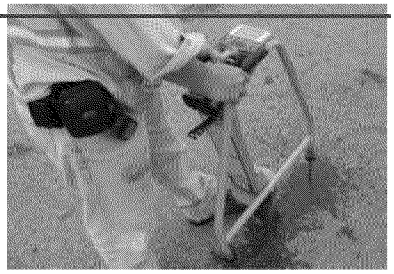
APPENDIX X

Pipeline Integrity and Monitoring Technology in the State of California: **Catalogue of Technology Assessments**

January 2012

Alternating Current Voltage Gradient



Method
External Inspection Method

Description
Alternating Current Voltage Gradient (ACVG) A-Frame

Strengths
Connects to pipeline mappers (PCM) for pipe locating and depth, does not require drilling in asphalt, precise defect location

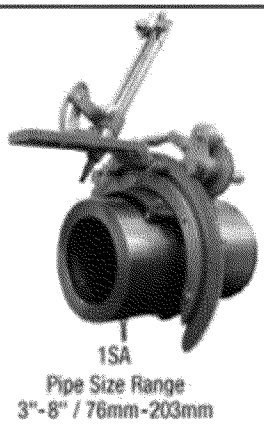
Weaknesses
May not find disbonded areas. Relatively inexpensive

Manufacturers
Radiodetection

Utilities Using Technology
Multiple

References
NACE SP0502-2010

Broadband Electromagnetic Technology



Method
External Inspection Method

Description
Technology induces eddy currents to flow in close proximity to a transmitter/ receiver in a ferrous pipe. These currents migrate time, allowing a complete profile of the ferrous pipe to be obtained. The technique scans through the full wall of the pipe registering corrosion or flaws within the full wall thickness

Strengths
Scanning is not limited by the diameter of the pipe. Equipment has the ability to survey through thick coatings (>2") of materials such as paint, tar, plastic, and concrete commonly found on many buried and exposed pipelines. The pipeline does not have to be taken off-line, as readings are taken from the outside of the pipe. Through-hole technology.

Weaknesses
Unit might miss small detailed clusters of cracks. Rather it will indicate a wide/shallow depression of wall loss. Cannot differentiate from ID/OD ferrous loss. Reading based on % wall loss relative to "good" wall.

Manufacturers
RockSolid Group/GTI

Utilities Using Technology
Australia

References
http://www.rocksolidgroup.com.au/admin/file/content103/c3/bem%20brochure%20a4.pdf