

GENERAL INFORMATION

The Galvanic Corrosion Monitor is an instrument which continuously monitors the corrosion characteristics of drilling mud.

The instrument consists of two electrodes mounted in an high pressure pipe plug, which are connected to a microammeter mounted in a weather resistant housing. The microammeter registers current generated by the corrosion occurring on the electrodes while they are suspended in the mud. Observation of the galvanic current produced provides a qualitative estimate of the corrosion rate.

INSTALLATION

To install the instrument, thread the electrode assembly into a 2 inch N.P.T. port on the standpipe, preferably in a location convenient for observation. Make sure the probes are at right angle to the flow as shown. Should the ends of the probes contact the pipe, they may be shortened by sawing off as required.

DO NOT USE CUTTING TORCH. Attach the weather resistant meter housing to the electrode assembly pipe plug with the screws provided. Note that the bracket provided permits several mounting positions, or if desired can be remotely mounted. To complete the installation attach the Microammeter leads to the electrodes. Note that if the meter is remotely mounted, a suitable length of 16 AWG, 2 conductor wire will be required. The positive lead from the meter is tagged. Observe the polarity indicated on the electrode assembly pipe plug. The brass electrode is positive, the steel electrode is negative.

OPERATION

In use observe the meter response to mud pit operations. For example, an increased reading might be observed after operating the mud hopper. Possible oxygen contamination can be recognized immediately, and corrective steps toward minimizing air entrapment can be implemented. This will significantly reduce corrosion.

Comparison of monitor readings to corrosion coupon measurements under various field conditions has established the relationships indicated in the following chart.

MAINTENANCE

The probes usually are maintenance-free and require only periodic inspection. In some systems, however, deposits (mineral scales or hydrocarbons) may form on the probes and require cleaning. Experience indicates that cleaning every 2 to 4 weeks of continuous use usually provides effective operation. Electrode replacement may be necessary if they become excessively shortened by erosion. Poor response on the meter will generally indicate this problem.

MICROAMPERE READING	RATE - lb PER SQ. FT. PER YR.	INTERPRETATION
0 - 10	Less than 1	Low Corrosion
10 - 20	Approx. 2	Modedrate Corrosion
20 - 40	2 - 5	Serious Corrosion
40 - 100	More than 5	Severe Corrosion

PARTS LIST

PART NO.	DESCRIPTION
63645	Electrode, Steel, F/Galvanic Monitor
63646	Electrode, Brass, F/Galvanic Monitor
63647	Plug, Galvanic Monitor
B1006	Box, Receptacle
B1007	Cover, Receptacle Box
E2002	Meter, 0-100 Microamp

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