

## PWR

### Measurement of Cladding Ovality at the Defect Area of Irradiated PWR Fuel Rod

가, , , ,

150

PWR

180

5 가

J09-L01

### Abstract

To confirm the defect causes of irradiated PWR fuel rod, fuel cladding ovality measurement around the defect was conducted using NDT instrument equipped in hot cell. The ovality was measured rotating the fuel rod at every 180 degrees. The circumferential scan pitch for diameter measurement was 5 degrees.

The ovality measurement identified the clad collapse around the through-hole defect, and the results revealed that the defects were originated from the external damages by the foreign materials.

# 1.

가

가 가

가

,

가

가

가

.

(1-3).

# 2.

2

(J09-L01 J12-A13)

.

,

,

,

defoscope

strip chart

encoder LVDT

0-180

90-270

scanning

5

LVDT

180

### 3.

(J09-L01)

1,167mm

3

1.36mm,

3.18mm

1,138mm

( 1).

J12-A13

30mm, 1

4.4mm

3.18mm

1.36mm

0.9mm

( 2). J09-L01

3

J12-A13

4

30mm

. J09-L01

5

1,137mm

가

1,167mm

5

1,167mm

6

0.15mm

7 J12-A13

30mm

가

5

8

9

J09-L01

**4.**

가

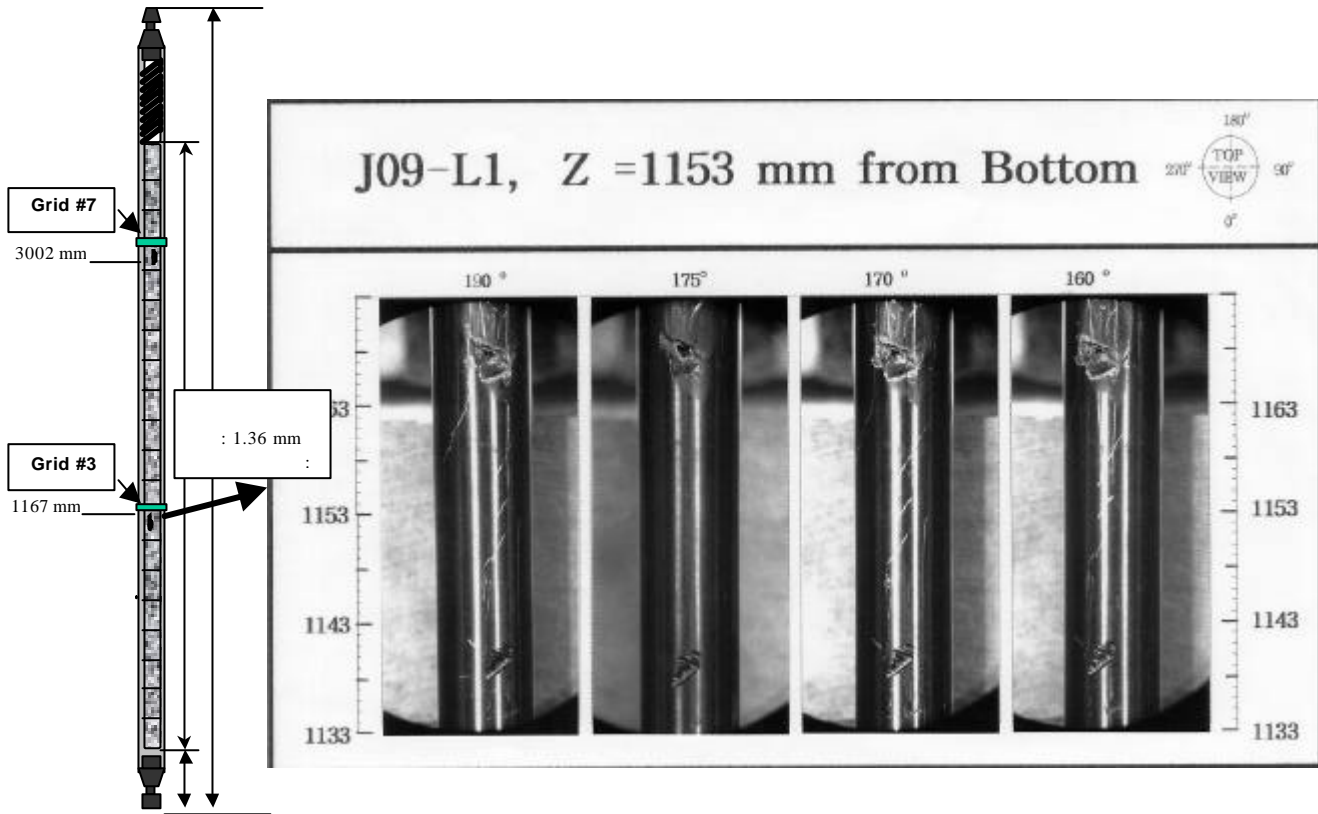
J09-L01

J12-A13

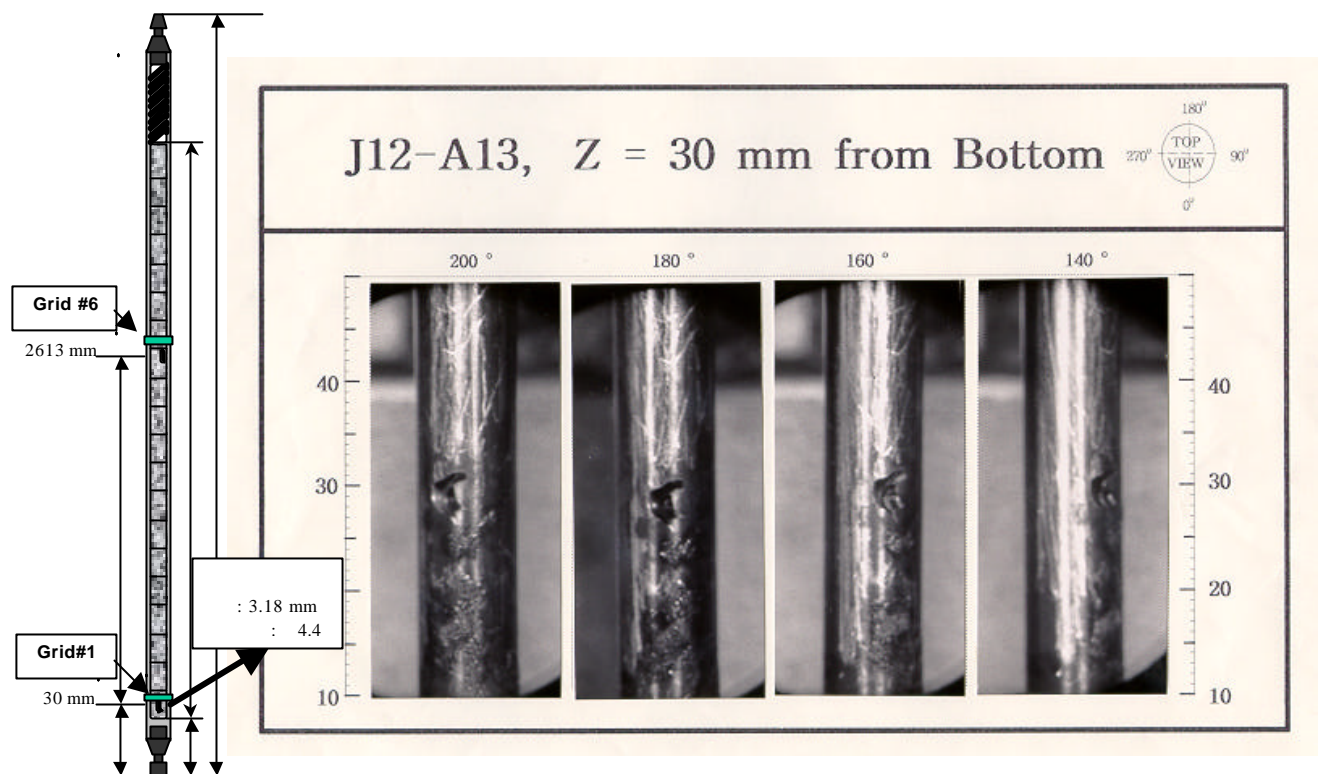
debris fretting

가

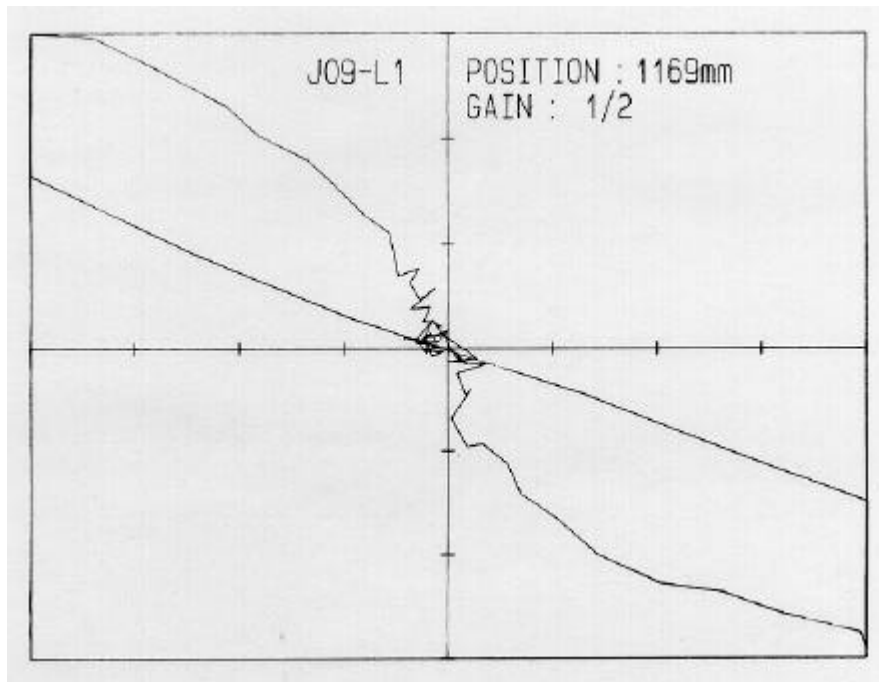
- [1] H.Kunishi, H.W.Wilson and R.N.Stanutz, "Evaluation of Fuel Rod Leakage Mechanisms-Summary Report," EPRI TR-104721, Westinghouse Electric Corporation(1994).
- [2] , " 4 " , KAERI/TR-739/96(1996).
- [3] 가 , " " , KAERI/CR-78(1999).



