

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES 19/55

NONCONFORMANCE REPORT

Project No. 20-01402-571

NCR No. 2002-08

PART 1: DESCRIPTION OF NONCONFORMANCE:

One of the Alloy 22 weld qualification specimens CNWRA Drawing 20-01402-571-025 machined by Texas Toolmakers was not machined correctly. A detailed description of the non conformance items is provided below:

1. All plates: The 1.00 inch dimension (plate thickness) was not machined. Thickness of machined specimens was left as the nominal plate thickness.
2. Plate S/N 003: The 0.250 inch dimension was not recorded on the dimensional inspection for plate S/N 003.
3. Plate S/N 006: Thermocouple bore was machined too deep and has nearly penetrated through the weld joint surface.

Initiated by: Darrell S. Dunn

Date: 7/16/2002

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION

Disposition:

Accept specimens as is.

Basis of Disposition:

The missing dimensional inspection for the 0.250 inch dimension on plate S/N 003 (diameter of thermocouple hole) is an oversight during the dimensional inspection of this part. The nominal plate thickness which is slightly greater than 1.00 inch is acceptable for the weld procedure qualification specimens. Plate S/N 006 was rejected on the basis of the incorrectly machined thermocouple bore. Repair of weld procedure qualification specimen S/N 006 will be performed if needed and all dimensions will be reinspected and documented.

Action to Correct Nonconformance:

The three items listed in Part 1 were discussed with staff at Texas Toolmakers (Mike and Casey Ridgway).

Item #1: Plate thickness is not normally not machined for this type of specimen. Corrections to CNWRA Drawing 20-01402-571-25 are recommended. The 1.00 +/- 0.010 inch dimension for plate thickness should be changed to 1 inch nominal thickness.

Item #2: The 0.250" hole diameter will be verified by SwRI staff and documented on dimensional inspection for Plate S/N. 003.

Item #3: No corrective action will be taken at this time. Plate will be tagged indicating out of tolerance dimensions. If weld procedure qualification specimen S/N 006 is used, it will be repaired and re machined. All repair work will be performed at SwRI or a vendor on the SwRI Approved Supplier List and documented.

Target date for completion: 7/19/2002

Proposed by: Darrell S. Dunn

Date: 7/16/2002

PART 3: APPROVAL

Element Manager:

Date:

7/16/2002

Director of QA:

Date:

7/17/2002

Comments/Instructions:

<p><i>Item 1 - Drawing 20-1402-571-25 has been revised to reflect a 1" nominal thickness.</i></p> <p>PART 4: CLOSE OUT:</p> <p><i>Comments: Item #2 - Hole diameters were measured and found acceptable. Item #3 - Specimen 06 will not be used to qualify a welding procedure and will not be used for testing purposes. Ref Memo D. Dunn to B. Malita 3/24/03</i></p> <p>Verified by: <i>Mark R. Ehnstom</i> Date: <i>3/24/03</i></p>	<p>Distribution:</p> <p><i>20/55</i></p>
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Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

Alloy 221 Specimen
CNWRA Drawing 20-01402-571-25
All Dimensions ± 0.010 "
unless otherwise specified
Note: Detail A on Page 2

