EXHIBIT 3
DATE 2-18-05
HB 665

Women's Voices for the Earth

Mercury Health Facts

Effects of Mercury on Women and Children

Why Are Women and Children At Risk?

- According to the National Health and Nutrition Evaluation Survey, some 630,000 children are born with mercury levels exceeding the safety threshold of 5.8 parts per billion each year.[1]

- Because mercury bioconcentrates as it moves up the food chain, infants are born with higher blood mercury levels than their mothers.[2]

- Mercury has been proven to be toxic to the embryo and causes developmental malformations. Mercury readily crosses the placenta and accumulates in human fetal tissues.[3]

What Does Mercury Do to the Health of Women and Children?

- The Immune System:
  - Mercury has profound, toxic effects upon the immune system as it inhibits most lymphocyte functions that are essential to a functioning immune system. Mercury has also been linked to an increase in allergic reactions.[4]

- The Nervous System:
  - Chronic exposure to Mercury can lead to visual impairments, hearing deficits, motor and mental disturbances.[5]
  - A study published in the *Journal of Pediatrics* in February 2004 tracked the health of children who were exposed to Mercury because their mothers ate contaminated fish. Over the first 14-years of their life, doctors found

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[1] Mahaffey, Kathryn R., EPA. "Methylmercury: Epidemiology Update," Presentation at Fish Forum, San Diego, 2004, and Kathryn R. Mahaffey et al., "Blood Organic Mercury and Dietary Mercury Intake: National Health and Nutritional Examination Survey, 1999 and 2000," *Environmental Health Perspectives* 2004 112: 562-570.

[2] Galster, W.A. "Mercury in Alaskan Eskimo Mothers and Infants." *Environmental Health Perspective*. 15:135-140(1976).

[3] Foster, G.F., Jarrell, J.F., Younglai, E.V., Wade, M.G., Arnold, D.L., and Jordan, S. "An overview of some reproductive toxicology studies conducted at Health Canada." *Toxicology and Industrial Health* 12:447-457(1996).

[4] Moszczynski P. "Mercury Compounds and the Immune System: A Review." *Int J Occup Med Environ. Health*;10:247-258 (1997).

[5] Rice, D.C. "Neurotoxicity of Lead, Methylmercury, and PCB's in Relation to the Great Lakes." *Environmental Health Perspectives*. 103(supplement 9):71-81 (1995).

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mental delays and hearing problems among other problems. The doctors concluded that the neurotoxic effects from their exposure to mercury in the womb were irreversible.[6]

- A recent study by the National Academy of Science concluded that the neurological damage to children exposed to mercury consumption of fish during their mother's pregnancy, will result in an increase in the number of children who have to struggle to keep up in school and who might require remedial classes or special education.[7]

Effects of Mercury on Men

- Men suffer the same neurological effects and immune deficiencies from prolonged exposure to mercury as women; however, studies have also shown that men that are exposed to mercury suffer cardiovascular problems as well.

- The *New England Journal of Medicine* found in a case study done on over 400 men from eight European countries and Israel, that mercury levels were directly associated with increased risk of heart attacks.[8]

- A study published by the American Heart Association found a 50-70% greater risk of heart attacks, heart disease, and cardiovascular disease in men ages 42 to 60 who had elevated levels of mercury in their body. The study found that the men with the highest mercury levels ate twice as much fish as the rest of the men in the study. The study concluded that the health benefits of Omega 3 fatty acids found in fish appeared to be more than offset by the disadvantages of high levels of mercury in the these men.[9]

- Recent studies also indicate that fetal exposure to methylmercury is associated with cardiac abnormalities in children as well.[10]

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[6] Katsuyuki Murata, et. al. "Delayed brainstem auditory evoked potential latencies in 14-year-old children exposed to methylmercury." *Journal of Pediatrics*. 144 (2):177-183 (2004).

[7] EPA web site: http://www.epa.gov/waterscience/criteria/methylmercury/factsheet.html#adv

[8] Guallar, Eliseo. et al. "Mercury, Fish Oils, and the Risk of Myocardial Infarction." *The New England Journal of Medicine*. 347(22): 1747-1754. (2002).

[9] Virtanen et al. "Mercury, Fish Oils, and Risk of Acute Coronary Events and Cardiovascular Disease, Coronary Heart Disease, and All-Cause Mortality in Men in Eastern Finland." *Arteriosclerosis, Thrombosis, and Vascular Biology*. American Heart Association. 2005: 25:228.

[10] Grandjean et al. "Cardiac Autonomic Activity in Methylmercury Neurotoxicity: 14-year follow-up of a Faroese Birth Cohort." *Journal of Pediatrics* 144:169-176. (2004).