

Study shows widespread contamination in central NSW and other areas from use of lead in water supply pipelines

May 13 2015, by Amy Macintyre



A new study has found use of lead solder joints in an above ground water supply pipeline has resulted in environmental contamination across

a 70km stretch of land in central New South Wales.

The study, led by Paul Harvey and Professor Mark Taylor of Macquarie University, examined soil adjacent to the Chichester Trunk Gravity Main (CTGM) corridor traversing agricultural land at Woodberry in the Hunter Valley of NSW. The study found agricultural soils to have been heavily contaminated with lead as a direct result of the use and maintenance of lead in the collars of pipe joints.

The soil contamination was linked to toxicity and mortality in several farm animals and to elevated contamination of grass fodder (up to 50 mg/kg of lead) close to the [pipeline](#).

"Soil [lead contamination](#) along the CTGM is extreme, with concentrations reaching 20,600 mg/kg at the pipeline. Cattle formerly permitted to graze along the CTGM corridor have displayed signs of [lead poisoning](#), leading to death in some cases. While fencing along the pipeline corridor will prevent access, it does not combat the legacy problem of the contaminated land." said lead author Paul Harvey.

"Other similar large-scale above ground reticulation systems in the Sydney Metropolitan region and adjacent to the 560 km long Kalgoorlie Golden Pipeline in WA are shown to have resulted in similar environmental hazards," said Mr Harvey.

"Our study of the Hunter Valley CTGM pipeline and our assessment of other pipelines in Australia and overseas indicate that soil lead contamination is a potentially significant [environmental contamination](#) issue that has gone largely unnoticed until now. Many long-distance pipelines built around the 1900s to service water scarce townships were constructed using lead-welded joints," said Professor Mark Taylor.

"Lead-jointed and lead-painted pipelines pose a potentially significant

contamination risk to the adjacent environment, particularly during repair and maintenance phases. It is clear that better promulgation of this issue is needed to ensure livestock are protected, and landowners and the wider community are aware of the risks," said Professor Taylor.

More information: "Widespread Environmental Contamination Hazards in Agricultural Soils from the Use of Lead Joints in Above Ground Large-Scale Water Supply Pipeline." *Water, Air, & Soil Pollution*: [link.springer.com/article/10.1 ... 07/s11270-015-2397-3](https://link.springer.com/article/10.1007/s11270-015-2397-3)

Provided by Macquarie University

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