

# Graver Technologies



a member of The Marmon Group of Companies  
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## Case History

### **Graver MetSorb™ Titanium Based Media Arsenic Treatment System Rides Roughshod Over Navajo Nation Arsenic Problem**

#### **The Problem**

When the US Environmental Protection Agency's new standard for the Maximum Containment Level (MCL) of arsenic was reduced from 50 ppb to 10 ppb in January 2006, water supplies in many communities across the USA – including six wells in Navajo Nation Schools located in Rough Rock, Red Rock, and Denehotso, Arizona – were faced with this problem and needed to find a solution to remedy the situation.

#### **The Solution**

Graver Technologies, LLC, a member of The Marmon Group of Companies, was chosen to bring the Navajo Nation Schools into compliance with the new standard. Graver's distributor, Aquacell Water Treatment, Inc., completed a thorough analysis of arsenic, sulfate, pH, iron, manganese, and TDS levels in the raw which resulted in recommendation of Graver's MetSorb™ HMRG titanium-based media as the arsenic removal technology best suited to do the job. As the leading nationwide distributor of MetSorb™ HMRG media, Aquacell also provided the on-site, turnkey water treatment solution at each of the well sites. Since each well was situated in a remote location, a robust treatment system requiring minimal operator attention, limited backwash, and no chemical addition was of significant importance. Aquacell's highly efficient system design resulted in use of a 20 micron cartridge filter, a patented weak cation exchanger for pH reduction, and MetSorb™ HMRG titanium-based media for arsenic removal.

#### **The Results**

The six wells serving the Navajo Nation Schools now contain less than 2 µg/L vs. the 17-54 µg/L range of arsenic contained in the wells prior to treatment. The treatment process was installed quickly and provides a safe supply of water for the schools per the data shown below:

#### **The Results – Typical Water A**

	<b>RAW WATER</b>	<b>TREATED WATER</b>
Arsenic	25 – 52 µg/L	<2 µg/L
Sulfate	88 mg/L	46 mg/L
pH	9.7	7.8
Silica	45 mg/L	23 mg/L
Iron	0.13 mg/L	<0.05 mg/L
Manganese	0.0047	0.003
Selenium	0.004	0.003
TDS	485 mg/L	370 mg/L

#### Distributor:

Aquacell Water Treatment, Inc.  
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