

Attachment 13: Waste testing

Name	Cinthya Ribero
Qualifications (degrees and higher): please list	BSc Geochemistry (University of La Plata) MSc Environmental and Petroleum Geochemistry (University of Newcastle)
Warrant number (if any)	-
Accreditation (if any): Indicate which	En-Sure Ltd is certified to ISO 14001; the certificate covers the provision of environmental monitoring and consultancy services
Brief description of services	Waste sampling and analysis, including for the parameters in the following table

A) Sampling

Sampling is conducted in accordance with BS 4019: 1993: *Rotary core drilling equipment*, and BS 5930: 1999: *Code of practice for geological site investigations*, and is supervised by En-Sure's geo-chemist.

B) Waste characterisation testing

Analyte	Standard methodology used	Limit of detection	Test-specific accreditation
Total petroleum hydrocarbons	EPA Method 8015B, Revision 2; TNRCC Method 1006	1 mg/kg	No
Total Organic Carbon	MCERTS guidance note 7, ISO 10694:1995	0.1%	No
Acid neutralising capacity (pH4, pH7)	EA NEN 7371:2004	2 mol/kg	No
Loss on Ignition	BS 1377:1990	0.1%	No
Moisture	n/a	0.1%	No
pH	BS 1377:Part 3:1990, MEWAM (ISBN 0117514284), HMSO (1978), APHA-AWWA-WPCF (1992, 18 th Ed.)	-	Yes

Analysis is carried out at an external laboratory accredited to at least EN ISO 17025. A copy of the laboratory certification is provided to ERA as part of the individual project.

C) Leachability testing

Analyte	Standard methodology used	Limit of detection	Test-specific accreditation
As (dissolved)	MEWAM (ISBN 0117516155), HMSO (1981), APHA-AWWA-WPCF (1992, 18 th Ed.)	0.2 µg/L	Yes
Ba (dissolved)		1 µg/L	
Cd (dissolved)		0.02 µg/L	
Cr (dissolved)		1 µg/L	
Cu (dissolved)		0.5 µg/L	
Hg (dissolved)		0.05 µg/L	
Mo (dissolved)		1 µg/L	
Ni (dissolved)		1 µg/L	
Pb (dissolved)		0.3 µg/L	
Sb (dissolved)		1 µg/L	
Se (dissolved)		0.5 µg/L	

Analyte	Standard methodology used	Limit of detection	Test-specific accreditation
Zn (dissolved)		2 µg/L	
Total dissolved solids	n/a	100 mg/L	No
Phenols (total-mono)	APHA-AWWA-WPCFM Part 5530	0.1 mg/L	Yes
Dissolved organic carbon	APHA-AWWA-WEF Part 5310 (1998, 20 th Ed.), BS EN 1484:1997	1 mg/L	No
Electrical conductivity	n/a	10 µS/cm	No
Chloride	HMSO (1981)	1 mg/L	Yes
Fluoride	HMSO (1981)	0.05 mg/L	Yes
Sulphate	HMSO (1981)	0.5 mg/L	Yes

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