by Lonnie Boller

New KRWA mobile lab and training trailer makes debut

Earlier this year, KRWA purchased a 7x18-foot enclosed trailer to establish a mobile lab and training trailer. Complete with stainless cabinetry, the trailer cost a little more than $17,000. Another $10,000 was invested in testing equipment to outfit the trailer. The trailer will be used as a mobile laboratory in emergency response and for training.

The primary use of the mobile lab is training of operators in laboratory testing procedures. Some of the training will include:

- teaching new operators correct procedures for bacteriological sampling, chlorine residuals testing, ampermetric titration, jar testing, turbidity analyzing, nitrate testing;
- testing for more than 30 other water quality parameters.

KRWA also plans to purchase and install bacteriological test equipment for the trailer.

Lonnie Boller
Surface Water Tech

Disasters were convincing

The disasters experienced in Kansas in 2007 were convincing to KRWA to purchase and outfit the mobile lab. KRWA staff and others spent considerable time in May and June 2007 helping Greensburg restore water and wastewater utilities. Then in July, KRWA staff worked with many cities and RWDs during and after the floods in southeast Kansas. Here are some examples how the trailer should be an asset.

After the Greensburg tornado, a chlorine analyzer had to be mounted in a metal cabinet and then a backup generator located to run the analyzer. With its own power supply, the lab's online analyzers can be connected to any water supply. The lab's online analyzers include: turbidity meters, chlorine analyzers, pH meters, a thermometer and water pressure gages. All the data collected by the analyzers will be stored by the onboard computer. Print-outs of the data can also be made. After analyzing the data, the reports can be provided to the KDHE, to elected officials, and the water system operators. The lab has a comfortable computer desk and work station.

At Fredonia the flooding last summer completely engulfed the city water treatment plant, office, and laboratory. Therefore, any laboratory work had to be

Top: *A year ago KRWA Tech Lonnie Boller mounted a temporary analyzer in a metal cabinet for use on-site in Greensburg after the tornado. The generator at the left of the cabinet was needed to run constantly in order to maintain chlorine readings.*

Above: *To do a analyzer systems check, Boller connected the new lab trailer to the Horton water treatment plant. He confers with Terry Jacobs, a new operator at the plant. The lab can be used in training or pulled to a disaster site.*

performed outside the plant. Equipment was set up on a table and an extension cord connected to a power supply. This was not an ideal setting for lab work because of high outside temperatures. In a wintertime situation, it would not have been possible to operate lab equipment outside.

The trailer carries 50 gallons of fresh water and 50 gallons of gray water. The trailer is heated and has air conditioning. There is a refrigerator in which to keep samples and supplies. If necessary an air mattress provides for a comfortable nap; the trailer can provide for sleeping arrangements to avoid driving hours of commuting to a motel when time or other accommodations are not available.

Above: *The new KRWA 7 x 18-foot enclosed trailer is parked at the Horton, Kan. water plant.*
Inset: *Boller and Jacobs make the water connection from the plant to the trailer to run tests and check the analyzer readings with those in the water plant.*
Above right*: Horton plant operators Jory Martin and Jacobs get a tour of the new mobile test/training lab.*

The trailer is also equipped with first aid kits and an eye washing station in case of some emergency situation. Charlie Schwindamann, KRWA Wastewater Technician, has installed wastewater system related equipment to assist with operator training.

The trailer was on display at the KRWA Conference in Wichita last March. It was viewed by cities, RWDs and state officials. Several state agencies have inquired about the trailer and have asked for more information about its capabilities.

The trailer connects to a vehicle's bumper hitch. Most KRWA staff have pickup trucks with the ability to pull the lab. Wider trailers were considered but those required extended mirrors for safe movement.

With the new lab, KRWA will have the ability to do both online sampling and manual testing. Staff can also do jar testing, TOC analyzing, chlorine residuals, iron and manganese, nitrates and run analysis for many other water quality parameters.

The lab could also be used to park adjacent to a water treatment plant and connect directly to the plant. Instead of spending several days conducting tests for total organic carbon (TOC), the tests could be accomplished in much less time.

With the new lab, KRWA will have the ability to do both online sampling and manual testing. Staff can also do jar testing, TOC analyzing, chlorine residuals, iron and manganese, nitrates and run analysis for many other water quality parameters.

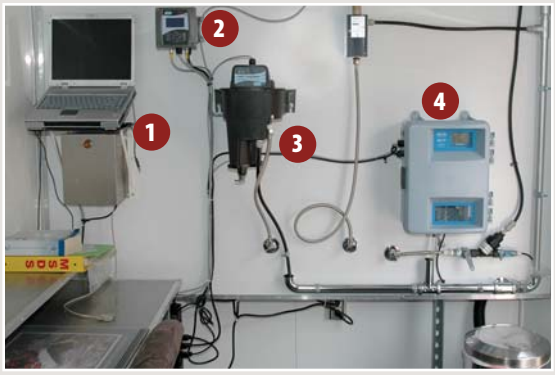
It's "hands-on" training

Recently in Iola, KRWA conducted a training class with the new mobile laboratory to offer new operators the ability to have hands-on training of test equipment and bacteriological testing. The new lab was also utilized for training at the Kickapoo Nation for tribal operators. Kevin Menning from Hach Company was present to explain the function of various analyzers and turbidity meters. The mobile lab provides a really unique training opportunity.

The mobile lab should make training much easier and efficient. It provides the hands-on classroom approach lacking at many training sites. As a disaster tool, the lab will help affected water systems to get back into safe operation much faster, and will provide a good location for water system operators and KRWA staff to work.

Water Quality Testing and Training Lab – ready to roll

Test equipment and trailer special features:



1. Integrated computer
2. PH meter
3. Turbidity meter
4. Cl 17 chlorine tester
5. Safety equipment includes eye-wash station & first aid kits
6. Titrator
7. Stainless double sink
8. Under counter cabinets
9. Refrigerator
10. Desk/workstation
11. 4-foot fluorescent lights
12. Climate control has AC, heater, & hot water heater
13. Ceiling and wall insulation
14. Overhead cabinet storage
15. Jar Tester
16. Turbidity meter
17. Under counter cabinets
18. Hach Dr 890
19. PH meter
20. Stainless steel counter tops
21. Two 500-amp exterior halogen lights.
22. 53-gal. fresh water tank, 53-gal. grey water tank
21. External electrical hook-up includes: 45-amp converter and 50-amp. breaker box