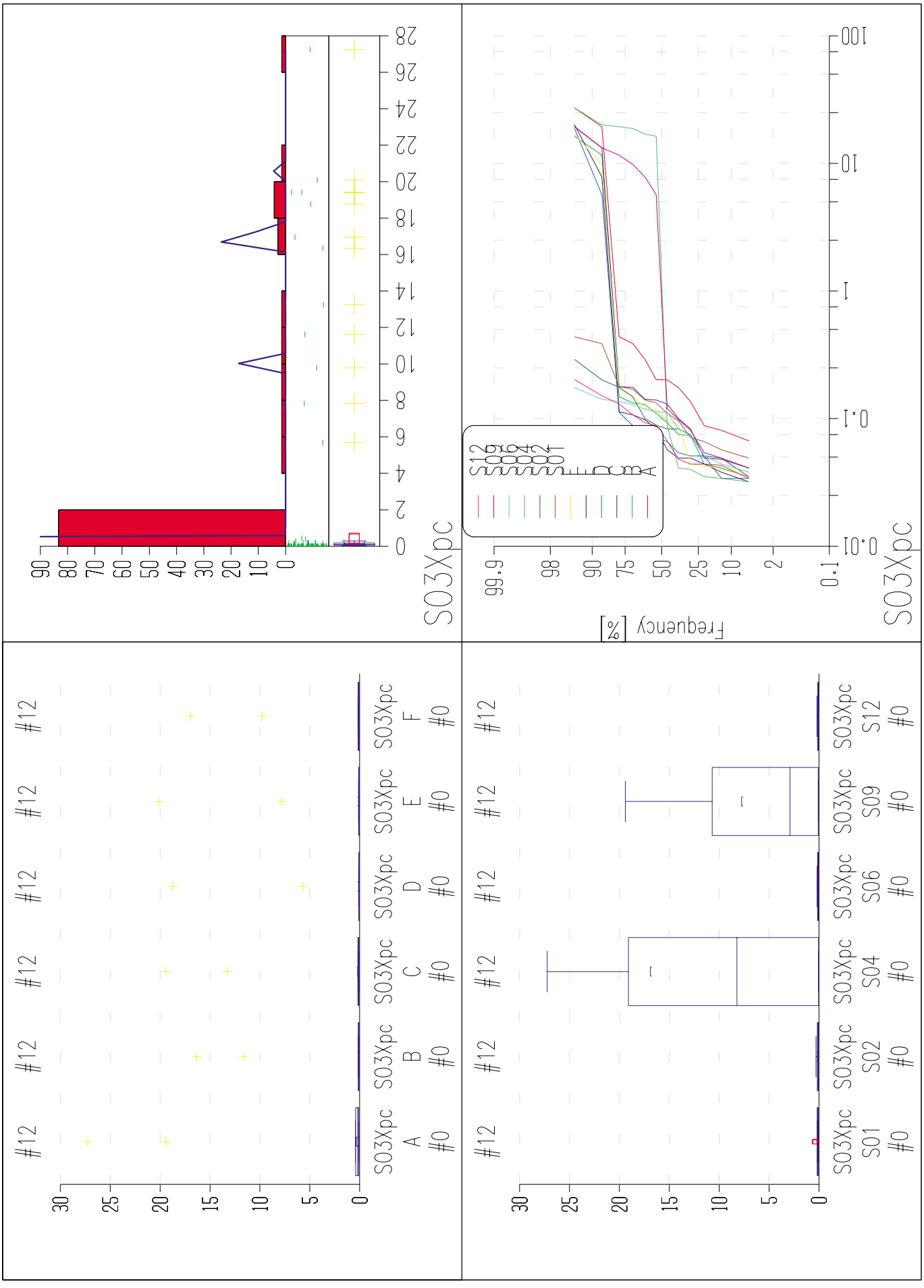

ScXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
ScXppm
S01
S02
S04
S06
S09
S12
A
B
C
D
E
F
#0
#12

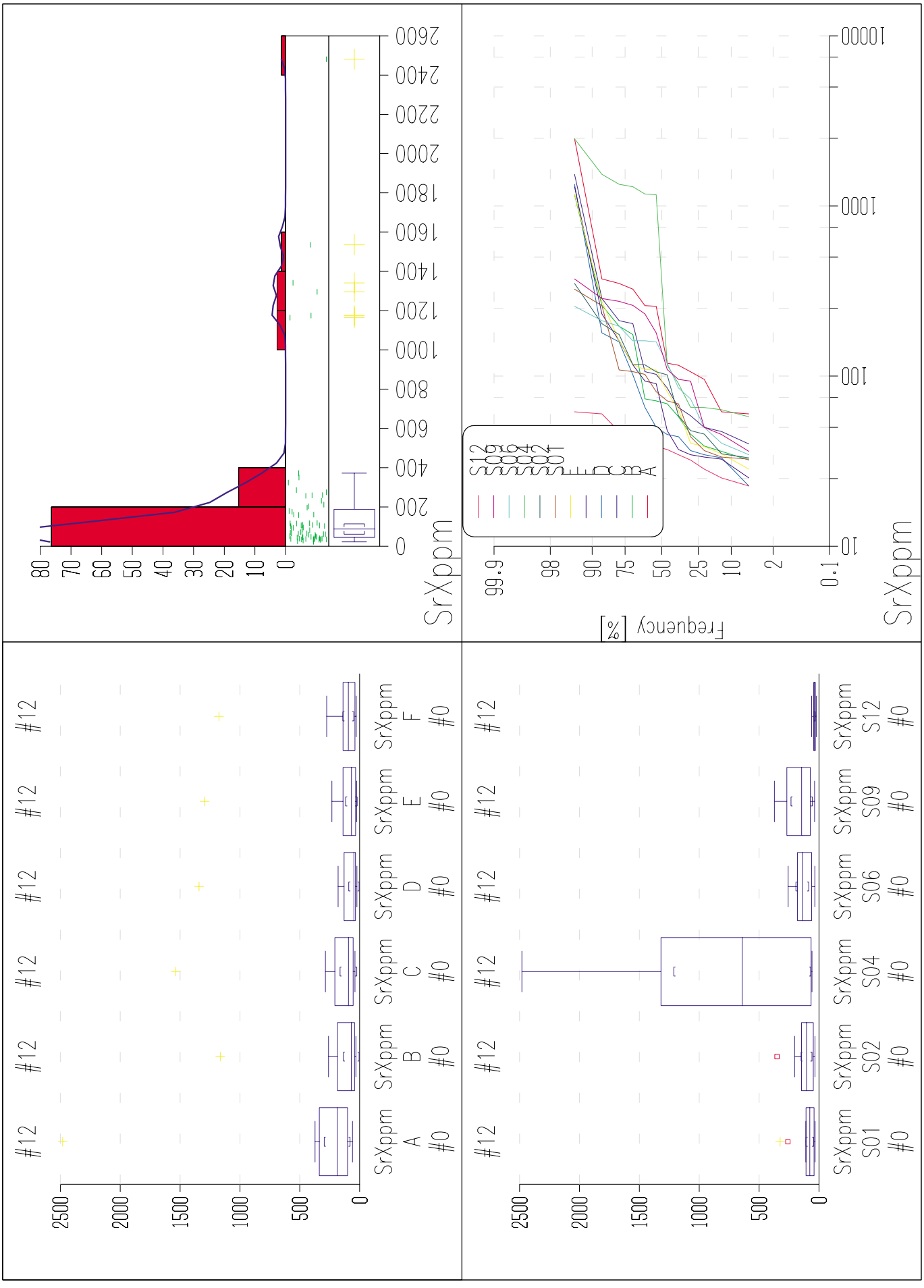

SiXppm
Frequency [%]
S12
S09
S06
S04
S02
S01
F
E
D
C
B
A
SiXppm A #0
SiXppm B #0
SiXppm C #0
SiXppm D #0
SiXppm E #0
SiXppm F #0
SiXppm S01 #2
SiXppm S02 #0
SiXppm S04 #0
SiXppm S06 #0
SiXppm S09 #0
SiXppm S12 #0
#12

