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ANALYTICAL REPORT

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From: M. J. Vilone - PPD, ESL 269/214

EXPR. STATION
INEQ. CENTER

PERFLUOROOCTANOATE (C8) IN WATER
(Job No. 880-514; PRAL Nos. 88-6271 - 6276, N.B. E27585)

At your request, six samples of water were analyzed for perfluorooctanoate (C8) by electron capture gas chromatography. Method E-567 was used with the following modifications: sample size was 10 g; lyophilization time was ~18-20 hours; concentration of perfluorodecanoate internal standard was decreased 10 fold.

Spiked standards at concentrations of 0.4, 0.6, 0.8, 1.0, 2.0, and 2.5 ppb were examined. A reproducible detectable peak was observed for 0.6 ppb, and we used this as our detection limit.

For the quantitation we had linear calibration curves over the range of 0.6 to 2.5 ppb. The samples were freeze dried, derivatized, and analyzed in duplicate. The results are expressed as ppb fluoride where $\text{ppb F} = 0.688 \times \text{ppb perfluorooctanoate}$. The results are given for four of the samples in the attached Table I.

Two of the samples were too high in C8 to use the 0.6 to 2.5 ppb calibration curve and had to be reweighed using a 1 gram sample size, lyophilization time of 4-5 hrs; concentration of perfluorodecanoate internal standard was not decreased.

Spiked standards at concentrations of 0.2, 0.5, 0.7, 1.0, 1.3, and 1.5 ppm were prepared and for quantitation we had a linear calibration curve over the range of 0.5 to 1.5 ppm. These samples were freeze dried, derivatized, and analyzed in duplicate. The results are given for these two samples in the attached Table II.

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Attachments

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TABLE I

<u>PRAL No.</u>	<u>Designation</u>	<u>ng.F/gH₂O (ppb)</u>	<u>RSD</u>
88-6273	Well #27	1.0	15
88-6274	Lubeck	1.5	8
88-6275	Little Hocking	N.D.*	
88-6276	B212	N.D.	

*N.D. = none detected; detection limit = 0.6 ppb

TABLE II

<u>PRAL No.</u>	<u>Designation</u>	<u>ug.F/gH₂O (ppm)</u>	<u>RSD</u>
88-6271	Letart Upper Pond	1.1	13
88-6272	Letart Lower Pond	1.6	11

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