

**APPENDIX 5: ELEMENT/ION
CONCENTRATIONS IN
GROUNDWATERS AT
WOODCUTTERS**

CAPTIONS FOR FIGURES

- *Federal Pit* - collected from inside the Federal Pit during this project.
- *Federal Area* - collected from sites adjacent to the Federal Pit during this project.
- *Grand* - collected from the Grand exploration area during this project.
- *Criterion* - collected from the Criterion exploration area during this project.
- *Northern groundwaters* - (Northern Yilgarn and margins)
Groundwaters in these areas are fresh and neutral, trending more saline in the valley floors.
- *Central groundwaters* - (close to and north of the Menzies line)
Groundwaters are neutral and brackish (commonly < 1% TDS) to saline (about 3% TDS), trending to hypersaline (10 - 30% TDS) at the salt lakes, with common increases in salinity with depth.
- *Kalgoorlie groundwaters* -
These groundwaters are commonly acid (pH 3 - 5), except where buffered by extremely alkaline materials (*e.g.*, ultramafic rocks), and saline within the top part of the groundwater mass, trending to more neutral (pH 5 - 7) and hypersaline at depth and when within a few kilometres of various salt lakes in the region.
- *Mulga Rock* -
Groundwaters are saline to hypersaline and neutral to acid. The major ion chemistry is similar to that of the Kalgoorlie region, but the dissolved concentration of many other ions is low, due to the presence of lignites in the channel sediments.
- *Sea water* - compiled from the literature.

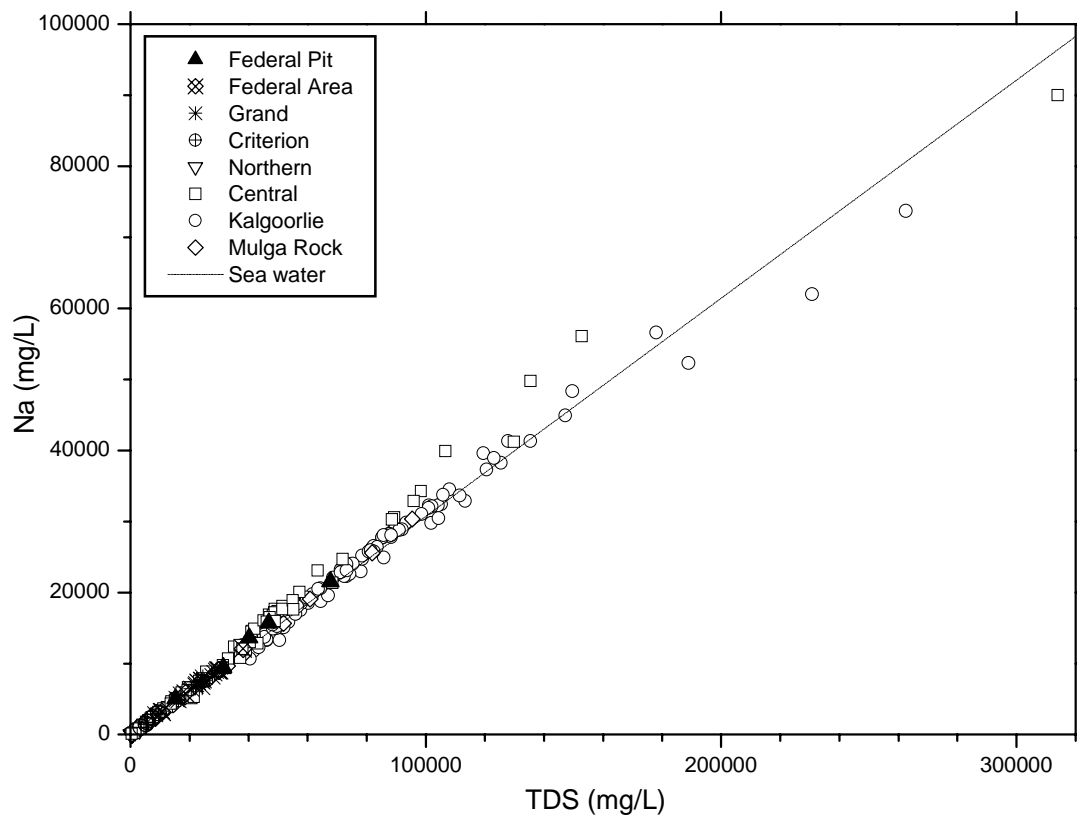


Figure A5.1: Na vs. TDS for Woodcutters and other Western Australian groundwaters.

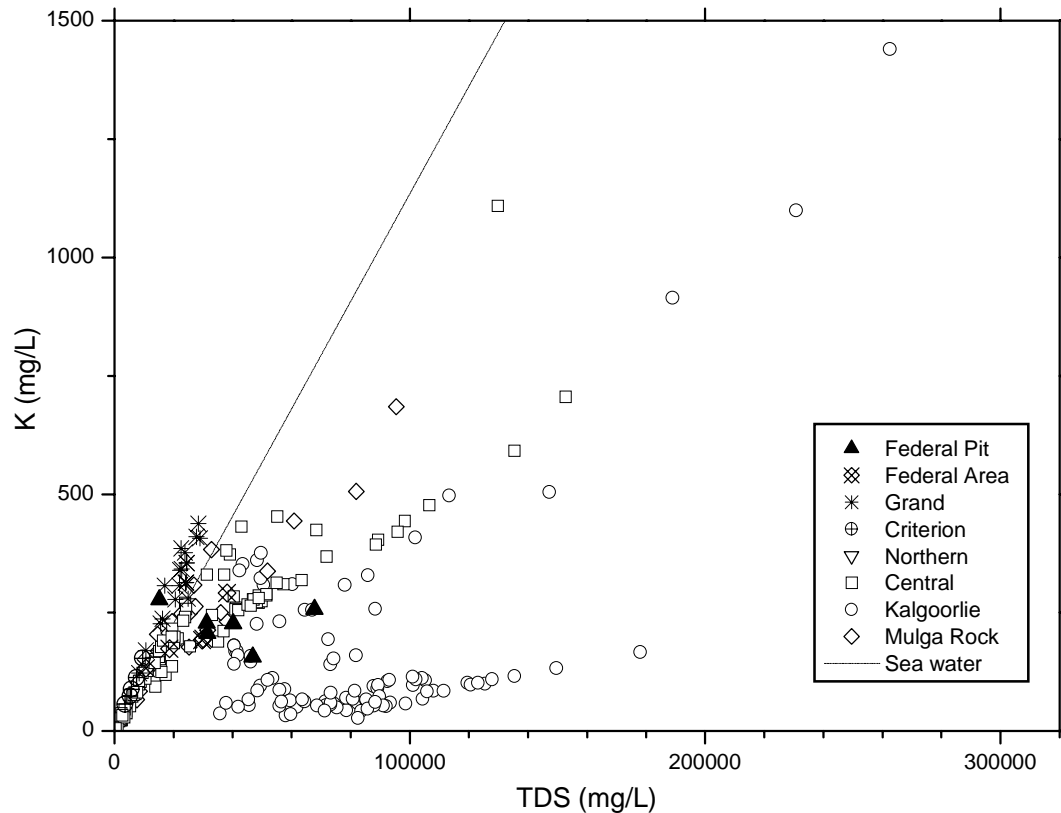


Figure A5.2: K vs. TDS for Woodcutters and other Western Australian groundwaters.

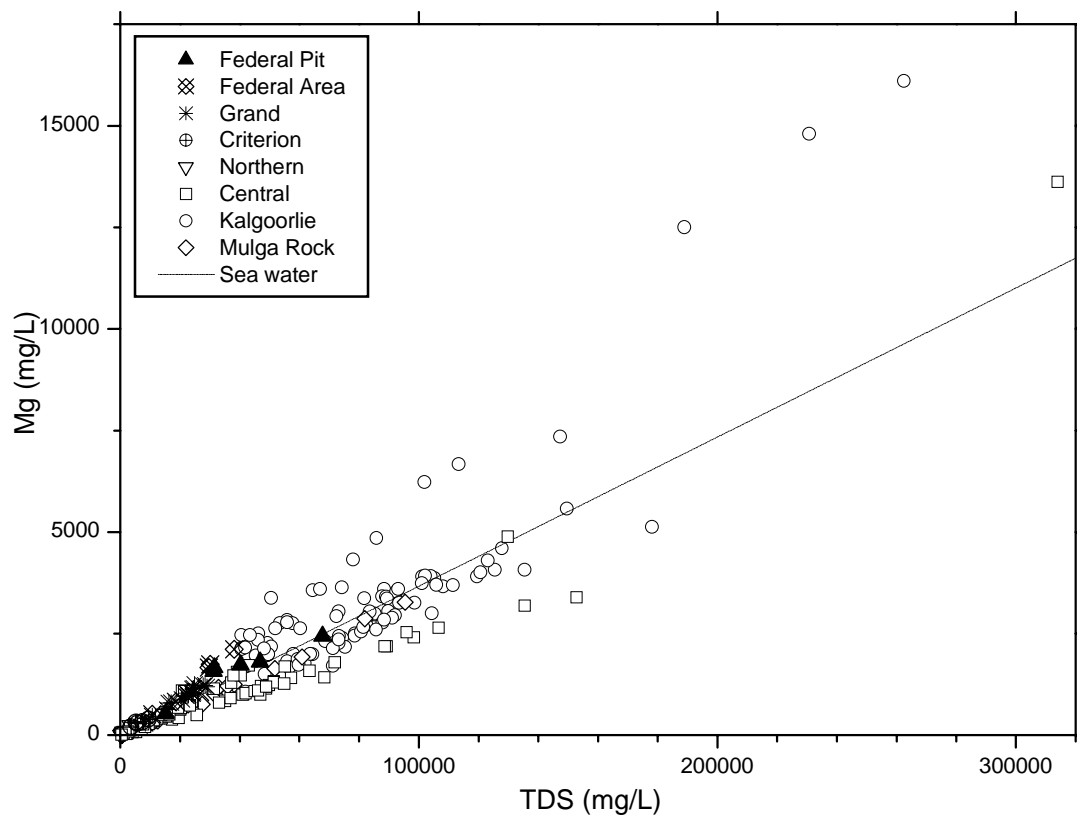


Figure A5.3: Mg vs. TDS for Woodcutters and other Western Australian groundwaters.

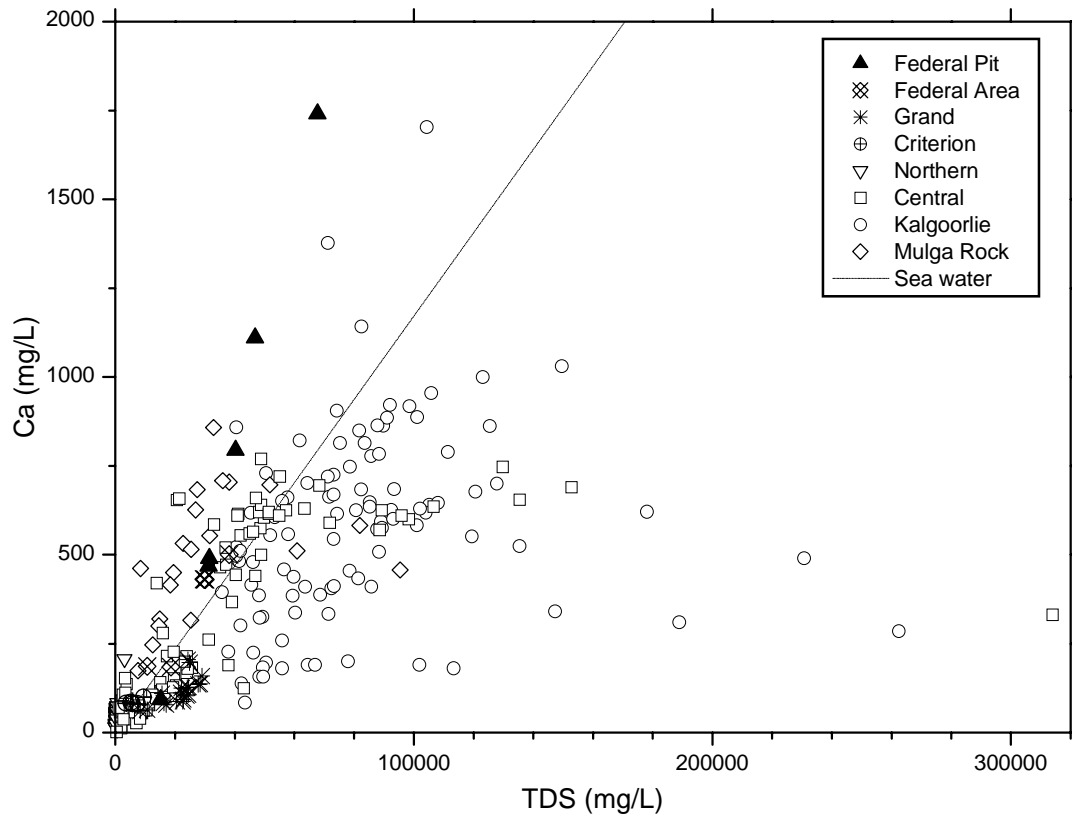


Figure A5.4: Ca vs. TDS for Woodcutters and other Western Australian groundwaters.

