

Pilot - Case Study

Loma Linda, CA - 1500 gpm

NXT-2®

Arsenic Removal Media

© 2008 EP Minerals, LLC

Problem:

- Current iron-based media not providing expected life and bed volumes (BV)

Solution:

- CDM is operating a pilot utilizing 3 alternate medias and the current iron-based media as a benchmark.

Goal:

- To process 40,000 bed volumes (BV) prior to breakthrough for all the medias tested.

Results:

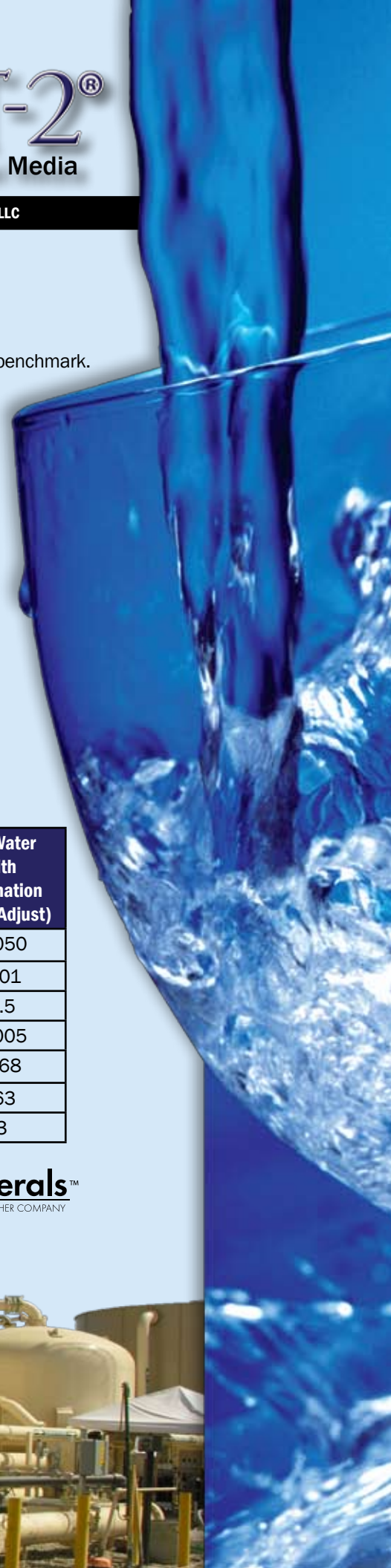
- NXT-2® is the only media which did not achieve breakthrough prior to the conclusion of the pilot test. All other medias had broken through at less than 30,000 BV. NXT-2 had treated 30,425 BV at the time the pilot was taken off-line. It is estimated by EP Minerals that based on the results to date the NXT-2 will breakthrough around 58,000 BV and meet the pilot goal.

Preliminary Conclusions:

