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“CALUX[®] By XDS” Dioxin Detection Technology a Top Performer in EPA Study

(Durham, NC – May 17, 2005) Xenobiotic Detection Systems was invited to participate in the US EPA’s Superfund Innovative Technology Evaluation (SITE) Program. CALUX[®] By XDS dioxin detection bioassay was evaluated in this SITE program study involving Technologies for the Monitoring and Measurement of Dioxin and Dioxin-like Compounds in Soil and Sediment.

The project consisted of 209 samples from hazardous waste sites, which contained various levels of dioxins and were, provide to companies with rapid and portable detection systems. Field demonstrations were conducted in mobile laboratories in Saginaw, Michigan in March 2004.

CALUX[®] By XDS bioassay was an outstanding performer in the technology competition. The EPA sponsored peer reviewed report cited XDS in three areas: detection sensitivity, cost savings, and time savings.

The report states:

“These data suggest that the XDS technology could be an effective tool to screen for samples above or below 1 pg/g TEQ for TEQ D/F and total TEQ...”

“The total cost for the CALUX[®] by XDS to analyze all 209 samples was \$89,564. The cost for the reference laboratory to analyze all 209 samples by Method 1613B and Method 1668A was \$398,029. The total cost for the CALUX[®] by XDS was \$308,465 less than the reference method.”

“During the field demonstration, 43 samples were processed by XDS, in about 5 full working days. XDS completed the remaining 166 samples in their laboratory within 6 weeks of the demonstration. For comparison, the reference laboratory took 8 months to report all 209 samples.”

Dioxins are some of the world’s most toxic compounds. Exposure and bioaccumulation of dioxins have been observed to produce a number of harmful effects including tumor production, birth defects, and lethality in various animal species.

The CALUX[®] By XDS bioassay uses genetically engineered mammalian cell lines that produce the firefly enzyme luciferase and light in response to exposure to dioxins. The amount of light produced can be used to quantify dioxin-like chemicals present. The XDS patented CALUX[®] bioassay provides detection of dioxin and dioxin-like compounds at levels below one part per trillion.

EPA SITE report: <http://www.epa.gov/ORD/SITE/reports/540r05001/540r05001.pdf>

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