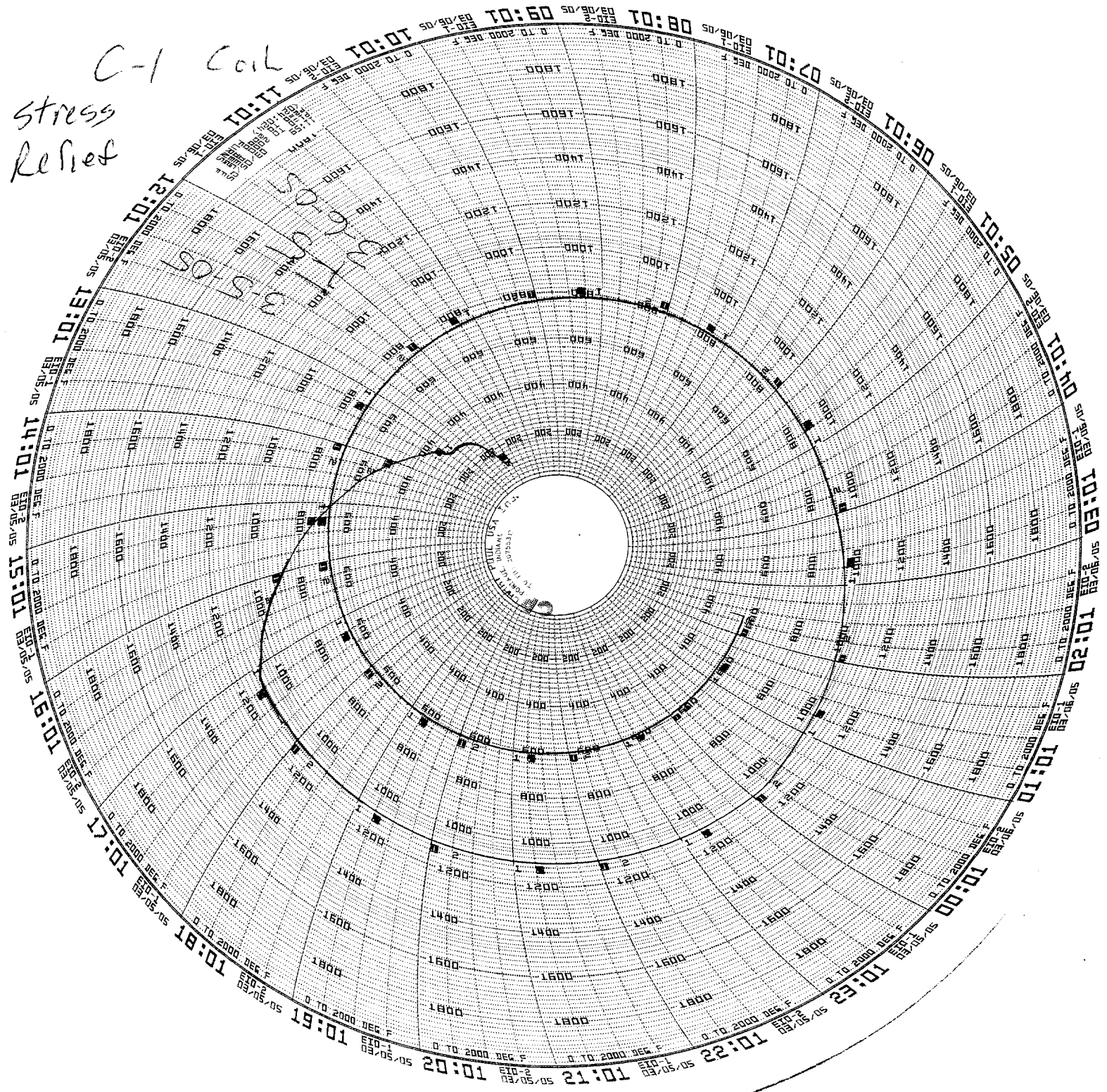


C-1 coil
stress
Relief



MetalTek*Carondelet Division - CA / PA / RGA Database***Corrective Action****1219**

Corrective Action Type FOR CASTING DISCONTINUITIES

Date 2/18/2005

CA Originator Ruud

Pattern Number: C-1 Coil

Description of Defect / Non-Conformance

96 major weld defects found in the C-1 RT1 coil casting. Two defects were on opposite sides of a wall and after excavation resulted in a through wall defect requiring repair. See CA 1226.

Root Cause : Incorrect parameter used during solidification modeling at ESI Group. They used 75% fraction solid cutoff as a feeding criterion. This made the simulation result look like the casting fed correctly with the rigging that was used.

Corrective Action: Weld upgrade C1 casting. Welding will be performed following the approved procedure FOR WELDS <2" - WPS 10-SMAW-CF8MNMN MOD REV 1. FOR WELDS <8" - WPS 15-GMAW-CF8MNMN MOD REV 2.