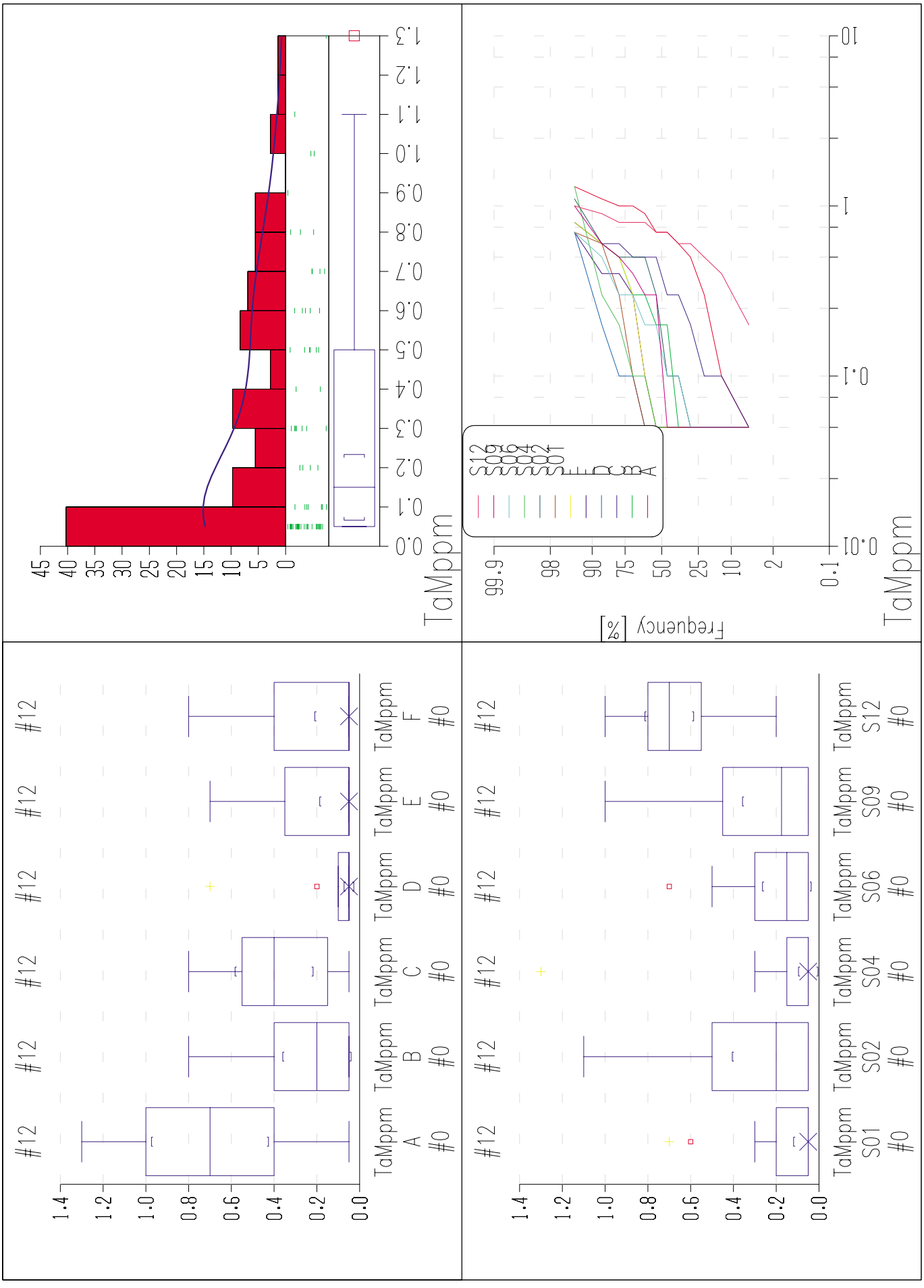

SiO2Xpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
SiO2Xpc A #0
SiO2Xpc B #0
SiO2Xpc C #0
SiO2Xpc D #0
SiO2Xpc E #0
SiO2Xpc F #0
SiO2Xpc S01 #2
SiO2Xpc S02 #0
SiO2Xpc S04 #0
SiO2Xpc S06 #0
SiO2Xpc S09 #0
SiO2Xpc S12 #0
#12

