Mr. E. P. Doremus, P. E.
Service Division
Cathodic Protection Service
P. O. Box 66387
Houston, Texas 77006

Dear Mr. Doremus:

Thank you for your letter of November 2, 1972, in which you forwarded information and comments concerning the two-electrode surface potential survey method for locating areas of active corrosion. Your comments were made with reference to an interpretation contained in the OPS Advisory Bulletin 72-8 of August 1972 in which it was stated that OPS does not feel that the "leap-frogging" survey method will provide any useful information in determining where active corrosion is taking place on Dresser-coupled pipelines (insulated joints). The Bulletin went on to say that there are other types of electrical equipment that will do this job.

Your letter suggests that the "leap-frogging" technique is no longer in use and that, therefore, it may not be appropriate to refer to it. However, the interpretation quoted in the Bulletin was in response to a specific question, and, as indicated "leap-frogging" is not useful for Dresser-coupled pipelines with insulated joints. On the other hand, the "leap-frogging" surface potential survey method is being successfully used for locating areas of active corrosion on electrically continuous pipelines. As your letter recognizes, the purpose of "leap-frogging" is to compensate for electrode potential differences. While we recognize that there is equipment available today which makes it unnecessary to use "leap-frogging," the leap-frogging technique remains available for use on electrically continuous pipelines.

Your letter also states that the two-electrode surface potential survey method is the most satisfactory approach for providing Dresser-coupled pipelines with adequate cathodic protection. To the extent that you are referring to the use of two electrodes in continuous contact with the earth, we agree. The proper technique provides for a continuous voltage difference measured between one electrode placed over the pipeline and the other electrode located five feet from the pipeline and perpendicular to the pipeline. The survey is normally conducted on both sides of the pipeline to identify existing galvanic anodes.

Your interest in this important aspect of pipeline safety is appreciated. If you have further questions, or comments, please contact us.

Sincerely,
Joseph C. Caldwell, Director

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