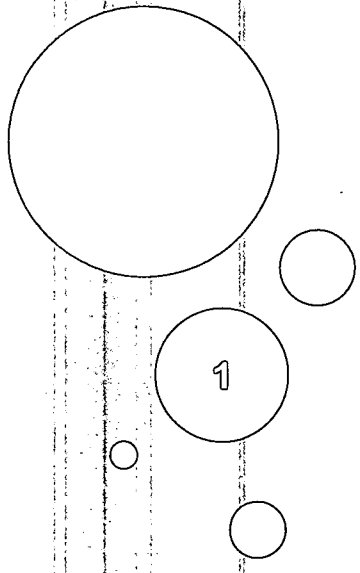
ENCLOSURE 4

Westinghouse Non-Proprietary Class 3

"Experimental Results and Benchmarked Analyses" – (Non-Proprietary)



EXPERIMENTAL RESULTS AND BENCHMARKED ANALYSES

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Purdue University

2

OUT-OF-PLANE SHEAR TEST

Experimental Results and Benchmarked Models

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

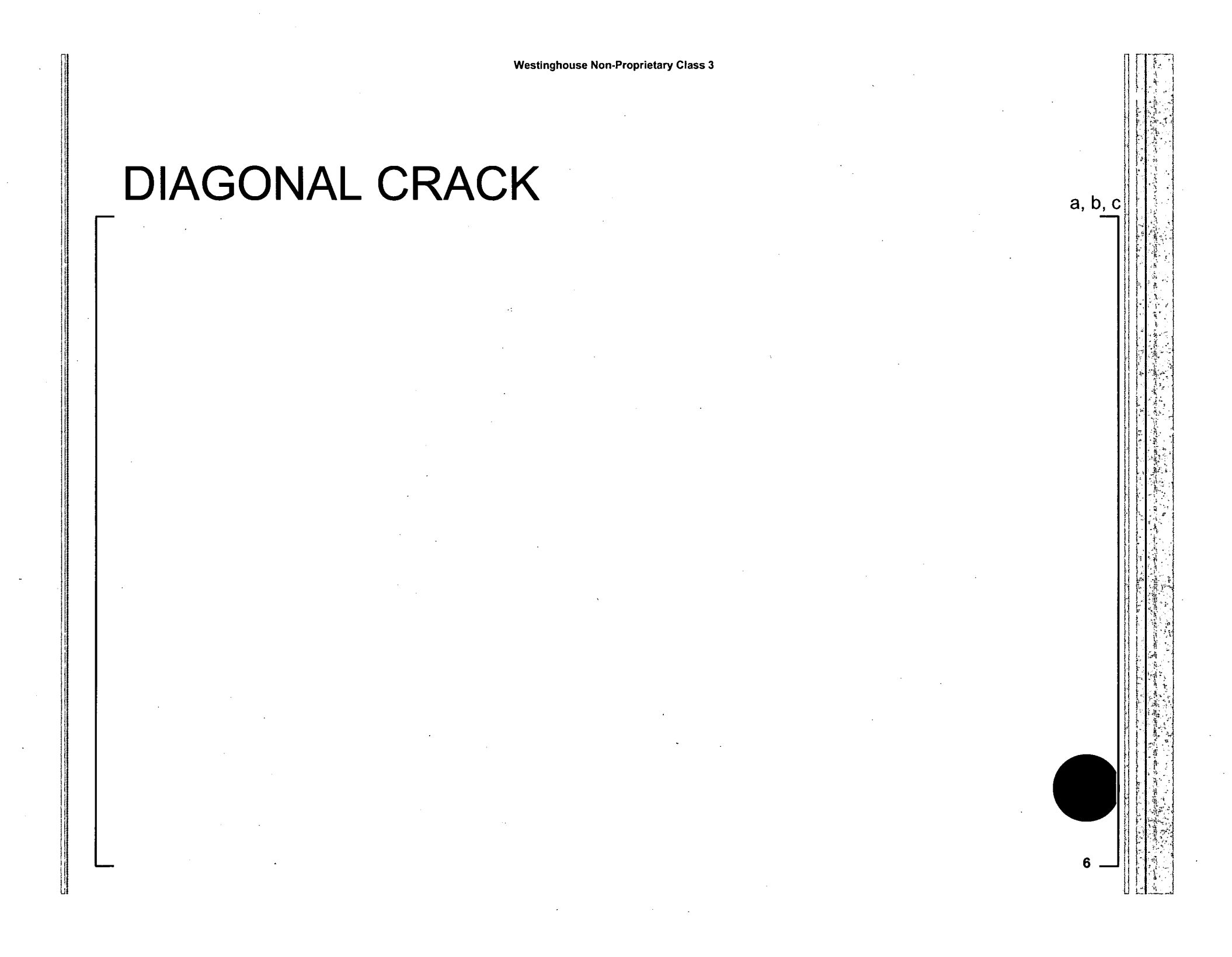
a, b, c

SPECIMEN & SETUP

a, b, c

DIAGONAL CRACK

a, b, c



EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

FINITE ELEMENT MODEL DETAILS

a, b, c

MATERIAL PROPERTIES

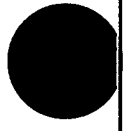
a, b, c

