



LABORATORY REPORT

Eastern Analytical, Inc. ID#: **54458**

Client: **Seldon Laboratory**

Client Designation: **Bangladesh Arsenic Samples**

Sample ID:	Unit#1 Sample 1	Unit#1 Sample 5	Unit#1 Sample 10	Unit#2 Sample 1				
Lab Sample ID:	54458.01	54458.02	54458.03	54458.04				
Matrix:	aqueous	aqueous	aqueous	aqueous				
Date Sampled:	4/27/06	4/27/06	4/27/06	4/27/06				
Date Received:	4/28/06	4/28/06	4/28/06	4/28/06				
Arsenic	< 0.001	< 0.001	< 0.001	< 0.001	mg/L	5/2/06	200.8	DS

Sample ID:	Unit#2 Sample 5	Unit#2 Sample 10	Challenge 1	Challenge 2				
Lab Sample ID:	54458.05	54458.06	54458.07	54458.08				
Matrix:	aqueous	aqueous	aqueous	aqueous				
Date Sampled:	4/27/06	4/27/06	4/27/06	4/27/06				
Date Received:	4/28/06	4/28/06	4/28/06	4/28/06				
Arsenic	< 0.001	0.002	0.40	0.46	mg/L	5/2/06	200.8	DS

Pure Water Project – Arsenic Testing

Objective:

The goal of this experiment was to test the removal capability of Seldon's cylindrical nanomesh purifier against arsenic V. The concentration of the arsenic in the challenge solution used for this experiment was relatively high ($300\mu\text{m/L}$), simulating the challenge levels present in the drinking water from Bangladesh.

Experimental Procedure

The baseline arsenic tests were performed on two purifiers, at low volume (~ 10 liters each) using a bench station setup shown in Figure 1 below. The arsenic challenge solution was added to the pressure vessel which was hooked up to a compressed air tank. By opening the vessel nozzle the ersatz challenge solution was pumped downstream, through the flow meter (which allows manual setting of the flow rate through the system, namely purifier) into purifier. On the post purifier side of the system, the filtrate was collected in a sterile container.

Both units were tested at a flow rate of 1.5 L/min. In addition to an arsenic challenge solution sample, filtrate samples were collected after flushing 1L, 5L and 10L of the challenge solution through each filter. Analysis of all samples was performed by Eastern Analytical Labs from Concord, NH using an ICP mass spectrometry method.

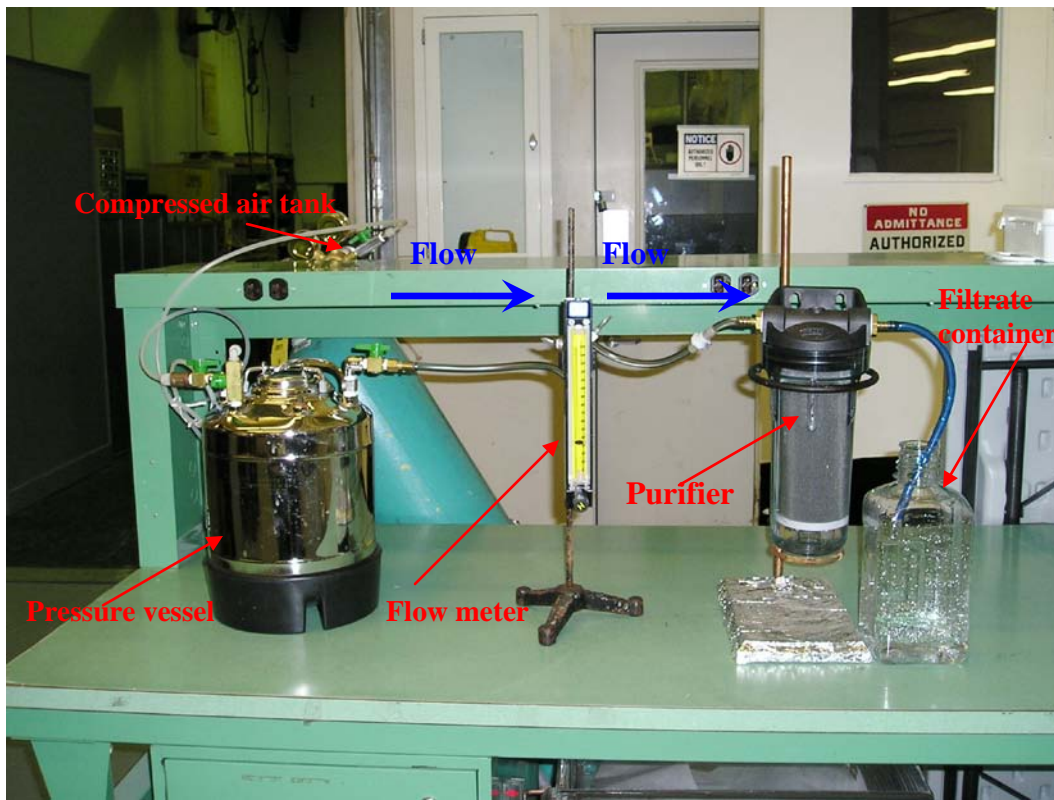


Figure 1: Bench station experimental setup