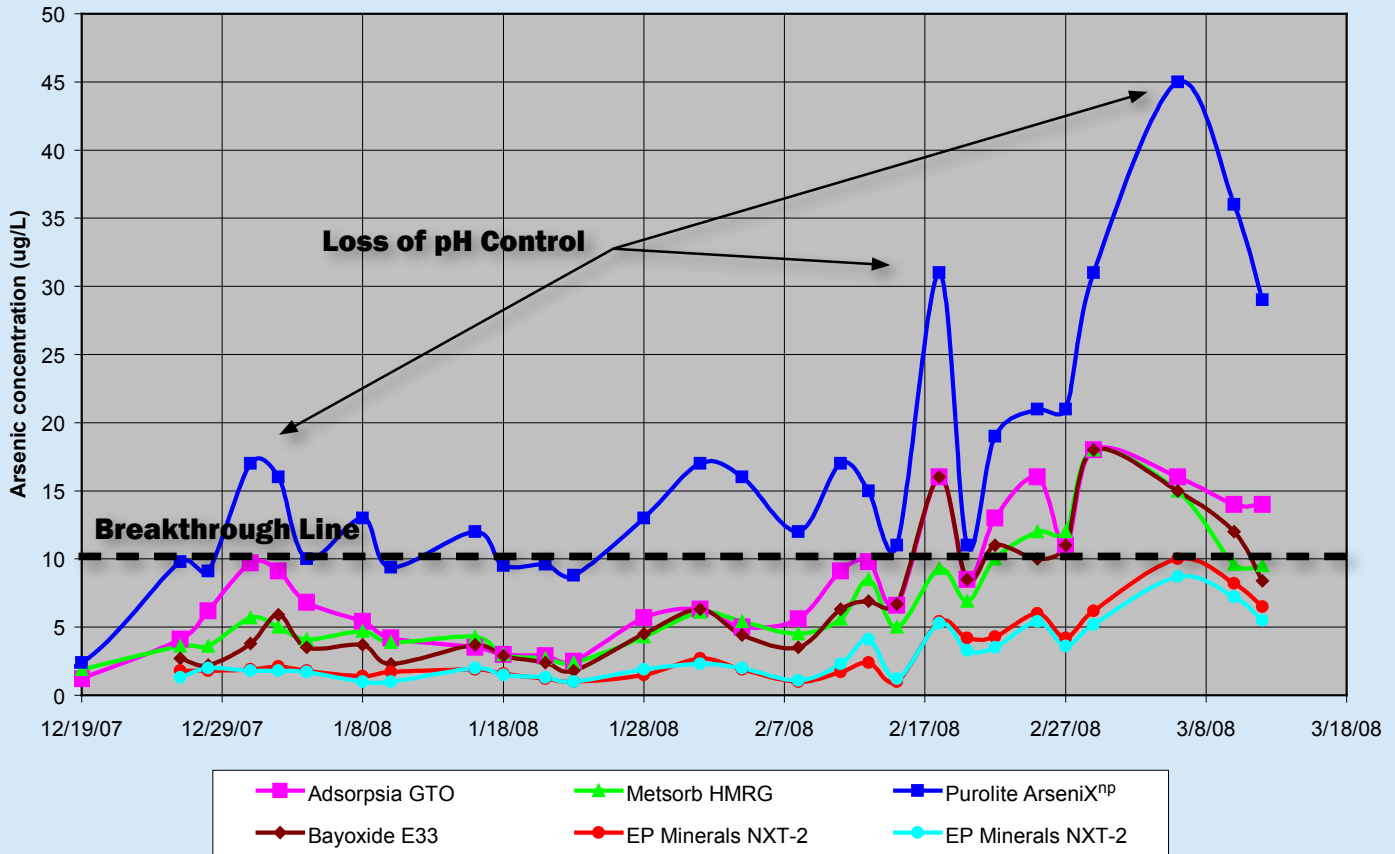
- NXT-2 outperformed all competitive medias by a factor of two or more due to its high capacity for arsenic adsorption. NXT-2 also provided the best resistance against arsenic spiking due to loss of pH control. Loss of pH control reduces the ability of all medias to adsorb arsenic as was seen during the trial. For example, on Feb. 18, 2008 the ArsenX^{np} column had an effluent arsenic value that exceeded the influent value. It was concluded that NXT-2 provided the most economic treatment with the highest degree of system safety against pH upset.

Contaminant (ppm)	Raw Water (With Chlorination and pH Adjust)	Contaminant (ppm)	Raw Water (With Chlorination and pH Adjust)	Contaminant (ppm)	Raw Water (With Chlorination and pH Adjust)
pH	8.05	Nitrate	<1.0	Copper	<0.050
Total Alkalinity	100	TDS	230	Iron	<0.01
Bicarbonate	120	Orthophosphate	0.012	Magnesium	<0.5
Carbonate	<1.0	Total Phosphorus	<0.010	Manganese	<0.005
Chloride	5.6	Arsenic	0.021	Vanadium	0.068
Fluoride	1.1	Sodium	65	Potassium	0.63
Sulfate	26	Calcium	2.6	Silica	13

EP Minerals™
AN EAGLEPICHER COMPANY



CoLL MV5 Arsenic Treatment Pilot Test



**Pilot Stand
3 of 6 Vessels @ 0.25 gpm**



**Pilot Stand
Media Loading**

