

**Metropolitan Domestic Water Improvement District  
Board of Directors Meeting**

**June 9, 2014**

**Approval of Inorganic Chemical Analytical Services Contract**

**Synopsis**

The Board of Directors is requested to approve the Analytical Laboratory Services Contract for Inorganic Chemical Analyses with Turner Laboratories, Inc. This is to ensure that the District complies with the monitoring under the Arizona Department of Environmental Quality's Drinking Water Rules. The contract also provides for analyses of constituents that are not currently regulated under state or federal drinking water rules. District customers routinely request information pertaining to these constituents such as hardness and total dissolved solids.

**Background**

According to the Arizona Department of Environmental Quality (ADEQ) Drinking Water Rules, the District must monitor once every three years for regulated inorganic chemicals if there are no detections of the chemicals found within the analyses. Inorganic chemicals consist of the following contaminants: metals, major ions, and other constituents such as asbestos, which are required to be sampled under federal and state rules.

If nitrate is detected above 5 mg/L, the District must monitor at that sampling point on a quarterly basis for four consecutive quarters until the results are proven to be below the drinking water MCL (Maximum Contaminant Level) value of 10 mg/L. The District can then return to annual sampling if the level remains below the MCL of 10 mg/L, even though it may exceed the increased monitoring level value of 5 mg/L. If an inorganic constituent is detected above the MCL value, the District must sample for at least two consecutive quarters until the results are below the MCL value. The District can then return to annual sampling, and after three years of no results above the MCL value, return to a once every three years monitoring period. Results on detections for regulated IOCs such as arsenic, barium, chromium, copper, fluoride, lead, and nitrate are reported in the District's Annual Consumer Confidence Reports (CCRs).

The District completes inorganic monitoring for nitrates on a monthly, quarterly and annually for the Metro-Main, Metro-Hub and Metro-Southwest service areas.

**Issues**

The District published a request for proposals from laboratories for Inorganic Chemical Analysis in the Daily Territorial on April 21-24, 2014. Seven laboratories were sent the proposal package, and

the District received four proposals. Proposals were received from Turner Laboratories, Inc. (Turner Labs), a Tucson based laboratory; Eurofins Eaton Analytical, Inc. (EEA Labs), with a Scottsdale office and a main laboratory in Monrovia, CA; Legend Technical Services, Inc. (Legend Lags), with an office and small lab in Tucson, and a main office and laboratory in Phoenix; and APEX Environmental Laboratory (APEX Labs), with a laboratory in Tempe, AZ. The selection of a laboratory is made by scoring each laboratory according to such details as Quality Assurance/Quality Control (QA/QC) plans, costs, rush costs, professional expertise and turn-around time, lab team, and Arizona license requirements.

Issues arose mainly with costs, turn-around time and method detection limits (MDLs). The District samples at each of its active Entry Points into the Distribution System (EPDS) sample locations and at distribution point locations throughout the District. An EPDS is the point at which water is discharged from a well, storage tank, reservoir or pressure tank into the distribution system. The number of samples is subject to change should a detection occur, a distribution system sample is collected or the District decides to increase the number of samples taken.

As noted in Table 3, Turner Labs had the best ranking for a five-day turn-around time cost. A five-day turn-around time arsenic analysis is used at all of the District's arsenic Treatment Systems to quickly determine if there are any trigger level exceedences within a Treatment System. This allows the District to maintain compliance with the ADEQ Drinking Water rule, and allows for the timely change-out of media as necessary to prevent any further elevated arsenic detections. Turner Labs also had the best overall total score on Table 1. Also, Turner had the best cost on the Table 2 Regular Costs and for the Table 3 RUSH turn-around time costs. The District has also used Turner Labs for the past several years and has been pleased with its performance. Lastly, Turner is a Tucson based laboratory, which is important for a faster turn-around time of 24-48 hours. (Tables are attached.)

