

1 Fitzgerald's calculations, deep ocean vents produce enough methylmercury to account for
2 about four times the amount of methylmercury that bioaccumulates in ocean fish each year.

3 Fitzgerald, 23 Tr. 2946:11-2947:5; TX 544, p. 8.

4 246. Dr. Fitzgerald continues to research the deep ocean source and has no doubt
5 that deep ocean vents are a source of methylmercury to the ocean. Fitzgerald, 24 Tr. 3014:2-

6 5. According to Dr. Fitzgerald, if hydrothermal systems are the major source of
7 methylmercury in the ocean, then changes in mercury pollution will have little effect on the
8 mercury content of ocean fish. Fitzgerald, 23 Tr. 2947:22-2948:1; TX 544, p. 1.

9 247. There is substantial evidence to support the hydrothermic vent theory,
10 including research conducted by Dr. Fitzgerald. Prior to this case, Dr. Fitzgerald submitted a
11 grant proposal for federal government funding that provides evidence that methylmercury
12 exists in deep-sea vents. Fitzgerald, 23 Tr. 2946:11-17; TX 544, p. 8. According to Dr.
13 Fitzgerald's analysis in this grant proposal, the amount of methylmercury in the deep-sea
14 vent sample he considered could account for four times the amount of methylmercury in fish.
15 Fitzgerald, 23 Tr. 2946:4-2947:5; Morel, 8 Tr. 958:18-959:2; 8 Tr. 960:6-9; 8 Tr. 964:6-9;
16 TX 544, pp. 1, 8.

17 248. Additionally, reputable scientists, including Dr. Fitzgerald, have observed that
18 methylmercury and organic mercury compounds exist at deep ocean depths. One study co-
19 authored by Dr. Fitzgerald found that methylmercury and dimethylmercury concentrations
20 increase with depth in samples below the thermocline in the North Atlantic. Fitzgerald, 23
21 Tr. 2904:10-2905:3; Morel, 8 Tr. 975:6-14; 8 Tr. 976:14-977:15; TX 149, pp. 49-50. This
22 study found very high levels of methylmercury at depths below the thermocline at eleven
23 stations. Morel, 8 Tr. 976:6-13; TX 149, pp. 45, 50. Dr. Fitzgerald now states that one high
24 value he published in TX 149 is mistaken. Morel, 25 Tr. 3232:3-8; Fitzgerald, 22 Tr.
25 2783:28-2784:14. Outside his opinion in this case, Dr. Fitzgerald has not published anything
26 stating that his measurements are wrong. Morel, 25 Tr. 3234:10-12. Even if this value is
27 excluded, Dr. Fitzgerald still found methylmercury concentrations below 1,000 meters. TX
28 149, p. 50.