



CiDRA's *SONARtrac*® System In Service 12 Years - NO RE-CALIBRATION REQUIRED

Wallingford, CT- January 12, 2016: CiDRA ("CiDRA") has announced the results of a 12-Year Calibration Test performed at Alden Research Laboratory, a National Institute of Standards and Technology (NIST) traceable and certified facility located in Massachusetts.

Final results – In service for 12 years, the same *SONARtrac* flow meter that was tested and calibrated in September 2003, maintained its calibration accuracy. During the 12 years, the *SONARtrac* measurement remained well within specifications ($\pm 1.0\%$ with universal coefficients and $\pm 0.5\%$ with band specific coefficients). *SONARtrac* systems' unique flow technology once again has proven inherent stability and measurement capabilities including the ability to measure the percent by volume of entrained air/gas in a slurry or fluid.

Alden's flow measurement uncertainty is within 0.25% of the true value for each test run. All Calibration instrumentation (weight, time and temperature and length measurements) is traceable to the National Institute of Standards and Technology and Alden's Quality Assurance Program is accredited to the ISO/IEC 17025:2005 for calibration laboratories.

In September 2015 one *SONARtrac* flow measurement system was tested at Alden. That *SONARtrac* system was manufactured, tested and calibrated in September 2003, and remained in service for 12 years. Details of the test:

- One *SONARtrac* flow meter manufactured in 2003
- No maintenance performed on the 12-year old flow meter during life time
- *SONARtrac* flow meter was in service during this time period
- Calibration test criteria utilized in NIST traceable lab:
 - Using universal calibration coefficients meet *SONARtrac* flowmeter accuracy specification of $\pm 1.0\%$
 - Using flowmeter specific calibration coefficients meet accuracy of $\pm 0.5\%$ accuracy

For nearly 20 years, CiDRA has been recognized for its innovation and leadership in slurry flow measurement, characterization, and fluid dynamics. CiDRA's sonar flow meter is the newest

class of flow meter that has become the industry standard for slurry measurement. *SONARtrac* non-intrusive flow monitoring systems do not make contact with the slurry and can be removed and reinstalled without process interruption. As well, *SONARtrac* systems demonstrate a very stable output in the presence of a variety of ores, and demonstrate superior levels of performance. This passive, sonar-based technology enables measurements of single phase and multiphase fluids, as well as slurries, with the same level of accuracy and performance.

Due to their non-intrusive design, *SONARtrac* flow meters do not have any moving or process-wetted parts that are subject to wear, or inherent drift mechanisms, and are installed externally to the outside of any type of pipeline. This non-intrusive design translates into long life, no maintenance, improved safety, and enhanced operational effectiveness for the monitoring of industrial flow processes.

About CiDRA:

Headquartered in Wallingford, Connecticut, USA, with an increasing international presence, CiDRA is a trusted partner and leading supplier of highly differentiated process optimization and enhanced recovery solutions and services to the global mining sector, as well as other industrial markets. CiDRA's products and services are being used by more than 370 key customer sites in over 45 countries, enhancing process control and material recovery.

About Alden:

Alden (Alden Research Laboratory, Inc.) is an internationally acclaimed leader in flow meter calibration, as well as in solving flow-related engineering and environmental problems. Founded in 1894, Alden is the longest continuously operating hydraulic laboratory in the United States.

Additional information about CiDRA can be found at www.cidra.com

Additional information about Alden can be found at www.aldenlab.com

SONARtrac is a registered trademark of CiDRA.

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