

Test Report

May 22, 2006

Arsenic Acid and Ammonium Nitrate in San Antonio City

A test was run in 2002 using a 50 gram cell. The test was run at 300 ml/min (equal to a speed of 6 ml/min/g-c). This is the exact cell that is in a Water Genie.

Arsenic Acid and Ammonium Nitrate was added to San Antonio City water to bring the As and NO3 to the feed levels below.

The test results on Arsenic and Nitrates are as follows

| Contaminants | Feed Concentration<br>Mg/l | Purified Effluent<br>Concentration mg/l | Acceptable<br>limits |
|--------------|----------------------------|---|----------------------|
| Arsenic      | .1 (100 ppb)               | .005 ( 5 ppb)                           | 10 ppb               |
| Nitrate      | 100                        | .12                                     | 10 mg/l              |

The nitrate was measured using a Hach spectrophotometer and the Arsenic was tested using a commercially available test kit.

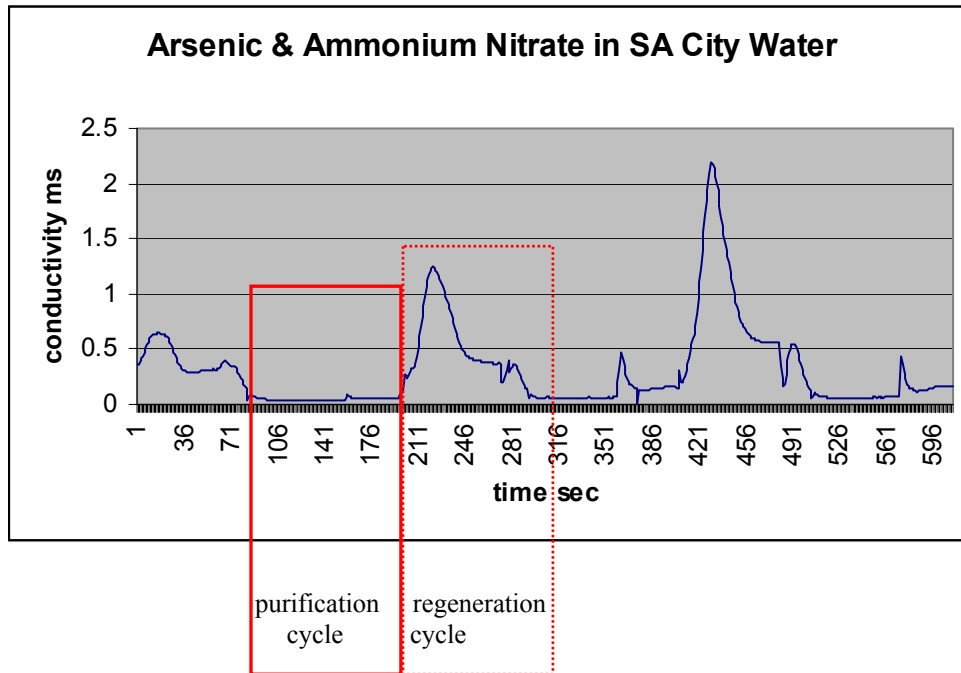
There was a 95% reduction in Arsenic and a 99.9% reduction in nitrates along with a corresponding 84% reduction in TDS

|                      |              |
|----------------------|--------------|
| power                | 1.32 whr/gal |
| Average purification | 83.95%       |
| peak purification    | 90.63%       |
| flow ml/min          | 300          |

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The purification curve is as follows



A complete cycle is 90 seconds of purification and 90 seconds for regeneration of which 45 seconds is a flush. This is 75% recovery (25% waste).

### **Second Test May 2006**

A unit was installed at a house in New Hampshire on well water. This family had been following our technology for years and was purchasing 2 gallons of bottled water because they had Arsenic and Nitrates in their well water. Finally a Water Genie was installed under their kitchen sink. They did their own installation.

This test was run on a 25 gram cell that flowed at 250 ml/min (50 GPD).

The results show a high removal of Arsenic, Nitrates and Flouride while generating a soft water that still has minerals in the drinking water for improved taste.

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|                        | Method | Before<br>mg/l | After<br>mg/l | reduction |
|------------------------|--------|----------------|---------------|-----------|
| TDS                    |        | 260            | 63            | 75.8%     |
| pH                     | 150    | 7.75           | 6.6           | 14.8%     |
| Turbidity              | 80     | 0.5            | 0.5           |           |
| <u>Anion</u>           | 300    |                |               |           |
| Chloride               |        | 7.44           | 4             | 100.0%    |
| Fluoride               |        | <.1            | <0.10         | 90.0%     |
| Nitrate (as N)         |        | 3.44           | <0.10         | 97.1%     |
| Nitrite (as N)         |        | <0.05          | <0.10         | 0.0%      |
| Nitrate/Nitrite (as N) |        | 3.44           | <0.10         | 97.1%     |
| <u>Metal Analysis</u>  | 200.7  |                |               |           |
| Copper                 |        | <0.010         | <0.010        | 0         |
| Iron                   |        | <0.010         | <0.010        | 0         |
| Manganese              |        | <0.010         | <0.010        | 0         |
| Sodium                 |        | 3.39           | 1.84          | 45.7%     |
| Hardness               |        | 181            | 44.4          | 75.5%     |
| Calcium                |        | 42.5           | 9.13          | 78.5%     |
| Magnesium              |        | 18.2           | 5.24          | 71.2%     |
| Arsenic                | 200.9  | 0.039          | <0.010        | 74.4%     |

The customer says “I believe the basic technology in the EWP unit is sound. The results of sending my well water through the unit are what I was looking for when I first contacted you about purchasing a unit. ....I have been able nearly duplicate the quality of water we used to buy from Poland Springs, a well know spring water provider here in New England. The unit removed the potentially dangerous arsenic and nitrates in the water, and left some of the calcium which helps the water to taste good. I feel like we are making our own 'spring water' right here in our home! With the flow setting we are using now, we can make all the drinking water we need for a day in less than an hour.”

“The reason I was interested in buying this unit in particular, rather than a water softener which uses salts, or a reverse osmosis system, is that the EWP unit has significantly lower operating costs, as far as I can tell. The Reverse Osmosis systems require you to replace expensive filters at least yearly, or perhaps more often. The water softener systems require you to buy salt and keep the brine tank properly filled. In addition, more and more states are putting limitations on how you have to deal with the salts from water softeners, especially when you have a septic system, as I do. The EWP unit puts back in the waste water only things it took out of the supply water, plus a little citric acid every now and again, when running the cleaning cycle.”

Robert Atlas

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