

MRP Materials Reliability Program _____ MRP 2008-014
(via email)

March 4, 2008

U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Washington, DC 20555-0001
ATTN: Al Csontos and Bob Hardies

Reference: MRP 2008-012 “Examination Results on Nozzles from removed St Lucie Pressurizer with attachment St. Lucie Pressurizer Nozzle DM Weld Examination Project Internal Office Report”

Dear Al and Bob:

As you know during our manual examinations of the St Lucie nozzles we did acquire some rough profile information on “A” pressurizer safety nozzle dissimilar metal weld circumferential indication. Please find attached the results of that effort. It should be noted, however, that this profile was created by taking 19 individual depth measurements and extrapolating a straight line in between them, which is not fully representative of what was noted during the actual field examination. In order to obtain a more accurate three-dimensional representation of the indication, or indications, it is recommended that an automated ultrasonic system be employed to take continuous measurements of the entire circumference of the weld. If you have any questions, please contact Craig Harrington (charrington@epri.com, 817-897-1433) or Ronnie Swain (rswain@epri.com, 704-595-2014).

Sincerely,



Christine King
Program Manager
EPRI Materials Reliability Program

Together . . . Shaping the Future of Electricity

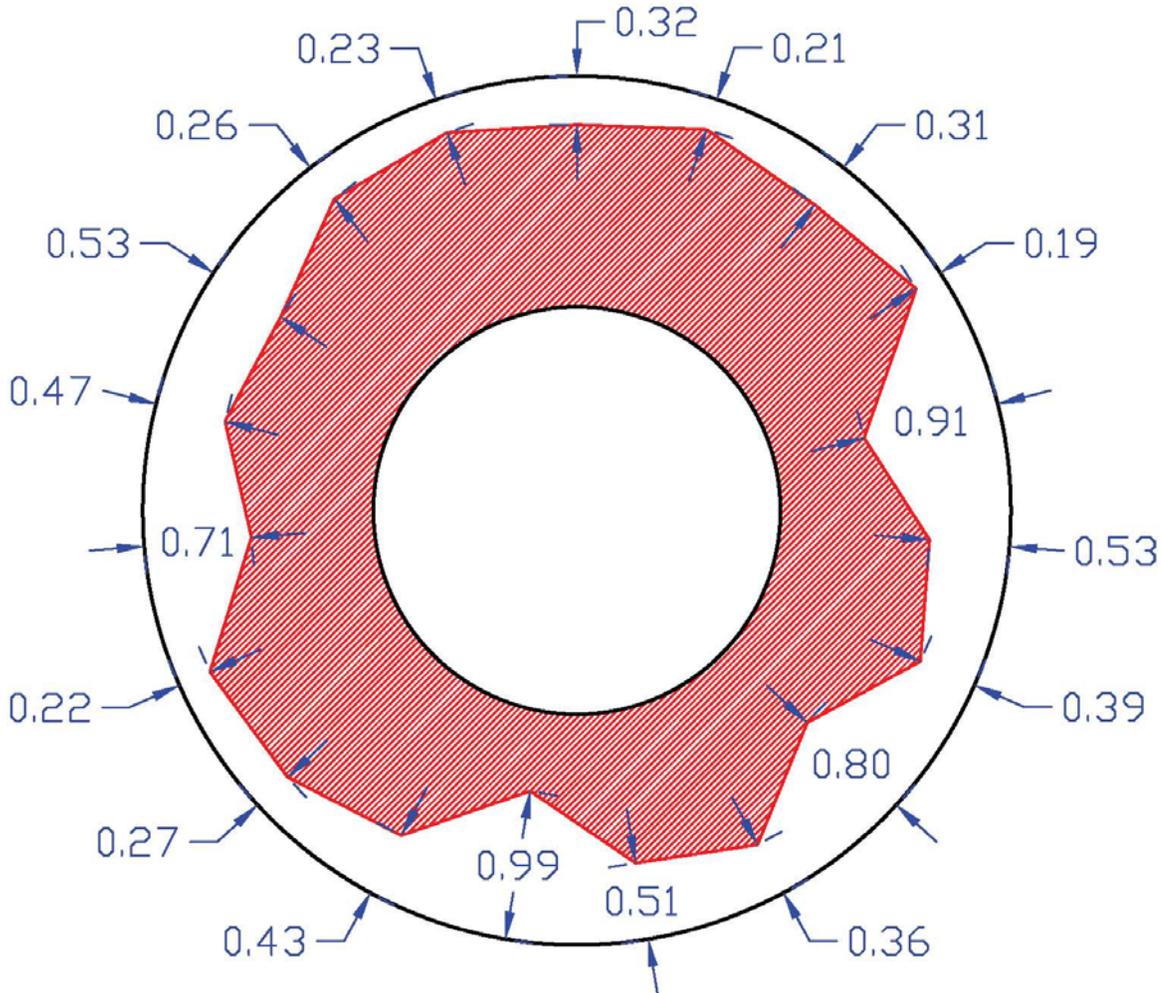
PALO ALTO OFFICE

3420 Hillview Avenue, Palo Alto, CA 94304-1338 USA • 650.855.2000 • Customer Service 800.313.3774 • www.epri.com

“A” Pressurizer Safety Nozzle Dissimilar Metal Weld
Circumferential Indication Profile

The graphic below represents a normalized side-view profile of the “A” Safety Nozzle DM Weld indication, based on ultrasonic depth measurements recorded at 1.0 inch increments around the circumference of the nozzle. The numbers, included below, represent the remaining ligament of material above the indication. The additional pages included with this graphic contain screen captures of each ultrasonic measurement location, as well as additional information that was used to derive the result.

The percentage of degraded material according to this graphic is estimated to be 64% of the total wall thickness. It should be noted, however, that this profile was created by taking 19 individual depth measurements and extrapolating a straight line in between them, which is not fully representative of what was noted during the actual field examination. In order to obtain a more accurate three-dimensional representation of the indication, or indications, it is recommended that an automated ultrasonic system be employed to take continuous measurements of the entire circumference of the weld.



“A” Safety Circumferential Indication Profile Data

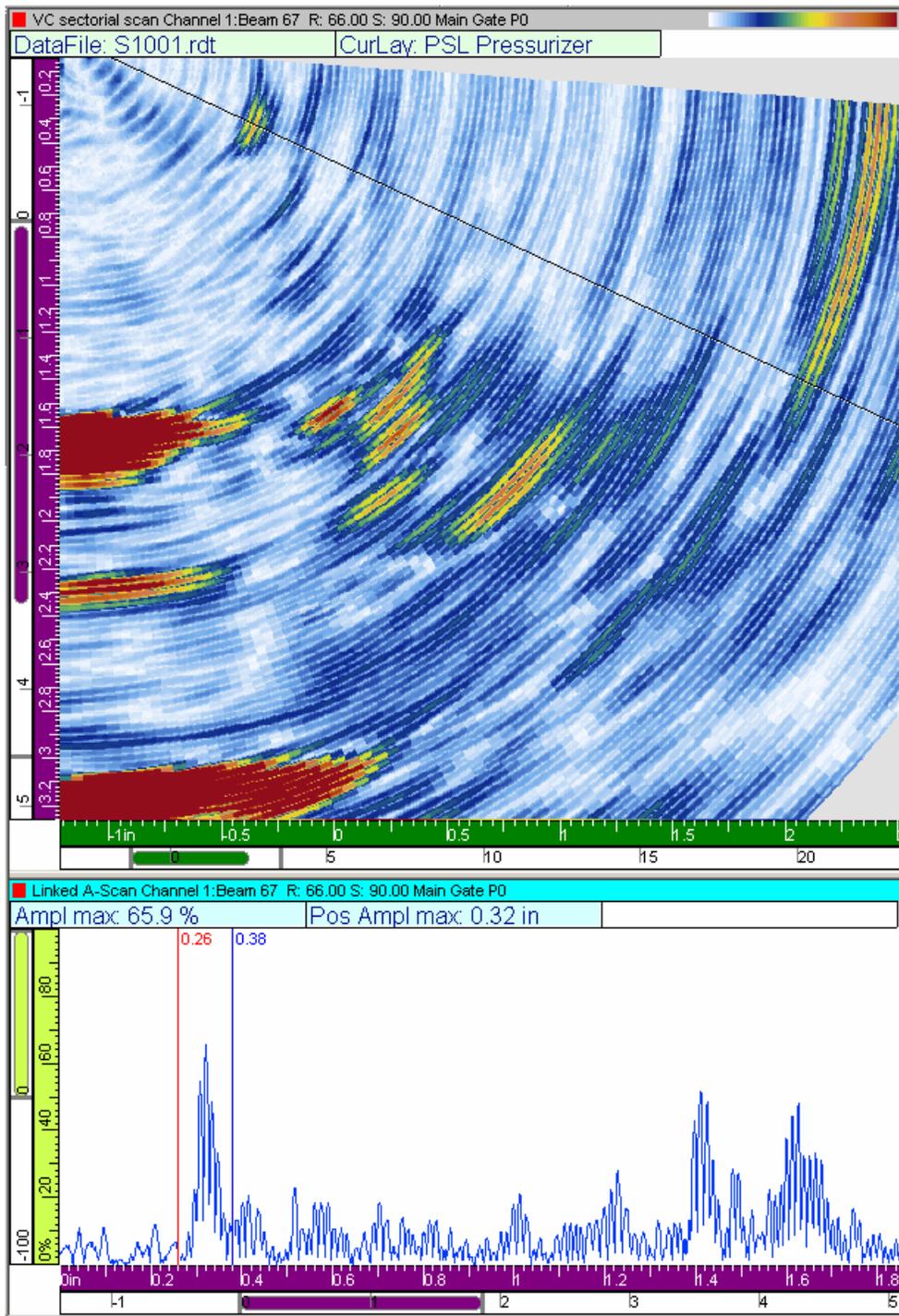
Location: At the “0” stamp (circumferential reference point)

