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ISO 9001:2008
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Cost Benefits of Microcor® Technology – Case Study –

Inhibitor screening trials were conducted at an onshore oil field operated by a major oil company in 2004 using a Microcor data logging system (see back page for complete system diagram). Prior to the use of Microcor, standard electrical resistance technology had been employed. The following table compares the results achieved with both.

TRIAL DESCRIPTION:	Before	After
Technology employed	Standard ER	Microcor
Number of probes	Three	One
Test duration required to achieve adequate results	36 days	4 days
Data frequency	10 minute intervals	2 minute intervals
Data results	Analysis only practical at full inhibition	Analysis of entire curve
Number of concentrations tested	3 in 36 days	5 in 4 days
Percent of tests completed without interruption	30%	93%
Volume of chemical used	75 gallons	5 gallons
ECONOMICS:		
Cost of chemicals at $10/gallon (estimated)	$750	$50
Estimated man-hours used	60	8
Cost per man-hour (estimated)	$40	$40
Labor cost per trial	$2,400	$320
Cost of trials for just chemicals plus labor	$750 + $2,400 = $3,150	$50 + $320 = $370
Savings achieved by Microcor	$3,150 - $370 = $2,780	
Cost of CM technology per monitoring point including access fittings	$2,100	$5,000
Additional capital cost of Microcor	$5,000 - $2,100 = $2,900	

FINDINGS:

Although this is a small, discrete application, it vividly demonstrates cost savings enabled by Microcor, savings that can be extended on a larger scale:

- The higher capital cost of Microcor can be recovered very quickly. In the Case Study the extra investment of $2,900 is nearly recovered in the first trial, which lasted only four days.
- Those savings may be dramatically scaled upward on larger production and operating systems where inhibitor volumes are high.
- Microcor enables the user to analyze lower concentrations, an area of great interest when looking for cost reductions.
- In online systems, process upsets can be detected and managed quickly, enabling asset preservation and extended life.
- In online systems, much faster speed of response and higher resolution permit corrosion data to be incorporated into the DCS and used as a process control parameter.

In chemical screening trials additional benefits not evaluated above include:

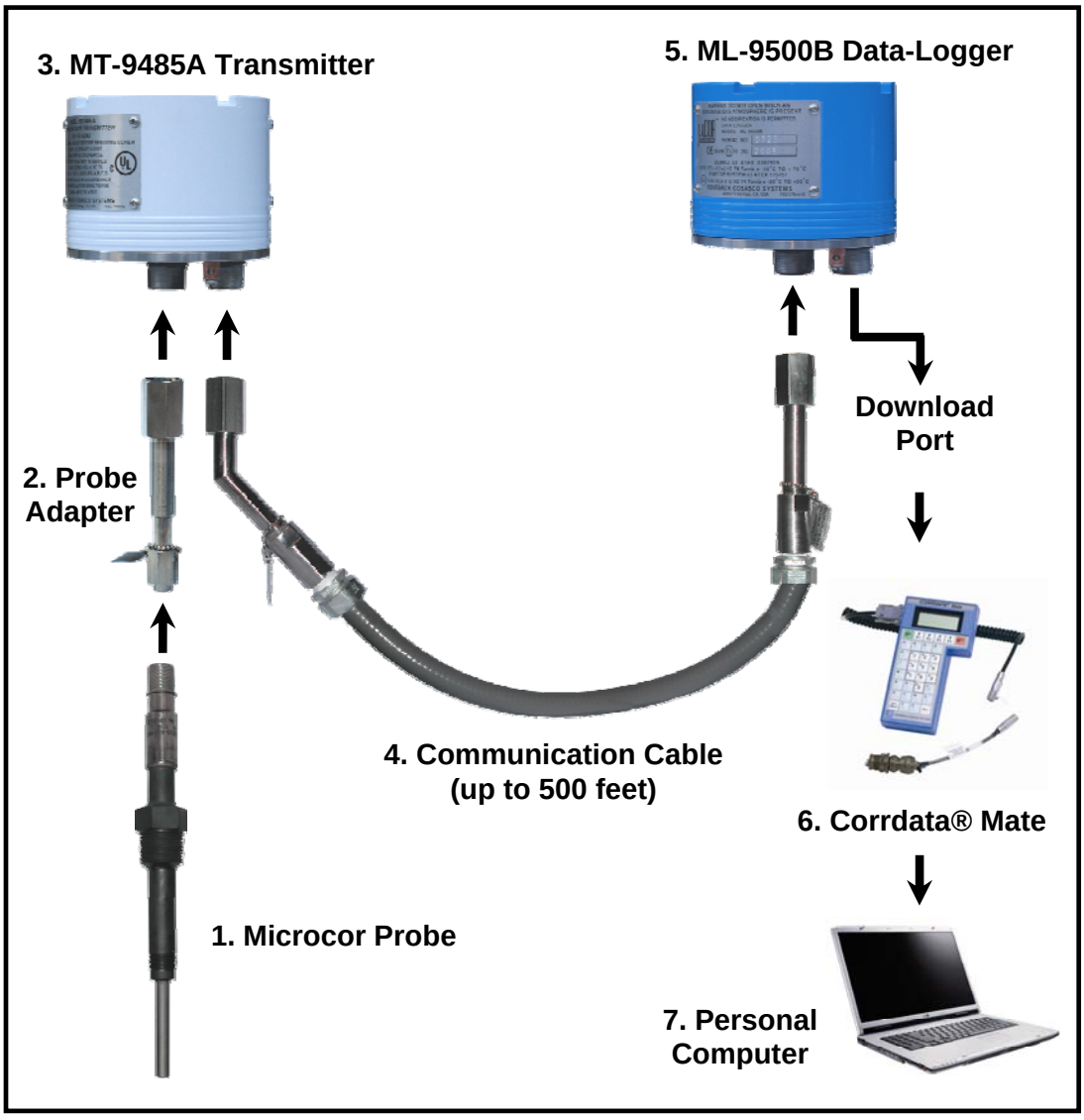
- More concentrations can be analyzed in a shorter time.
- Faster speed of response enables finer control.
- Increased speed of trials permits more efficient use of equipment.
- The significant reduction in chemical volume reduces shipping and deployment costs, and leaves no leftover chemical to be handled.

Technical Comparison of Microcor and Standard Electrical Resistance (ER)

	ER	**Microcor**
Resolution	10 bit	18 bit
Probe Life Units	1,000	262,144
Approximate Speed of Response @ 10 mpy corrosion rate and 10 mil span probe element	3 days	Less than 1 hour
Transmitter Type	Analogue – Dedicated cable required for each transmitter	Digital – Up to 32 transmitters can be connected with a single cable

A Typical Microcor® Data-logging System

1. Microcor Probe
2. Probe Connecting Adapter
3. Microcor Transmitter
4. Transmitter to data-logger communication cable
5. Microcor data-logger
6. Corradata® Mate
7. Personal Computer



Please contact Customer Service at Rohrback Cosasco Systems for more information at sales@cosasco.com or +1-562-949-0123. Visit online at www. cosasco.com.