

Life Extension Testing of Cables

- Introduction
- Test Specimen Identification
- Methodology
- Testing
- Test Anomalies
- Conclusions

Introduction

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Test Specimen Identification

<u>Specimen ID</u>	<u>Size/Type</u>	<u>Insulation/Jacket</u>	<u>Length</u>	<u>In-Service</u>
1	14 Con, #16AWG	FRPVC/ FRPVC	320' (97.5m)	Yes 22 years
2	14 Con, #16AWG	FRXLPE/ FRPVC	340' (103.6m)	Yes 22 years
3	Coax RG149A	XLPE/ CSPE	200' (61.0m)	No, from storage
4	Coax	XLPE/ XLPO	73' (22.2m)	No, in storage. Manf. in 1997

Test Specimen Identification

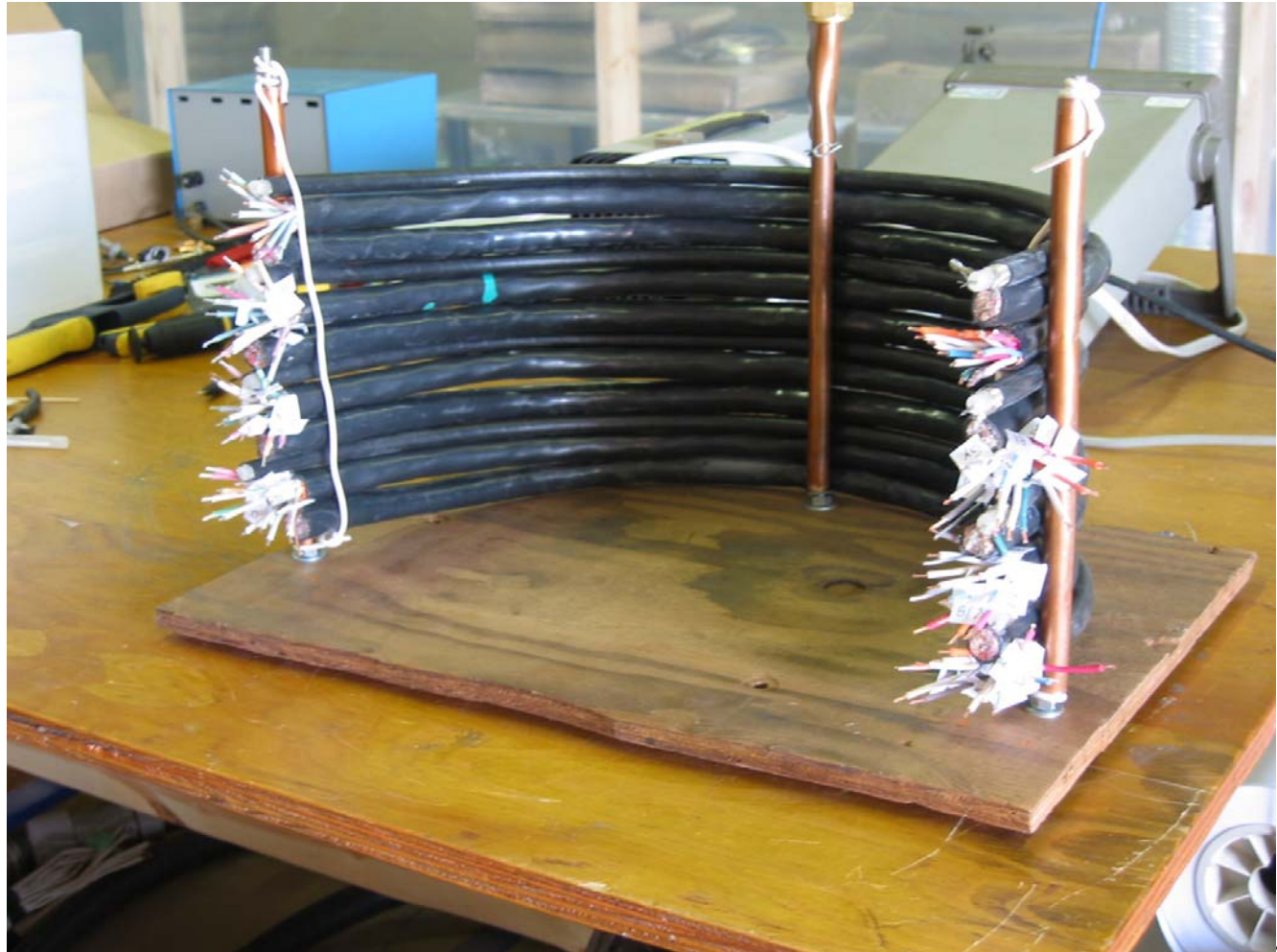


Methodology

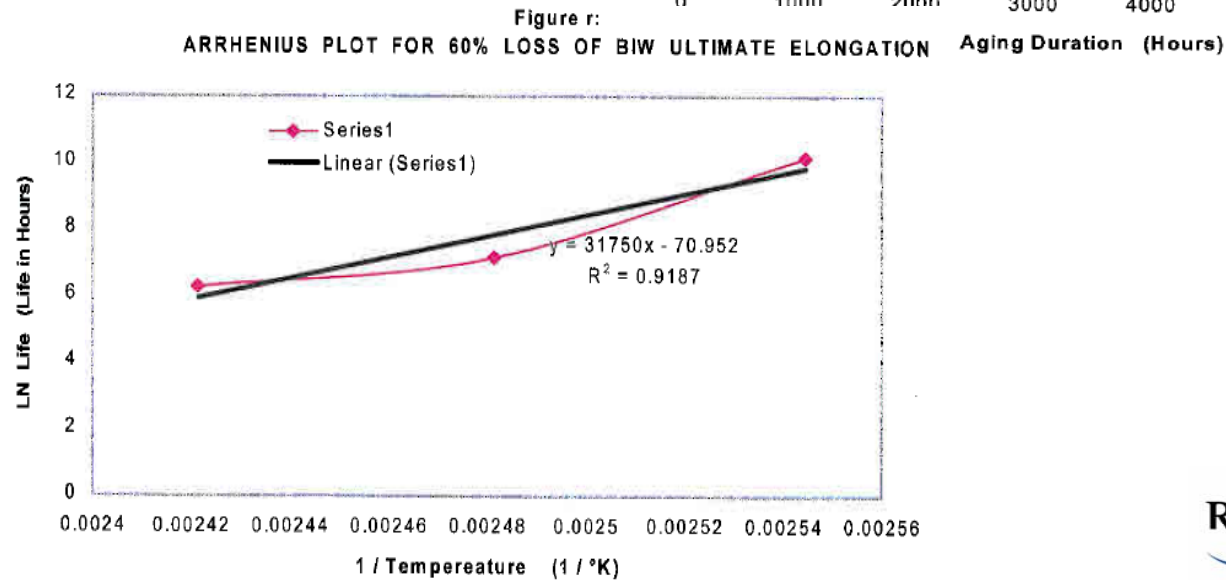
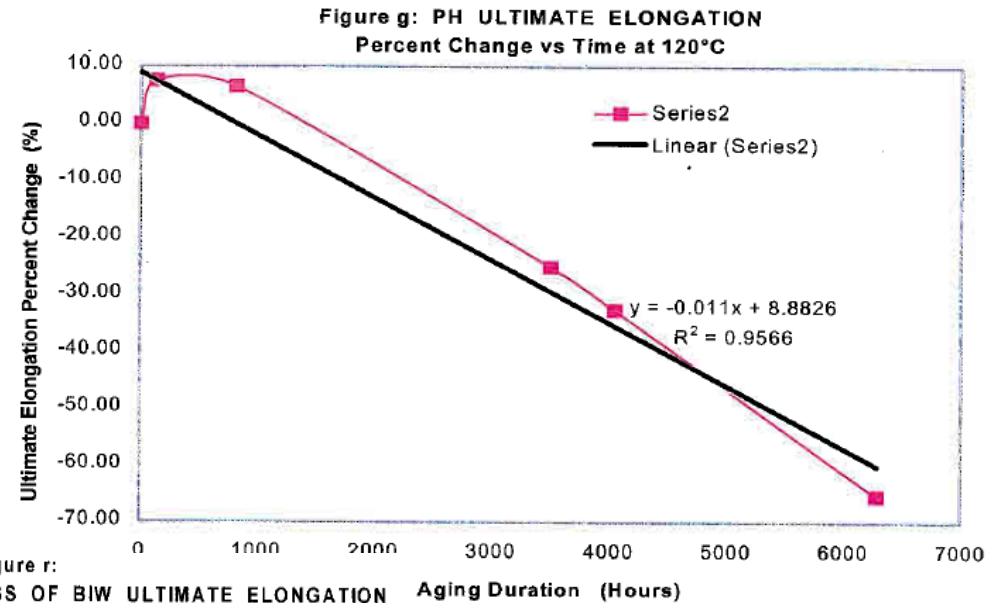
<u>Step #</u>	<u>Description</u>
1	Prepare Test Samples
2	Determine Activation Energies for samples 1, 2, and 3
3	Baseline Testing
4	Radiation Exposure
5	Post-Radiation Tests
6	Thermal Aging
7	Post-Thermal Aging Tests
8	Harsh Environment Simulation
9	Post Harsh Environment Tests