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.38 inches

Estimated remaining ligament above the indication: 0.32 inches

Angle used for measurement: 67 degrees



“A” Safety Circumferential Indication Profile Data

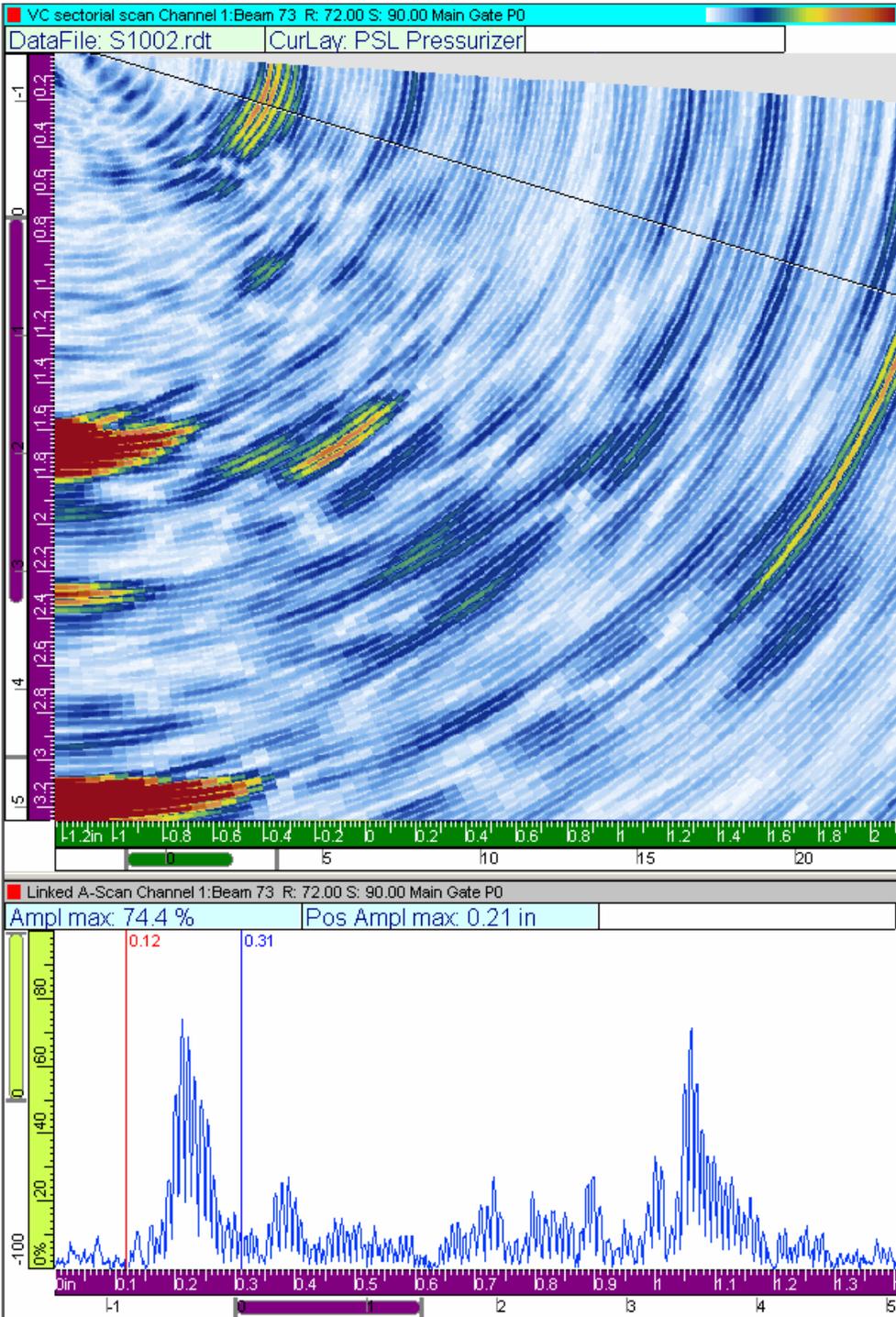
Location: 1 inch clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.49 inches

Estimated remaining ligament above the indication: 0.21 inches

Angle used for measurement: 73 degrees



“A” Safety Circumferential Indication Profile Data

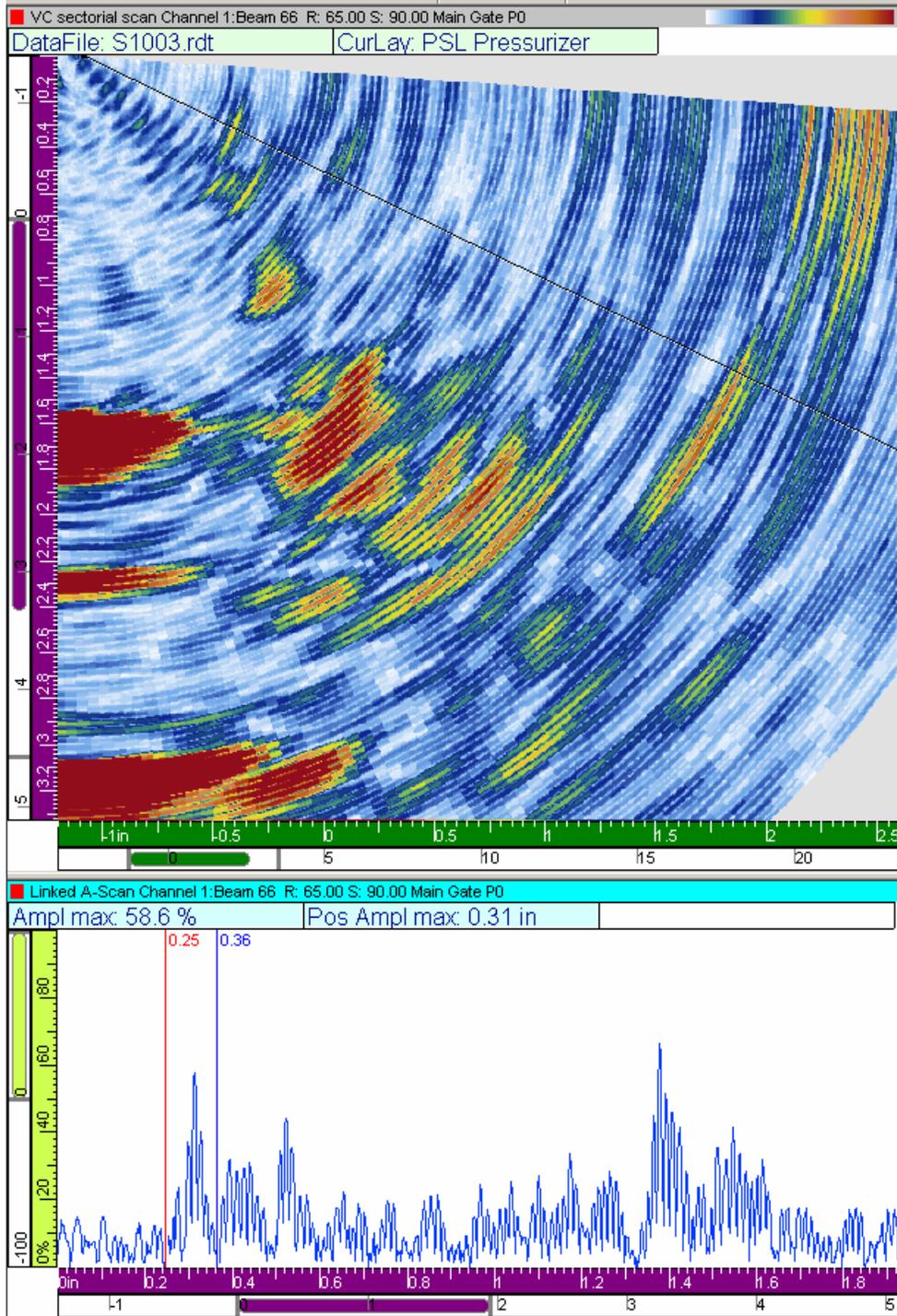
Location: 2 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.39 inches