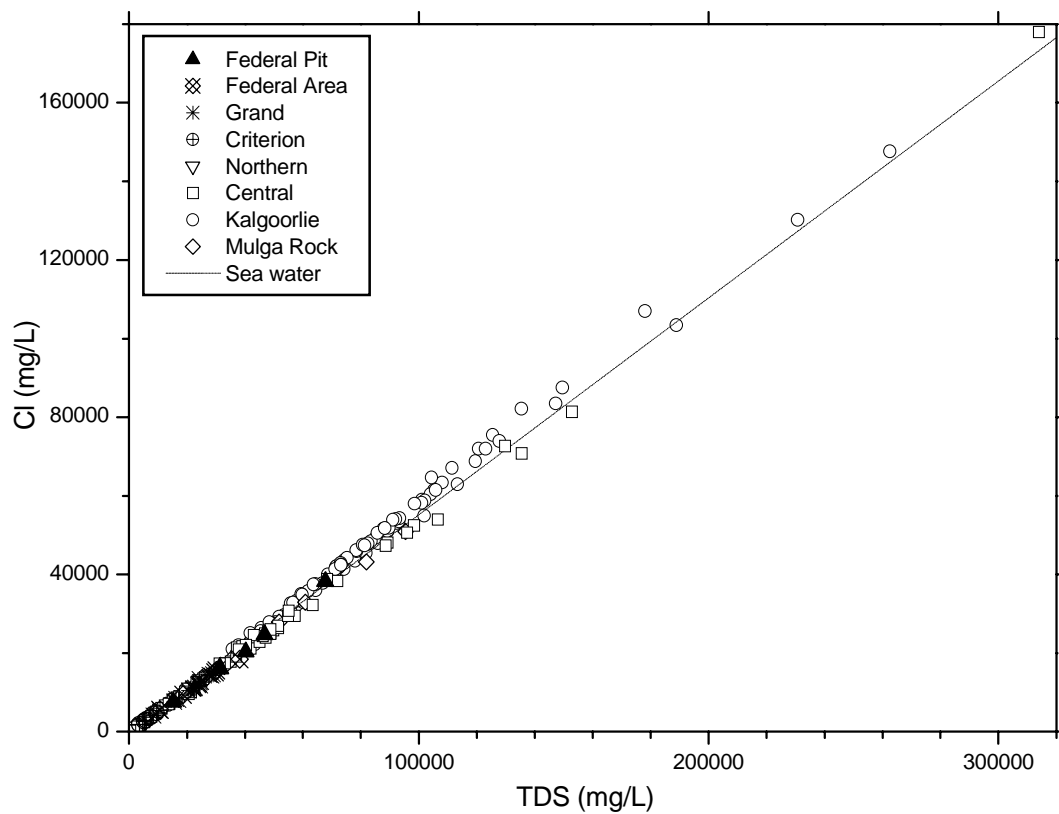


Figure A5.5: Cl vs. TDS for Woodcutters and other Western Australian groundwaters.

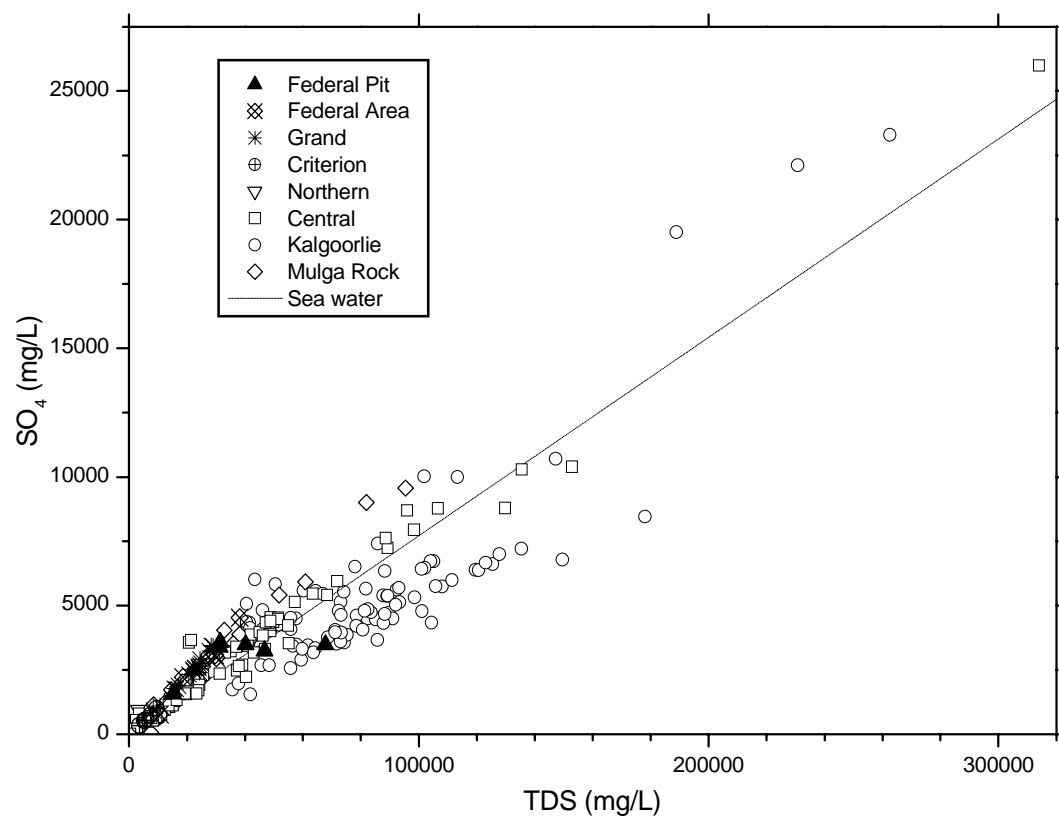


Figure A5.6 SO_4 vs. TDS for Woodcutters and other Western Australian groundwaters.

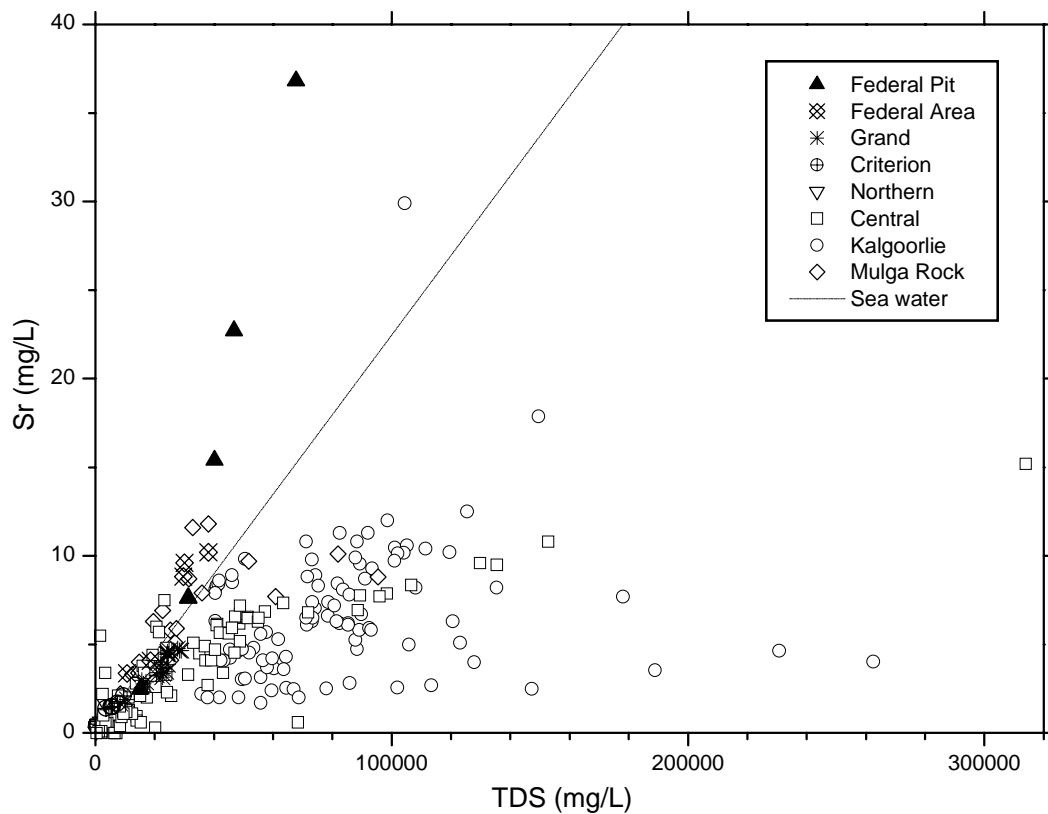


Figure A5.7: Sr vs. TDS for Woodcutters and other Western Australian groundwaters.

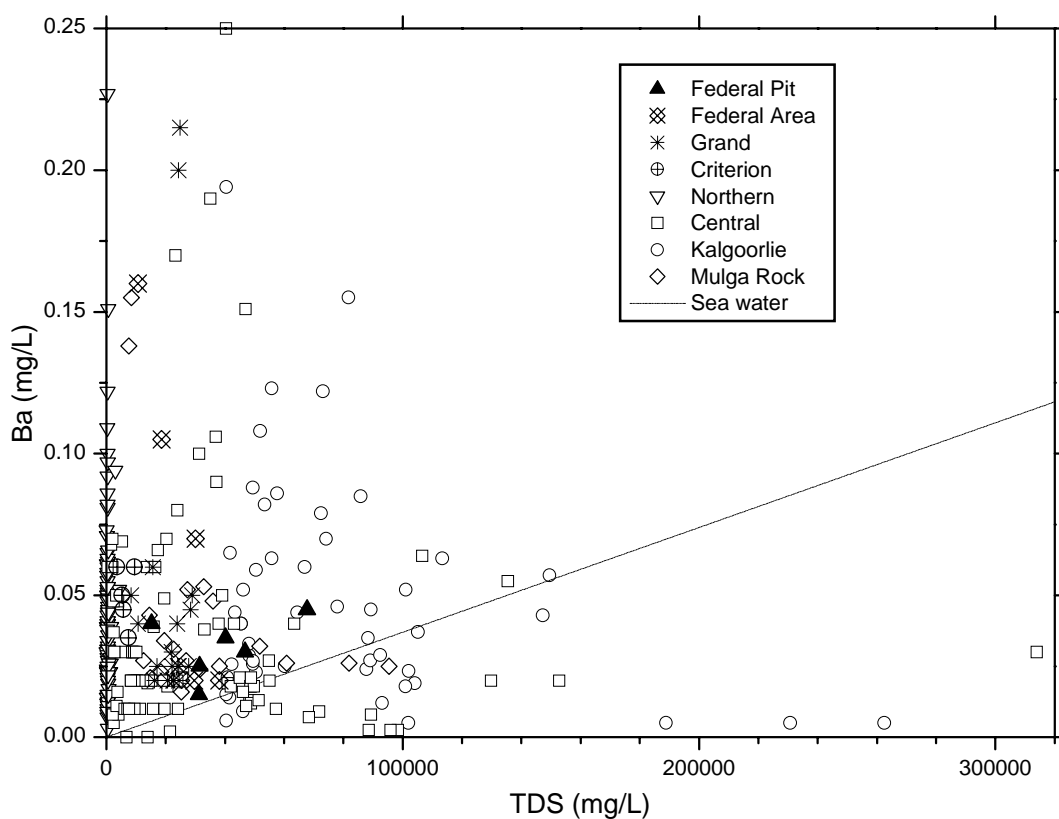


Figure A5.8: Ba vs. TDS for Woodcutters and other Western Australian groundwaters.

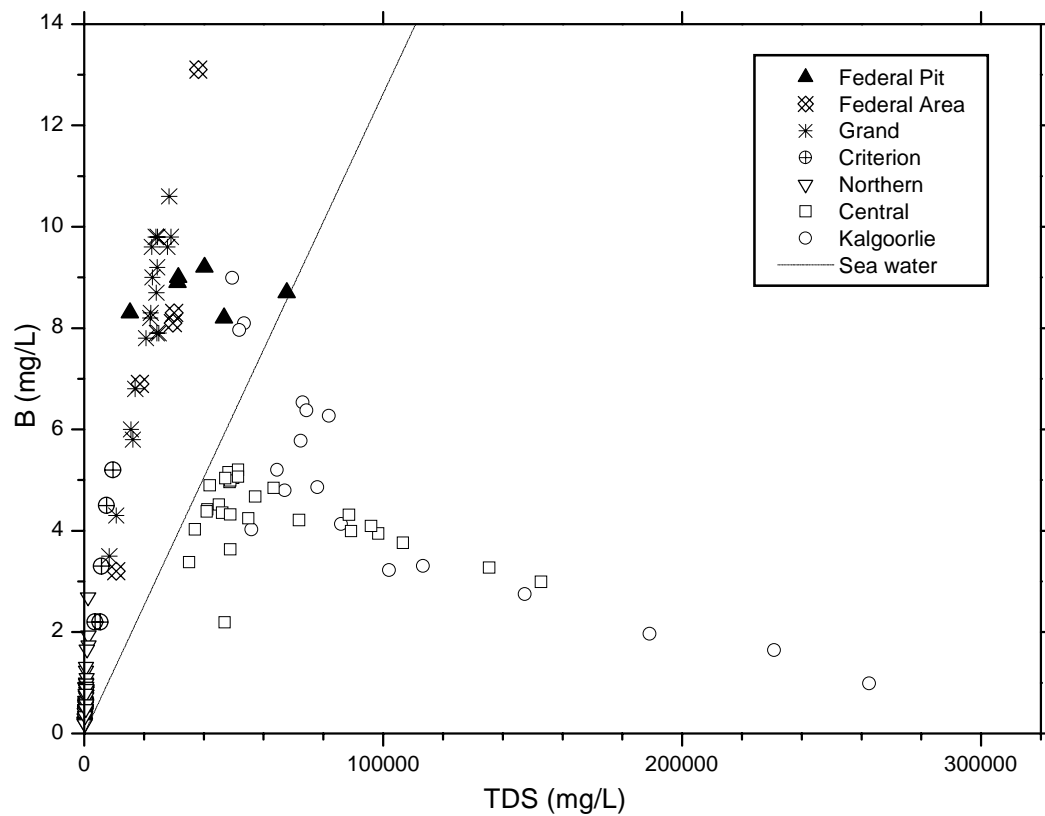


Figure A5.9: B vs. TDS for Woodcutters and other Western Australian groundwaters.