STEEL MATERIAL PROPERTIES

a, b, c

MATERIAL PROPERTIES

a, b, c



MATERIAL PROPERTIES

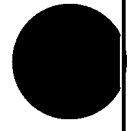
a, b, c

MATERIAL PROPERTIES

a, b, c

MATERIAL PROPERTIES

a, b, c



FINITE ELEMENT MODEL

a, b, c

FINITE ELEMENT MODEL

a, b, c

FINITE ELEMENT MODEL

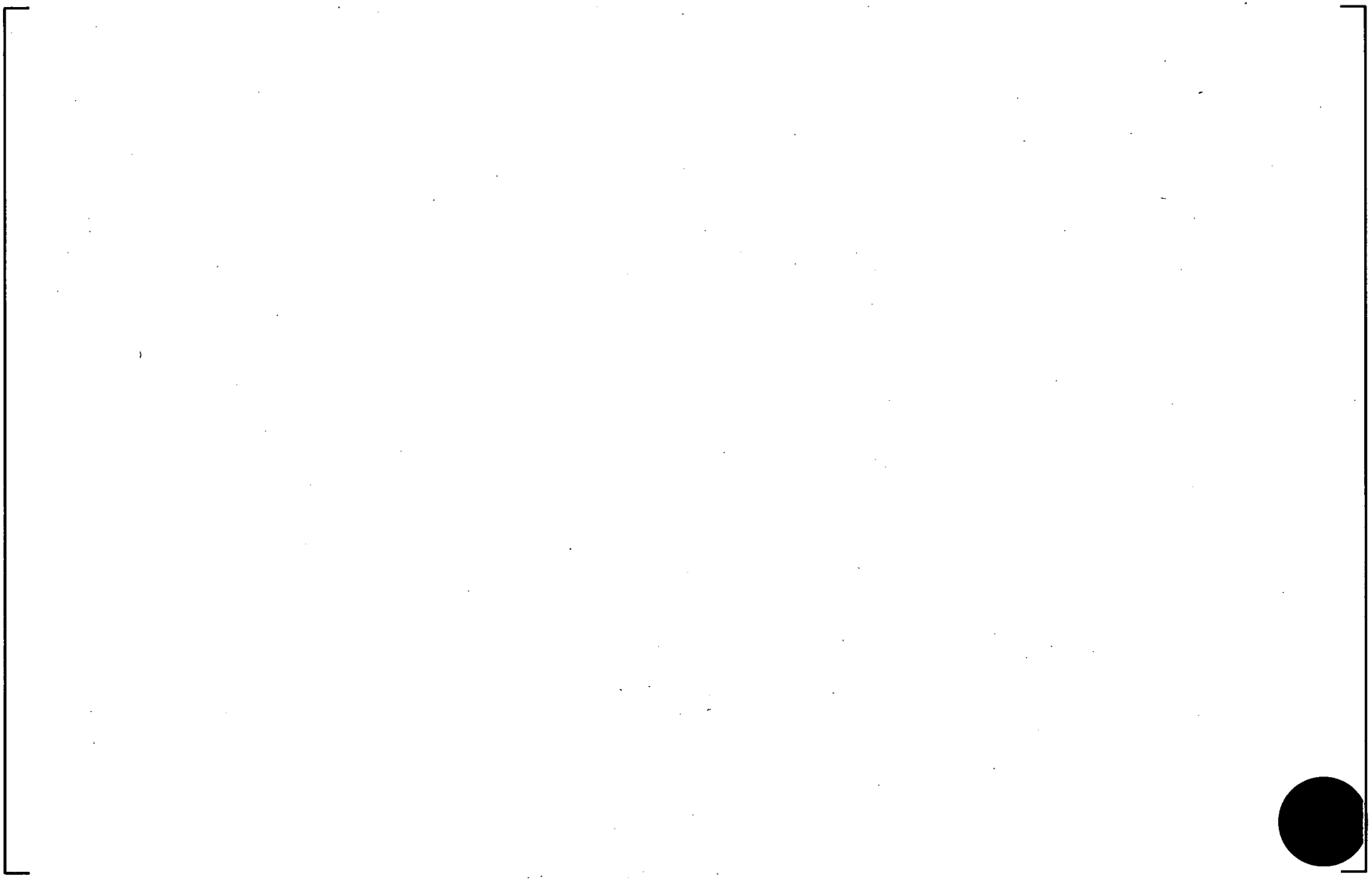
a, b, c