Preparation of Test Specimens

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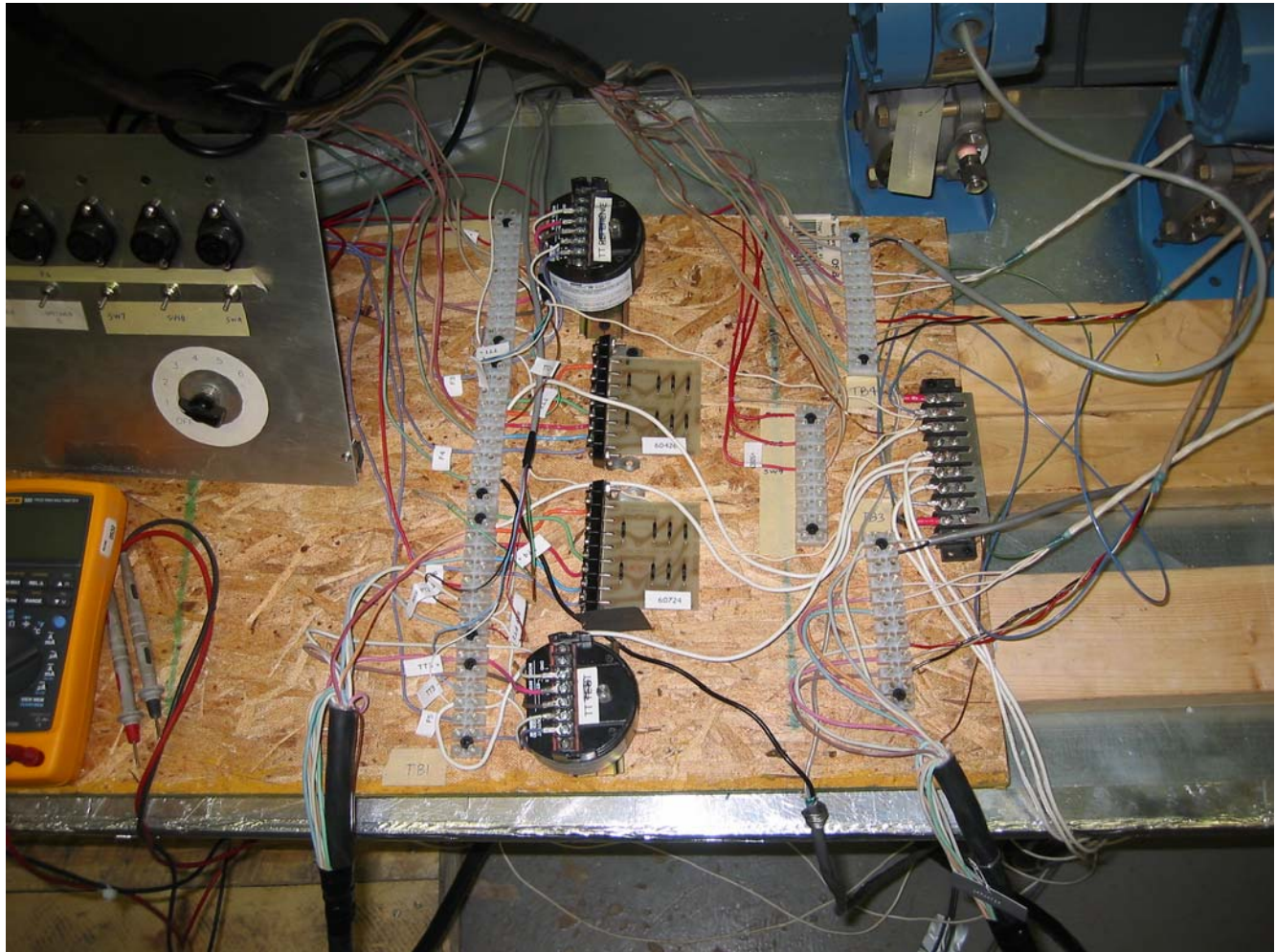


