

**Requisition #** 624948**Date:** 9/3/2002**Status:** PO Generated**Requisitioner:** Dunn, Darrell S.**Buyer:** Cisneros, Florence**Target Place Date:** 09/12/02**Date Entered:** 09/03/02**Purchase Order #** 270206N**Vendor:** AN-TECH LABORATORIES**Order Date:** 09/04/02**Due Date:** 09/12/02

<u>LN</u>	<u>ORD</u>	<u>REC</u>	<u>ACC</u>	<u>REC</u>	<u>SHIP</u>	<u>TOT</u>	
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	<u>DESCRIPTION</u>
1	0	0	0		BEST WAY	\$402.00	SERVICE PURCHASE ORDER
<b>Total</b>						<b>\$402.00</b>	

**NOTES:** (none)**FOOTNOTES:** P8 P12 Q49 Q12 Q20 JHM1

20.61402.571  
pd  
period  
13

8/29/02

270206N

024948

SUGGESTED OR PREVIOUS SUPPLIER

**An-Tech Laboratories**

CITY, STATE

**Houston, TX 77207**

ATTN:

**Don Derrick**

PHONE

**713/644-7501**

FAX

**713/644-1400**

DELIVER TO

**R. Doyle Smith/bldg. 137**

SHIP VIA

F.O.B.

TERMS

PURCHASING SELECTED SUPPLIER

SUPPLIER CODE

ATTN

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
			NDE & desructively test plate #740 for PQR C22-GTAW-1 per 1998 ASME Section IX as follows:						
A	1	EA	R.T. inspect	20	01402	571	100	9/9/02	50.00
B	2	EA	Machining reduced section tensile specimens	20	01402	571	100	9/9/02	60.00
C	4	EA	Machining side bend specimens	20	01402	571	100	9/9/02	35.00
D	2	EA	Test tensile specimens-yield by extensometer	20	01402	571	100	9/9/02	22.00
E	4	EA	Test side bend specimens	20	01402	571	100	9/9/02	12.00
			Quality affecting purchase.						

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 CONSUMABLE
- b ☐ G-2 DELIVERABLE
- c ☒ G-3 ACCOUNTABLE / REPORTABLE
- d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?
- ☐ YES
- ☐ NO

2. QUALITY ASSURANCE? ☒ YES ☐ NO

a ASL REQUIRED? ☒ YES ☐ NO

b QA CODES: Q12, Q20, Q2C

c INSPECTION CRITERIA

P1 to inspect per QAR-C16

d QA APPROVAL (IF REQUIRED) DATE

*B. Smith* 8/30/2002

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

EXT. NO.

**Darrell Dunn**
**6090**

DEPT. / DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

**SEE INSTRUCTIONS ON REVERSE SIDE**

No requisition is available for the record you have requested.  
610161

**Purchase Order #** 270196N

**Vendor:** ARGONNE NATIONAL  
LABORATORY

**Order Date:** 06/11/02

**Due Date:** 06/11/02

<u>LN</u>	<u>ORD</u>	<u>REC</u>	<u>ACC</u>	<u>REC</u>	<u>SHIP</u>	<u>TOT</u>	
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	<u>DESCRIPTION</u>
<u>1</u>	1	0	0		UPS	\$3,000.00	SERVICE PURCHASE ORDER
<b>Total</b>						<b>\$3,000.00</b>	

**NOTES:** (none)

**FOOTNOTES:** P8 Q3 Q4 JHM1 P12

*paid  
period  
13*

*20.01402.571*



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE <b>5/30/02</b>	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. ✓ <b>610161</b>
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SUGGESTED OR PREVIOUS SUPPLIER <b>Bob Gebhardt</b>		DELIVER TO <b>Yi-Ming Pan, Bldg. 57</b>		PURCHASING SELECTED SUPPLIER	
CITY, STATE <b>Argonne, IL 60439</b>		SHIP VIA			
ATTN:		F.O.B.		SUPPLIER CODE	ATTN
PHONE <b>630/252-7043</b>	FAX <b>630/252-4517</b>	TERMS		PHONE	FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
50	EA		Simulated radioactive high-level waste glass samples that contain about 1.5% natural uranium for leaching test using ASTM C1220 test	20	01402	571	100	6/14/02	\$3,000.00
<p><b>Quality &amp; Technical Requirements: (1) ANL to provide test plan for preparation and leaching testing of the glass samples; (2) ANL to provide documentation on test specimen preparation according to ASTM C1220 section 8; (3) confirmatory analyses be conducted for chemical composition by Div. 01 using ICP-AE and for phase identification by Div. 18 using XRD and SEM-EDX.</b></p>									
<p><b>QUALITY-AFFECTING PURCHASE</b></p> <p>Is this order being placed with an ASL contract?</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>									