Estimated remaining ligament above the indication: 0.31 inches

Angle used for measurement: 66 degrees



“A” Safety Circumferential Indication Profile Data

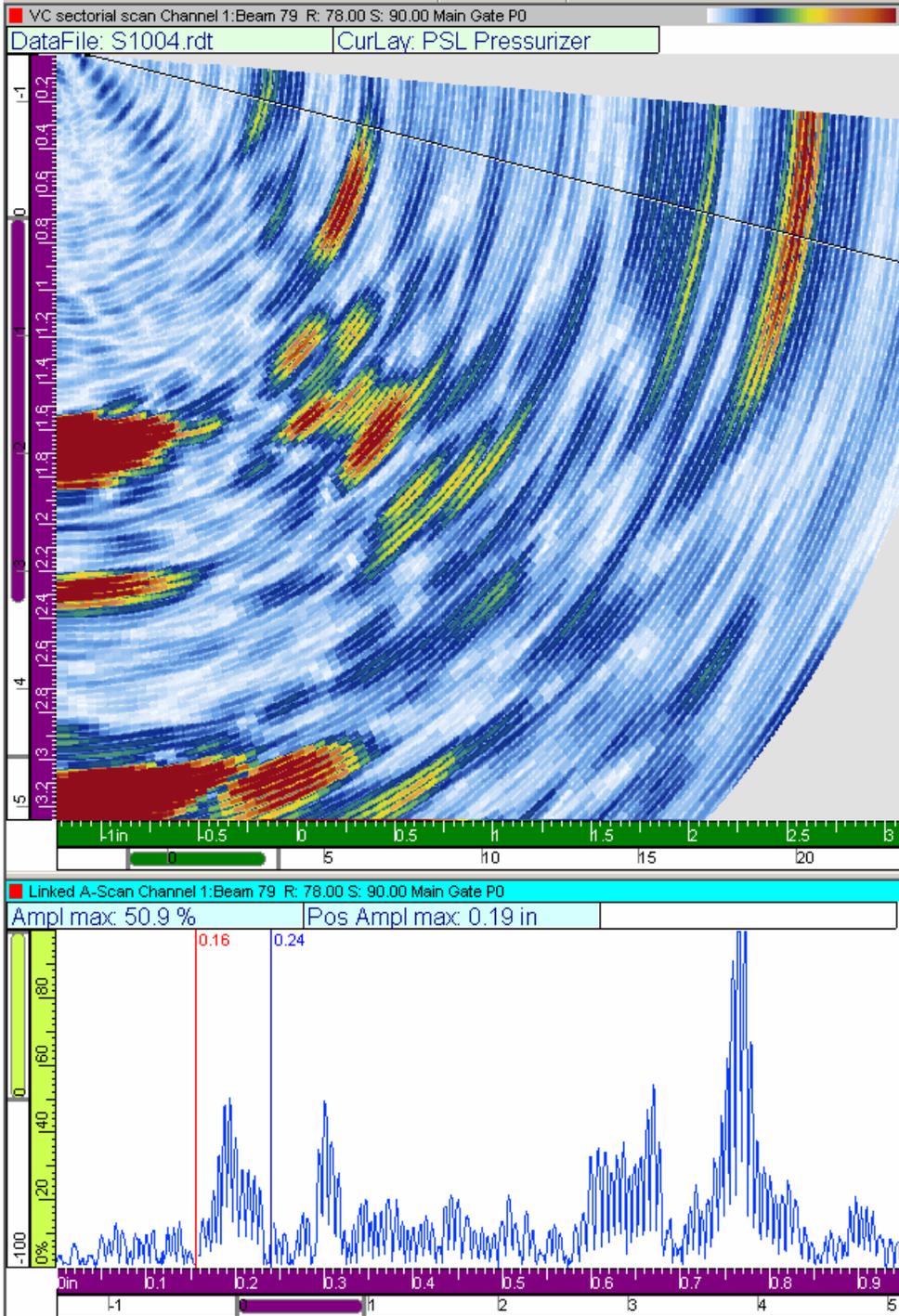
Location: 3 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.51 inches

Estimated remaining ligament above the indication: 0.19 inches

Angle used for measurement: 79 degrees



“A” Safety Circumferential Indication Profile Data

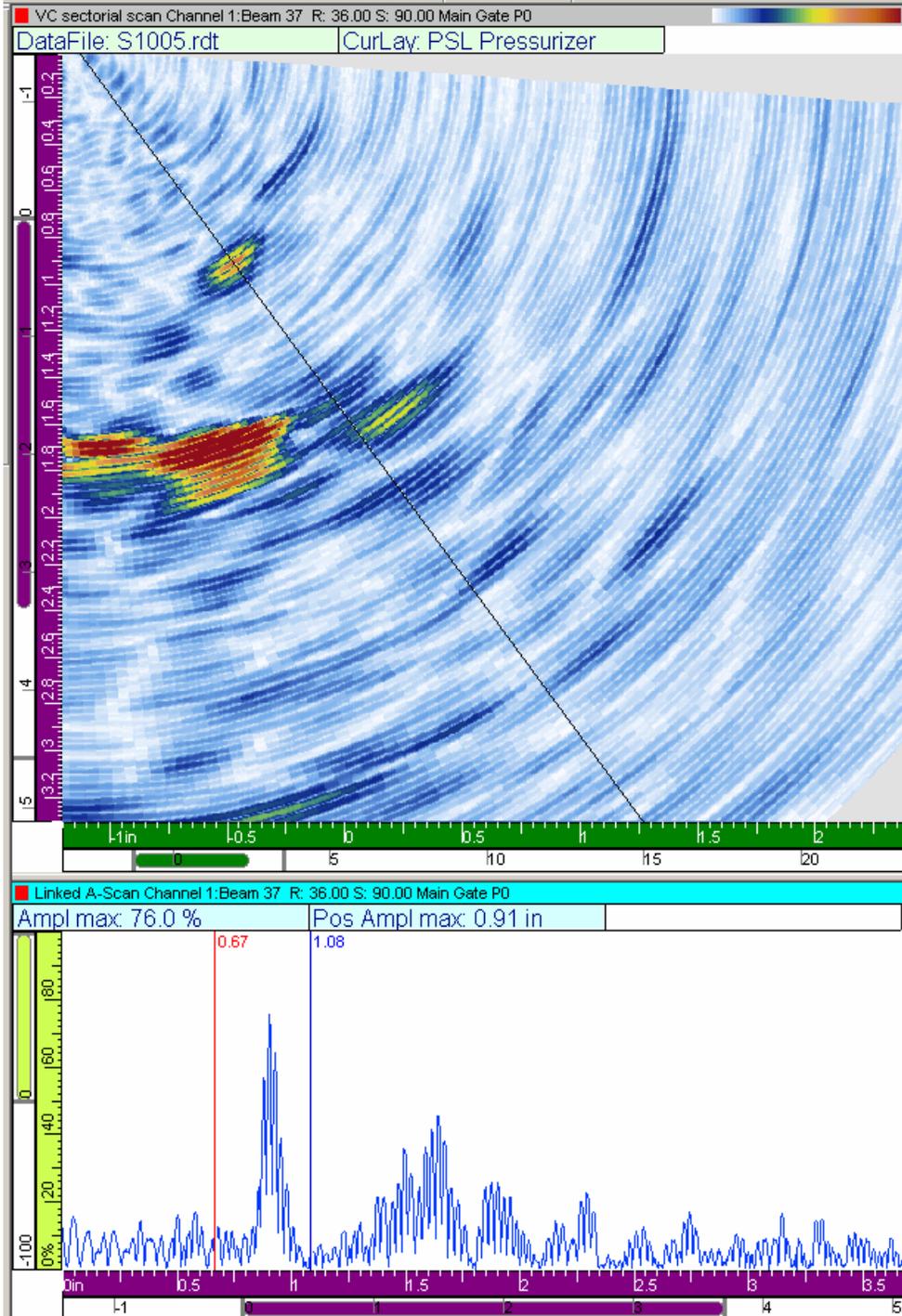
Location: 4 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 0.79 inches

Estimated remaining ligament above the indication: 0.91 inches

Angle used for measurement: 37 degrees



“A” Safety Circumferential Indication Profile Data

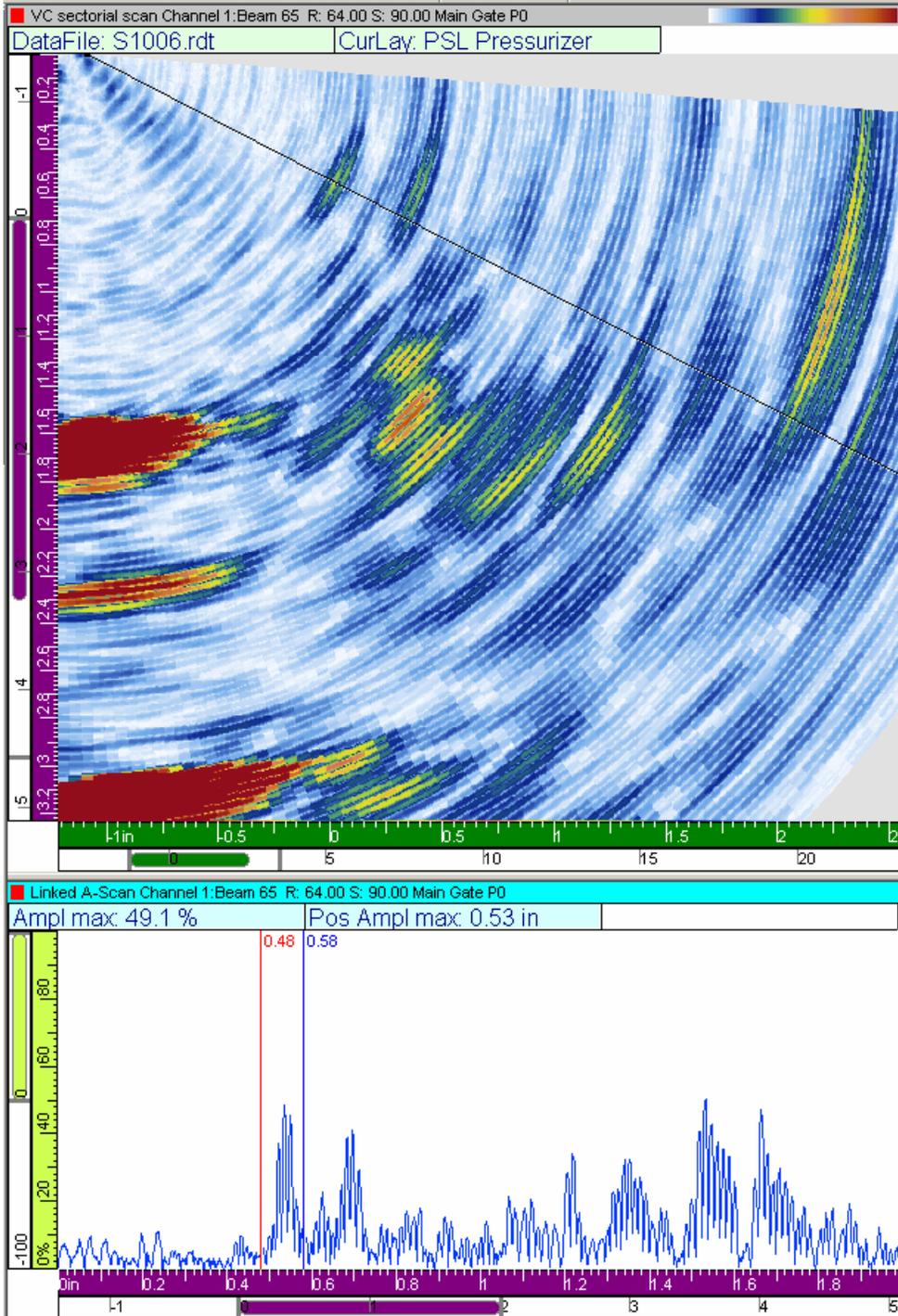
Location: 5 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.17 inches