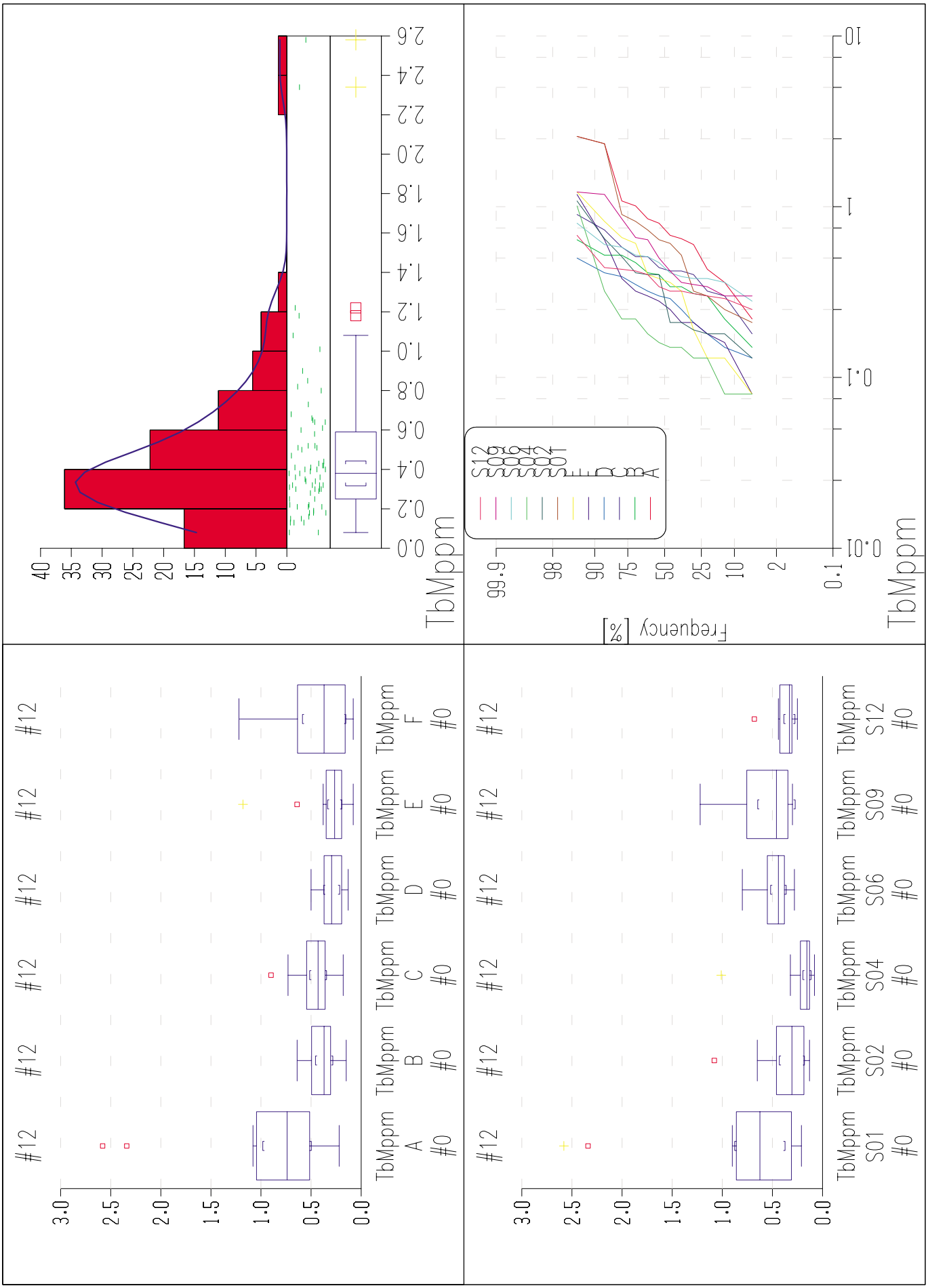

SmMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
SmMppm SmMppm SmMppm SmMppm SmMppm SmMppm
A B C D E F
S01 S02 S04 S06 S09 S12
#0 #0 #0 #0 #0 #0
#12 #12 #12 #12 #12 #12

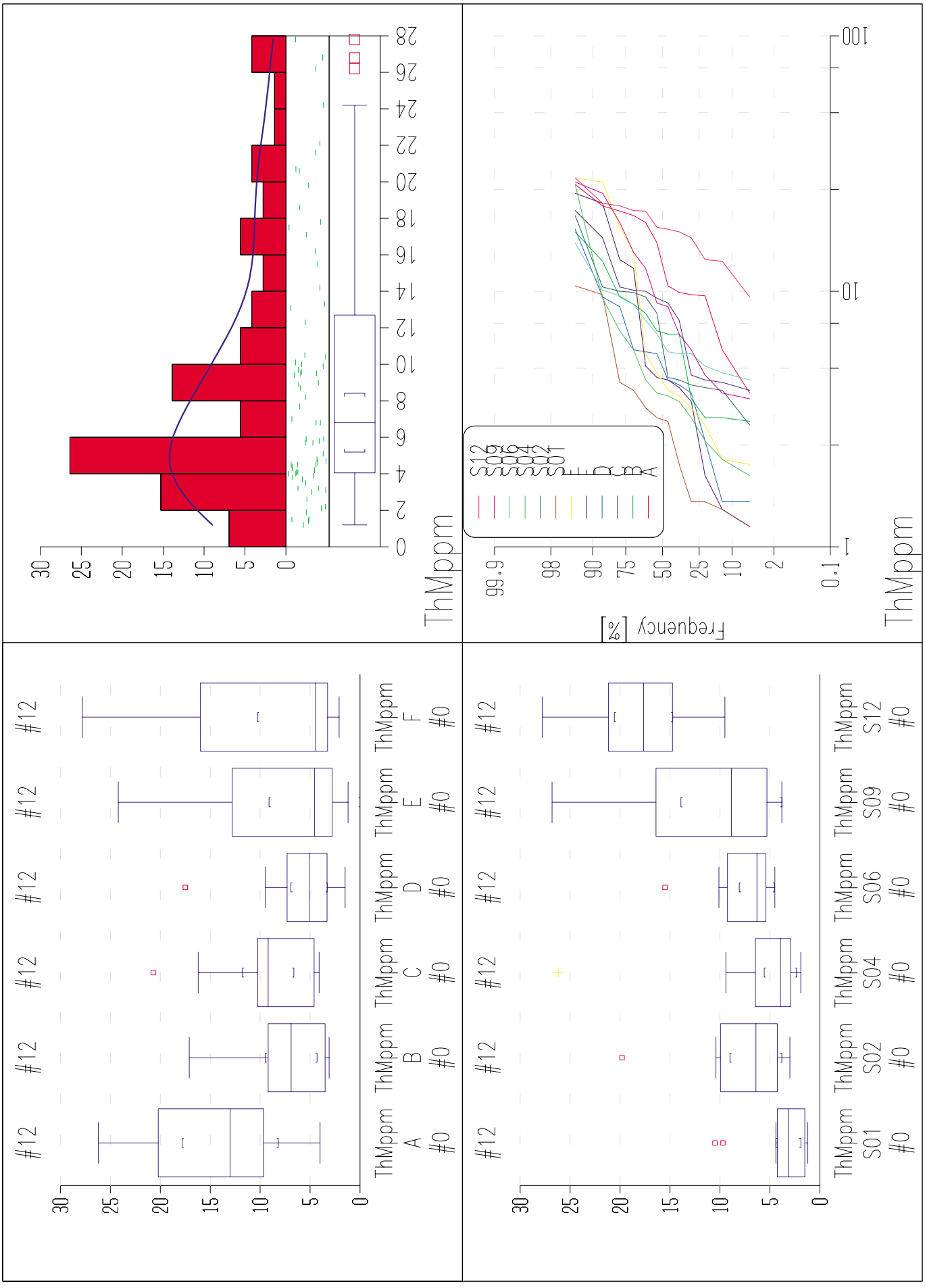

SnMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
SnMppm A #0
SnMppm B #0
SnMppm C #0
SnMppm D #1
SnMppm E #0
SnMppm F #0
SnMppm S01 #0
SnMppm S02 #0
SnMppm S04 #0
SnMppm S06 #0
SnMppm S09 #0
SnMppm S12 #0