INTERNAL NOTES TO BUYER	Is confirmatory <input checked="" type="checkbox"/> YES	SPECIAL INSTRUCTIONS TO SUPPLIER	TOTAL
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<p>1. Government Project? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>IF YES, CHECK THE APPROPRIATE PROPERTY TYPE (SEE BACK FOR EXPLANATION OF PROPERTY TYPES)</p> <p>a <input checked="" type="checkbox"/> G-1 CONSUMABLE</p> <p>b <input type="checkbox"/> G-2 DELIVERABLE</p> <p>c <input type="checkbox"/> G-3 ACCOUNTABLE / REPORTABLE</p> <p>d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?</p> <p><input type="checkbox"/> YES</p> <p><input checked="" type="checkbox"/> NO</p>	<p>2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>a ASL REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: Q3, Q4</p> <p>c INSPECTION CRITERIA</p> <p>d QA APPROVAL (IF REQUIRED) P.I. DATE</p> <p><i>Acceptance of confirmatory analyses to be performed by Mark R. Edmiston 5/31/02</i></p>	<p>3. SOURCING NOTES</p> <p>IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFACTURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY YOUR NEED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p> <p>IF YOU HAVE SUGGESTED A SUPPLIER, AND NO OTHER SUPPLIER WILL MEET YOUR NEEDS, PLEASE ATTACH A MEMO OF EXPLANATION.</p> <p>REQUESTOR'S SIGNATURE <b>Ti-Ming Pan</b> EXT. NO. <b>6640</b></p> <p>DEPT. / DIVISION APPROVAL <i>[Signature]</i> DATE <b>5/24/02</b></p> <p>ADMIN. APPROVAL DATE</p>	<p>4. REPAIRS</p> <p>a IS THIS REQ. FOR A REPAIR? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b IS THE REPAIR ON OR OFF CAMPUS? <input type="checkbox"/> ON <input type="checkbox"/> OFF</p> <p>c IF OFF CAMPUS PROVIDE SHIPPING TICKET</p> <p>NO. _____</p>
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CONTRACT REVIEW APPROVAL	DATE	BUYER SIGNATURE	DATE	SEE INSTRUCTIONS ON REVERSE SIDE
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**Requisition #** 609774**Date:** 3/7/2002**Status:** PO Generated**Requisitioner:** Pan, Yi-Ming**Buyer:** Cisneros, Florence**Target Place Date:** 04/15/02**Date Entered:** 03/07/02**Purchase Order #** 270186N**Vendor:** ARIZONA STATE UNIVERSITY**Order Date:** 03/12/02**Due Date:** 04/15/02

<u>LN</u>	<u>ORD</u>	<u>REC</u>	<u>ACC</u>	<u>REC</u>	<u>SHIP</u>	<u>TOT</u>	
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	<u>DESCRIPTION</u>
<u>1</u>	1	0	0		NA	\$2,950.00	SERVICE PURCHASE ORDER
<b>Total</b>						<b>\$2,950.00</b>	

**NOTES:** (none)**FOOTNOTES:** P8 P12

20.01402.571



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

3/4/02

609774 ✓

SUGGESTED OR PREVIOUS SUPPLIER

DELIVER TO

PURCHASING SELECTED SUPPLIER

Arizona State University

CITY, STATE

SHIP VIA

Tempe, AZ 85287-1704

ATTN:

F.O.B.