Estimated remaining ligament above the indication: 0.53 inches

Angle used for measurement: 65 degrees



“A” Safety Circumferential Indication Profile Data

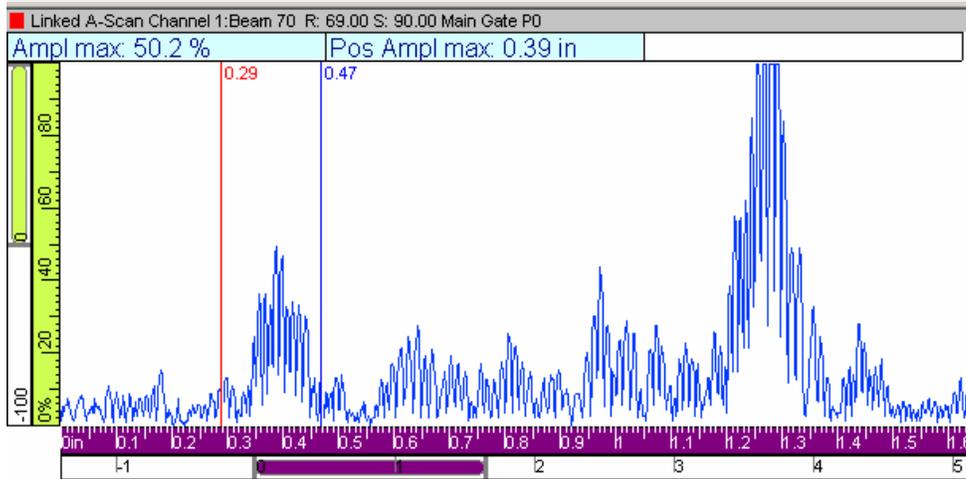
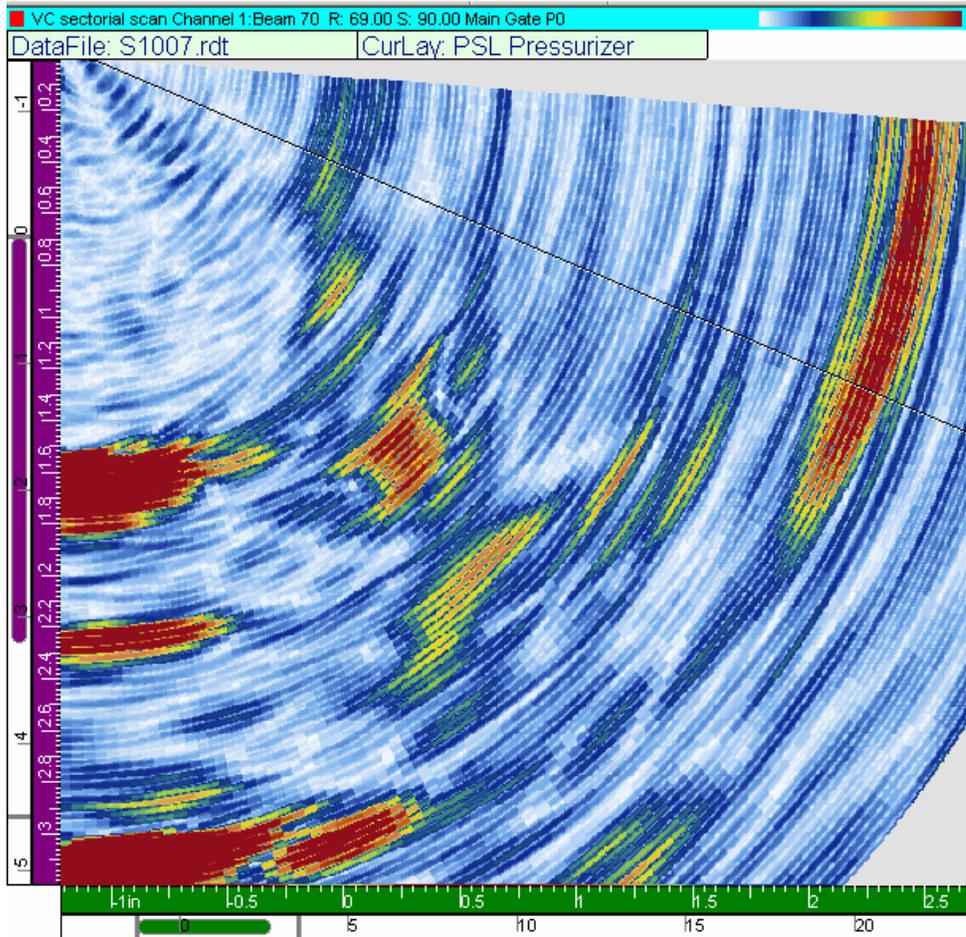
Location: 6 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.31 inches

Estimated remaining ligament above the indication: 0.39 inches

Angle used for measurement: 70 degrees



“A” Safety Circumferential Indication Profile Data

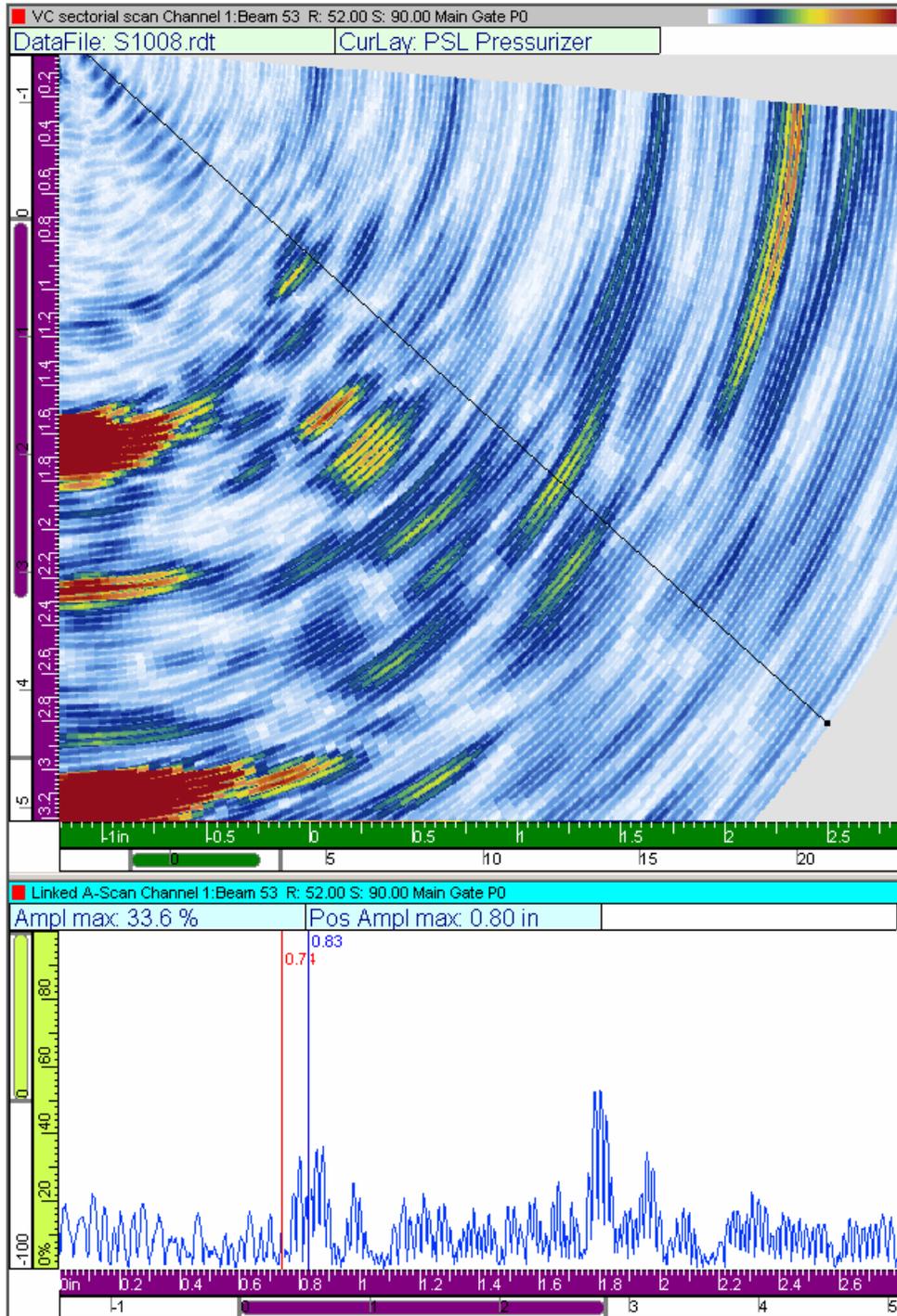
Location: 7 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 0.9 inches