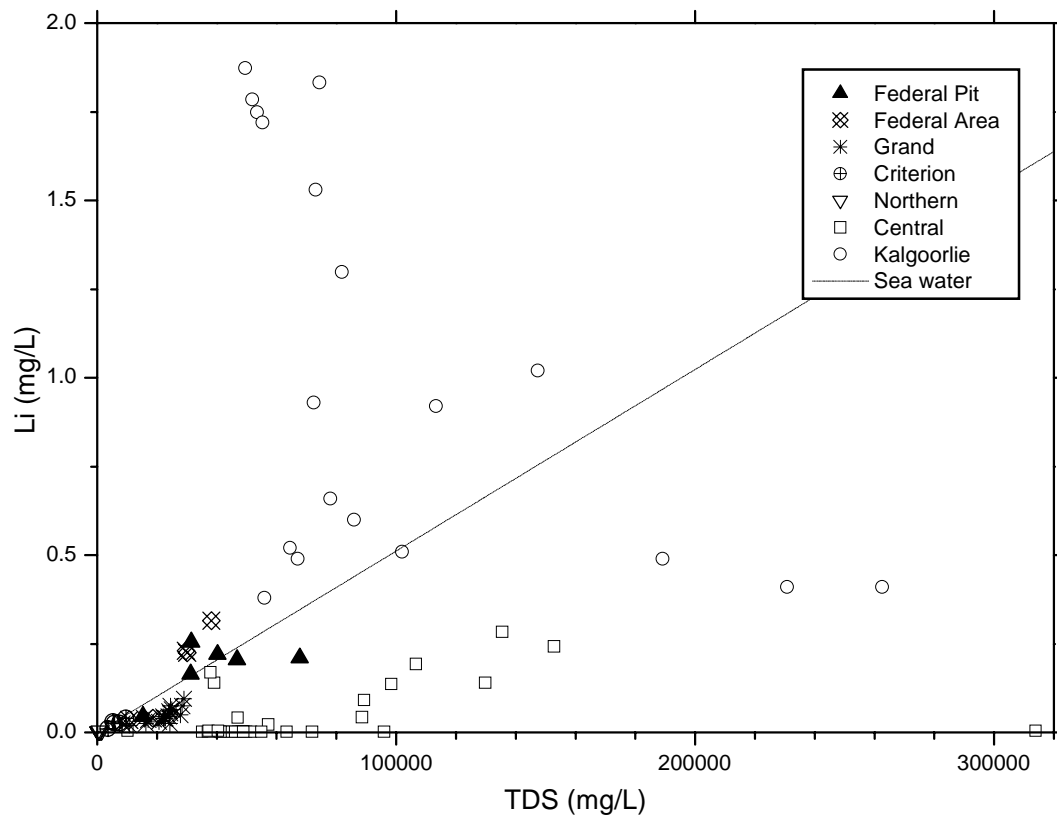


Figure A5.10: Li vs. TDS for Woodcutters and other Western Australian groundwaters.

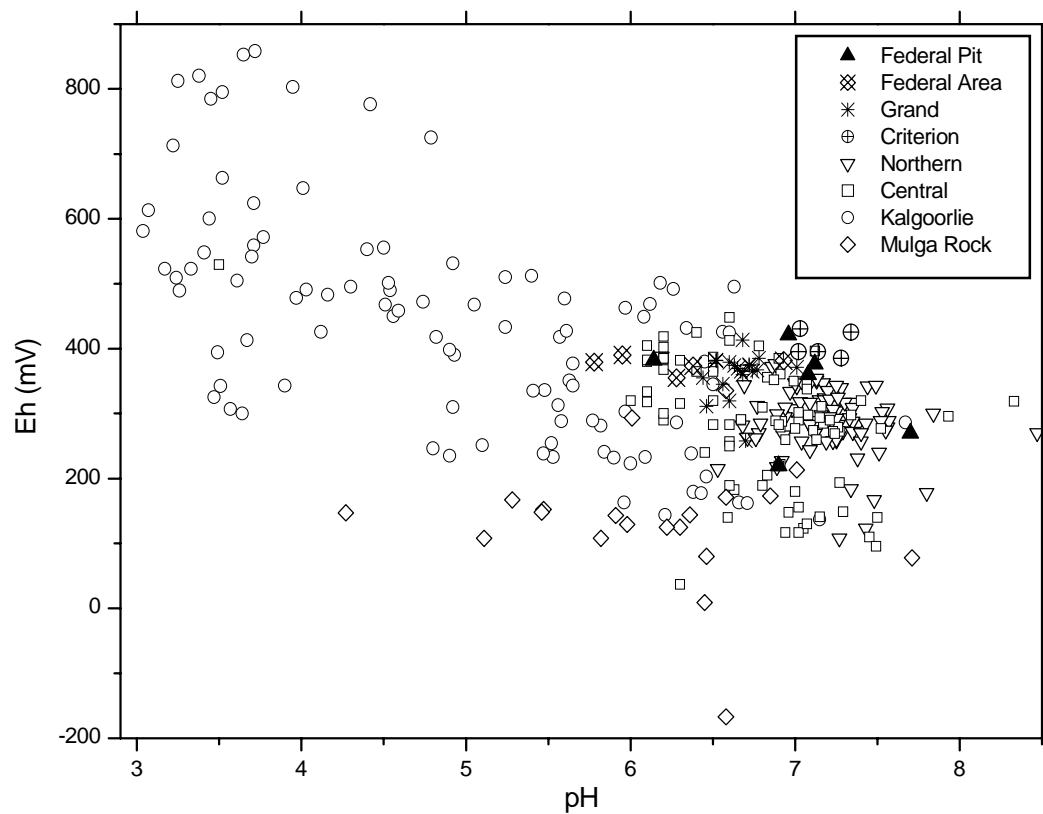


Figure A5.11: Eh vs. pH for Woodcutters and other Western Australian groundwaters.

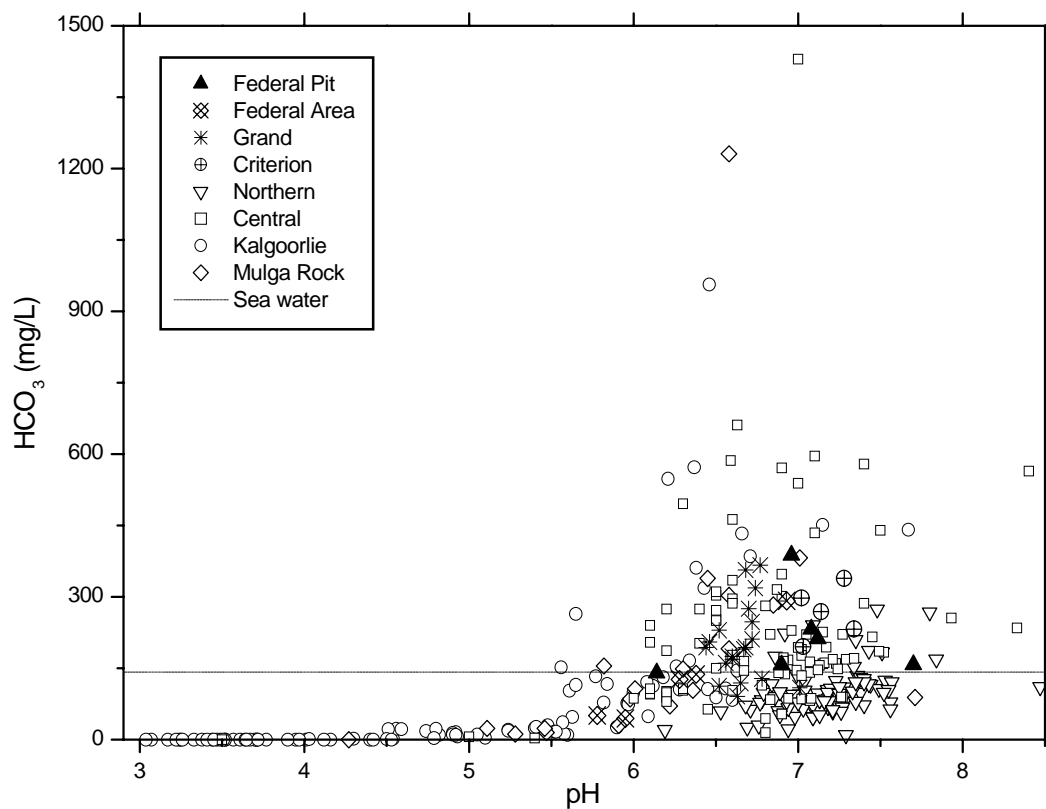


Figure A5.12: HCO_3^- vs. pH for Woodcutters and other Western Australian groundwaters.

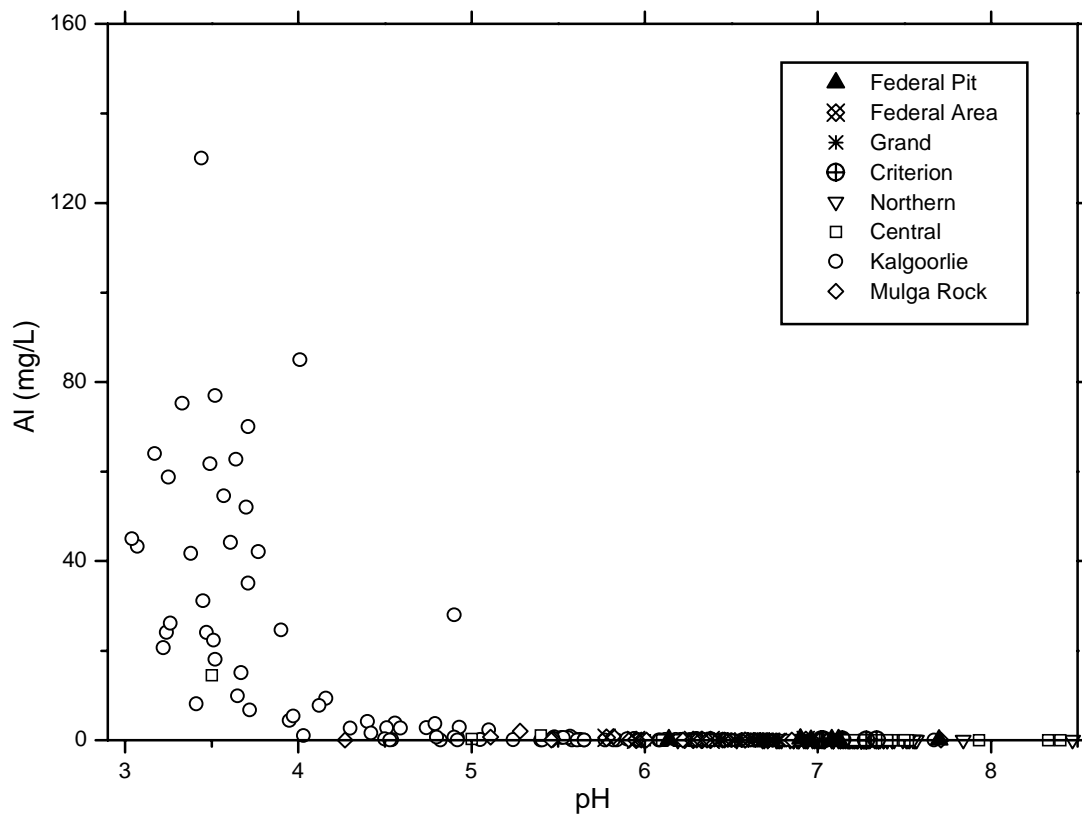


Figure A5.13: Al vs. pH for Woodcutters and other Western Australian groundwaters.