In the event that a QA/QC laboratory problem error occurs that requires a resample, the District's contract requires the laboratory to pay for both the original sample and resample analyses if more than three resample's are necessary.

### **Staff Recommendation**

Staff recommends that the Board of Directors approve the Analytical Laboratory Services Contract for Inorganic Chemical Analyses to Turner Laboratories, Inc. The contract amount for Fiscal Year 2015 will not exceed \$60,000, and will expire on June 30, 2015, with the option to extend the contract an additional two years, pending the Board of Directors annual approval. These costs account for compliance sampling, contingency sampling, an elective IOC monitoring within all five of the District's service areas. Funding is included in the Fiscal Year 2015 budget. The District has also used Turner Labs in the past for analytical monitoring and has been pleased with their performance. In the event that Turner Laboratories, Inc. cannot perform the Inorganic Chemical analysis due to equipment failure, turn-around time, necessary detection levels or other reasons, it is recommended that Eurofins Eaton Analytical, Inc. shall be the back-up laboratory for Inorganic Chemical Analyses due to their scores and costs noted above.

**Suggested Motion**

I move to approve the Analytical Laboratory Services Contract for Inorganic Chemicals to Turner Laboratories, Inc. for a not to exceed amount of \$60,000, and would expire on June 30, 2015, with the option to extend the contract for two additional years pending the Board of Directors annual approval. In the event that Turner Laboratories, Inc. cannot perform these necessary analyses, Eurofins Eaton Analytical, Inc. shall be the back-up laboratory.

Respectfully submitted,

I concur with the above-noted recommendation.

Respectfully submitted,

Charlie A. Maish, P.E., R.L.S.  
District Engineer

Joseph Olsen, P.E.  
General Manager

**Table 1 – Total Proposal Review Criteria - IOCs**

Criteria	Turner Labs	EEA Labs	Legend Labs	APEX Labs
<b>QA/QC Score</b> (QA/QC Plan, Back-up Plan, Method Detection Limits)	18	24	15	21
<b>Costs</b> (Total Cost, Unit Cost, RUSH Cost)	34	29	18	9
<b>Professional Expertise</b> (References/Expertise, Lab and Equipment Certifications, Turn-Around Time (TAT), Lab/Office Locations)	19	15	18	14
<b>Lab Team</b> (Resumes/Organization Chart and Subcontractors)	4	5	4	4
RFP, ADEQ Forms and License Included Score	15	15	15	15
<b>Total Score</b>	<b>90</b>	<b>88</b>	<b>70</b>	<b>63</b>

**Table 2 – Regular Costs**

Parameter	Turner Labs	EEA Labs	Legend Labs	APEX Labs
Metals Cost	\$134.10	\$139	\$152	\$130.50
Major Ions Cost	\$172.60	\$148	\$163	\$159.50
Arsenic Cost	\$9.95	\$7	\$12	\$9.50
Nitrate Cost	\$13.50	\$10	\$15	\$10
Copper/Lead Cost	\$26.90	\$24	\$20	\$19
Other IOCs Costs	\$314.10	\$344	\$377	\$373
<b>Unit Costs</b>	<b>\$671.15 for all three years</b>	<b>\$672.00 for all three years</b>	<b>\$739.00 for all three years</b>	<b>\$701.50 for all three years (plus shipping and handling to Lab)</b>
<b>Cost Ranking</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

**Table 3 – RUSH Turn-Around Time (TAT) Costs**

Criteria	Turner Labs	EEA Labs	Legend Labs	APEX Labs
24 hour TAT Cost	2x	1.75x	2x	2x (plus shipping and handling)
48 hour TAT Cost	1.5x	1.5x	1.75x	1.8x (plus shipping and handling)
72 hour TAT Cost	No Additional Fee	1.4x	1.5x	1.6x (plus shipping and handling)
Five-Day TAT Cost	No Additional Fee	1.25x	1.25x	1.2x (plus shipping and handling)
<b>TOTAL RUSH Cost Ranking</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>