



ENVIROTEK LABORATORIES, INC.

120 White Owl Trail, Mullica Hill, NJ 08062
PHONE 856-478-0010 www.enviroteklab.com
EPA ID # NJ01298 NJ DEP ID # 08012

BIOTITE MINERAL SOLUTION MERCURY REDUCTION TEST REPORT

Report # 14-206-Hg (Biotite Mineral Solution)
Customer Name: Biotite, Co.
Report Date: August 26, 2014

EXECUTIVE SUMMARY

A challenge water was prepared with Mercury at a concentration of 6 µg/L. Biotite Mineral Solution was added to the solution at a concentration of 2 mL of Biotite per liter of challenge water. The solution was filtered through the Biotite Ceramic Filter System, and then tested for Mercury after 24, and 48 hours of adding the Biotite solution. The concentration of Mercury decreased to non-detectable levels.

INTRODUCTION

A challenge water was prepared with Mercury at a concentration of 6 µg/L. Biotite Mineral Solution was added to the solution at a concentration of 2 mL of Biotite per liter of challenge water. The solution was filtered through the Biotite Ceramic Filter System, and then tested for Mercury after 24, and 48 hours of adding the Biotite solution. The concentration of Mercury decreased to non-detectable levels.

REAGENTS AND LAB EQUIPMENT

Perkin Elmer Spectrometer.
Mercury Standard Solution.
Biotite Mineral Solution.
Biotite Ceramic Filter System.

PROCEDURE

A challenge water solution was prepared with DI water and Mercury standard at a concentration of about 6 µg/L; then added Biotite Mineral Solution to the challenge water at a concentration of 2 mL of Biotite per liter of challenge water, and then filtered the solution through the Biotite Ceramic Filter System, then tested for Mercury after 24, and 48 hours of adding the Biotite solution, following the EPA method 245.1.

RESULTS

The Mercury concentrations for the challenge water and filtered Biotite Mineral Solution are summarized in the following table:

Parameter Tested	Water Solution	Biotite 2 mL/L after 24 hrs.	Biotite 2 mL/L after 48 hrs.
Mercury	6.04 µg/L	<0.5 µg/L	<0.5 µg/L

CONCLUSION

The concentration of Mercury decreased to non-detectable levels when using the Biotite mineral solution combined with the Biotite Ceramic Filter System.

Jaime A. Young

Jaime A. Young
Lab Director