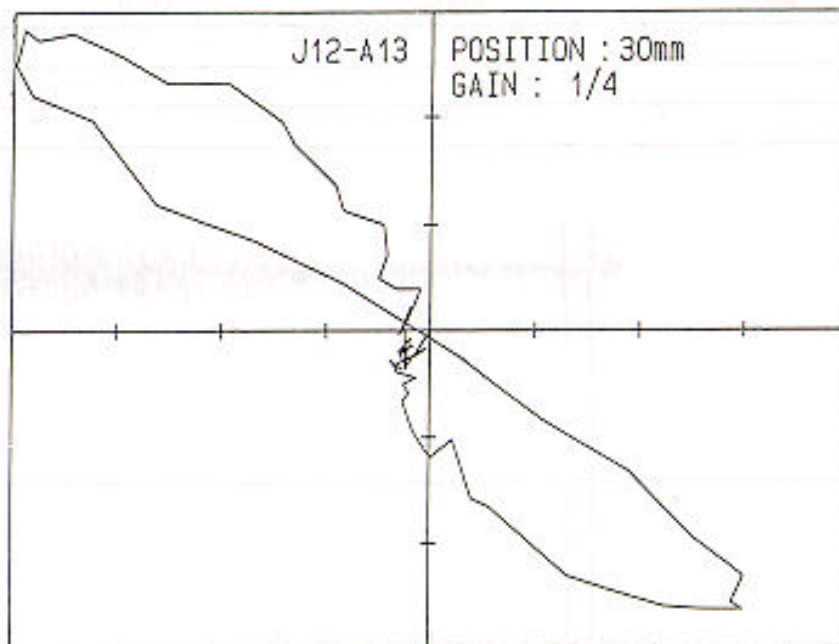
1. J09-L01



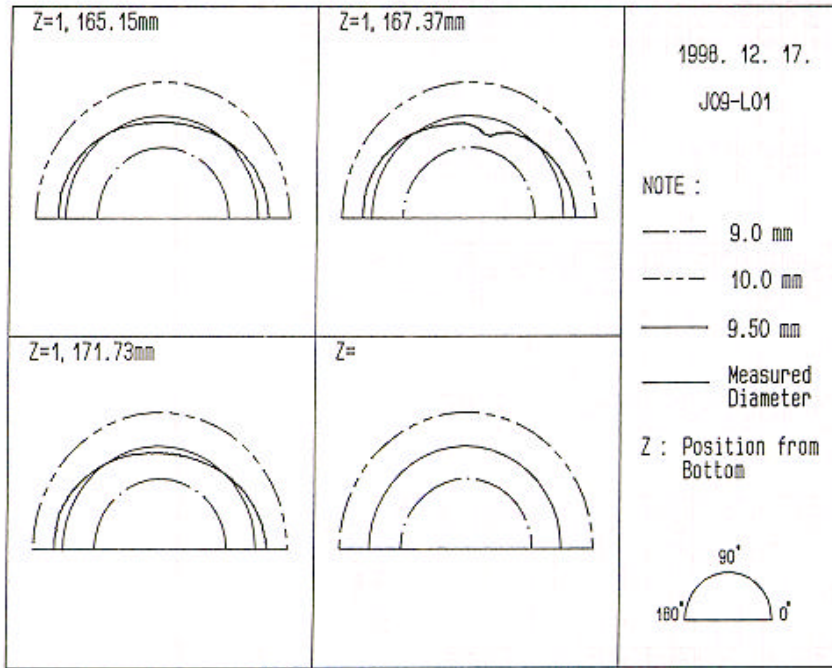