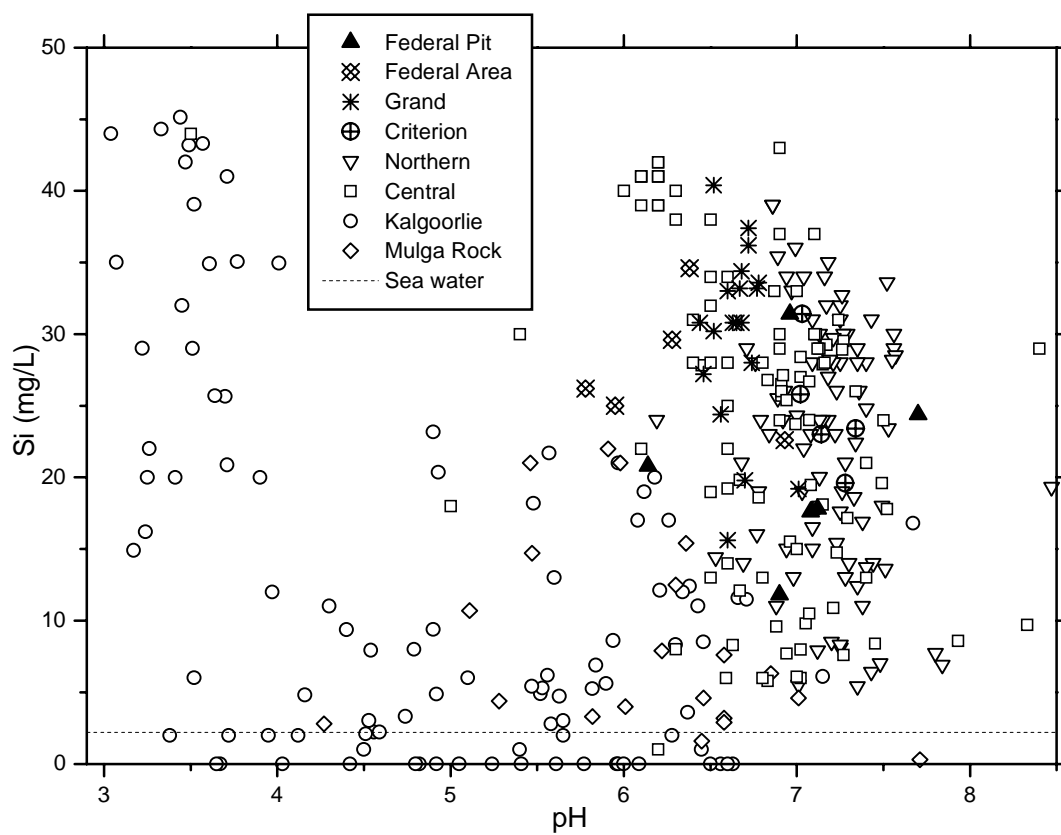


Figure A5.14: Si vs. pH for Woodcutters and other Western Australian groundwaters.

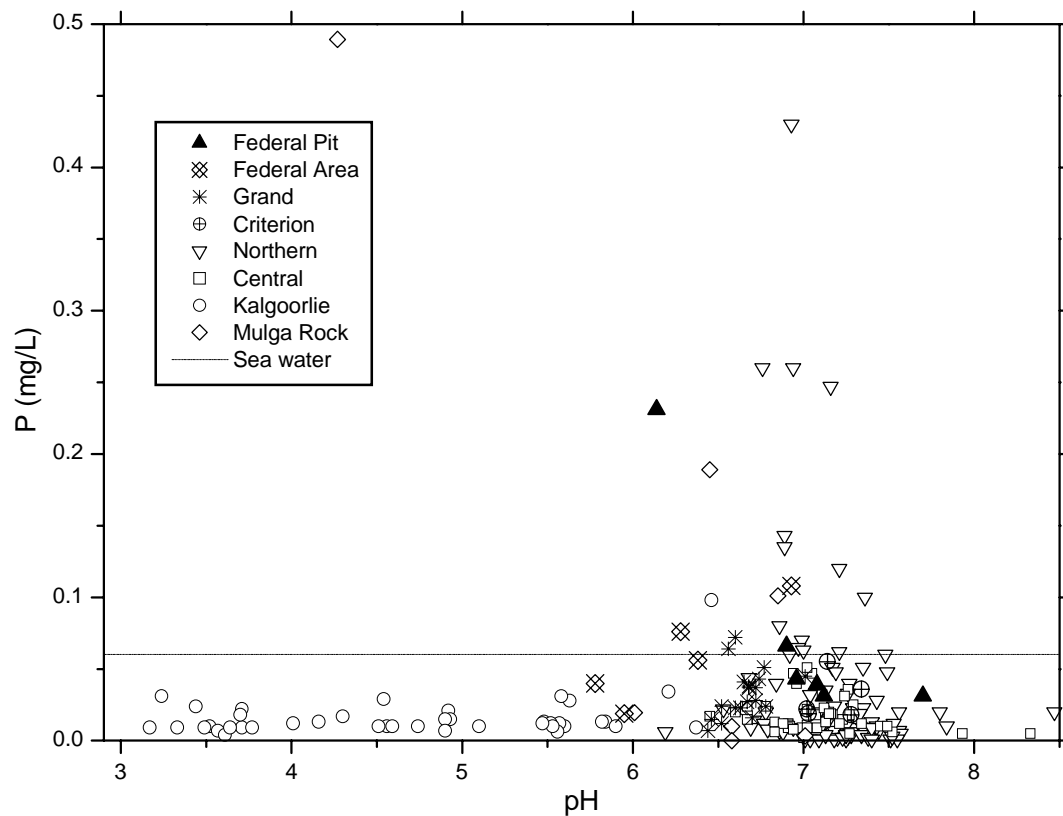


Figure A5.15: P vs. pH for Woodcutters and other Western Australian groundwaters.

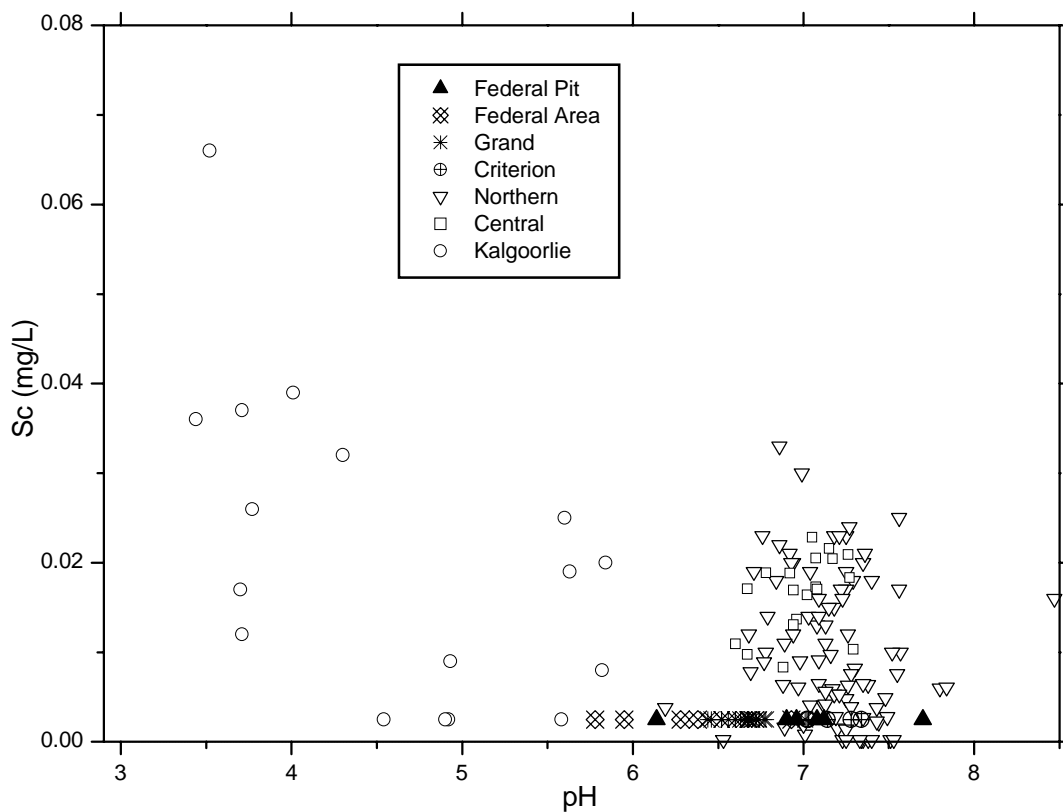


Figure A5.16: Sc vs. pH for Woodcutters and other Western Australian groundwaters.

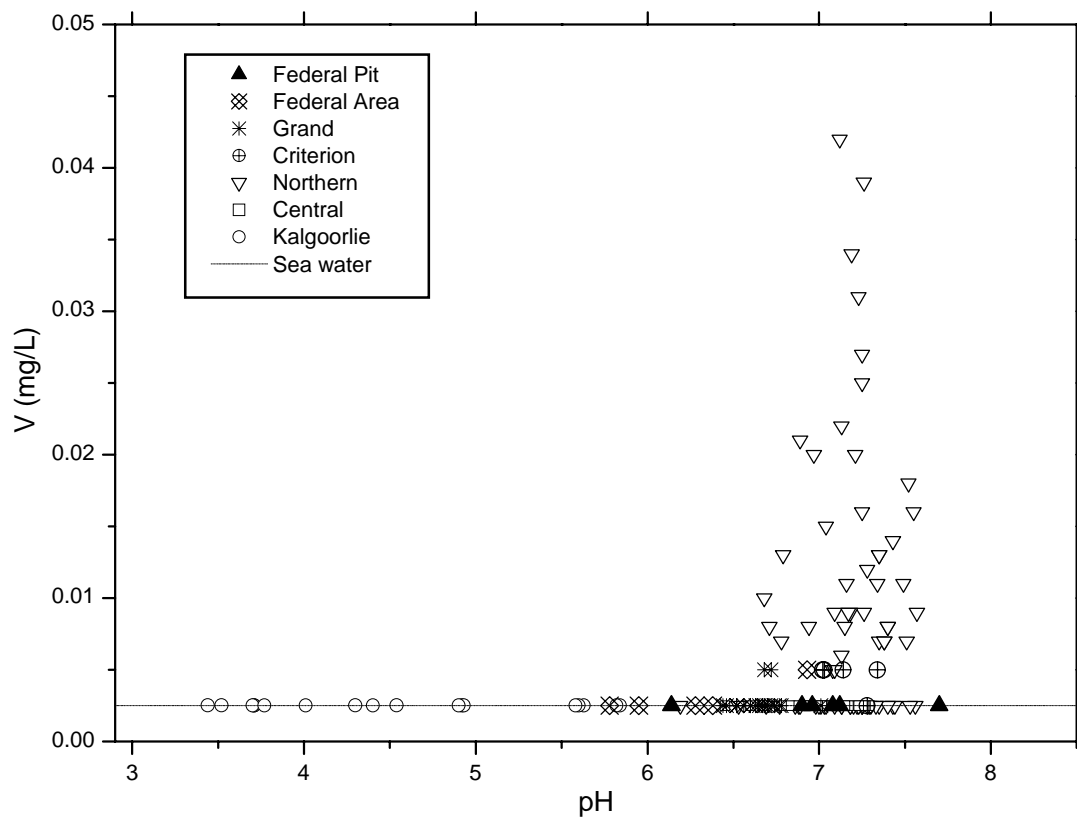


Figure A5.17: V vs. pH for Woodcutters and other Western Australian groundwaters.

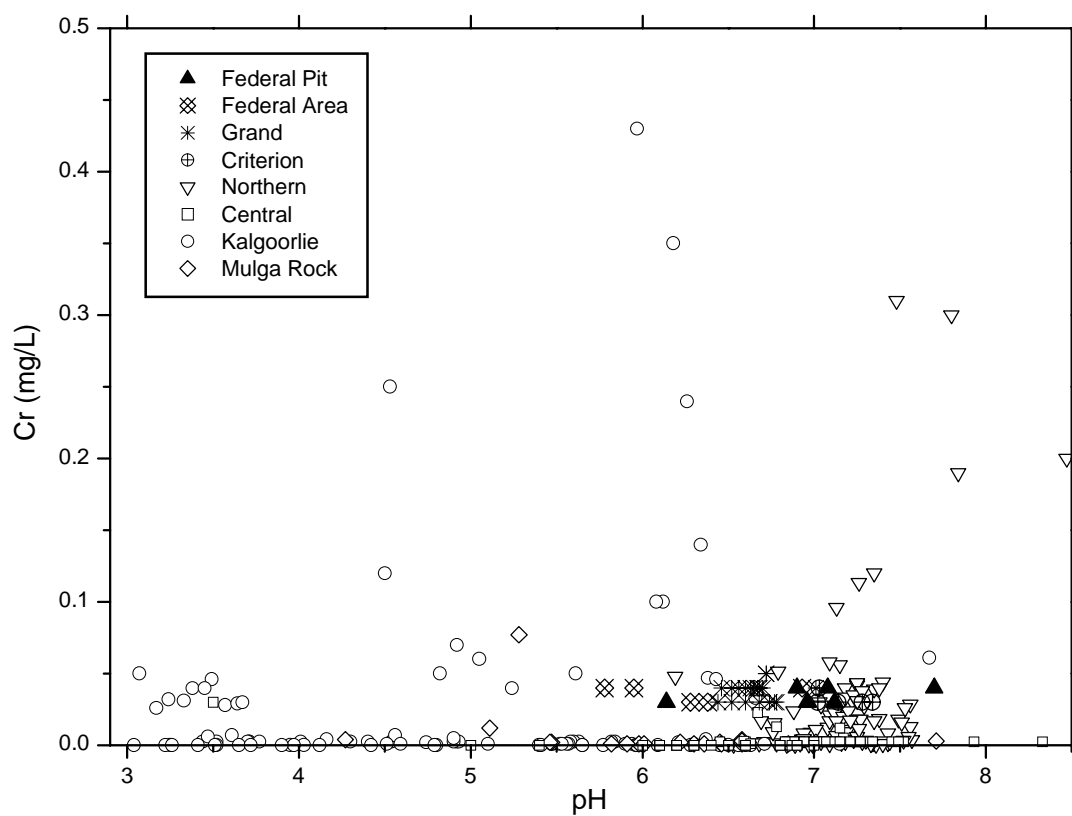


Figure A5.18: Cr vs. pH for Woodcutters and other Western Australian groundwaters.