Page 1 of 2

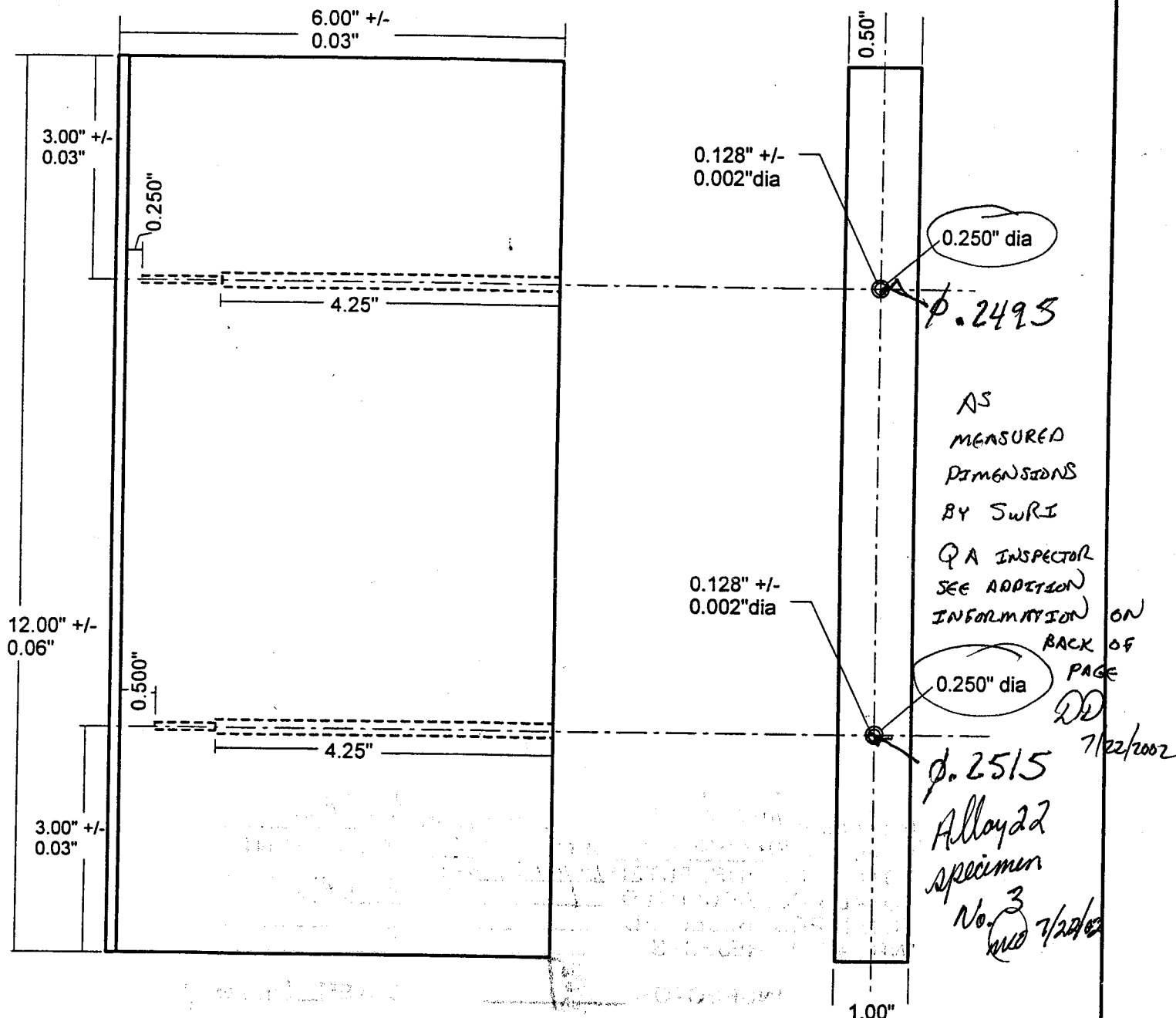
To be completed at time of order:

Material: ALLOY 22 34/55

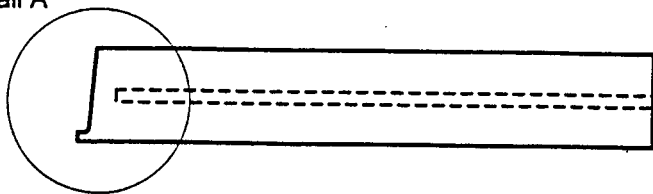
Heat: 2277-1-3164

Specimen Orientation: _____

Other: _____



Detail A



Darrell Dunn 5/22/2002
Initiated by D. Dunn Date

V. Jain 5/22/02
Reviewed by V. Jain Date

B. Mabrito 5/22/2002
QA Approval B. Mabrito Date



JUL 18 2002

Bruce Mabrito

From: Darrell Dunn [ddunn@cnwra.swri.edu]
Sent: Monday, March 24, 2003 11:05 AM
To: Bruce Mabrito; 'mark ehnlstrom'
Subject: Repaired weld specimen

The repaired weld specimen which was the subject of NCR 2002-08 will not be used to qualify a welding procedure. The plate will be used as a practice piece for a fabrication shop to weld Alloy 22 with the current waste package weld joint design. The welded specimen will not be used for testing. The quality of the weld will be evaluated using radiographic testing (RT).

Darrell S. Dunn
Center for Nuclear Waste Regulatory Analyses
Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238-5166
Phone: 210-522-6090
Fax: 210-522-5184
e-mail: ddunn@swri.org



PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

PURCHASING

REQUISITION DATE

5/22/02

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

610121

SUGGESTED OR PREVIOUS SUPPLIER

Texas Toolmakers

DELIVER TO

Darrell Dunn/bldg. 57

PURCHASING SELECTED SUPPLIER

CITY, STATE

San Antonio, TX

SHIP VIA

ATTN:

Mike Ridgway

F.O.B.

SUPPLIER CODE

ATTN

PHONE

494-3651

FAX

494-6139

TERMS

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	6	EA	C22 weld procedure qualification						
			specimens CNWRA drawing 20-01402-571-025	20	01402	571	100	6/12/02	749.00
			Quality & Technical Requirements: Specimens as per CNWRA drawing 20-01402-571-025. Dimensional inspection per dimensions and tolerances identified in CNWRA drawing 20-01402-571-025 is required.						