FINITE ELEMENT MODEL

a, b, c

FINITE ELEMENT MODEL

a, b, c



FINITE ELEMENT MODEL

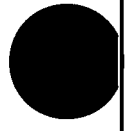
a, b, c

LOADING AND ANALYSIS

a, b, c

ANALYSIS

a, b, c



RESULTS

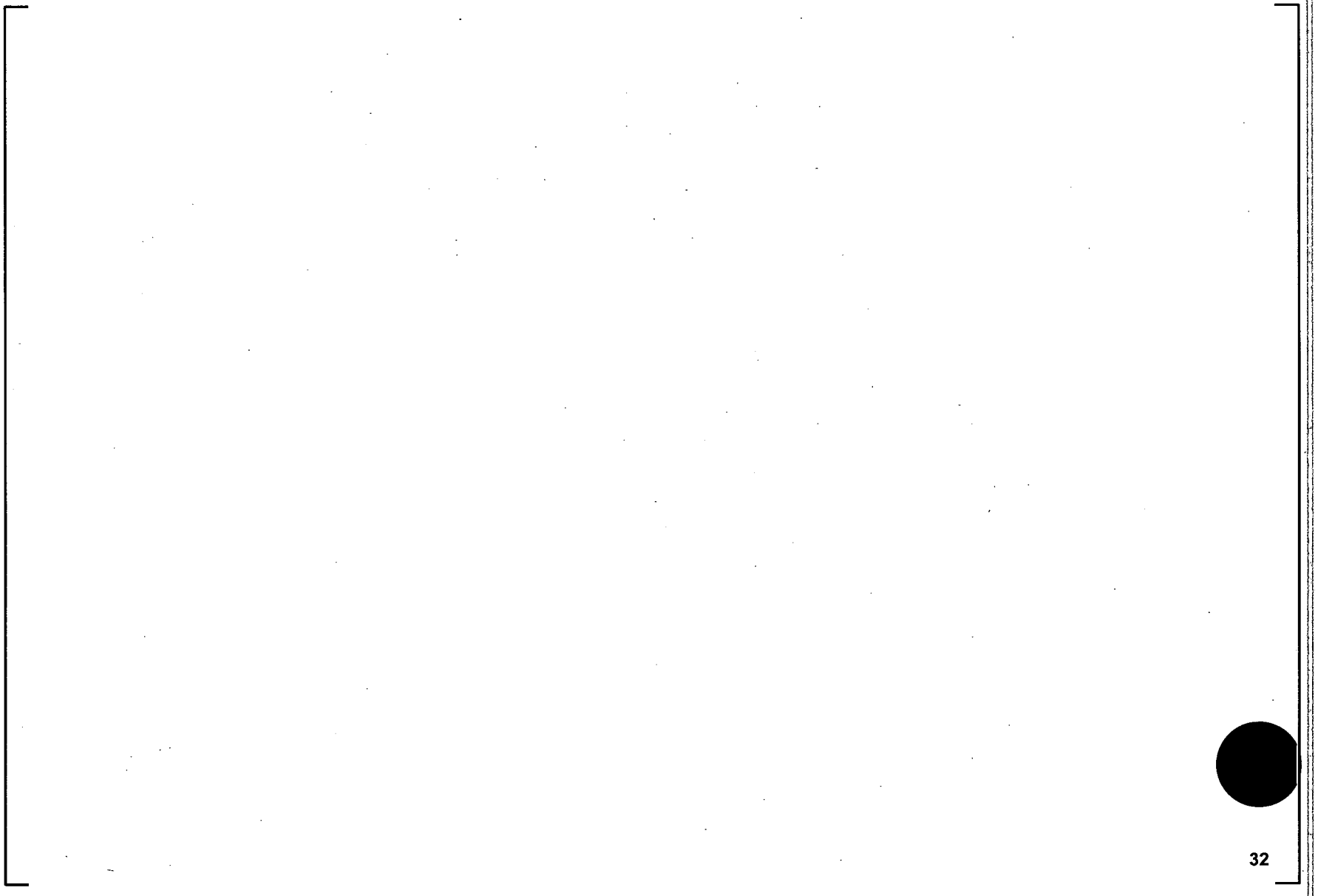
a, b, c

RESULTS (COMPARISON)

a, b, c

RESULTS (COMPARISON)

a, b, c



FAILURE MODE (STATE AT PEAK LOAD)