Estimated remaining ligament above the indication: 0.80 inches

Angle used for measurement: 53 degrees



“A” Safety Circumferential Indication Profile Data

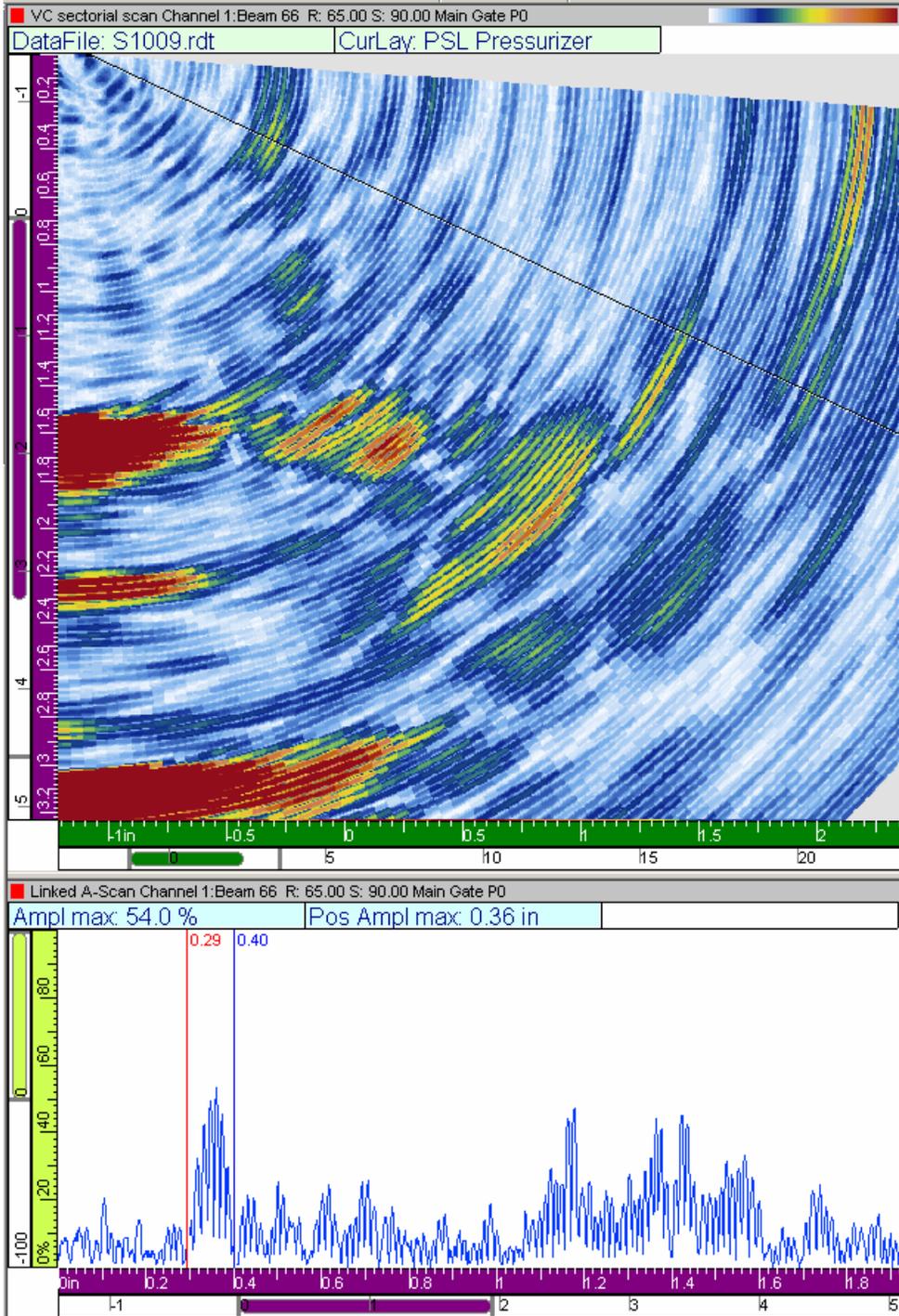
Location: 8 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.34 inches

Estimated remaining ligament above the indication: 0.36 inches

Angle used for measurement: 66 degrees



“A” Safety Circumferential Indication Profile Data

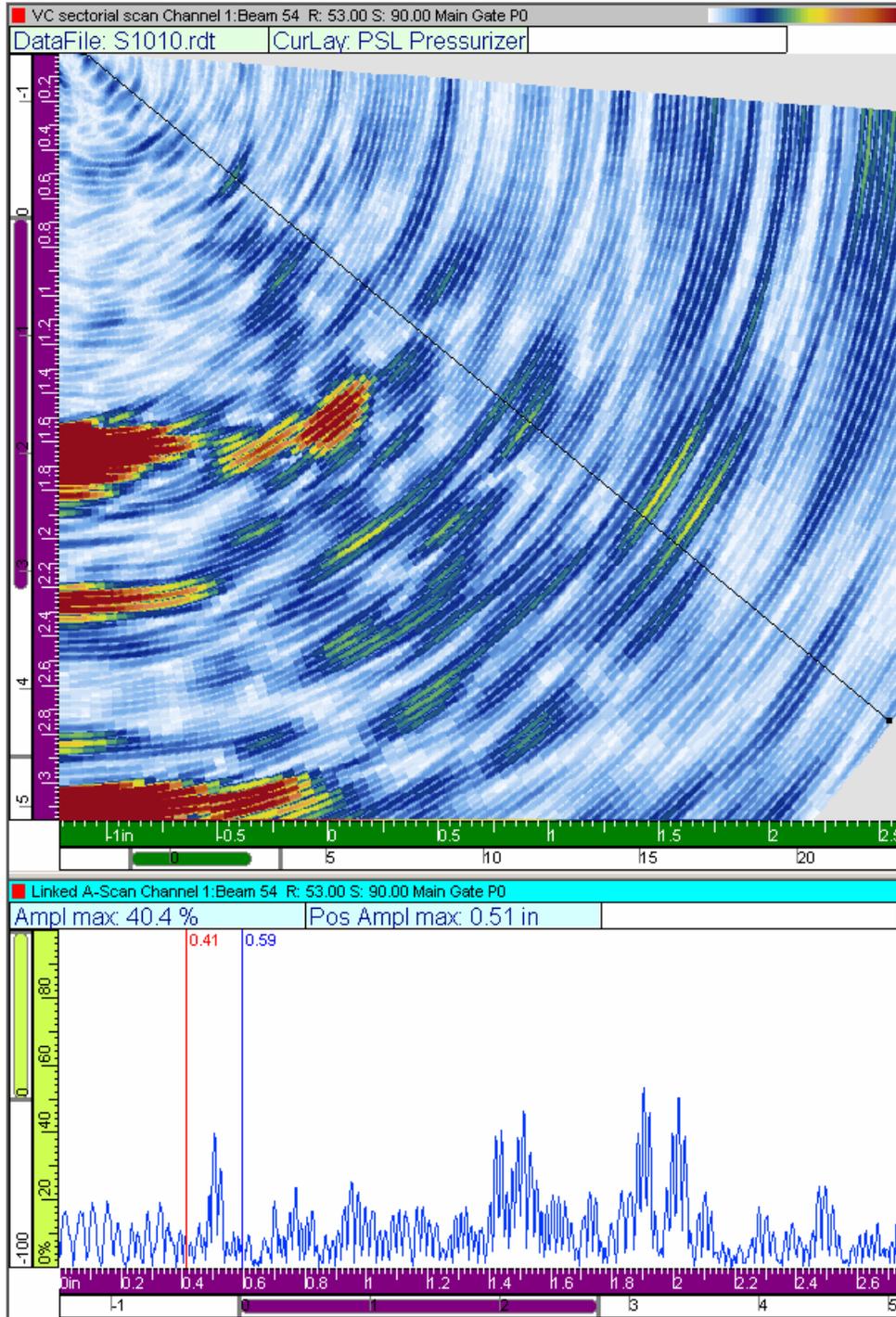
Location: 9 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.19 inches

Estimated remaining ligament above the indication: 0.51 inches

Angle used for measurement: 54 degrees



“A” Safety Circumferential Indication Profile Data

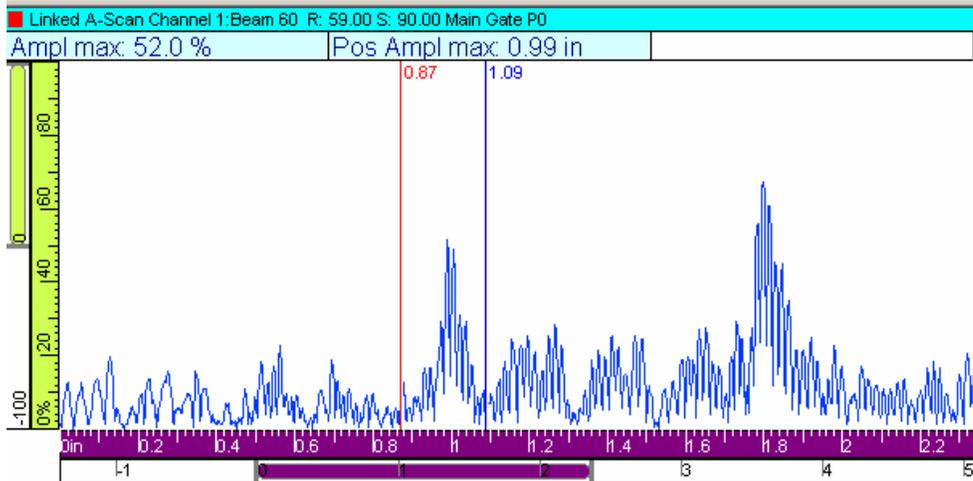
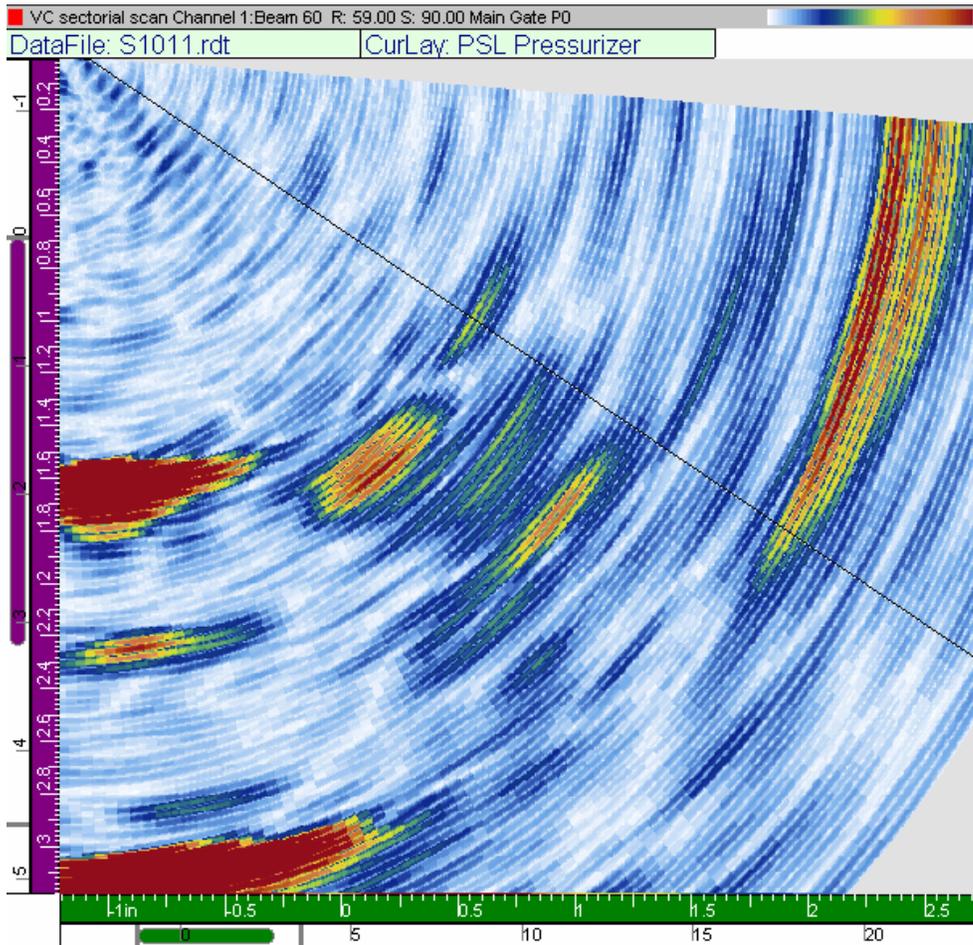
Location: 10 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 0.71 inches

