

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	Adi Associates is certified to ISO 14001; the certificate covers the provision of environmental management & 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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