Westinghouse Non-Proprietary Class 3

a, b, c

FAILURE MODE / STATE AT PEAK LOAD

a, b, c

STATE AT PEAK LOAD

a, b, c

STATE AT PEAK LOAD

a, b, c

STATE AT PEAK LOAD

a, b, c

SUMMARY OF BEHAVIOR AND STATE

a, b, c

SUMMARY OF BEHAVIOR AND STATE

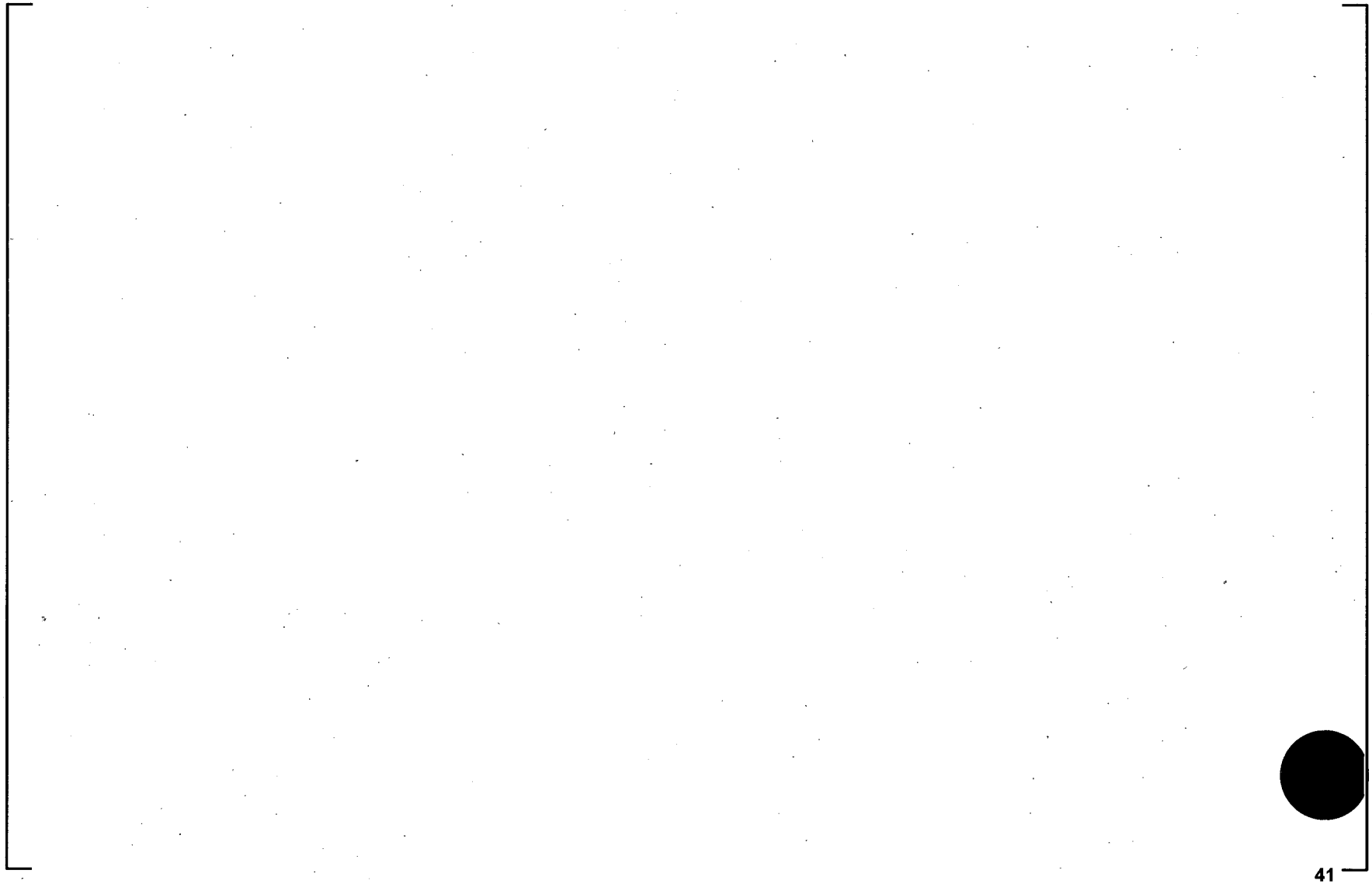
a, b, c

SUMMARY OF BENCHMARKING ANALYSIS

a, b, c

PREDICTION OF UPCOMING TEST

a, b, c



PREDICTION OF UPCOMING TEST (STATE AT PEAK)

a, b, c

BENCHMARKING MODELS FOR OUT-OF-PLANE SHEAR

a, b, c

ANCHORAGE TEST

Experimental Results and Benchmarked Models

Test Setup

a, b, c

Specimen Photograph

a, b, c

EXPERIMENTAL RESULTS

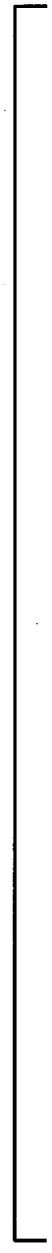
a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c



EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

a, b, c

EXPERIMENTAL RESULTS

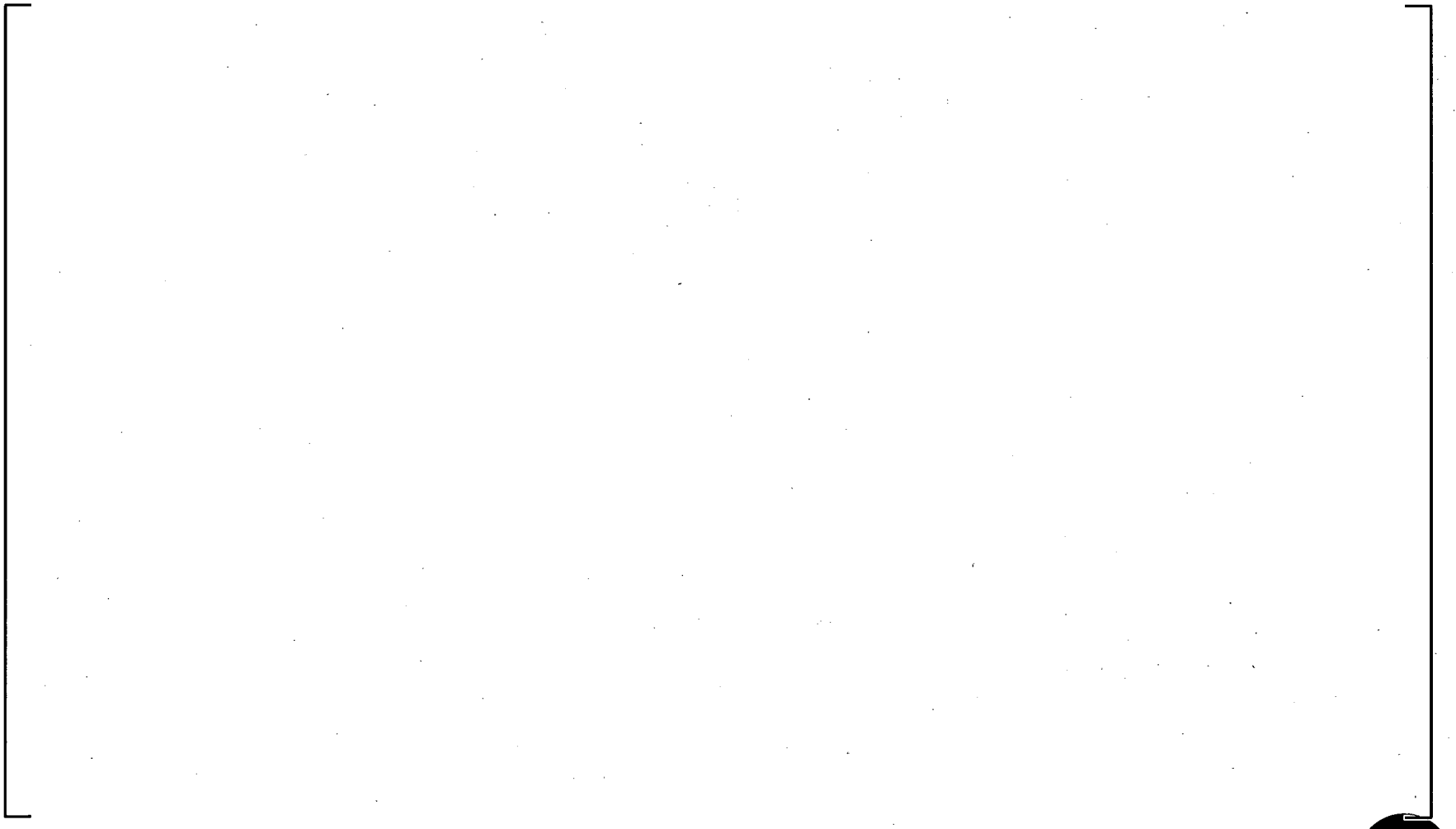
a, b, c

FINITE ELEMENT MODEL

a, b, c

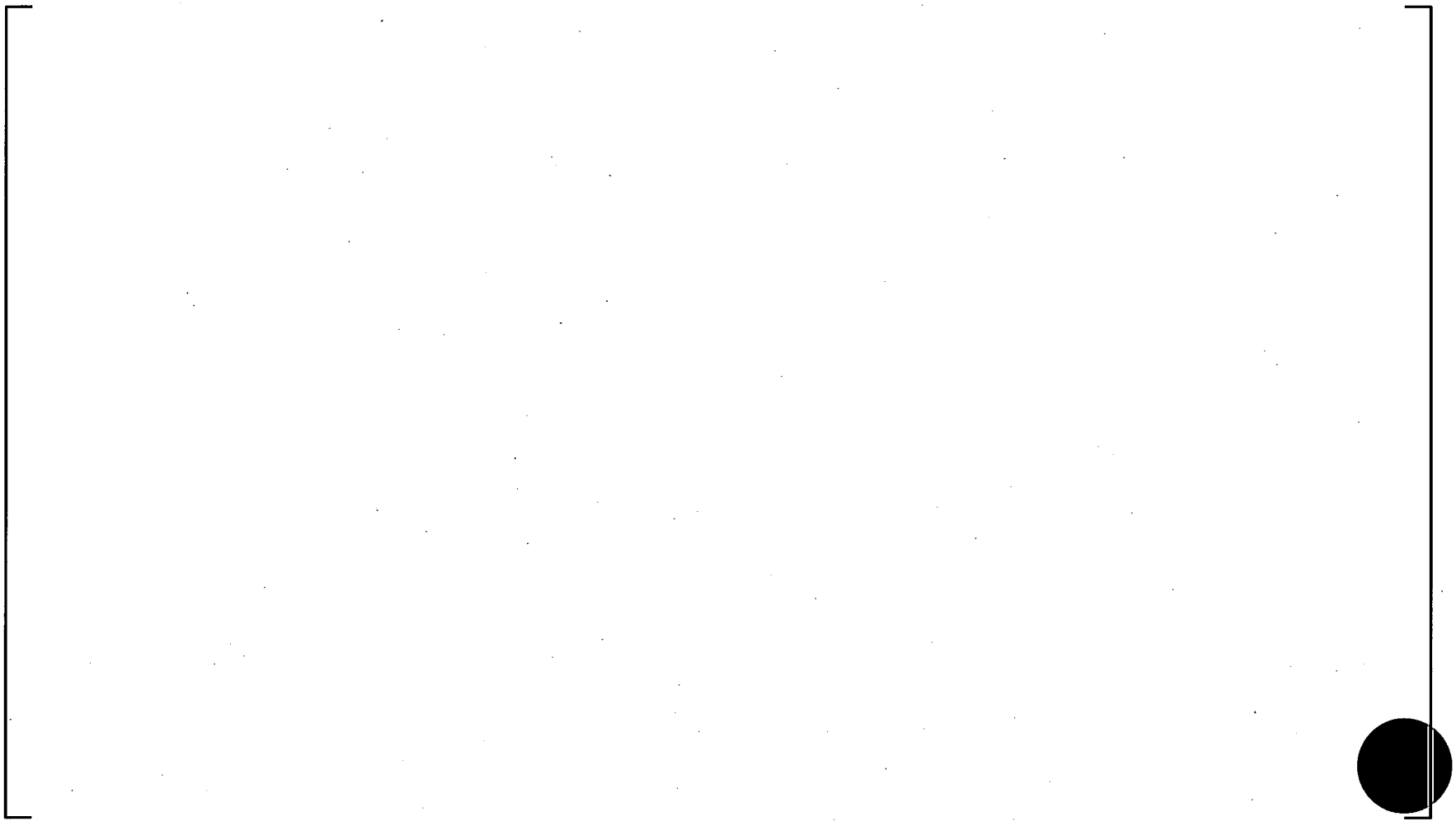
FINITE ELEMENT MODEL

a, b, c



FINITE ELEMENT MODEL

a, b, c



DEVELOPMENT OF FINITE ELEMENT MODELS

a, b, c

DETAILS OF FINITE ELEMENT MODELS

a, b, c

[

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STATE AT LOAD LEVEL CORRESPONDING TO STEEL YIELDING (1500 KIPS)

a, b, c

STATE AT LOAD LEVEL CORRESPONDING TO STEEL YIELDING (1500 KIPS)

a, b, c,

Summary of State at Load = 1500 kips

a, b, c

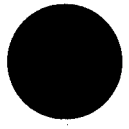
PHOTOGRAPH OF SPECIMEN AT 1500 KIPS SHOWING CRACKING

a, b, c

STATE AT LOAD LEVEL 1800 KIPS

a, b, c

a, b, c



COMPARISON OF EXPERIMENTAL AND ANALYTICAL RESULTS

a, b, c

COMPARISON OF EXPERIMENTAL AND ANALYTICAL RESULTS

a, b, c

COMPARISON OF EXPERIMENTAL & ANALYTICAL RESULTS a, b, c

SUMMARY AND RECOMMENDATION

SUMMARY

a, b, c

SUMMARY

a, b, c

RECOMMENDATION

a, b, c