Verification of Corrective Action: All repairs will be verified by the inspection method used to discover the original defect.

Preventive Action: We used the xray information from the C1 casting to re-simulate the solidification using different fraction solid cutoff numbers. A good correlation between the C1 xray results and a 50% fraction solid cutoff number was found. As of 2-18-05, we are revising the rigging to give good simulated results with a 50%fraction solid cutoff.

Verification Of Preventative Action: Radiograph C-2 coil and compare results.

Estimated Implementation Date: Prior to shipment.



Signed: CA Ruud

CC: EIO, Barry Craig, Joe Edwards, E.J. Kubick, Geoff Mergel, File

MetalTek*Carondelet Division - CA / PA / RGA Database***Corrective Action****1226**

Corrective Action Type FOR CASTING DISCONTINUITIES

Date 2/18/2005

CA Originator Ruud

Pattern Number: C-1 Coil

Description of Defect / Non-Conformance

Two defects were on opposite sides of a wall and after excavation resulted in a through wall defect requiring repair.

Root Cause : Incorrect parameter used during solidification modeling at ESI Group. They used 75% fraction solid cutoff as a feeding criterion. This made the simulation result look like the casting fed correctly with the rigging that was used.

Corrective Action: Weld upgrade C1 casting. Welding will be performed following the approved procedure FOR WELDS <2" - WPS 10-SMAW-CF8MNMN MOD REV 1. FOR WELDS <8" - WPS 15-GMAW-CF8MNMN MOD REV 2. Copper backing plates will used.

Verification of Corrective Action: All repairs will be verified by the inspection method used to discover the original defect.

Preventive Action: We used the xray information from the C1 casting to re-simulate the solidification using different fraction solid cutoff numbers. A good correlation between the C1 xray results and a 50% fraction solid cutoff number was found. As of 2-18-05, we are revising the rigging to give good simulated results with a 50%fraction solid cutoff.

Verification Of Preventative Action: Radiograph C-2 coil and compare results.

Estimated Implementation Date: Prior to shipment.



Signed: CA Ruud

CC: EIO, Barry Craig, Joe Edwards, E.J. Kubick, Geoff Mergel, File

MetalTek*Carondelet Division - CA / PA / RGA Database***Corrective Action****1251**

Corrective Action Type FOR CASTING DISCONTINUITIES

Date 3/22/2005

CA Originator Ruud

Pattern Number: C-1 Coil

Description of Defect / Non-Conformance

Two major weld defects found following verification of weld repairs. Lack of fusion was found. These are repairs of existing weld deposits.

Root Cause

Defective weld.

Corrective Action

Excavate and repair.

Verification of Corrective Action

Radiography indicated part was properly repaired.

Actual Completion and File Date: 3-22-05

Signed: CA Ruud



CC: Barry Craig, Dean Berger, E.J. Kubick, R Suria, File



Corrective Action 1300
Carondelet Division - CA / PA / RGA Database
Corrective Action Type NCR
Date 5/29/2005
CA Originator C. Ruud
Pattern Number: C-1 Coil

Description of Defect / Non-Conformance

Failed to differentiate test material on pattern/casting per the requirement of NCSX-CSPEC-141-03-07, SECTION 4.2.2.

Root Cause

Failed to communicate specification to Pattern Shop to add location identifiers to cast on test material specimens.

Corrective Action

Add location identifiers to pattern and track through testing.

Verification of Corrective Action

Verified on Coil C-2 those identifiers were present.

Preventive Action

Create Inspection and Test Plan summarizing all requirements.

Estimated Completion Date

Identifiers will be added prior to making C-2. Inspection plan by 6/15/05

Actual Completion Date

Identifiers were added 4-15-05.

A handwritten signature in black ink, appearing to read "C. Ruud". The signature is stylized with a large, looped "C" and a trailing "Q" shape.

Signed: C. Ruud

CC: Roger Broman, Barry Craig, Joe Edwards, E.J. Kubick



24

Corrective Action 1301
Carondelet Division - CA / PA / RGA Database
Corrective Action Type NCR
Date 5/29/2005
CA Originator C. Ruud
Pattern Number: C-1 Coil

Description of Defect / Non-Conformance

Failed to differentiate two directions of test material on pattern/casting per the requirement of NCSX-CSPEC-141-03-07, SECTION 4.2.2.

Root Cause

Failed to communicate specification to Pattern Shop to add cast on test material specimens in the transverse direction.

Corrective Action

Will request a deviation to eliminate requirement.

Verification of Corrective Action

N/A

Preventive Action

Create Inspection and Test Plan summarizing all requirements.

Estimated Completion Date

6/15/05

Actual Completion Date

A handwritten signature in black ink, appearing to read "C. Ruud".

Signed: C. Ruud

CC: Roger Broman, Barry Craig, Joe Edwards, E.J. Kubick