INTERNAL NOTES TO BUYER

SPECIAL INSTRUCTIONS TO SUPPLIER

TOTAL

1. Government Project? ☒ YES ☐ NO

IF YES, CHECK THE APPROPRIATE PROPERTY TYPE (SEE BACK FOR EXPLANATION OF PROPERTY TYPES)

a ☒ G-1 CONSUMABLEb ☐ G-2 DELIVERABLEc ☐ G-3 ACCOUNTABLE / REPORTABLE

d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?

☒ YES☐ NO2. QUALITY ASSURANCE? ☒ YES ☐ NOa ASL REQUIRED? ☒ YES ☐ NO

b QA CODES: Q11

c INSPECTION CRITERIA

P.I. to inspect upon receipt.

d QA APPROVAL (IF REQUIRED)

DATE

Mark R. Elmsstrom 5/22/02

3. SOURCING NOTES

IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFACTURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY YOUR NEED? ☒ YES ☐ NO

IF YOU HAVE SUGGESTED A SUPPLIER, AND NO OTHER SUPPLIER WILL MEET YOUR NEEDS, PLEASE ATTACH A MEMO OF EXPLANATION.

REQUESTOR'S SIGNATURE

Darrell Dunn

EXT. NO.

6090

DEPT. / DIVISION APPROVAL

DATE

5/27/01

ADMIN. APPROVAL

DATE

4. REPAIRS

a IS THIS REQ. FOR A REPAIR?

☒ YES ☐ NO

b IS THE REPAIR ON OR OFF CAMPUS?

☐ ON ☒ OFF

c IF OFF CAMPUS PROVIDE SHIPPING TICKET

NO. 21/55

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

To L Completed at time of order: 22/55
Material: ALLOY 22
Heat: 2277-1-3164
Specimen Orientation: _____
Other: _____

Other:

QA Approval B. Mabrito 5/22/02
Date

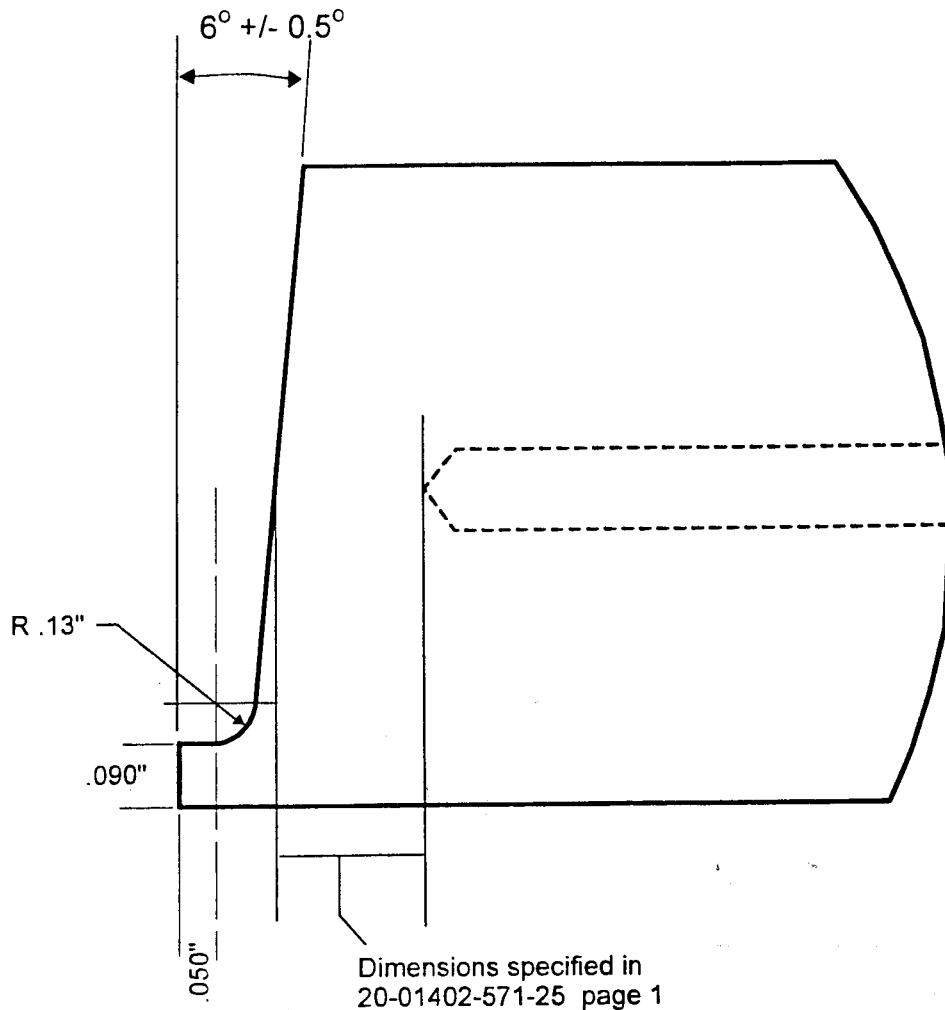
Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