Estimated remaining ligament above the indication: 0.99 inches

Angle used for measurement: 60 degrees



“A” Safety Circumferential Indication Profile Data

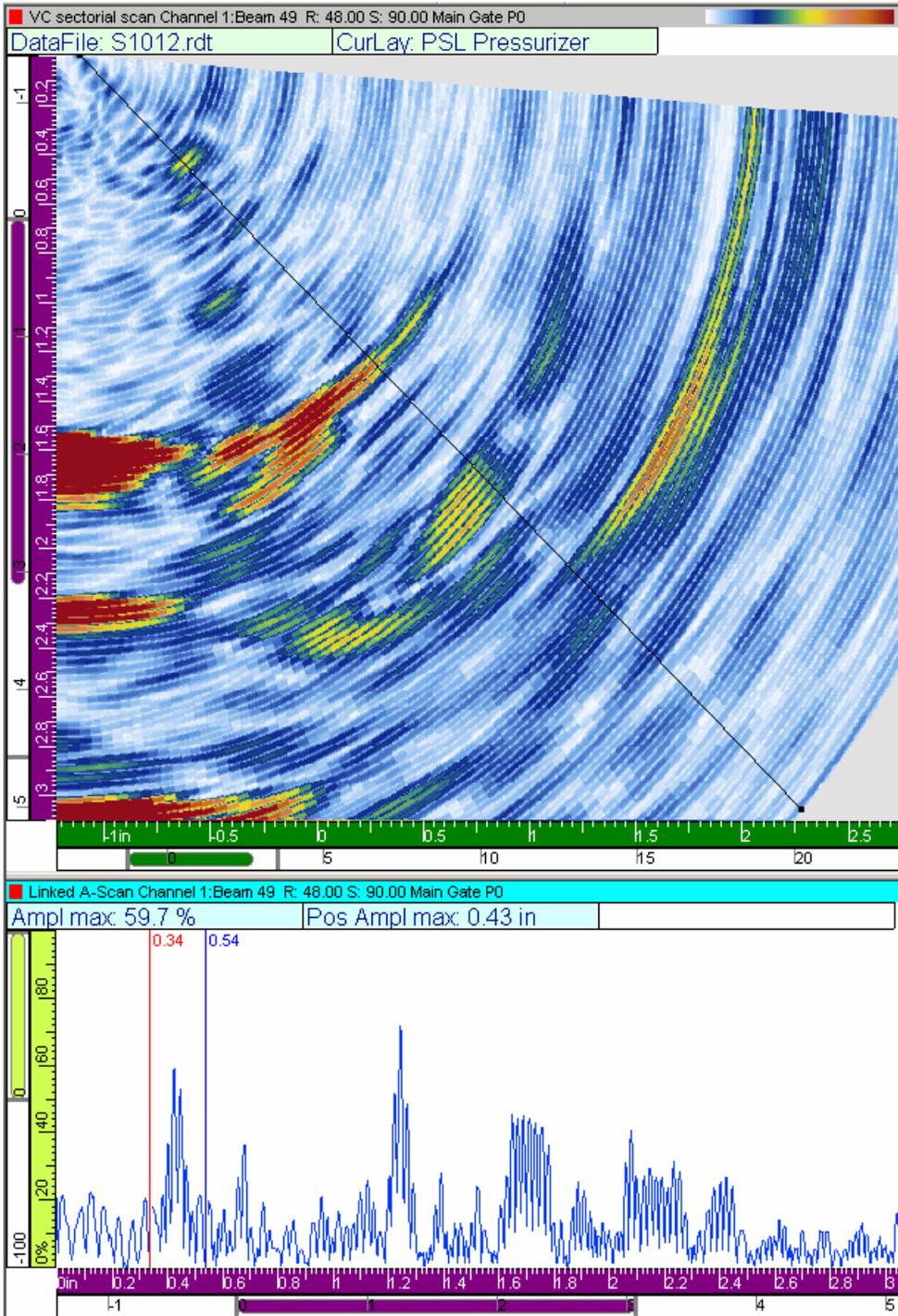
Location: 11 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.27 inches

Estimated remaining ligament above the indication: 0.43 inches

Angle used for measurement: 49 degrees



“A” Safety Circumferential Indication Profile Data

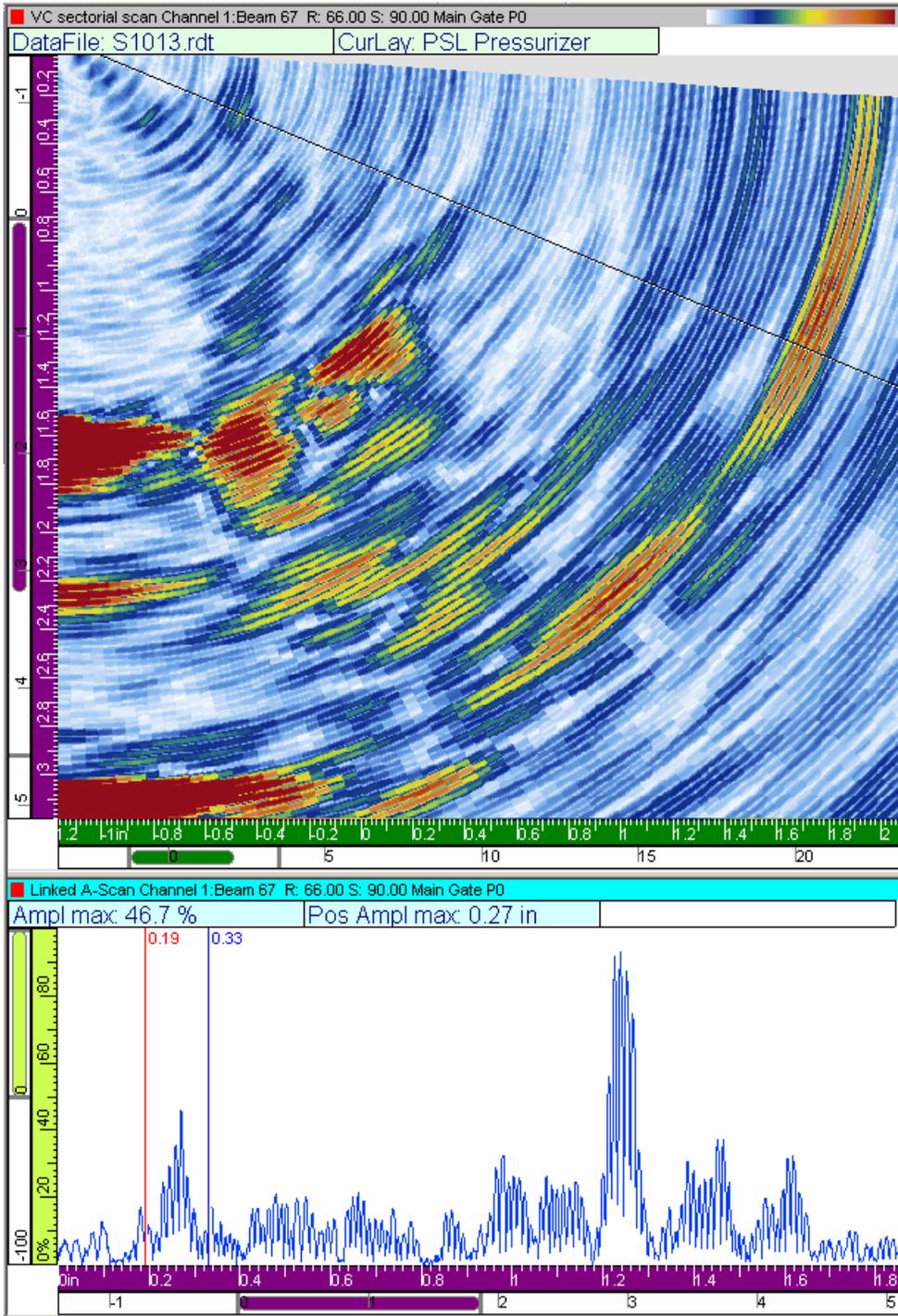
Location: 12 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.43 inches