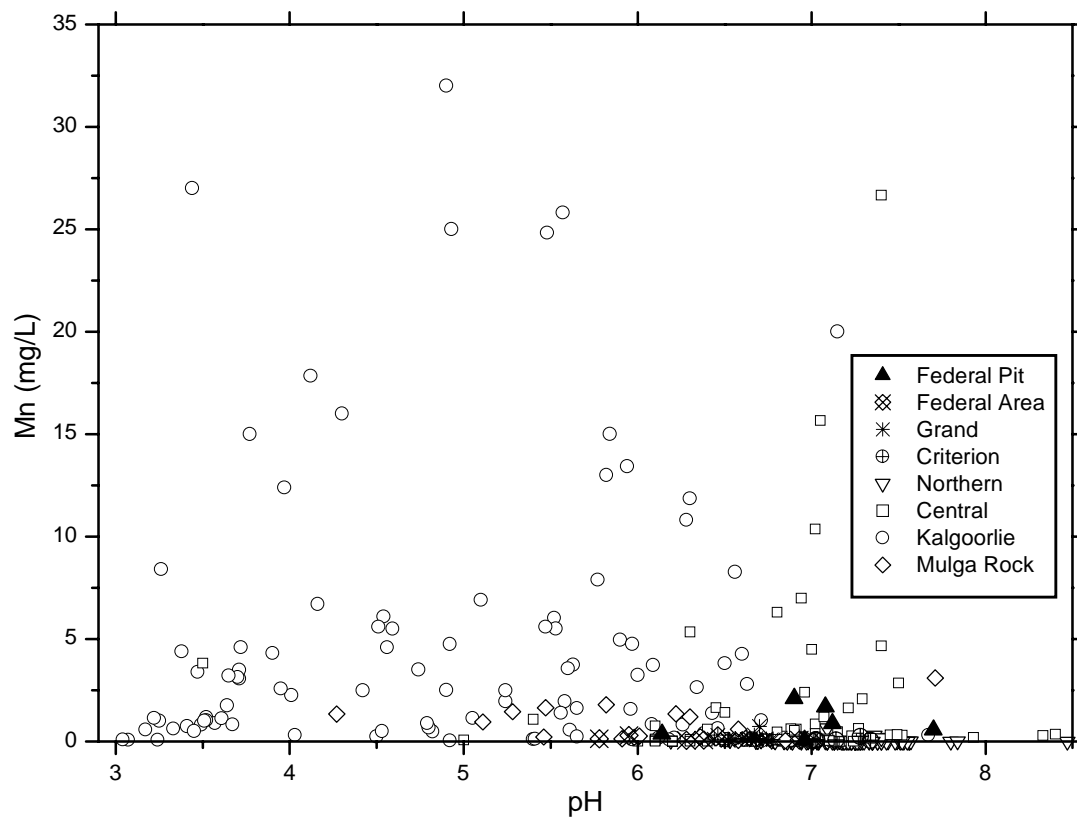


Figure A5.19: Mn vs. pH for Woodcutters and other Western Australian groundwaters.

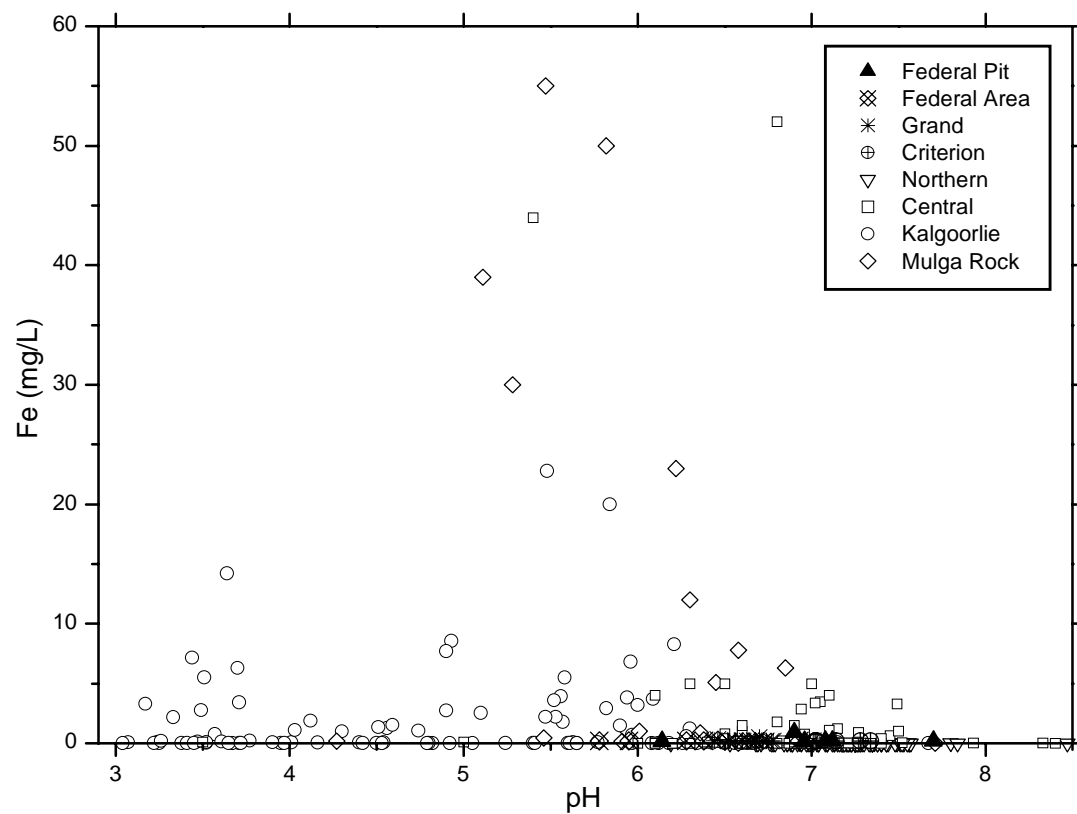


Figure A5.20: Fe vs. pH for Woodcutters and other Western Australian groundwaters.

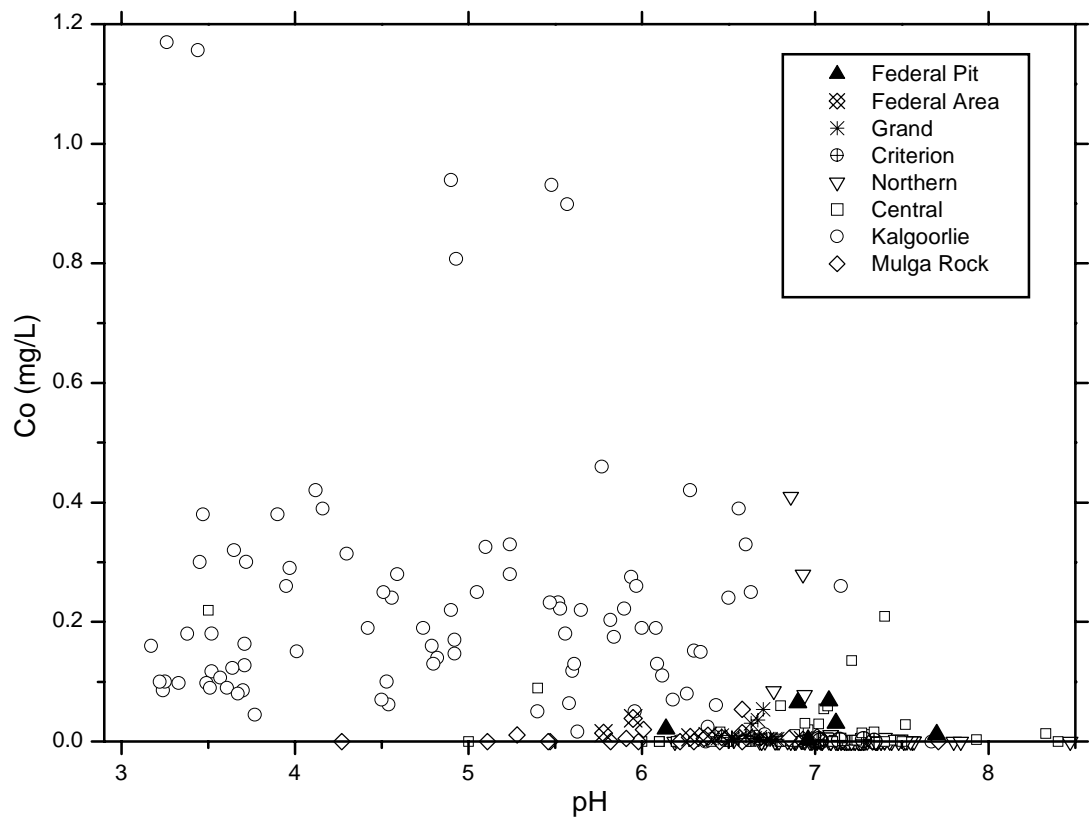


Figure A5.21: Co vs. pH for Woodcutters and other Western Australian groundwaters.

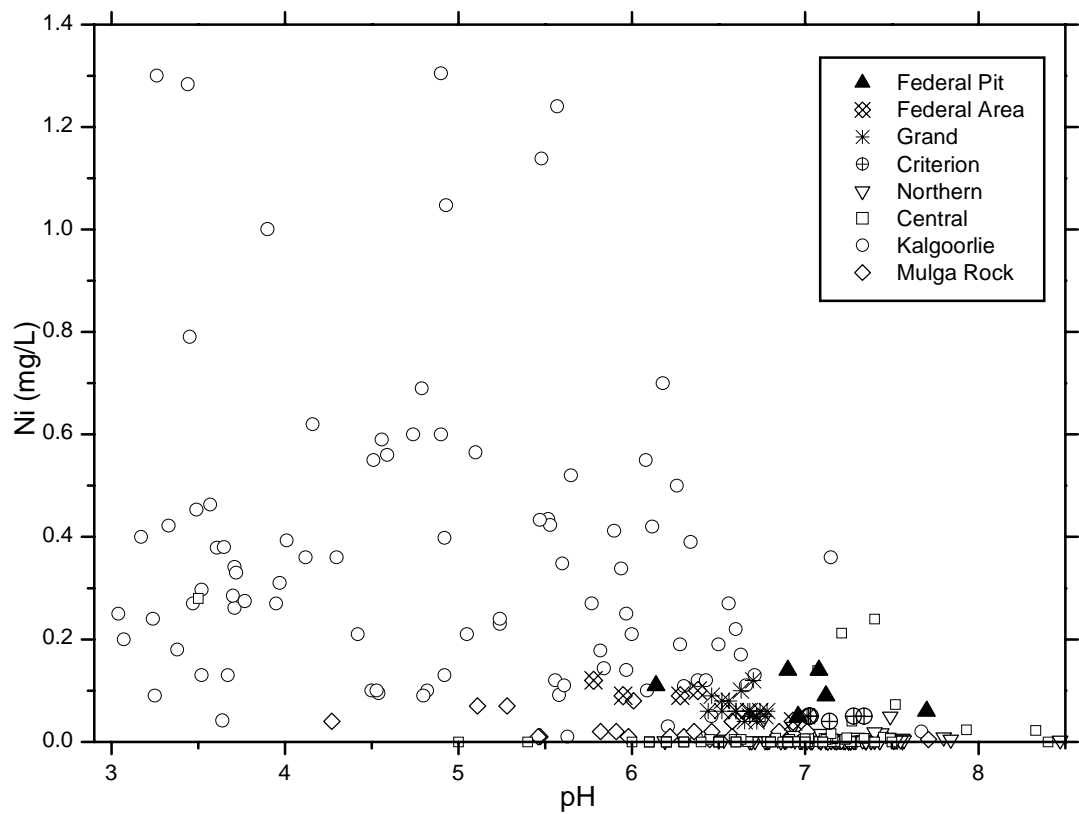


Figure A5.22: Ni vs. pH for Woodcutters and other Western Australian groundwaters.