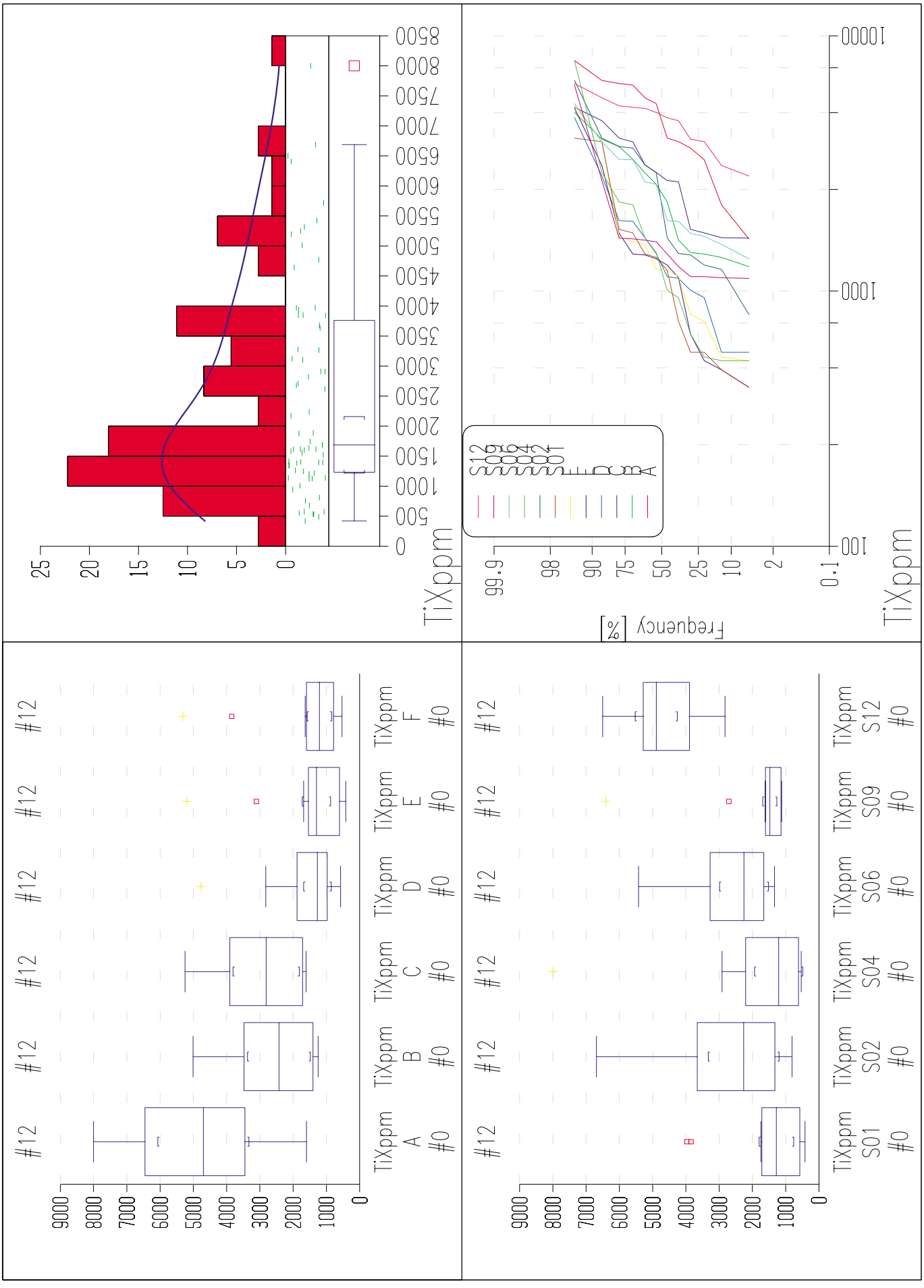

SO3Xpc
Frequency [%]
S12
S09
S06
S04
S01
F
E
D
C
B
A
SO3Xpc
A
B
C
D
E
F
SO1
SO2
SO4
SO6
SO9
S12
#0
#12

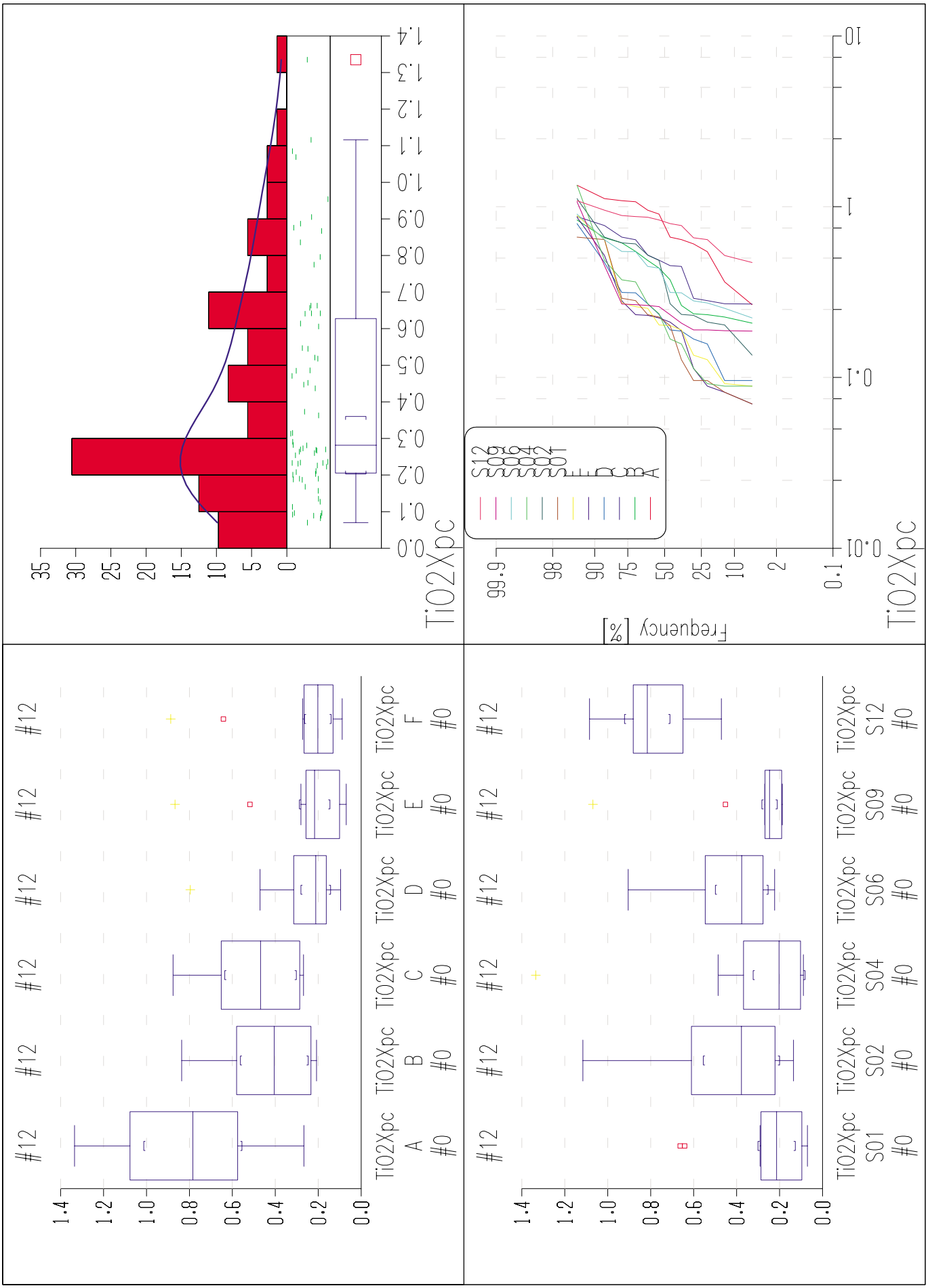

SrXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
SrXppm
#12
#0
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12