Estimated remaining ligament above the indication: 0.27 inches

Angle used for measurement: 67 degrees



“A” Safety Circumferential Indication Profile Data

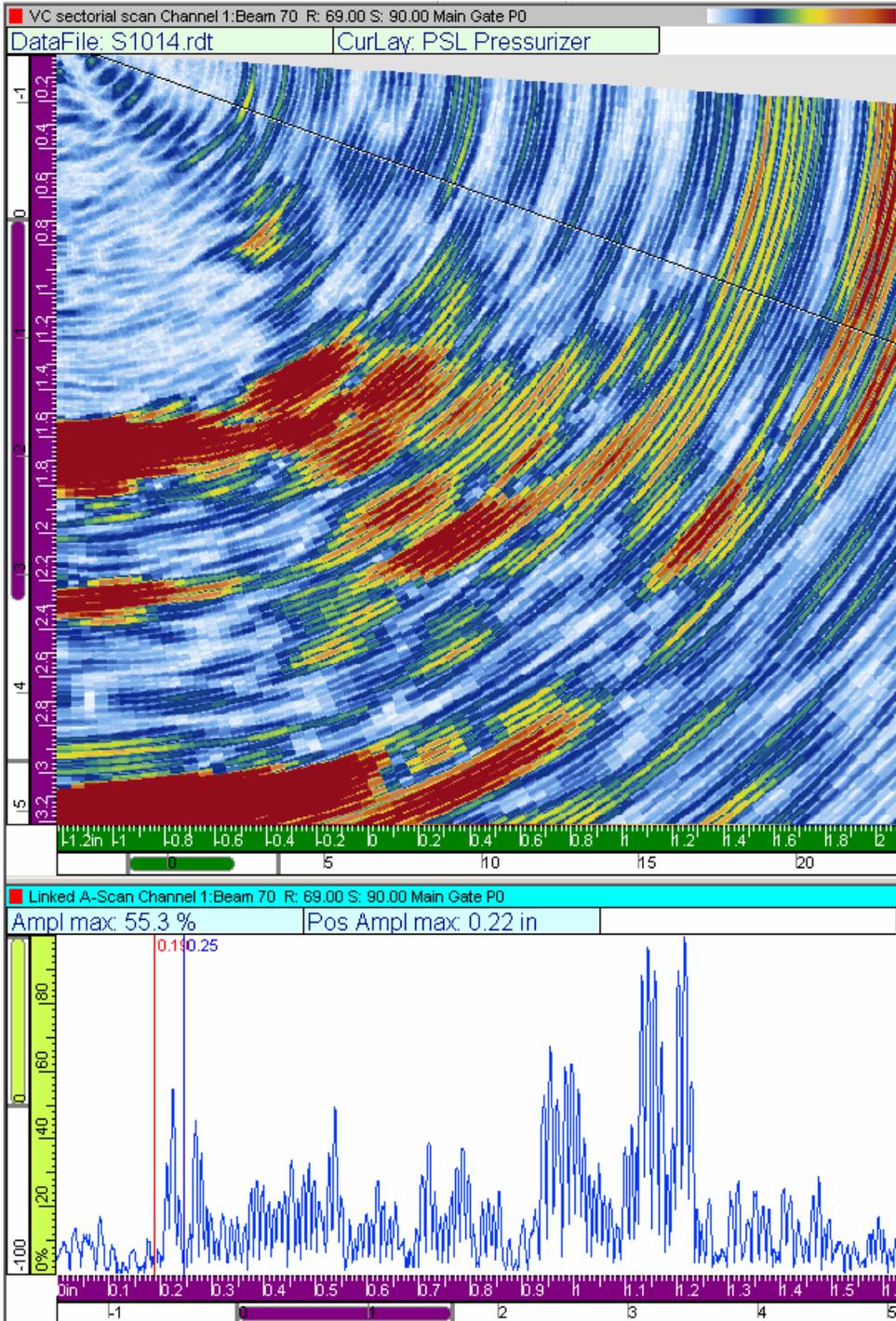
Location: 13 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.48 inches

Estimated remaining ligament above the indication: 0.22 inches

Angle used for measurement: 70 degrees



“A” Safety Circumferential Indication Profile Data

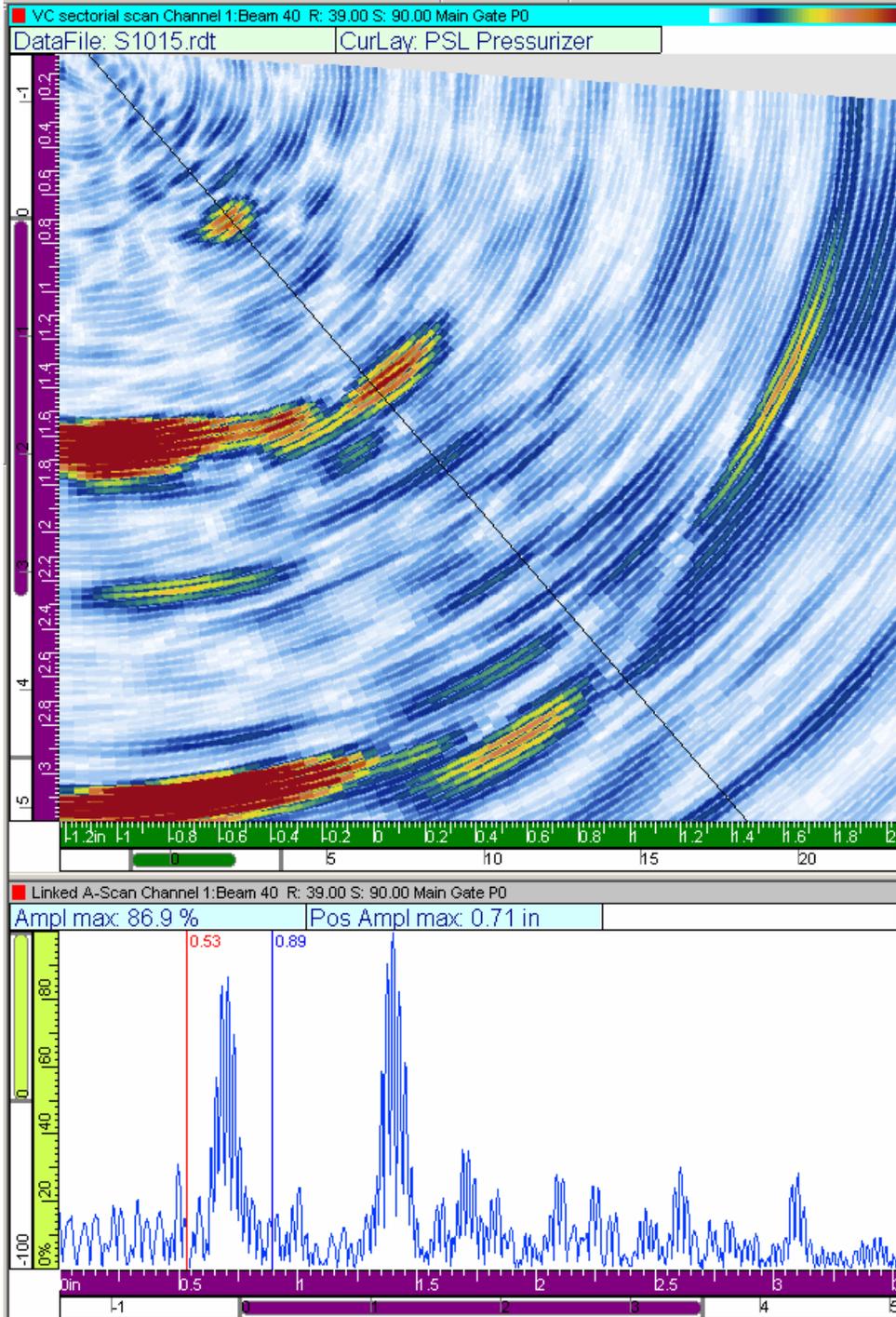
Location: 14 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 0.99 inches

Estimated remaining ligament above the indication: 0.71 inches

Angle used for measurement: 40 degrees



“A” Safety Circumferential Indication Profile Data

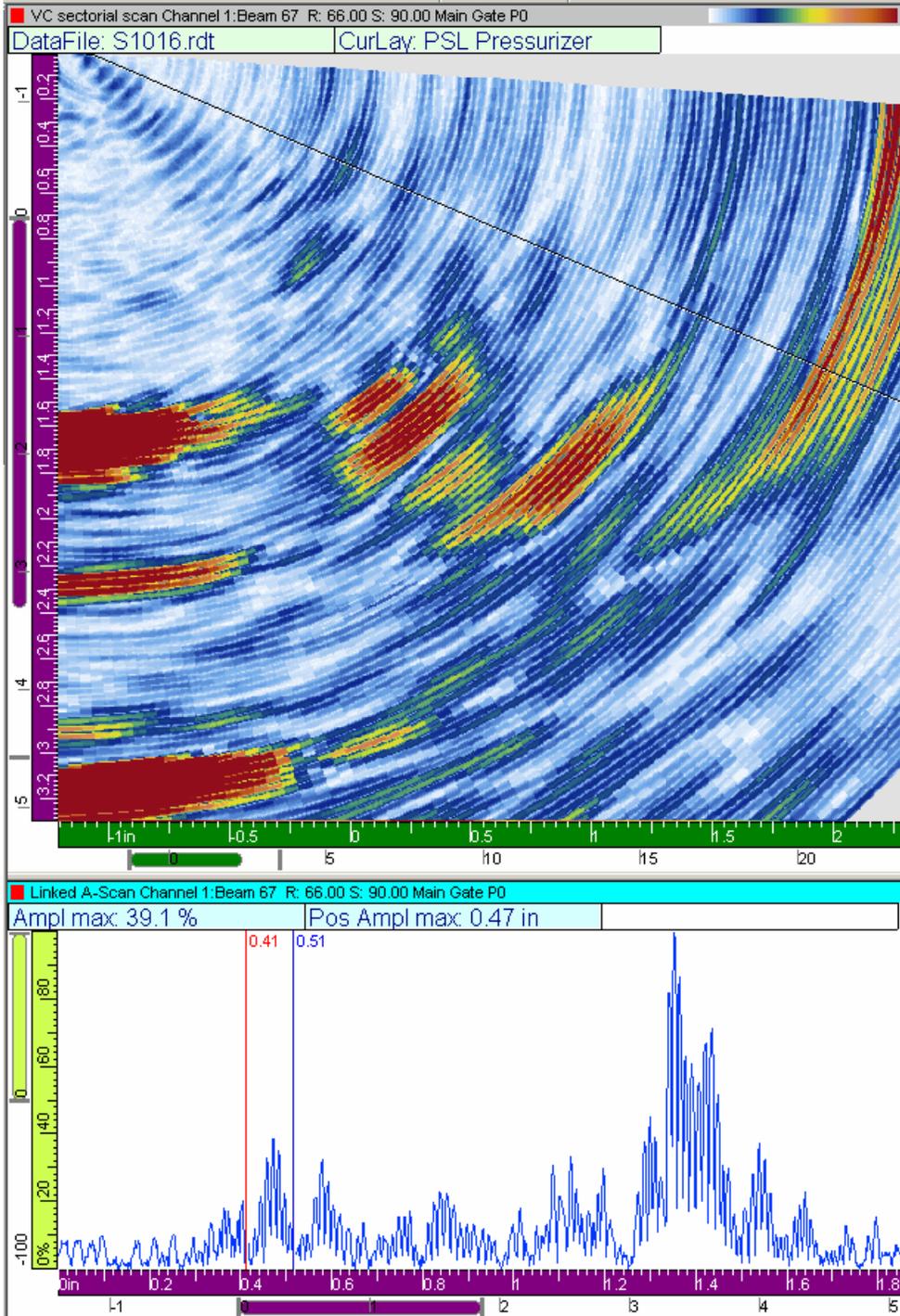
Location: 15 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.23 inches

