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**TEST CERTIFICATE — EAR-CONTROLLED DATA**

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Subject: Chemical Analysis of Two Samples

**Portable X-Ray Spectroscopy Results  
 (Relative Wt %)**

Element	DSWD Incinerated Sludge 2008	DSWD Incinerated Sludge 2017
Cadmium	Not detected	Not detected
Molybdenum	0.06	0.06
Niobium	0.06	0.05
Zirconium	0.05	0.06
Lead	0.02	0.03
Zinc	0.26	0.30
Copper	0.09	0.11
Nickel	0.03	0.03
Manganese	0.04	0.07
Chromium	Not detected	Not detected
Titanium	0.34	0.43
Iron	9.2	10.5
Balance	89.8	88.4

Portable X-ray analysis can detect and quantify elements from atomic no. 17 (chlorine) and greater on the Periodic Table. Relative percentages of the detected elements can be determined and are normalized to total 100%. Therefore, the results of these analyses are relative rather than absolute values. Analysis completed using XRF (CM-13).

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Signed:

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