Alloy 22 Weld Specimen
CNWRA Drawing 20-01402-571-25
All Dimensions ± 0.005 "
unless otherwise specified
Detail A identified on Page 1

Page 2 of 2

To be completed at time of order: 23/55
Material: ALLOY 22
Heat: 2277-1-3164
Specimen Orientation:
Other:

Detail A



Dimensions specified in
20-01402-571-25 page 1

Darrell Dunn 5/22/2002
Initiated by. D. Dunn Date

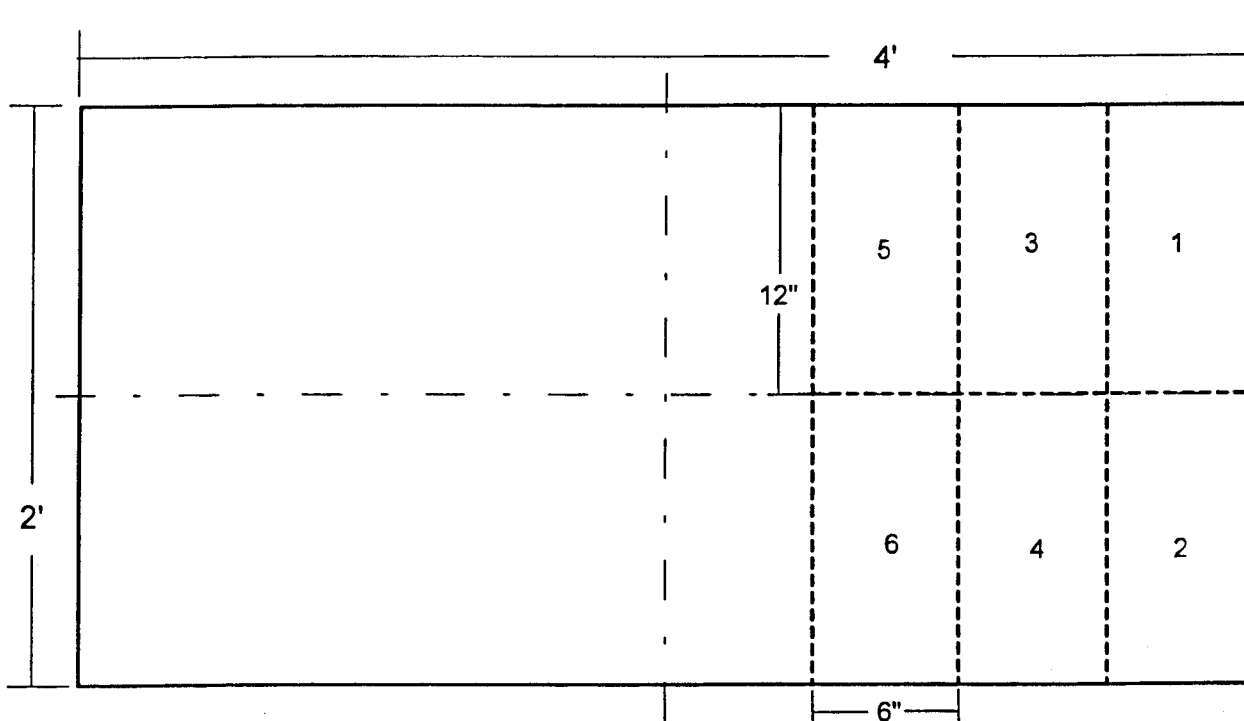
V. Jain 5/22/02
Reviewed by V. Jain Date

B. Mabrito 5/22/2002
QA Approval B. Mabrito Date

Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

Refer to drawing for weld procedure
qualification specimens
CNWRA Drawing 20-01402-571-026
No dimensional tolerances

To completed at time of order: 24/5
Material: Alloy 22
Heat: 2277-1-3164
Specimen Orientation: As Shown
Other: _____



Darrell Dunn 5/22/2002
Initiated by. D. Dunn Date

V. Jain 5/22/2002
Reviewed by V. Jain Date

B. Mabrito 5/22/2002
QA Approval B. Mabrito Date

25/55

Texas Toolmakers, Inc.