2. J12-A13



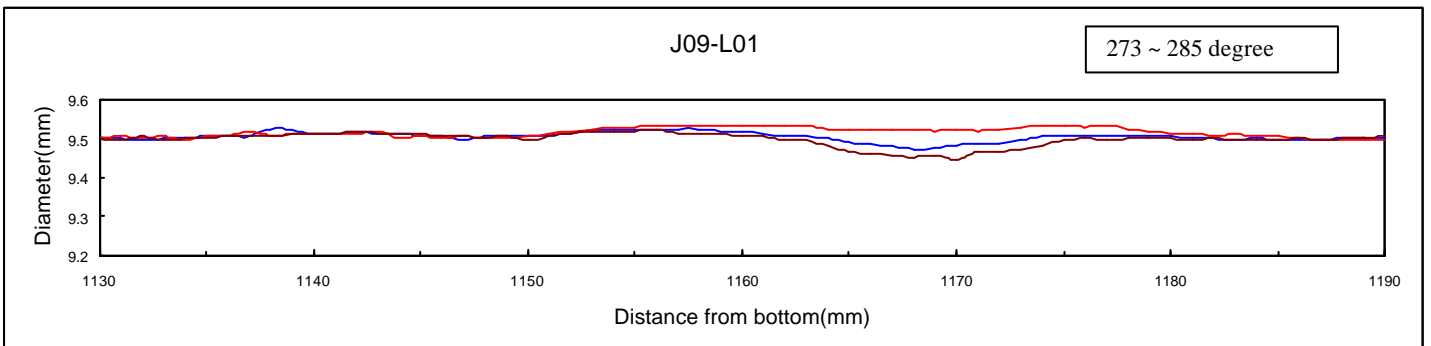
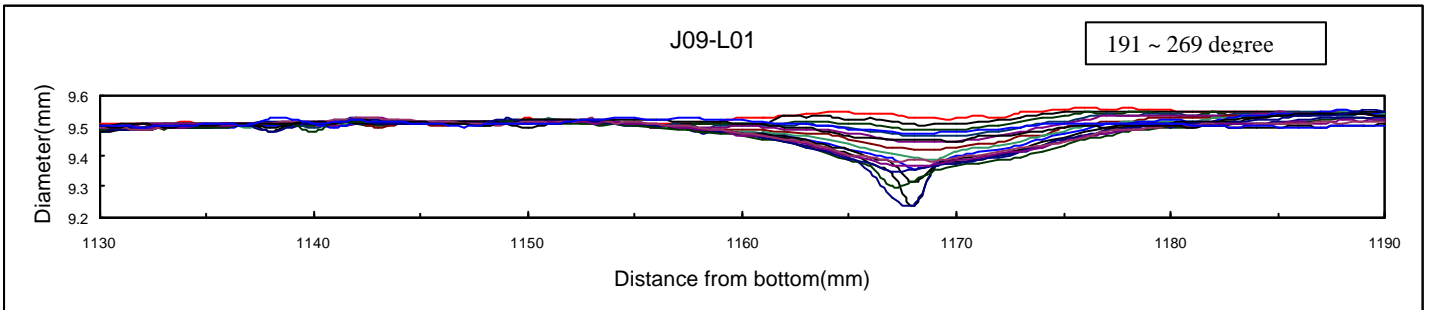
3. J09-L01