Determination of Activation Energies



Function Tests

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Radiation/Thermal Aging

- Inside the Thermal Aging Oven



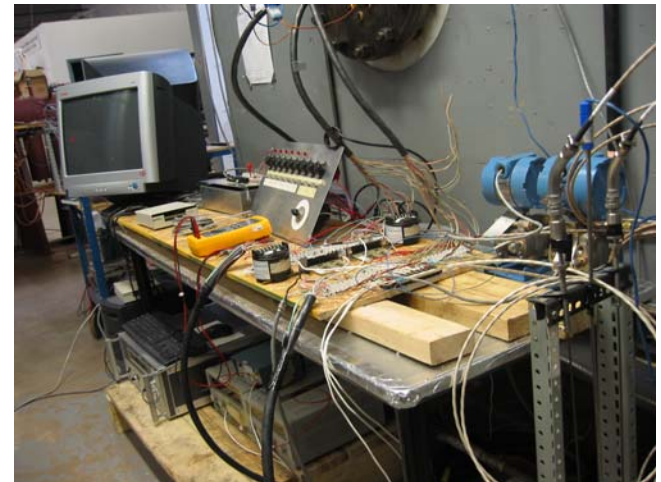
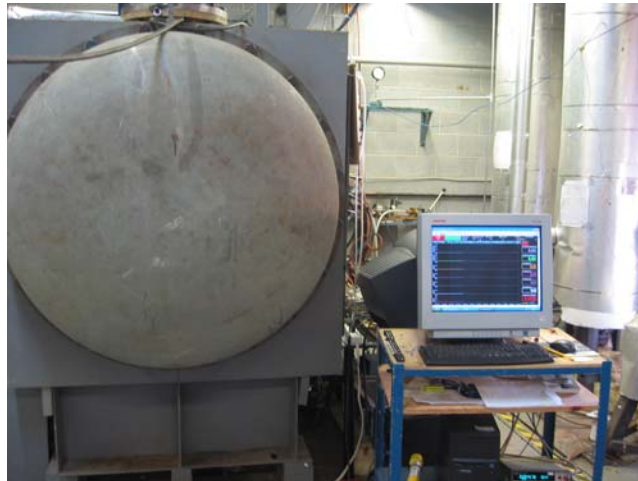
Harsh Environment Simulation

- Test Samples inside the Harsh Environment Chamber



Harsh Environment Simulation

(continued)



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Anomalies

- Continuous monitoring tracks test conditions



Summary of Results

<u>Test Specimen</u>	<u>Performance During DBE</u>	<u>Physical Condition</u>	<u>Client Actions</u>
1	Pass with exception of RTD	Poor	Separate RTD wires from 40v
2	Pass	Poor	NA
3	Requires further analysis	Good	Evaluate performance and replace if necessary
4	Pass	Good	NA

Conclusions

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