Estimated remaining ligament above the indication: 0.47 inches

Angle used for measurement: 67 degrees



"A" Safety Circumferential Indication Profile Data

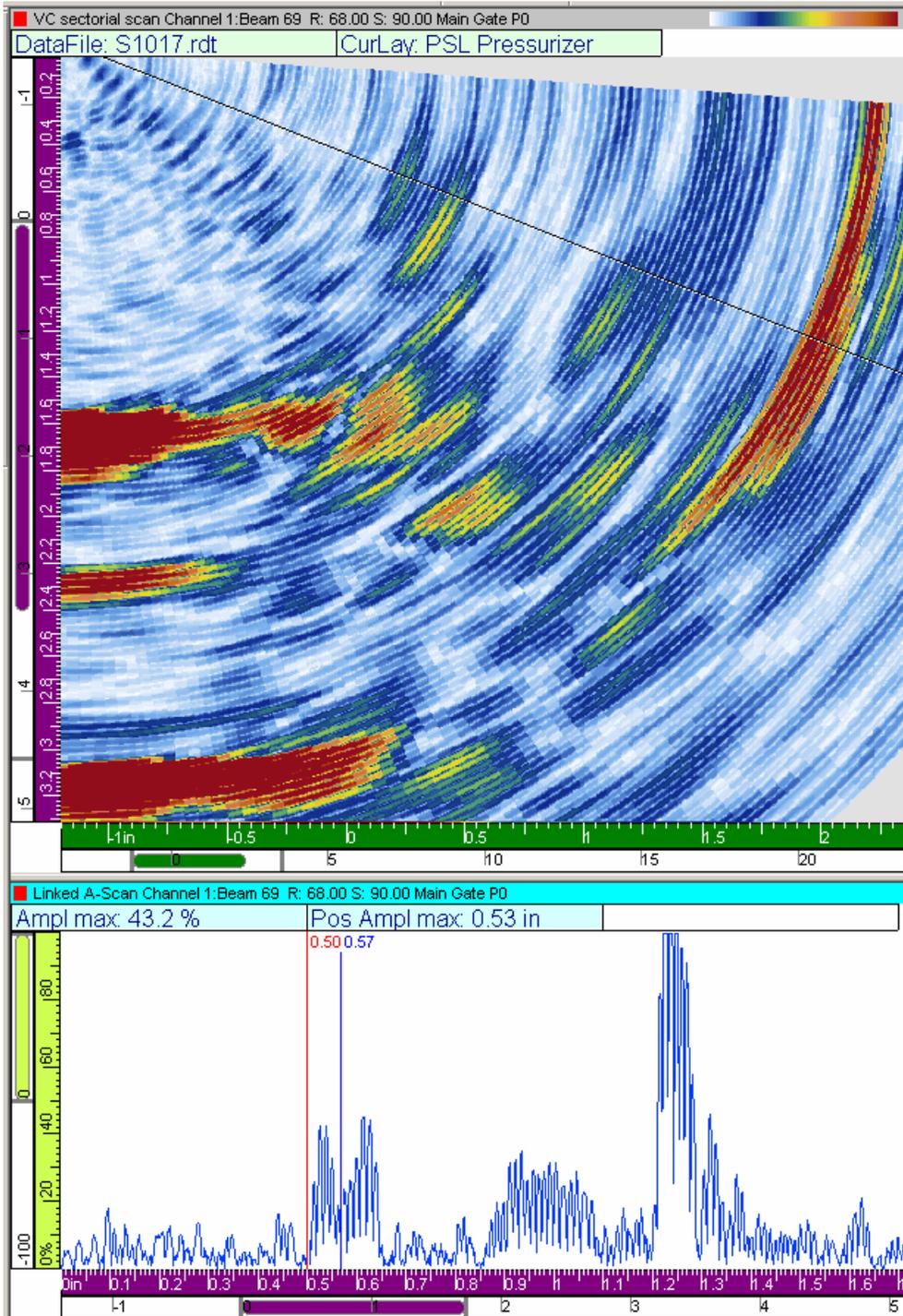
Location: 16 inches clockwise from "0" stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.17 inches

Estimated remaining ligament above the indication: 0.53 inches

Angle used for measurement: 69 degrees



“A” Safety Circumferential Indication Profile Data

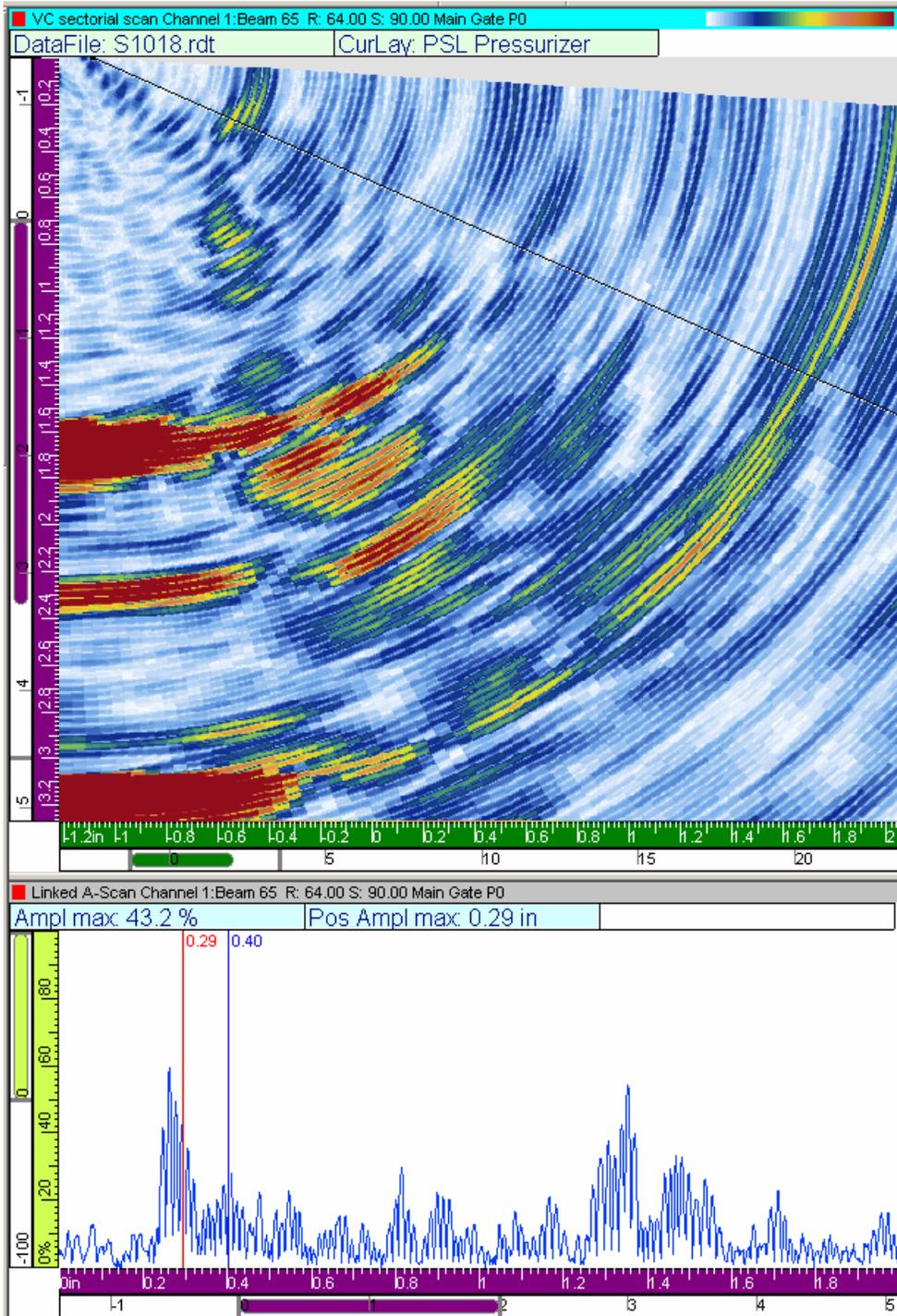
Location: 17 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.41 inches

Estimated remaining ligament above the indication: 0.29 inches

Angle used for measurement: 65 degrees



“A” Safety Circumferential Indication Profile Data

Location: 18 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.47 inches

Estimated remaining ligament above the indication: 0.23 inches

Angle used for measurement: 74 degrees

