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**IMPACT TEST REPORT**  
**PROTECTO 401™ CERAMIC EPOXY**

March 2, 1995

GM&A has completed a test program on Protecto 401™ Ceramic Epoxy lined pipe coupons. The results of the completed tests are reported herein. They include the following test procedures:

ASTM G-14: Standard Test Method for Impact Resistance of Pipeline Coatings (Falling Weight Test).

Coating System: Protecto 401™ CERAMIC EPOXY (Internal) Lining, Plant applied to the internal surface of ductile iron with a reported age in excess of eighteen months.

The conditions of the test include the following: 48 hour minimum temperature and humidity equilibration within the lab at 73° F (23°C). Coupons were approximately 3 x 6 inch with coating applied at a DFT of 33 to 48 mils (825 to 1175 microns). The weight of the falling impactor was 4 pounds. Continuity was determined with a low voltage, wet sponge holiday detector per ASTM G-62. Four panels were evaluated for the test using a Gardner Model #5510 Impact Tester.

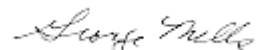
TOTAL NUMBER OF IMPACTS:	6	6	8	8
FILM THICKNESS (MILS):	37-39	39-44	33-36	45-48

The impact results using a four (4) pound weight were as follows:

Number of Impacts:	5	5	14	2	2
Number of Pass:	5	5	9	0	0
Number of Fail:	0	0	5	2	2

RESULTS: The average impact strength of the coating as tested was determined to be 72 inch pounds.

CERTIFIED:



Dr. George Mills  
 Date: 2 March 1995