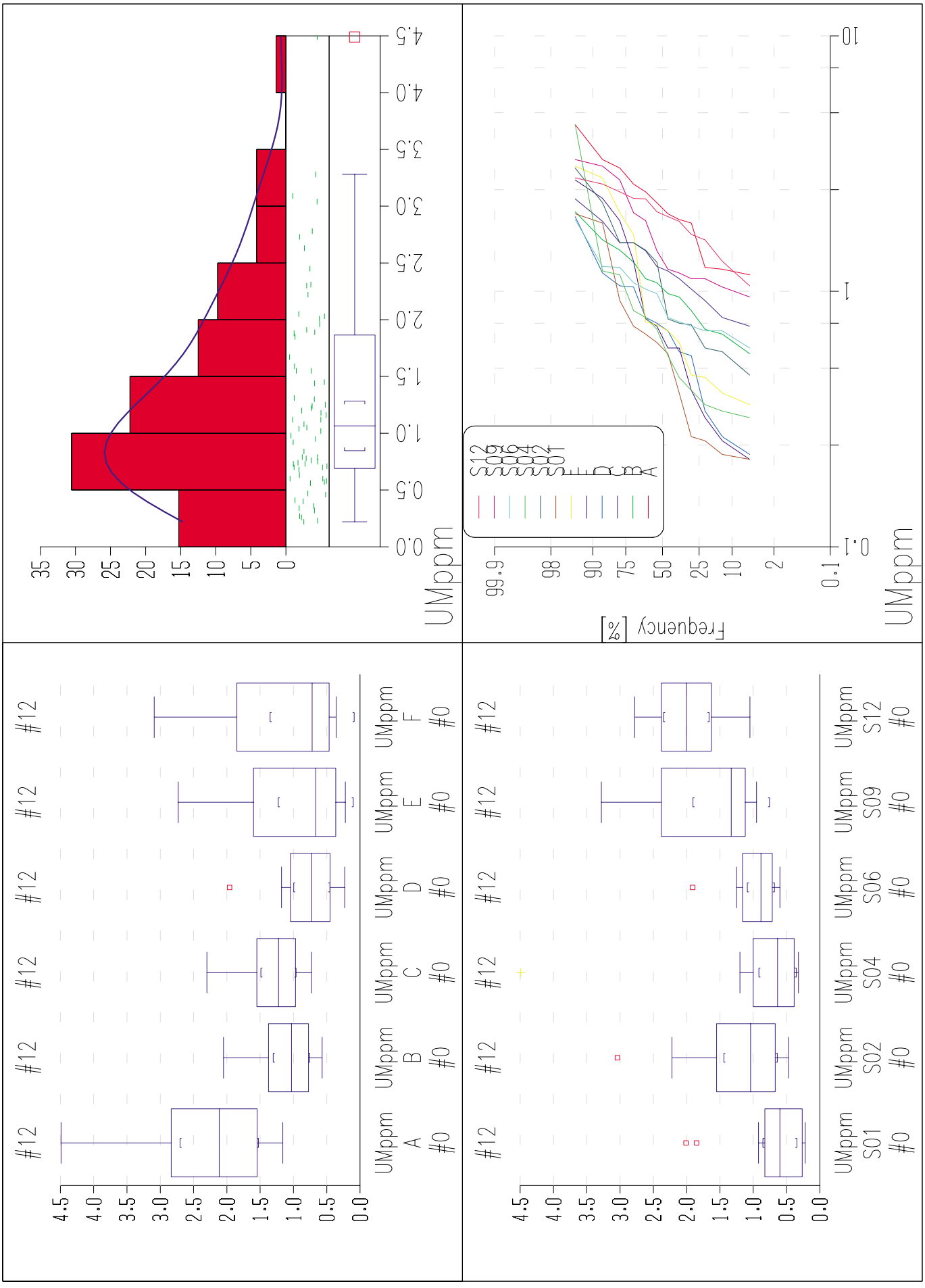

TaMppm
Frequency [%]
S12
S09
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

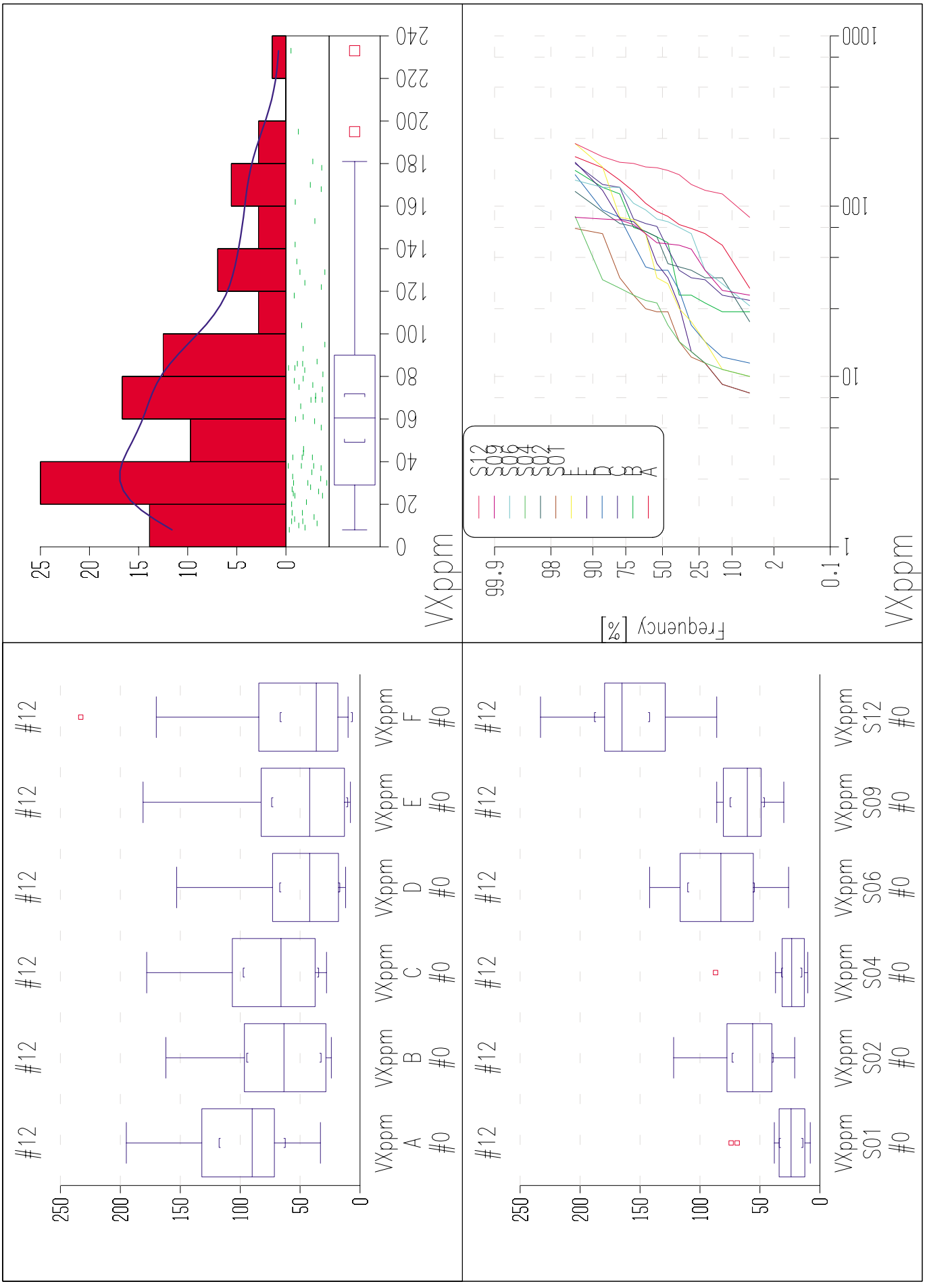

TbMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
TbMppm
S01
S02
S04
S06
S09
S12