SUPPLIER CODE

ATTN

Bonnie Mello

PHONE

FAX

TERMS

PHONE

FAX

480/965-0505

480/965-9004

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
1		EA	Transmission Electron Microscopy Analysis of Alloy 22 REF: ASU Cost Estimate P.O. subject to following revisions: Number of Alloy 22 bulk samples to be defined by CNWRA staff. Tentative TEM analysis schedule--April 15-17, 2002.  QA Notes: CNWRA staff conduct analysis with ASU researcher and document results in scientific notebook no. 498. Mill-annealed Alloy 22 serve as baseline for chemistry and microstructure changes in other bulk samples  NOTE THAT QUALIFIED CNWRA STAFF MEMBERS WILL SUPERVISE THEIR TEM OPERATIONS TO OBTAIN CNWRA DATA.	20	01402	571	100	4/15/02	

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 CONSUMABLE
- b ☐ G-2 DELIVERABLE
- c ☐ G-3 ACCOUNTABLE / REPORTABLE
- d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?
- ☐ YES
- ☒ NO

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

b Q.A. CODES:

NONE

c INSPECTION CRITERIA

NONE. RESULTS RECORDED IN CNWRA S. NOTEBOOK.

d QA APPROVAL (IF REQUIRED)

DATE

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

EXT. NO.

Yi-King Pan

6640

DEPT. / DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

JUSTIFICATION FOR ITEMS ON PURCHASE REQUISITION NUMBER:

SUGGESTED VENDOR: (If Applicable) Arizona State University

CNWRA staff is planning to use the Center for High Resolution Electron Microscopy (CHREM) at Arizona State University to conduct transmission electron microscopy analysis of Alloy 22. The objective of this investigation is to determine the overall microstructure and grain boundary chemistry of Alloy 22 specimens under mill-annealed, welded, and heat-treated conditions.

CHREM was first established in 1978 by the National Science Foundation as a National User Facility till 1994, and now is operated under the support from the State of Arizona and the University. This Center possesses a number of unique capabilities in terms of its expertise and facilities that are essential to the analysis on Alloy 22. In addition, CNWRA has previously utilized this facility for natural uraninite alteration study. Because of the nature of the CHREM business, it has received grants from DOE, and also has provided services to DOE in the past. To avoid any possible conflict of interest, CNWRA will utilize CHREM as a service provider with a well-defined role in this investigation, as provided below.

In this investigation, the scope of work includes determination of general microstructure, identification of second phase precipitates, and determination of elemental distribution across grain boundaries. CNWRA staff will visit CHREM to undertake the analysis effort in collaboration with CHREM personnel. Under the guidance provided by CNWRA staff, CHREM personnel will prepare thin foils using both jet polishing and ion milling methods, and operate the microscopes to acquire images, diffraction patterns, and spectra. CNWRA staff will then analyze the data and record the results in Scientific Notebook No. 498. No interpretation or engineering judgements will be made by CHREM personnel. Additionally, elemental concentration data from grain boundary chemistry analysis are subjected to qualification review. Semi-quantitative x-ray microanalysis will be performed to determine the distribution of alloying elements across grain boundaries. Elemental concentrations will be calculated using the known bulk chemical composition of mill-annealed Alloy 22 as an internal standards, according to the Cliff-Lorimer procedure.

In addition, letter from B. Meehan to W. Patrick dated January 3, 1995 titled "Conflict of Interest Determination Regarding Use of Analytical Services at the Lawrence Berkeley National Laboratory..." confirms the verbal authorization... to permit CNWRA to utilize the services of the Lawrence Berkeley National Laboratory... the NRC has determined that performance of the proposed work would not involve a conflict of interest with NRC's activities under the Nuclear Waste Policy Act" and supports the use of service facilities to NRC work.

  
SIGNATURE

3/6/02  
DATE

# **Industrial Associates Program**

**Center for Solid State Science  
Arizona State University**

## **Cost Estimate**

### **CONFIDENTIAL INFORMATION ENCLOSED**

#### **About Our Cost Estimate**

Enclosed is the requested estimate for the costs of materials characterization by transmission electron microscopy at Arizona State University. This is a good faith estimate of the costs of investigating the microstructure of your material. As a state university we are not permitted to undercut commercial analytical companies when offering similar services. The nature of exploratory research means that the costs may significantly exceed this estimate. Should you agree to proceed with this work we will contact you if costs exceed the estimates given below by more than 10 %.

Please check that the materials problem is correctly described and contact us if there are inaccuracies.