11411 E. Coker Loop / San Antonio, TX 78216

Phone: (210) 494-3651

Fax: (210) 494-6139

CUSTOMER WORK ORDER / QUOTE

Job No.:	Quote No.:	Date Opened:	Delivery Date:	Customer No.:	Job Taken/Quoted by:
	1650		2-3 WEEKS ARO	01111	MIKE RIDGWAY
Customer:			Quote Good For:	Terms:	
SOUTHWEST RESEARCH INSTITUTE			90 DAYS	1/2% 10 NET 30	
6220 CULEBRA			Customer P.O.:	Contact:	
SAN ANTONIO, TEXAS 78238			Phone No.:	Fax No.:	
			210-684-5111	210-522-5184	

Item	Qty	Part No.	Rev	Part Name	Bid	T&M	Price Ea.	Total
1	6	20-01402-571-25		ALLOY 22 WELD SPECIMEN			749.00	\$4,494.00
								\$ 0.00
								\$ 0.00
								\$ 0.00
								\$ 0.00
								\$ 0.00
								\$ 0.00
								\$ 0.00
								\$ 0.00
								\$ 0.00
Work Instructions:							Total	\$4,494.00

All quotations and agreements are contingent upon strikes, fires, availability of materials, and all other causes beyond our control. Prices are subject to change by seller before final acceptance

FOB: TEXAS TOOLMAKERS, INC.

Page/Sheet ____ of ____

Quality Requirements: ☐ None ☐ As noted below

Material/Process Certification: ☐ Yes ☒ No | Certificate of Compliance: ☒ Yes ☐ No | Source Inspection ☐ Yes ☒ No

Documented Dimensional Inspection: ☒ Yes ☐ No; If Yes: 1) ☐ Specified Dimensions Only, 2) ☒ Sampling, OR 3) ☐ 100%

Authorized TTI Representative:

Mike Ridgway

Date: 5/21/02

Customer Acceptance:

Title:

Date:

Customer Comments (if applicable):

Note: price(s) may be affected if scope of work/inspection is deviated from that quoted.

— For TTI Use Only —

Reviewed by:

Date:

P.O. provided at time of review:

☐ Yes ☐ No

9

26/55

11411 East Coker Loop
San Antonio, Texas 78216
(210) 494-3651 * Fax (210) 494-6139
www.texastoolmakers.com



CERTIFICATE OF CONFORMANCE

TO: Southwest Research Institute
6220 Culebra Road
San Antonio, Tx. 78238-5166

CUSTOMER P.O. 286716S

TTI JOB #: 33484

DESCRIPTION 5 EA. P/N 20-01402-571-25 ALLOY 22 WELD SPECIMEN

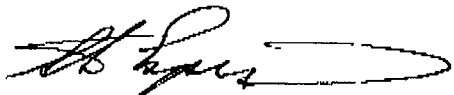
WE CERTIFY THAT THE ITEM(S) ON THE ABOVE REFERENCED PURCHASE ORDER HAVE BEEN PROCESSED AND/OR MANUFACTURED IN ACCORDANCE WITH:

Drawings

RECORDS ARE ON FILE AT THIS FACILITY, WHICH VERIFY OUR PROCESS CONTROLS, AND AVAILABLE FOR REVIEW UPON REQUEST. TEST RESULTS ARE AS FOLLOWS:

ACCEPTED

TEXAS TOOLMAKERS,

BY :  (Steven Espinoza)
TITLE: Q.C. Inspector
DATE: 7/16/02

27/55

Job No.: 33484	Part No.: 20-01402-571-25 S/N 001	Rev. No.: -	P.O. No.: 2867165
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Customer: SWRI	Part Name: Alloy 22 Weld Specimen	Log No.: 2163001C
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Inspection Plan:	Quantity:	Sample Size:	Accept No.:	Reject No.:	NR No.:
<input type="checkbox"/> 100 % <input checked="" type="checkbox"/> Specified Dim. <input type="checkbox"/> 1st Article	1	1	1	0	0

[illegible]

* Recorded if not affected by tolerance block. Sheet 1 of 1

Inspection Performed by: [Signature] Date: 7/1/02 Customer (as applicable) _____ Date _____

28/55

Job No.: 33484	Part No.: 20-01402-571-25 S/N 002	Rev. No.: -	P.O. No.: 2867165
Customer: SWRI	Part Name: Alloy 22 Weld Specimen		Log No.: 2163001C

100 %

* Recorded if not affected by tolerance block.		Sheet <u>1</u> of <u>1</u>	
Inspection Performed By: <u>[Signature]</u> Date: <u>7/1/02</u>		Customer (as applicable) _____ Date _____	

29/05

Job No.: 33484	Part No.: 20-01402-571-25 S/W003	Rev. No.: -	P.O. No.: 2867165
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Customer: SWRI	Part Name: Alloy 22 Weld Specimen	Log No.: 2163001C
-------------------	-----------------------------------	----------------------

Inspection Plan: <input type="checkbox"/> 100 % <input checked="" type="checkbox"/> Specified Dim. <input type="checkbox"/> 1st Article	Quantity: 1	Sample Size: 1	Accept No.: 1	Reject No.: 0	NR No.: 0
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MISSING DIMENSION.