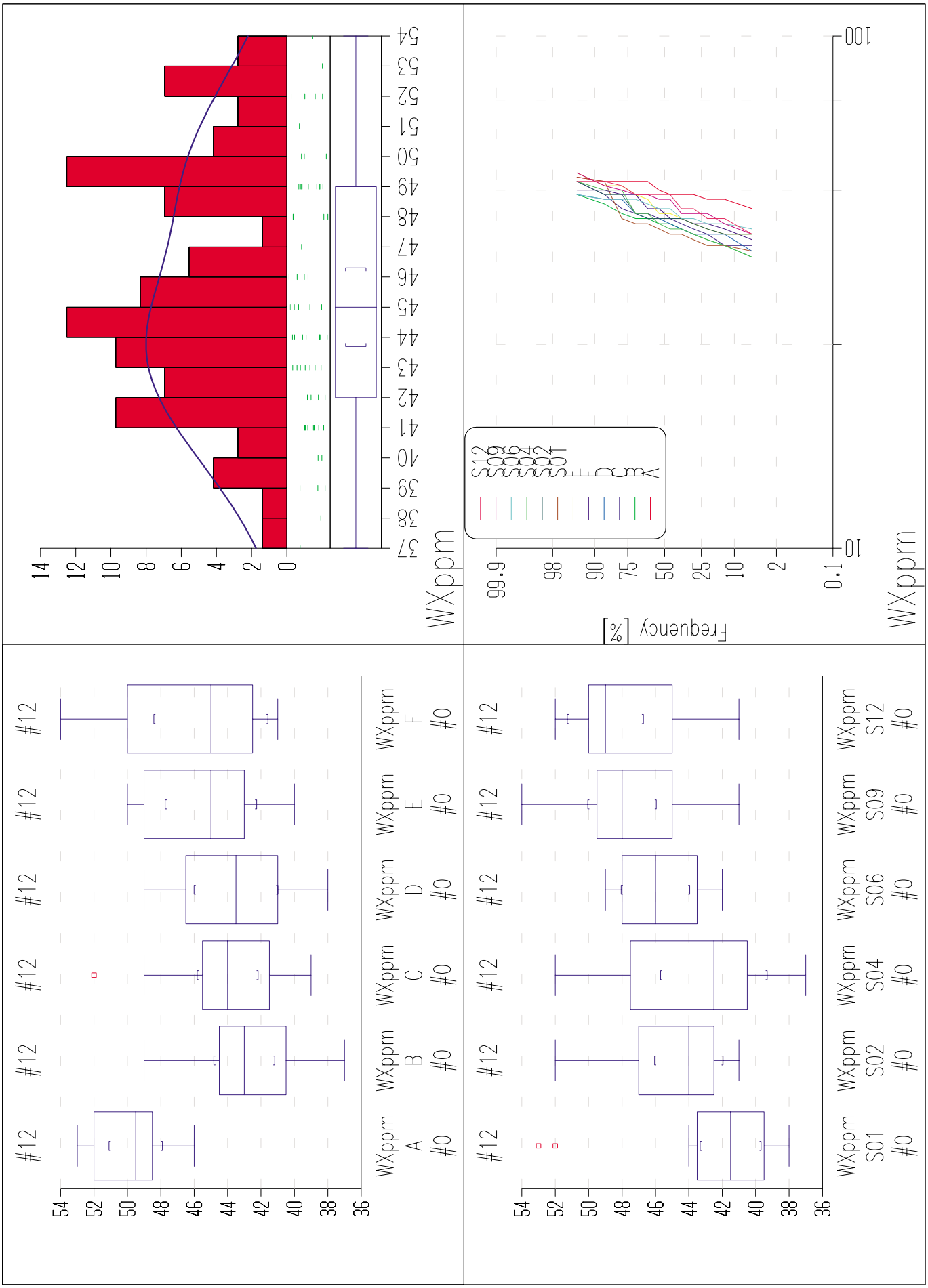

ThMppm
Frequency [%]
S12
S09
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