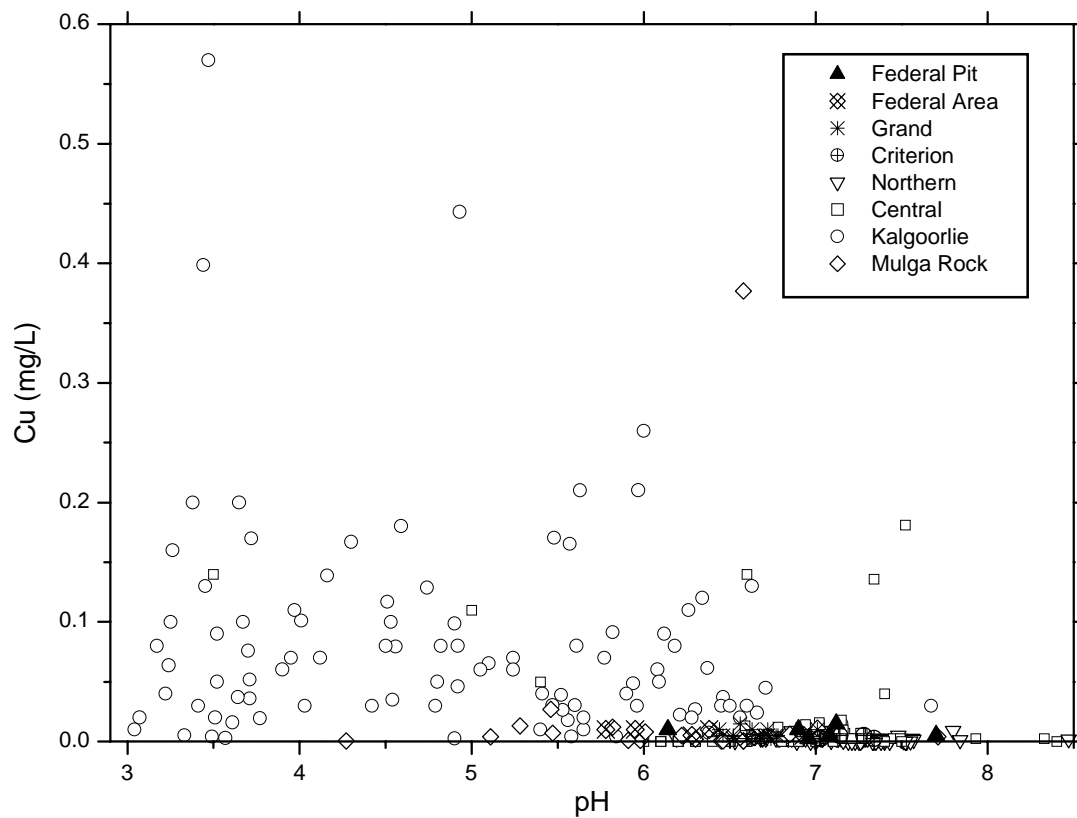


Figure A5.23: Cu vs. pH for Woodcutters and other Western Australian groundwaters.

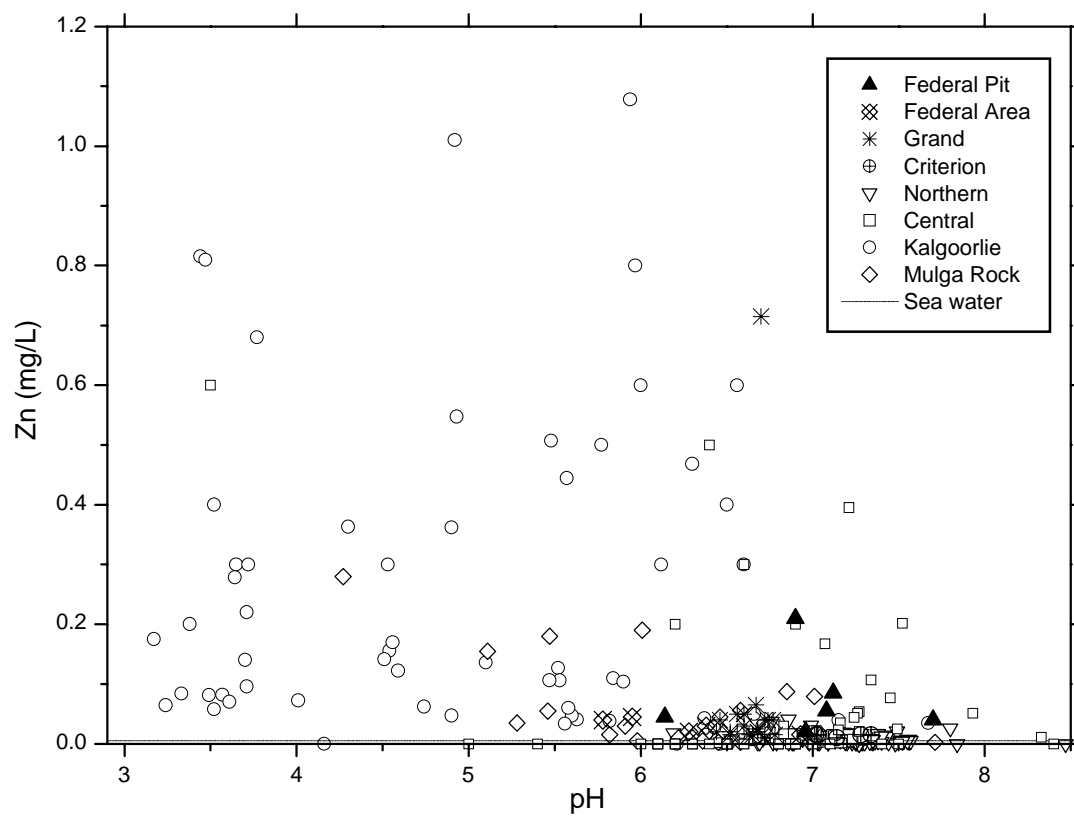


Figure A5.24: Zn vs. pH for Woodcutters and other Western Australian groundwaters.

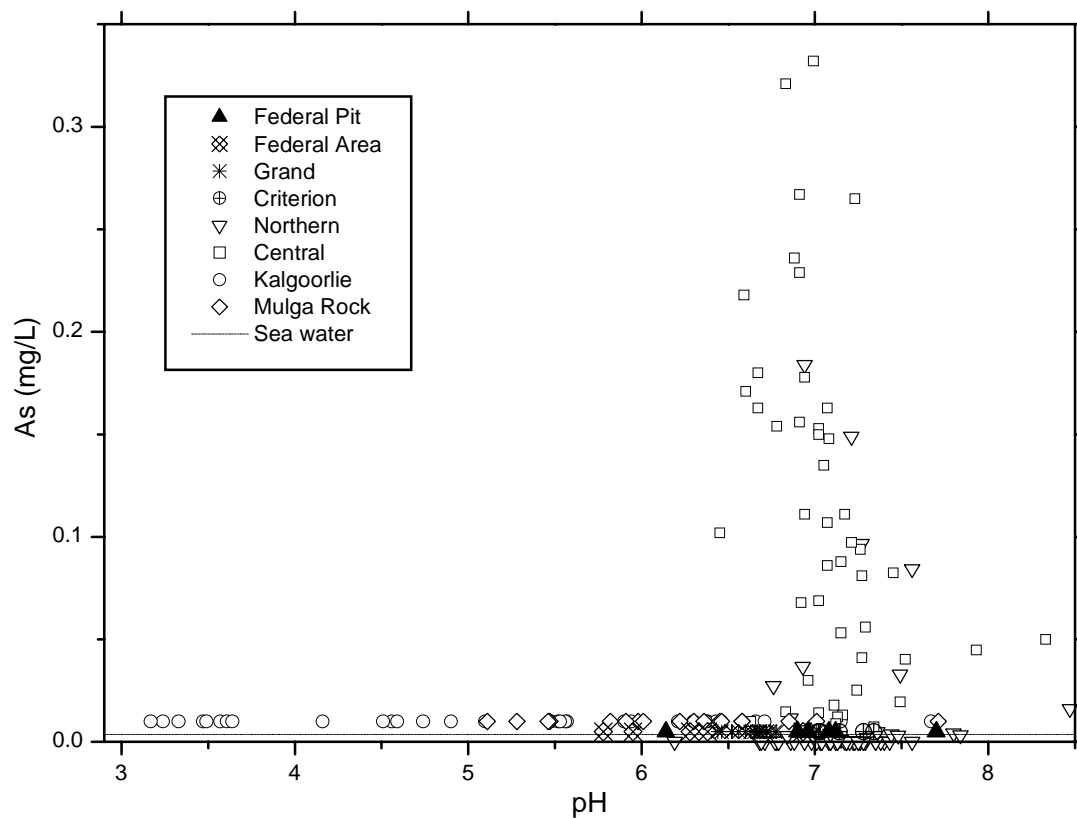


Figure A5.25: As vs. pH for Woodcutters and other Western Australian groundwaters.

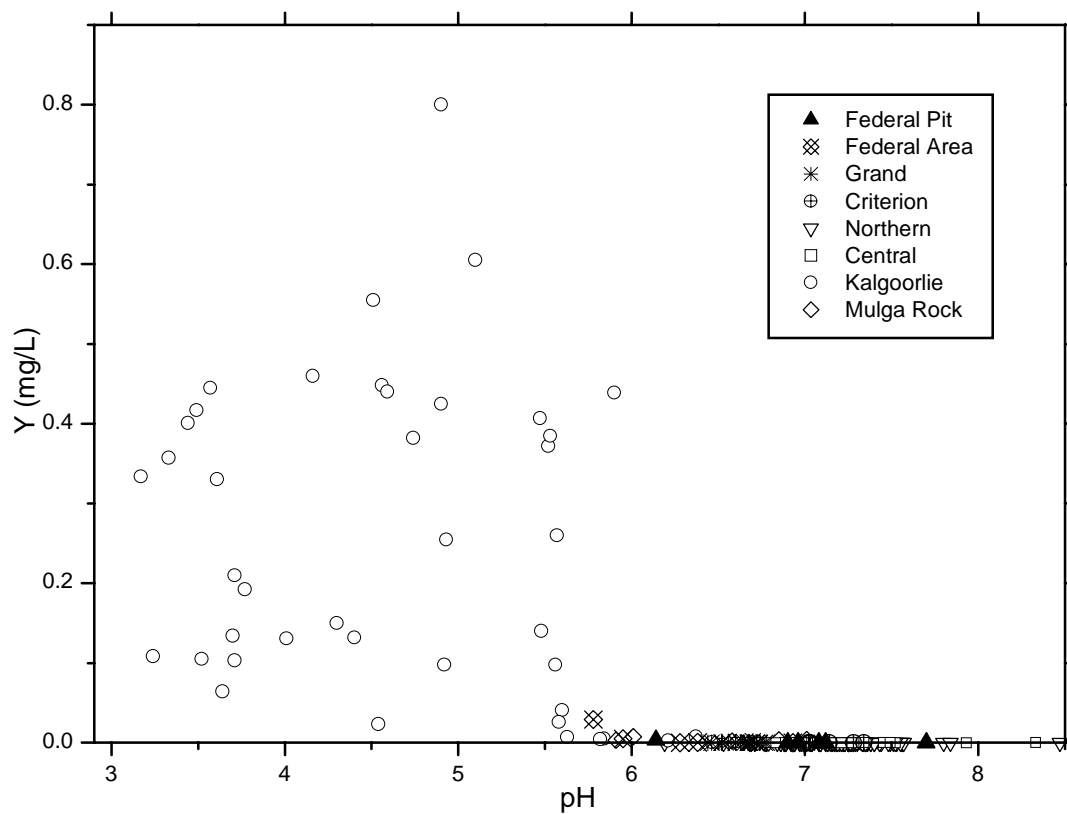


Figure A5.26: Y vs. pH for Woodcutters and other Western Australian groundwaters.

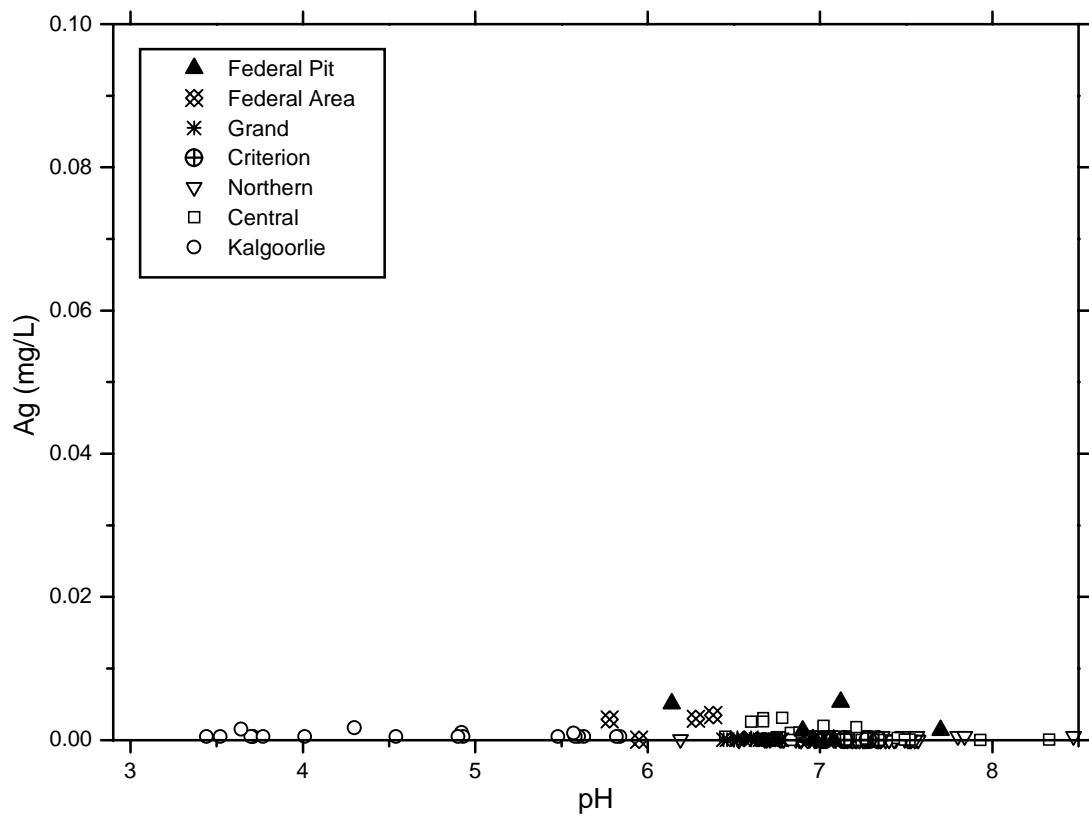


Figure A5.27: Ag vs. pH for Woodcutters and other Western Australian groundwaters.

