CASE NUMBER: 03F-63-A3.3-36
DATE: Aug 16, 2003

MORPHOLOGIC DIAGNOSES:
Slide 32, A3.3-36-1:
1). Heart, endocardium: Hypertrophy, mild, diffuse

There are no significant lesions in the pancreas, adipose tissue, kidney, spleen, peripheral vasculature, or peripheral nerves.

Slide 33, A3.3-36-2:
1). Heart, myocardium: Degeneration, mild to moderate, multifocal, acute

There are no significant lesions in the pancreas, adipose tissue, kidney, spleen, peripheral vasculature, or peripheral nerves.

Slide 34, A3.3-36-3:
There are no significant lesions in the kidney, heart, spleen, peripheral vasculature, liver, or peripheral nerves.

Slide 35, A3.3-36-4:
1). Kidney, tubules: Proteinuria, moderate, diffuse, acute
2). Liver: Ito cell hyperplasia, moderate, multifocal

There are no significant lesions in the heart, spleen, peripheral vasculature, or peripheral nerves.

Slide 36, A3.3-36-5:
1). Liver, hepatocytes: Degeneration and necrosis, moderate, multifocal, acute with hemorrhage and apoptosis

There are no significant lesions in the adipose tissue, kidney, heart, spleen, peripheral vasculature, or peripheral nerves.

COMMENTS:
Histopathology of the sectioned tissues revealed distinct pathologic processes in each of the examined slides. In slide 1, the endocardial hypertrophy is consistent with low grade antigenemia which likely would not have contributed significantly to antemortem homeostatic derangements. In slide 2, without additional clinical details it is difficult to resolve the precise pathogenesis of the acute myocardial degeneration; this change may be due to hypoxic, metabolic, congenital, environmental, nutritional (vitamin E or selenium deficiency) or other factors. This condition is distinct to the endocardial hypertrophy noted in slide 1 and, as it was identified in only a single slide, is likely of limited significance to the general population. The proteinuria was identified in only slide 4, is non-specific and may be due to myoglobinuria, hypoxia, metabolic derangements and other disease processes. There is no evidence of a glomerulopathy.

Similarly, the Ito cell hyperplasia is unusual and based on extrapolation from terrestrial animals may be associated with toxic exposure and other disease entities. In slide 5, the hepatocellular degeneration and hemorrhage are suggestive of a possible underlying infectious, iatrogenic, toxic or other disease process. Should fish exhibit increased morbidity or mortality within the sampled stock(s), follow up molecular studies and possible trace mineral analysis may be warranted.

FINAL REPORT