4. J12-A13

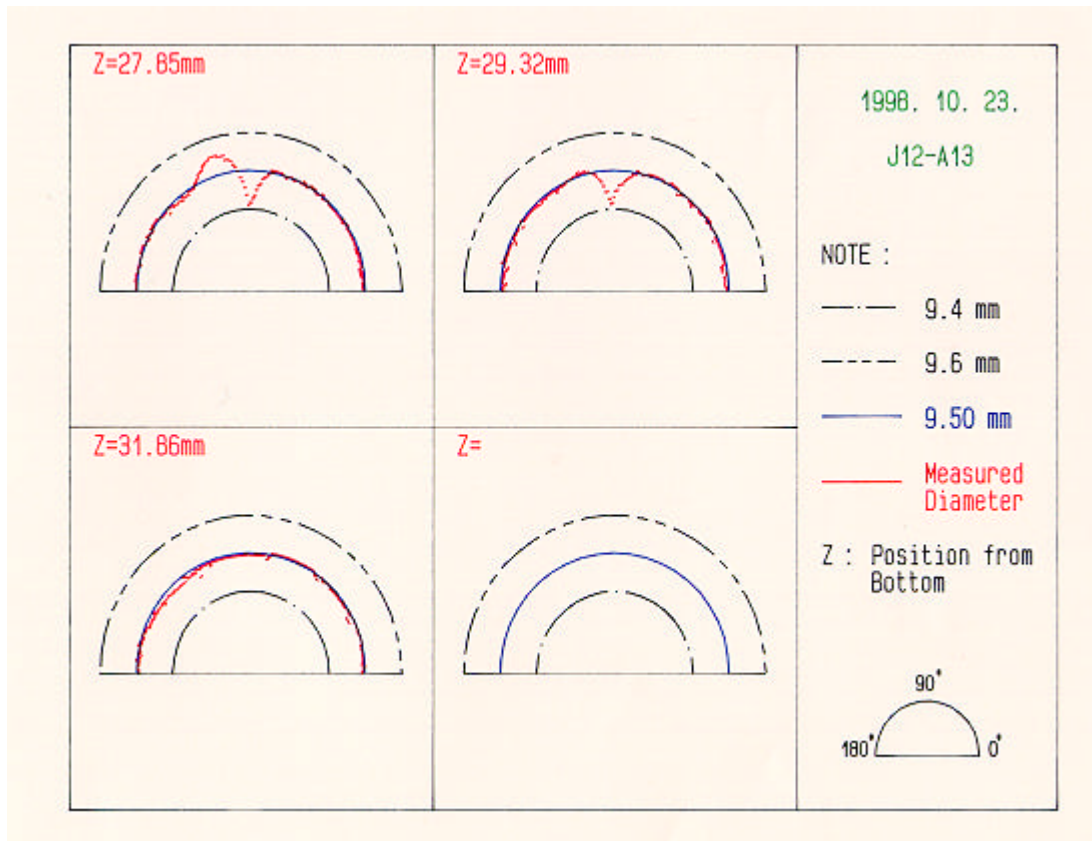


5. J09-L01

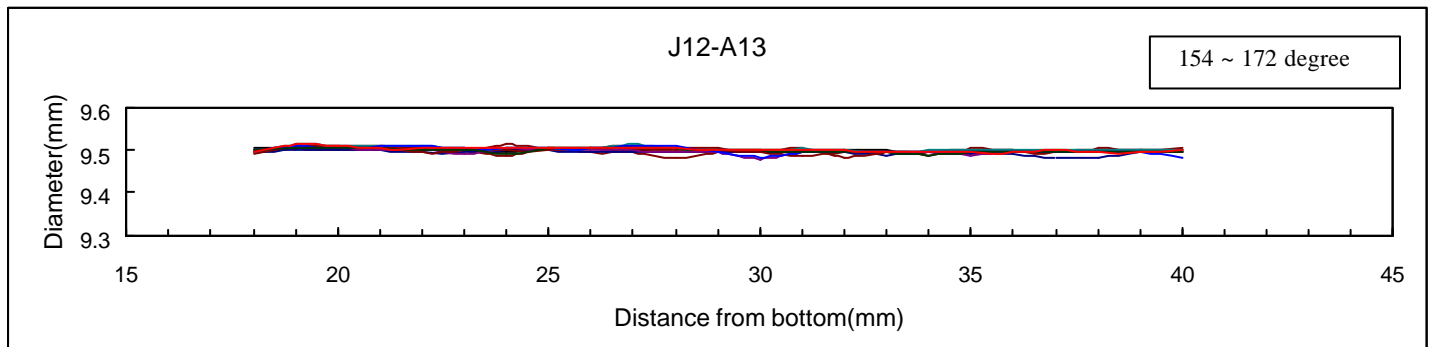