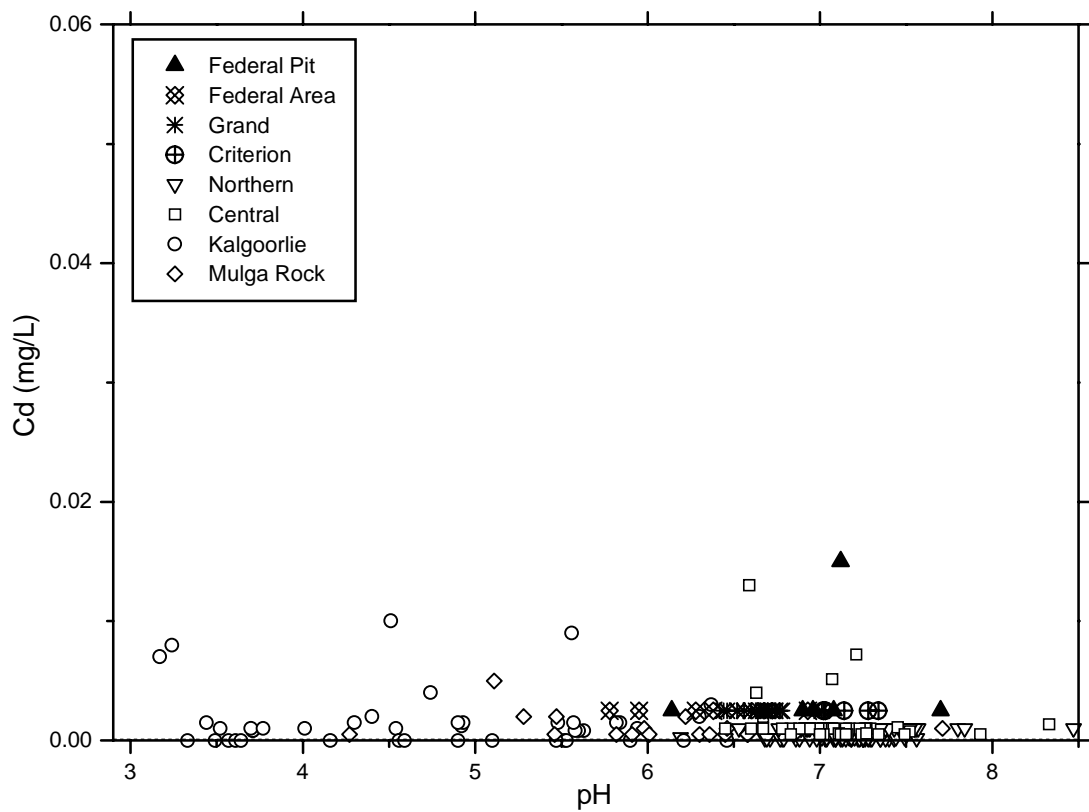


Figure A5.28: Cd vs. pH for Woodcutters and other Western Australian groundwaters.

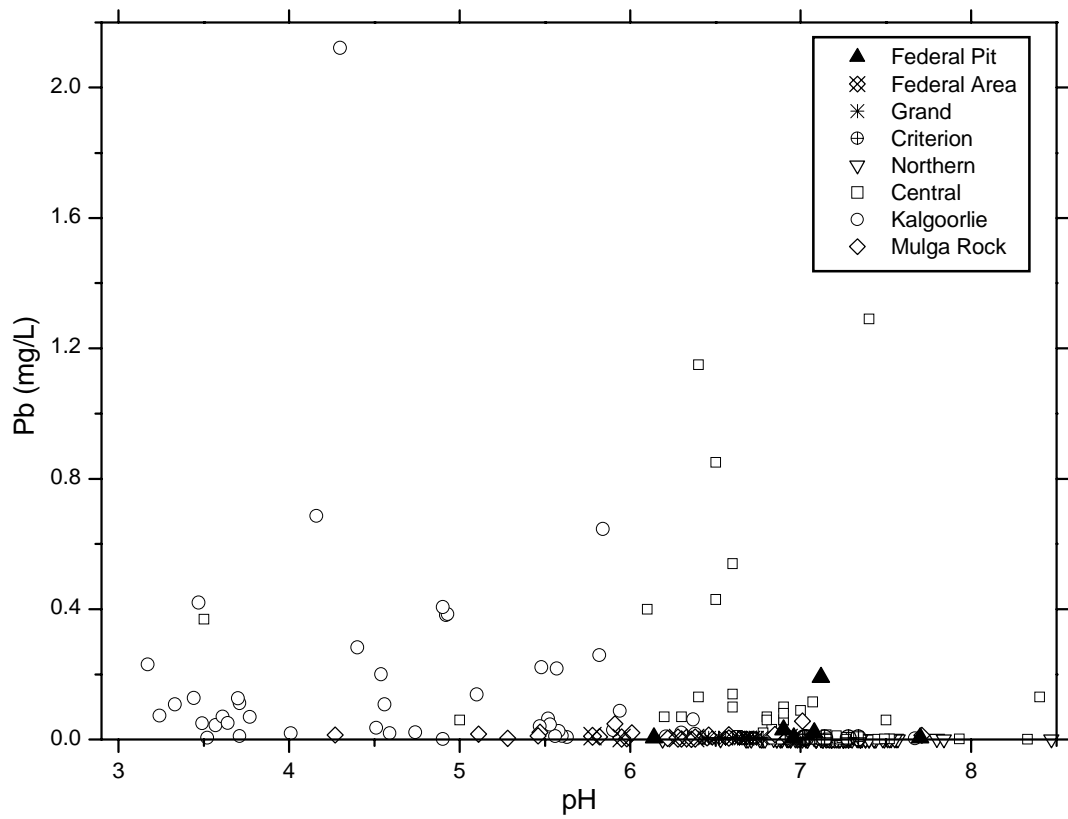


Figure A5.29: Pb vs. pH for Woodcutters and other Western Australian groundwaters.

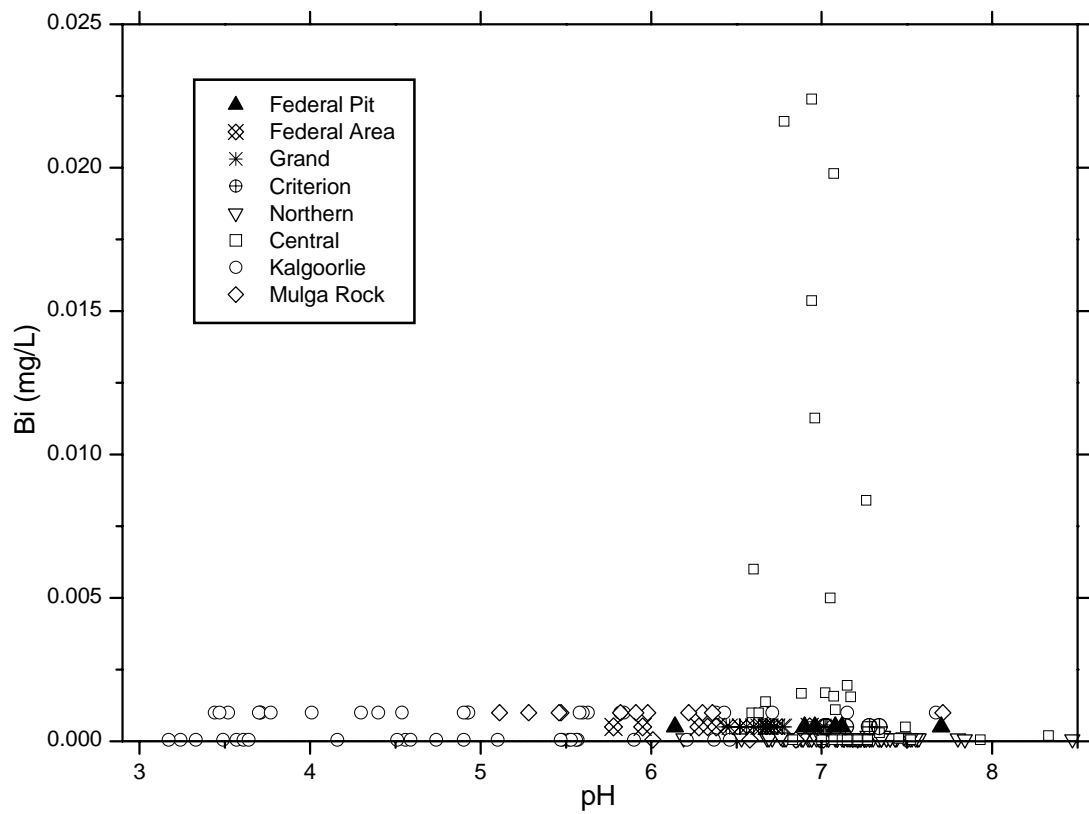


Figure A5.30: Bi vs. pH for Woodcutters and other Western Australian groundwaters.

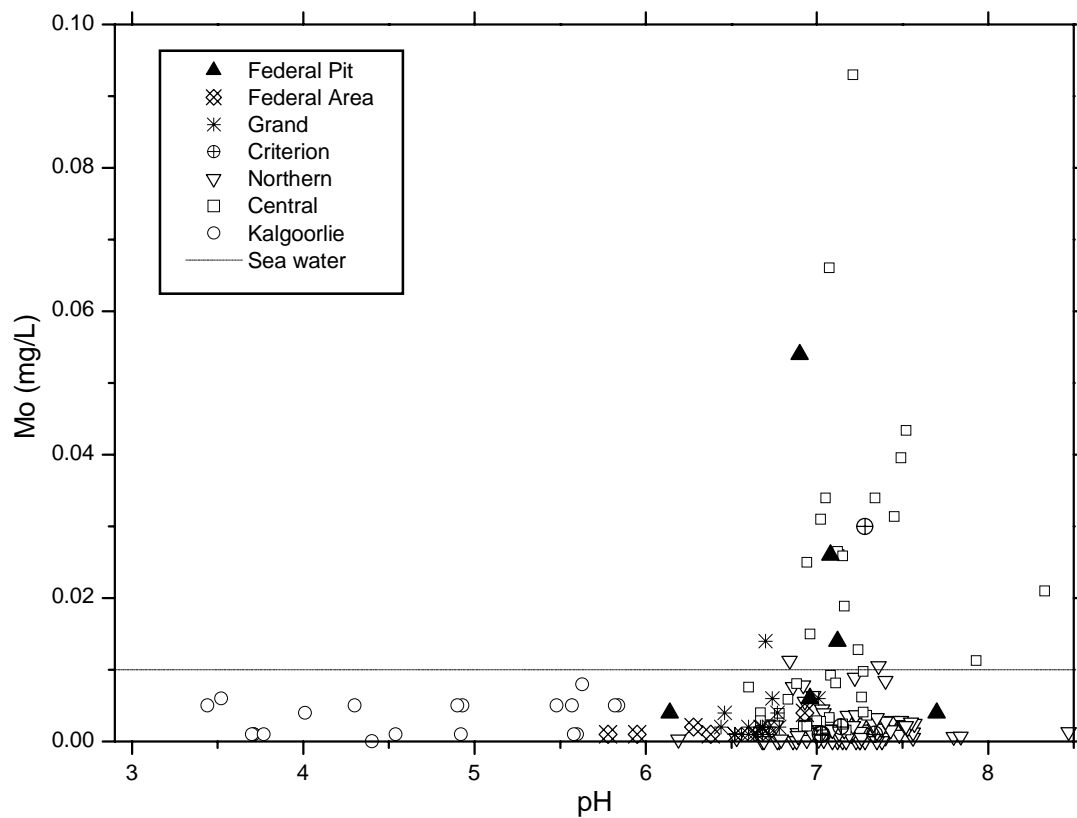


Figure A5.31: Mo vs. pH for Woodcutters and other Western Australian groundwaters.