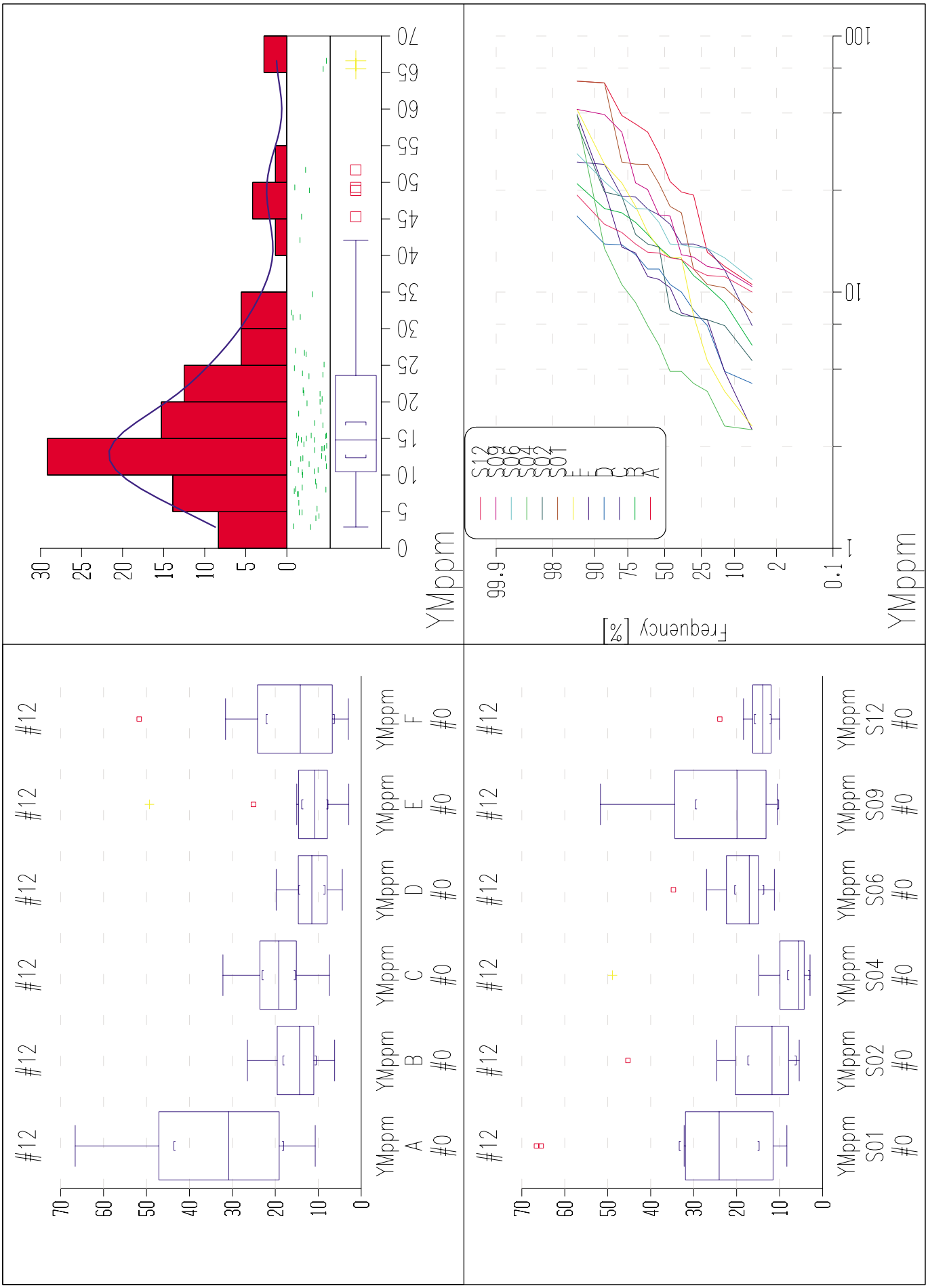

TiXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
TiXppm A #0
TiXppm B #0
TiXppm C #0
TiXppm D #0
TiXppm E #0
TiXppm F #0
TiXppm S01 #0
TiXppm S02 #0
TiXppm S04 #0
TiXppm S06 #0
TiXppm S09 #0
TiXppm S12 #0

