

WEST BASIN MUNICIPAL WATER DISTRICT

JANUARY 17, 2008 – Water Resources
 Smith (Chair), Little
JANUARY 28, 2008 – Board Meeting
 Prepared by: Wyatt Won
 Submitted by: Paul E. Shoenberger
 Approved by: Richard Nagel

ACTION CALENDAR

ION CHROMATOGRAPH REPLACEMENT

SUMMARY:

The West Basin Laboratory, staffed by United Water Services (UWS), is certified by the Environmental Laboratory Accreditation Program (ELAP) to do microbiology and inorganic chemical testing of drinking and wastewater. ELAP is run by the Department of Public Health. The Ion Chromatograph (IC) is a specialized instrument used to analyze samples for anions (Cl, NO₂, NO₃, SO₄ and Br) by EPA Method 300.0. The IC is now 12 years old and has been in constant use. Repairs have been much more frequent since last August. The instrument uses outdated methods of computer control that are not supported any longer and be replaced. If the instrument is not replaced, the cost for subcontracting the work performed on this instrument is estimated to be \$5,500 per month.

Dionex is the leading manufacturer of IC units. Dionex has invented most of the IC technology and has about 96% of the market share. There are other manufacturers of IC units, however the Dionex units have some proprietary features that allow the instrument to give better and more consistent results, more reliability, and save on labor to run the tests. In order to assess the life cycle value of the Dionex unit, UWS staff contacted Dionex and two other manufacturers for proposals on their respective instruments. The proposals are summarized in the following table. Prices do not include sales tax or shipping.

Firm	Proposed Price
Dionex	\$42,309 (with trade in)
Metrohm	\$34,597
Waters	\$50,736

Metrohm has about a two percent market share and does not have the same features as the Dionex unit. Waters proposed on a high-pressure liquid chromatograph that can do the appropriate anion analysis. However, it was the highest proposal and still did not have the desired features. Although, the Dionex proposal appears higher than the Metrohm proposal, it includes several additional features that staff believes make it a more cost-effective, reliable instrument. The additional features are described below.

- Includes consumables that are worth about \$4,000;
- Provides for automated eluent generation. Eluent is the liquid that pushes the sample through the column. Any changes in concentration of the eluent could result in certain constituents not being sensed by the software. Consistency of the eluent is very important and automated eluent generation provides for this consistency. It also significantly decreases maintenance because only pure water runs through the system pumps instead of eluent thus extending its lifetime and decreasing the amount of maintenance needed. Gasses trapped in the eluent must be removed prior to injection