Sheet / of /

Date _____

30/55


Job No.: 33484	Part No.: 20-01402-571-25 S/N 004	Rev. No.: -	P.O. No.: 2867165
-------------------	--------------------------------------	----------------	----------------------

Customer: SWRI	Part Name: Alloy 22 Weld Specimen	Log No.: 2163001C
-------------------	-----------------------------------	----------------------

Inspection Plan:	Quantity:	Sample Size:	Accept No.:	Reject No.:	NR No.:
<input type="checkbox"/> 100 % <input checked="" type="checkbox"/> Specified Dim. <input type="checkbox"/> 1st Article	1	1	1	0	0

*

Sheet / of /

 Inspection Performed by:	7/1/02 Date	_____ Customer (as applicable)	_____ Date
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31/55

Job No.: 33484	Part No.: 20-01402-571-25 S/N 005	Rev. No.: -	P.O. No.: 2867165
Customer: SWRI	Part Name: Alloy 22 Weld Specimen		Log No.: 2163001C

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
100 %	Specified Dim.	1st Article

NR No.:

Sheet / of /

Date _____

32/55

Job No.: 33484	Part No.: 20-01402-571-25 S/N 006	Rev. No.: -	P.O. No.: 2867165
Customer: SWRI	Part Name: Alloy 22 Weld Specimen	Log No.: 2163001C	

Inspection Plan:	Quantity:	Sample Size:	Accept No.:	Reject No.:	NR No.:
<input type="checkbox"/> 100 % <input checked="" type="checkbox"/> Specified Dim. <input type="checkbox"/> 1st Article	1	1	0	1	0

[illegible]

Sheet / of /

Date _____

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

33/55

MEMORANDUM

August 30, 2002

TO: Nonconformance Report (NCR) 2002-08 File

FROM: Bruce Mabrito, Director of CNWRA QA



SUBJECT: Status/Extension on NCR 2002-08

This memorandum to the NCR 2002-08 file is an explanation of the progress to date on closing out this NCR and provides for an extension in the target dates for completion.

NCR 2002-08 describes Alloy 22 specimen preparation shortcomings to be used in the CNWRA weld qualification process.

The subject target date for completion of NCR 2002-08 was first extended to August 31, 2002. Item No. 3 on this NCR will have to be further extended until a decision is reached on whether specimen SN 006 is going to be utilized in the CNWRA process. If used, further repair and machining is required.

Item No. 2 on the NCR, examination of a 0.250-inch hole, has been performed and is acceptable. Item No. 1, drawing revision has not been performed but is not a quality-affecting hold point for close out of NCR 2002-08.

Based on this information and the currently anticipated activity in the CNWRA, I am extending the formal target date for completion of NCR 2002-08 to September 13, 2002.

cc: B. Mabrito
D. Dunn
M. Ehnstrom/30
T. Mayces/30
M. Padilla/CNWRA QA



WELD JOINT FABRICAT. N RECORD

Weld Joint No. N/A

Dwg. No. 20-01402-571-25 Rev 1

Fab. Oper. Record Seq. No. N/A

Project No. I 20-06002

Wps No. C22-GTAW

Base Plate A: Material SB-575

Base Plate B: Material N/A

Thickness 1"

Thickness N/A

MRI No. No. 6

MRI No. N/A

Filler Metal: Type

Size

Root ERNiCRMo-10

Root 3/32"

Fill ERNiCRMo-10

Fill 3/32"

Flux N/A

SwRI Lot No. Root N/A

Joint Design Modified Single U

Fill

Flux

Fit-Up: Accepted By N/A

Date:

Welder	Shift	Stamp Number	Date

Inspections: (Circle As Required)

Root: MT: PT: VT: Accepted By

Date

Final: MT: PT: VT: Accepted By

Date

UT: RT: Accepted By

Date

Repair No.	Location	Type	Depth	Welder	Date	Inspected Acc Rej	Remarks
1	See Drawing	U Groove	1.390	FRANK GARCIA	11-25-02	X	Accepted by JH Casanova
							See Drawing for weld joint repair detail.

Comments Repair of Alloy 22 Weld Test Specimen No 6, NR No MCR 2002-08.

Vendor had drilled thru macouple hole thru plate into weld groove. Ground base weld prep in weld groove. Checked weld cavity depth, peened and welded repair area using WPS C22-GTAW.

Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

Alloy 22 V 1 Specimen
CNWRA Drawing 20-01402-571-25 Rev. 01
All Dimensions $\pm 0.010"$
unless otherwise specified
Note: Detail A on Page 2

Page 1 of 2

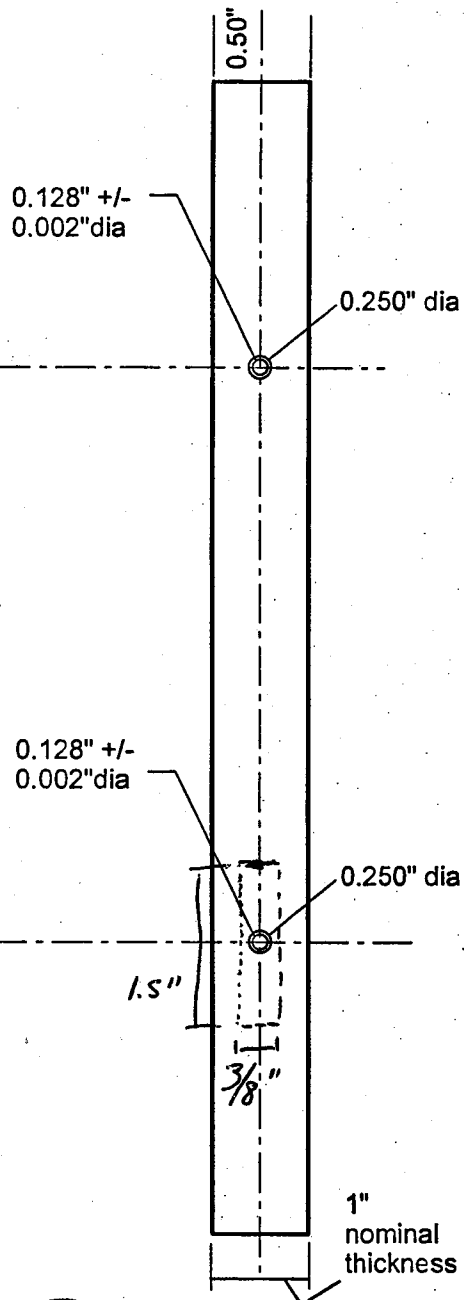
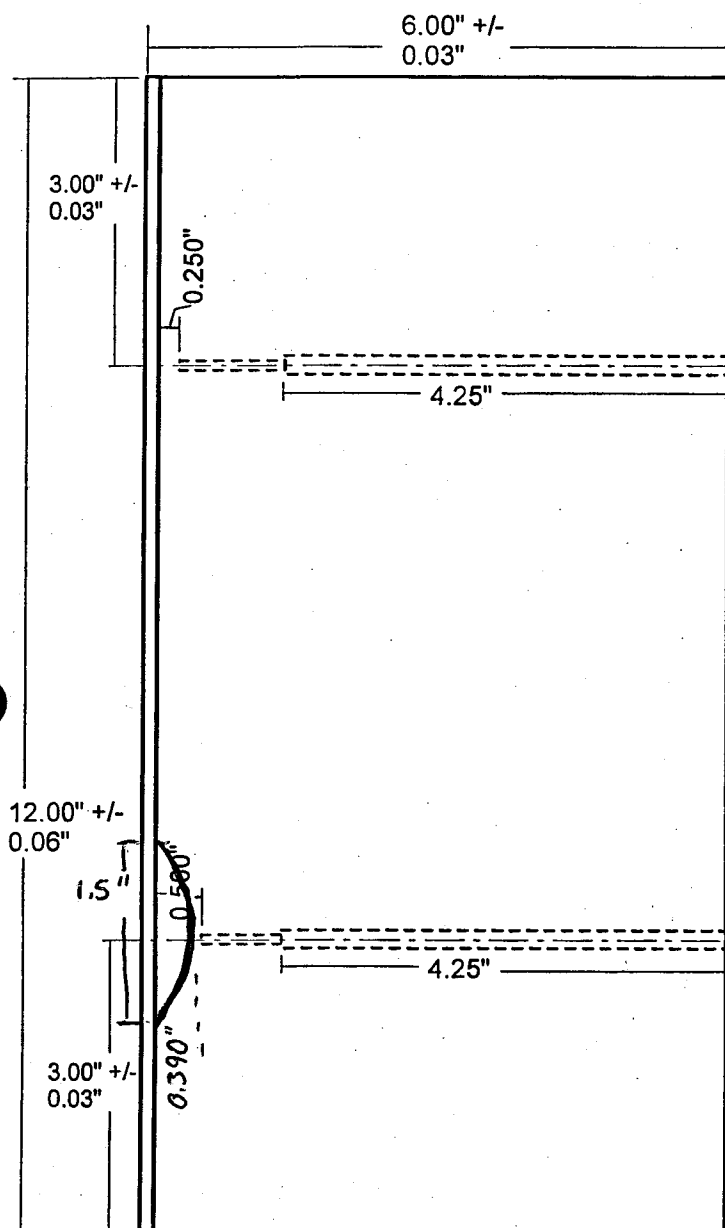
To be completed at time of order:

Material: _____

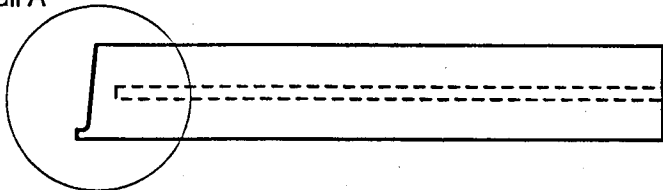
Heat: _____

Specimen Orientation: _____

Other: _____



Detail A



Darrell Dunn 9/4/2002
Initiated by: D. Dunn Date

V. Jain 9/10/02
Reviewed by: V. Jain Date

B. Mabrito 9/10/2002
QA Approval B. Mabrito Date

Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

Alloy 22 Weld Specimen
CNWF Drawing 20-01402-571-25 Rev. 01
All Dimensions ± 0.005 "
unless otherwise specified
Detail A identified on Page 1

Page 2 of 2

To be completed at time of order:

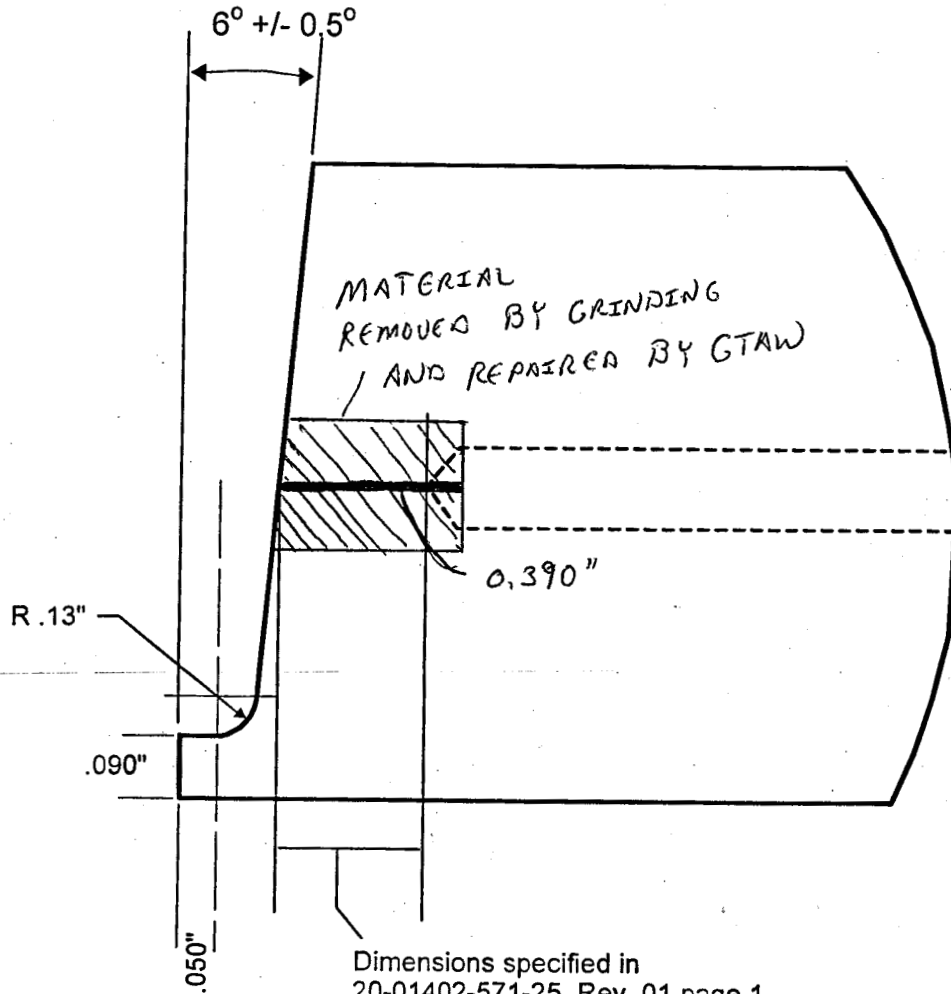
Material: _____

Heat: _____

Specimen Orientation: _____

Other: _____

Detail A



Darrell Dunn 9/4/2002
Initiated by: D. Dunn Date

V. Jain 9/10/02
Reviewed by: V. Jain Date

B. Mabrito 9/10/2002
QA Approval B. Mabrito Date

20/20