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BIOTITE MINERAL SOLUTION ARSENIC REDUCTION TEST REPORT

Report # 14-206-As (Biotite Mineral Solution)

Customer Name: Biotite, Co.

Report Date: August 26, 2014

EXECUTIVE SUMMARY

A challenge water was prepared with Arsenic III, at a concentration of 50 µg/L. Biotite Mineral Solution was added to the solution at a concentration of 3 mL of Biotite per liter of challenge water. The solution was filtered through the Biotite Ceramic Filter System, and then tested for Arsenic after 24, and 48 hours of adding the Biotite solution. The concentration of Arsenic decreased to non-detectable levels after 48 hours.

INTRODUCTION

A challenge water was prepared with Arsenic III, at a concentration of 50 µg/L. Biotite Mineral Solution was added to the solution at a concentration of 3 mL of Biotite per liter of challenge water. The solution was filtered through the Biotite Ceramic Filter System, and then tested for Arsenic after 24, and 48 hours of adding the Biotite solution. The concentration of Arsenic decreased to non-detectable levels after 48 hours.

REAGENTS AND LAB EQUIPMENT

Perkin Elmer Spectrometer.
Arsenic III Standard Solution.
Biotite Mineral Solution.
Biotite Ceramic Filter System.

PROCEDURE

A challenge water solution was prepared with DI water and Arsenic III standard at a concentration of about 50µg/L; then added Biotite Mineral Solution to the challenge water at a concentration of 3 mL of Biotite per liter of challenge water, and then filtered the solution through the Biotite Ceramic Filter System, then tested for Arsenic after 24, and 48 hours of adding the Biotite solution, following the EPA method 200.9.

RESULTS

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

Parameter Tested	Water Solution	Biotite 3 mL/L after 24 hrs.	Biotite 3 mL/L after 48 hrs.
Arsenic III	56.8 µg/L	0.8 µg/L	<0.5 µg/L

CONCLUSION

The concentration of Arsenic was 0.8 µg/L after 24 hours of adding Biotite and filtering the solution, and less than 0.5 µg/L after 48 hours of adding Biotite and filtering the solution through the Biotite Ceramic Filter System.

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