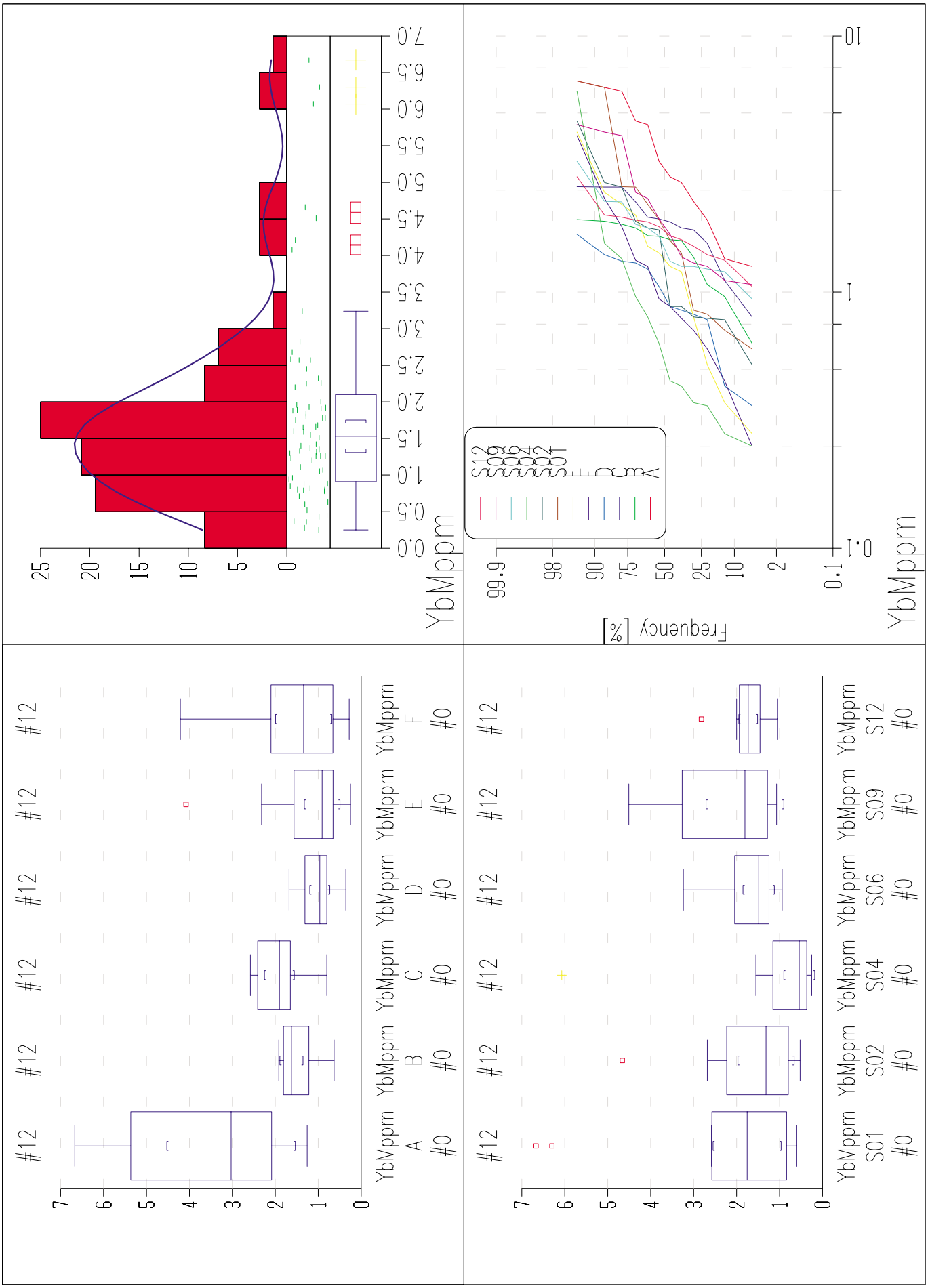

TiO2Xpc
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0

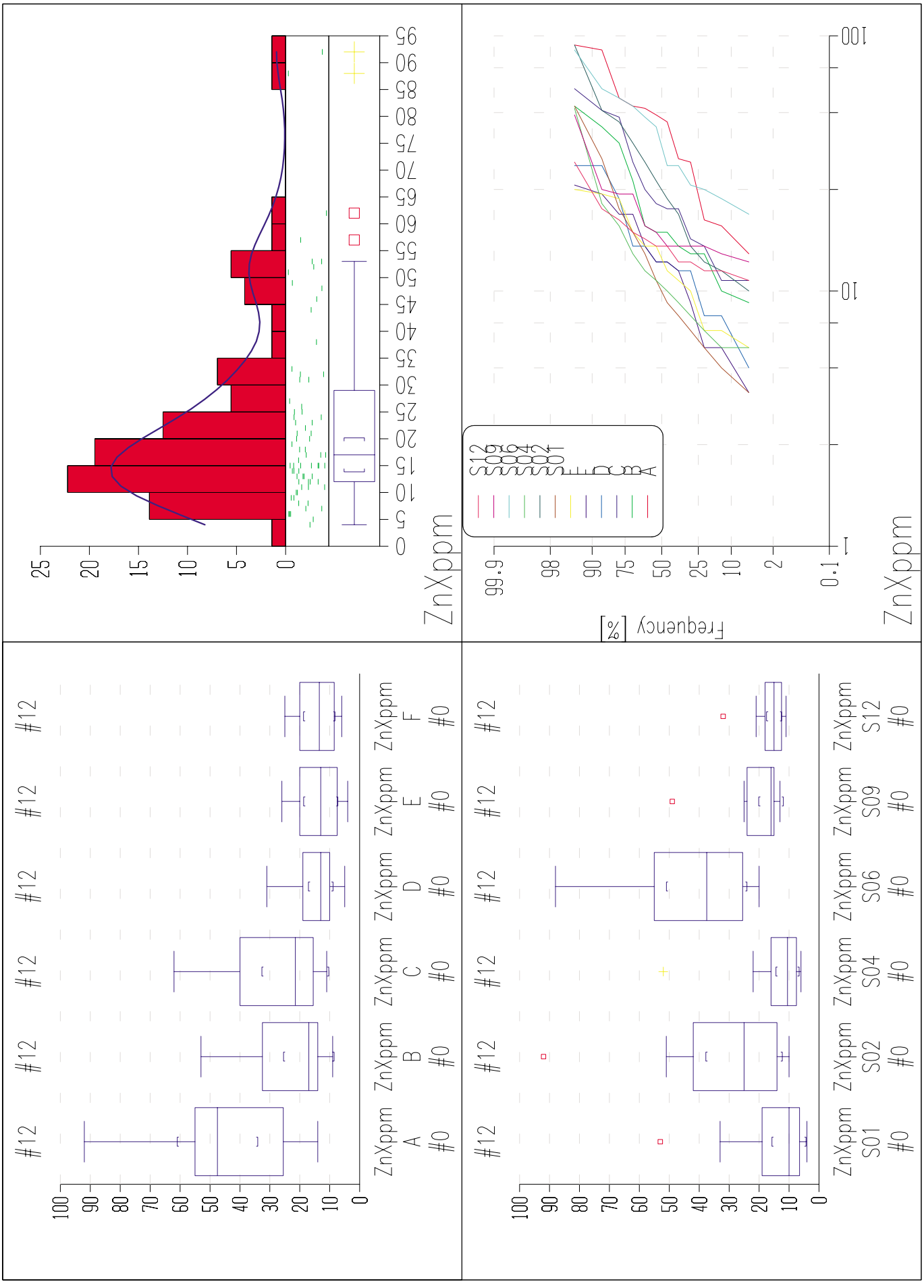

UMppm
Frequency [%]
S12
S09
S06
S04
S01
F
E
D
C
B
A
#12
#0

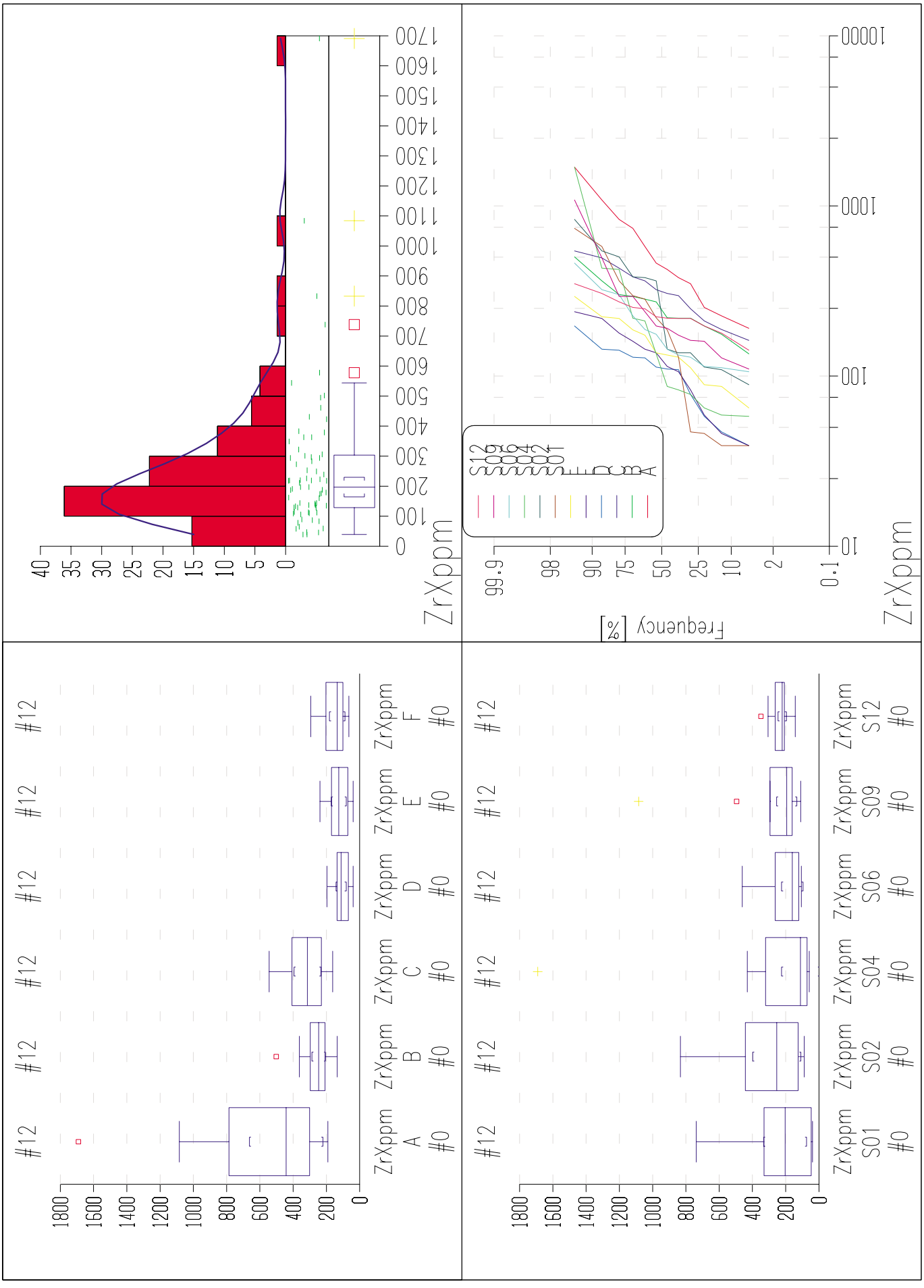

VXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
VXppm A #0
VXppm B #0
VXppm C #0
VXppm D #0
VXppm E #0
VXppm F #0
VXppm S01 #0
VXppm S02 #0
VXppm S04 #0
VXppm S06 #0
VXppm S09 #0
VXppm S12 #0
#12


WXppm
Frequency [%]
99.9
98
90
75
50
25
10
2
0.1
100
10
S12
S06
S04
S02
S01
E
D
C
B
A
14
12
10
8
6
4
2
0
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
#12
#0
WXppm
A
B
C
D
E
F
S01
S02
S04
S06
S09
S12
36
38
40
42
44
46
48
50
52
54


YMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
YMppm
S01
S02
S04
S06
S09
S12


YbMppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
YbMppm
S01
S02
S04
S06
S09
S12
A
B
C
D
E
F


ZnXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
ZnXppm
S01
S02
S04
S06
S09
S12


ZrXppm
Frequency [%]
S12
S06
S04
S02
S01
F
E
D
C
B
A
#12
#0
SO1
SO2
SO4
SO6
SO9
S12