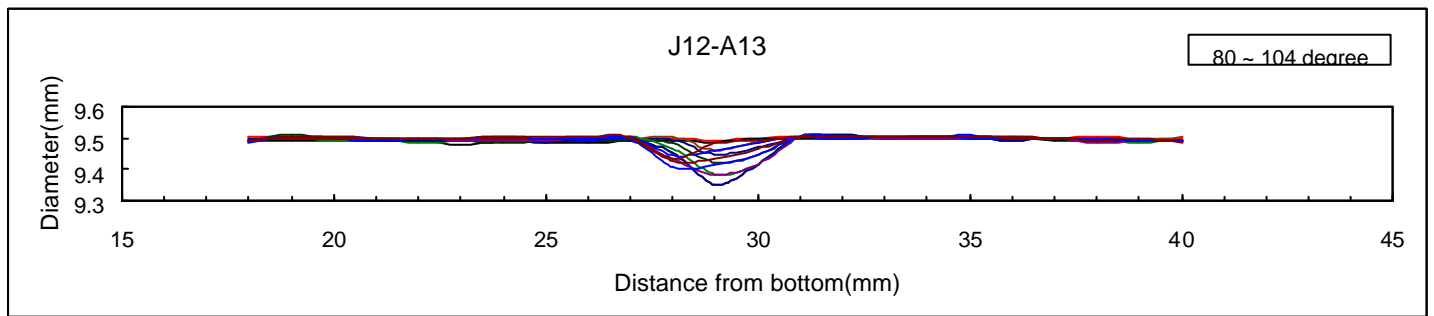


6. J09-L01

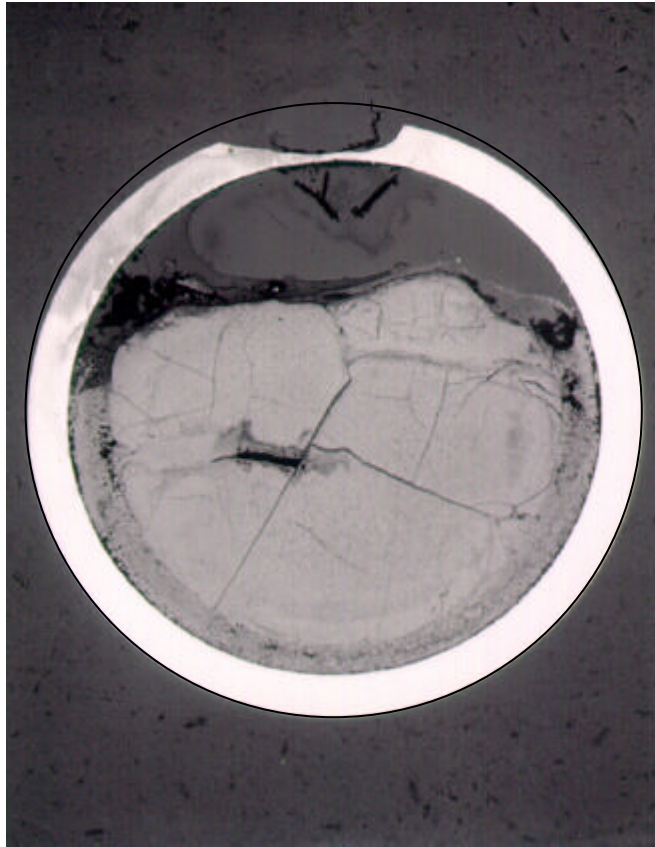




7. J12-A13



8. J12-A13



9. J09-L01