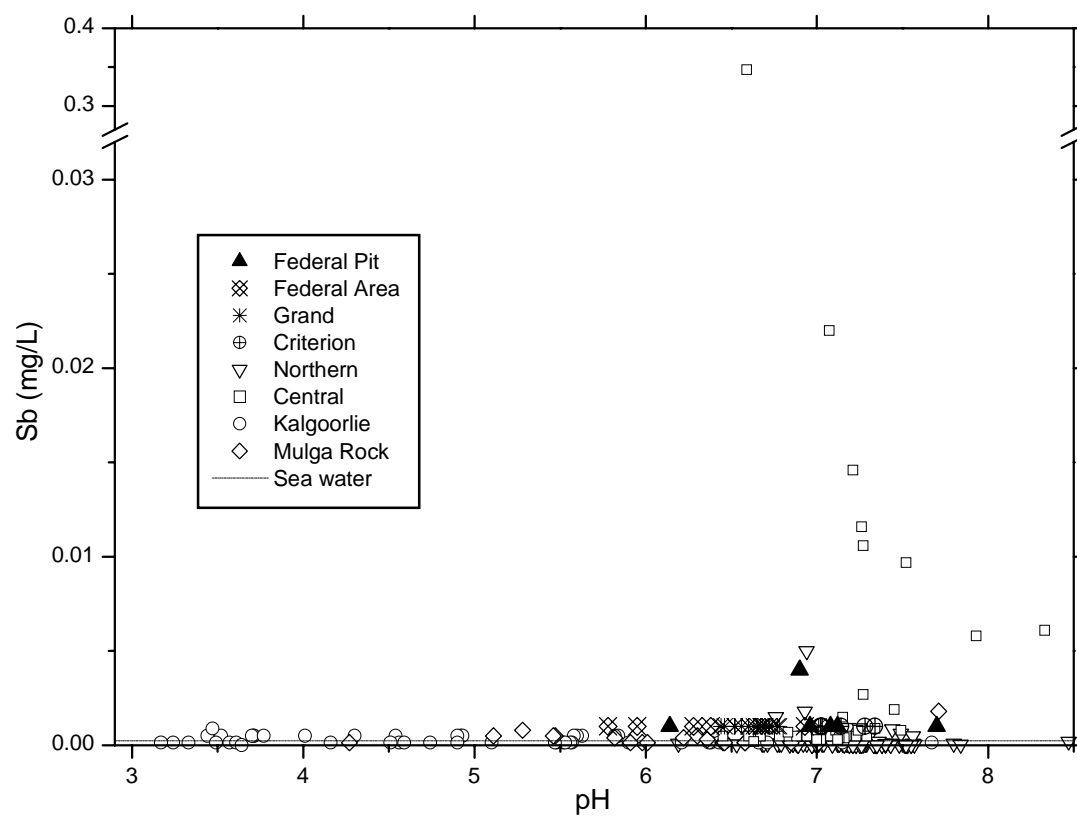


Figure A5.32: Sb vs. pH for Woodcutters and other Western Australian groundwaters.

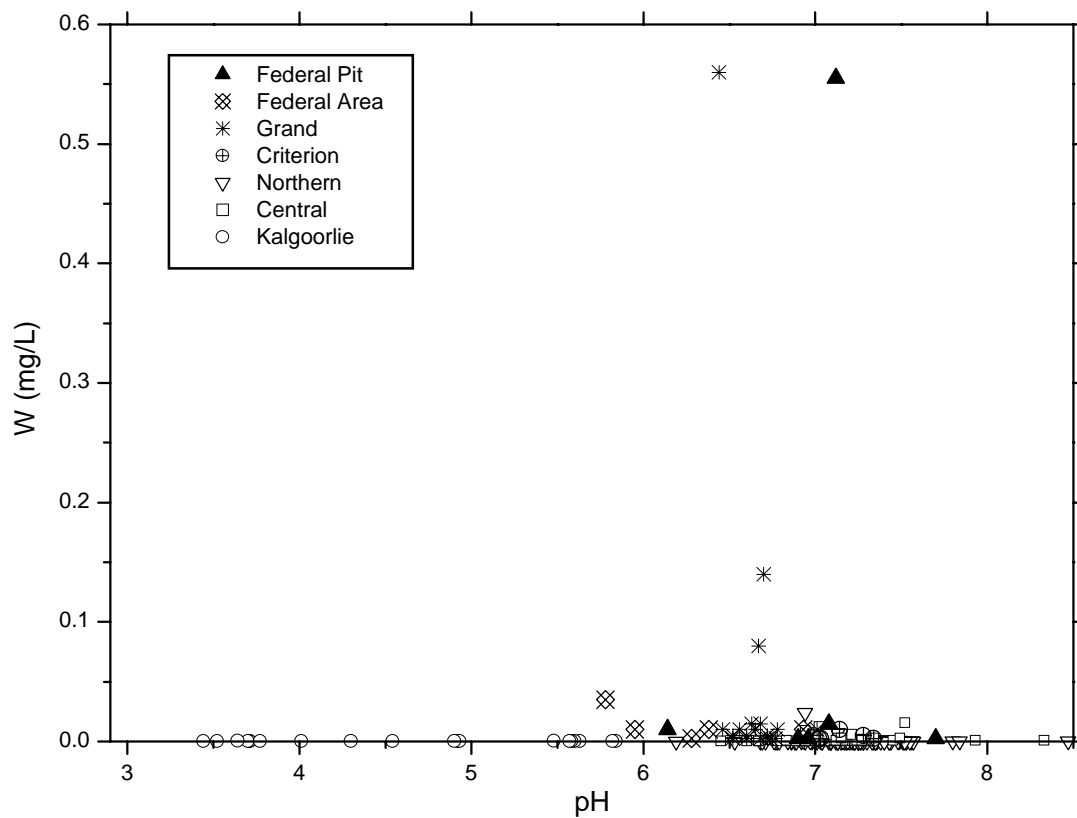


Figure A5.33: W vs. pH for Woodcutters and other Western Australian groundwaters.

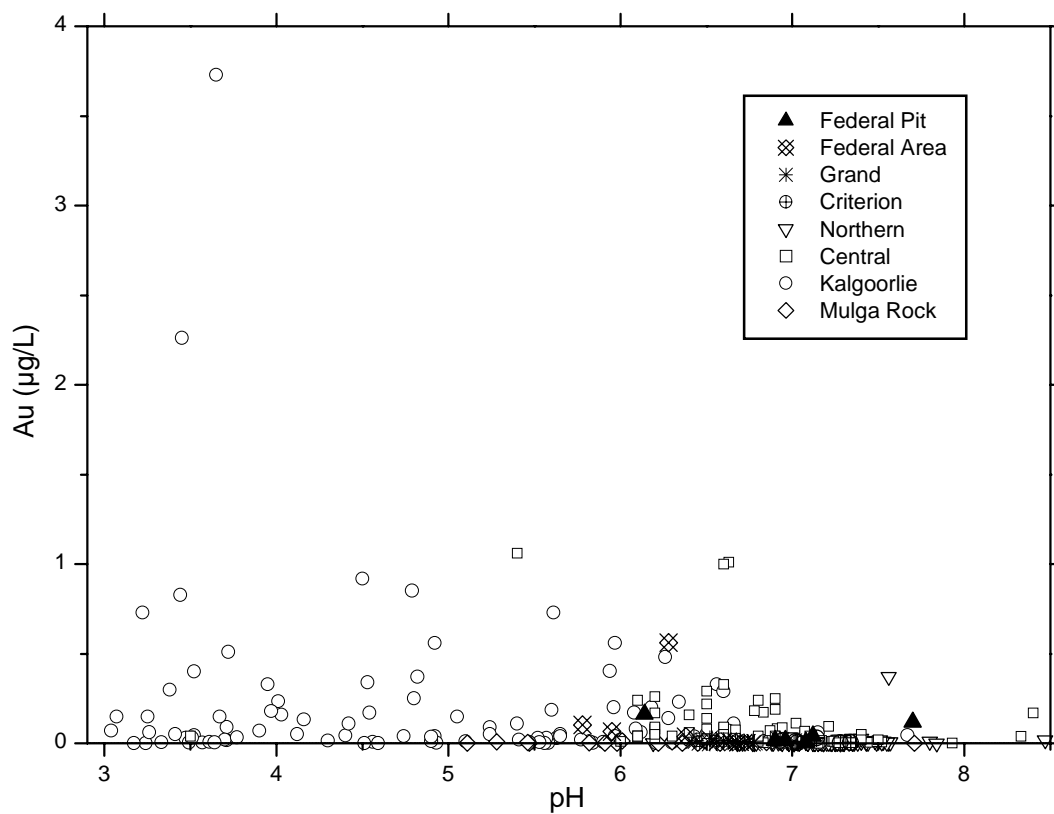


Figure A5.34: Au vs. pH for Woodcutters and other Western Australian groundwaters.

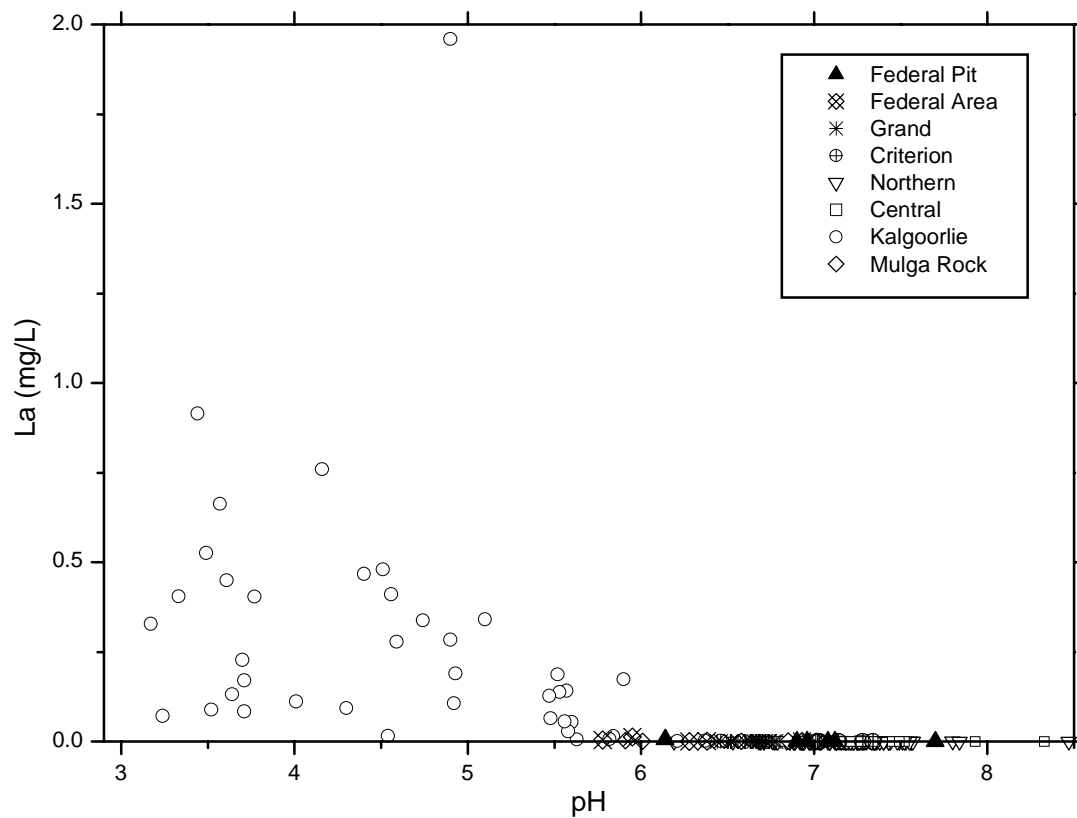


Figure A5.35: La vs. pH for Woodcutters and other Western Australian groundwaters.

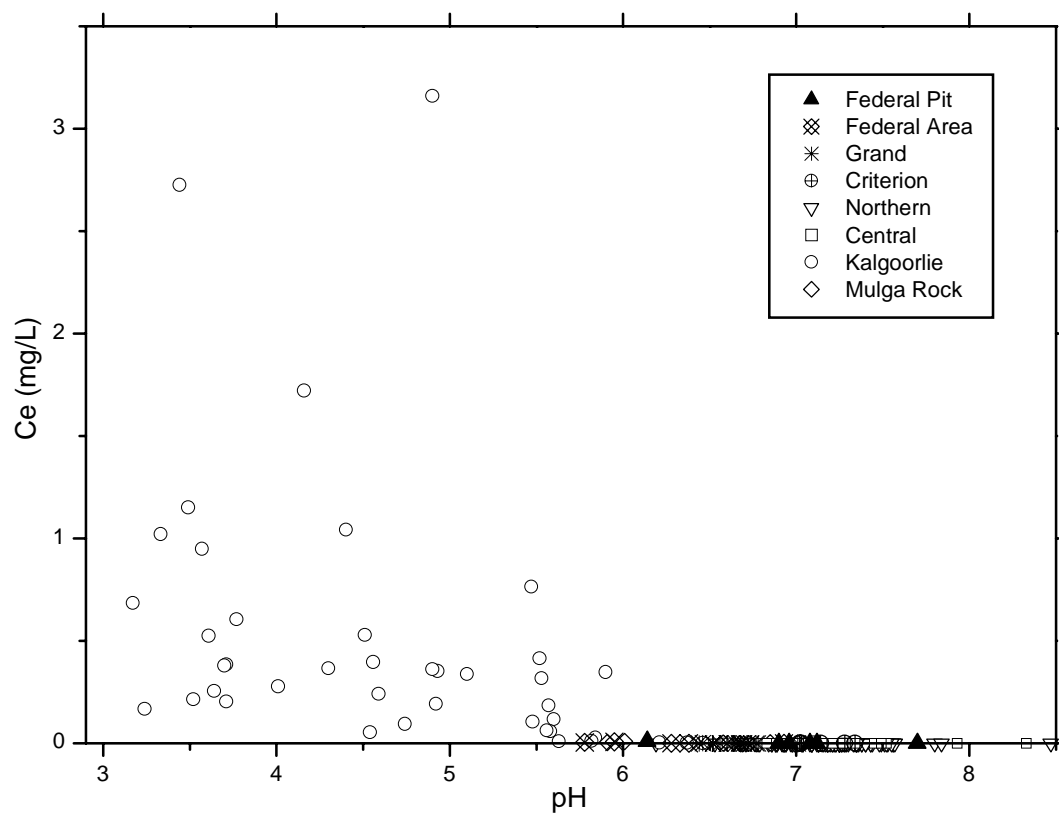


Figure A5.36: Ce vs. pH for Woodcutters and other Western Australian groundwaters.