## **Cost Estimate**

**Date:** 1 March, 2002

**Client:** Dr. Yiming Pan  
Senior Research Engineer  
Center for Nuclear Waste Regulatory Analyses (CNWRA)  
Southwest Research Institute  
Tel: 210-522-6640  
Fax: 210-522-5184  
e-mail: ypan@swri.org

**Project Title:** Transmission Electron Microscopy (TEM) Analysis of Alloy 22

### **Proposed Objective**

We will collaborate with the CNWRA staff, Yiming Pan, to study the overall microstructure and grain boundary composition of 3 different samples of Alloy 22. The study is somewhat open ended and is exploratory in nature. The scope of the study will include:

- a) determination of general microstructure
- b) identification of second phase precipitates
- c) determination of elemental distribution around grain boundaries.

### **Proposed Method**

Three bulk samples of alloy 22 will be provided for initial analysis:

- 1) As received mill-annealed material
- 2) Sample 1) after subjecting to thermal treated at 870C/5 minutes
- 3) Same as 1) but with large weld.

We will prepare TEM samples using both jet polishing and ion milling methods. At least one good thin foil that has sufficient thin area for microstructure and precipitate analysis will be prepared from each method. The conditions for jet polishing will be provided by Yiming Pan.

Conventional bright-field and dark-field imaging will be employed on a JEOL 4000 EX to determine the grain size and overall morphology. Selected-area electron diffraction will be employed to identify the presence of second phase precipitates. A list of likely precipitates will be provided by Yiming Pan. The electron diffraction patterns will be matched to the list of likely phases in order to identify the precipitates.

Nano-spectroscopy will be performed on the grain boundaries using VG HB501 scanning transmission electron microscope (STEM). Qualitative nanochemical analysis will be performed using energy dispersive x-ray spectroscopy (EDX) on a reasonably representative number of grain boundaries in order to look for evidence of depletion of Ni, Cr, Mo, Fe and W. The probe will be scanned in a line across the interface and spectra acquired at least every 0.5 nm in order to determine the compositional profile across the interface.

#### **Fees**

##### **Sample Preparation**

Powder Preparation and Supplies	6 @ \$200	\$1,200
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##### **TEM Analysis**

JEOL 4000 EX (3 samples) (2 sessions (5 hour each))	10 hrs@	\$40	\$400
VG HB501	(1.5 days) 15 hrs@	40	\$600
Data Analysis/Interpretation	15@	\$50	\$750

<b>Total</b>		<b><u>\$2,950</u></b>
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To proceed with this work please contact Bonnie Mello to set up a purchase order.

Bonnie Mello  
Center for Solid State Science  
Arizona State University  
P.O. Box 871704  
Tempe, AZ 85287-1704

Tel: (480) 965-4545  
Fax: (480) 965-9004

**Requisition #** 600460**Date:** 1/11/2002**Status:** PO Generated**Requisitioner:** Prikryl, James D.**Buyer:** Cisneros, Florence**Target Place Date:** 01/25/02**Date Entered:** 01/11/02**Purchase Order #** 270178N**Vendor:** CONAM INSPECTION**Order Date:** 01/14/02**Due Date:** 01/25/02

<u>LN</u>	<u>ORD</u>	<u>REC</u>	<u>ACC</u>	<u>REC</u>	<u>SHIP</u>	<u>TOT</u>	
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	<u>DESCRIPTION</u>
<u>1</u>	8	0	0		UPS	\$640.00	SERVICE PURCHASE ORDER
<b>Total</b>						<b>\$640.00</b>	

**NOTES:** (800) 681-0008 (630) 871-5520 FAX**FOOTNOTES:** Q20 Q39 Q40 Q42 P12

*paid*  
*period 5*

*1402.561*





## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE

01/04/02

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

600460

SUGGESTED OR PREVIOUS SUPPLIER

Conam Inspection, Inc.

CITY, STATE

Glendale Heights, IL 60139

ATTN:

DELIVER TO

James Prikryl/Bldg. 57

SHIP VIA

PURCHASING SELECTED SUPPLIER

F.O.B.

SUPPLIER CODE

ATTN

PHONE

1-800-537-4012

FAX

1-630-871-5520

TERMS

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	8	ea.	Chemical analysis of steel samples (Includes 2 steel set samples, 4 rock bolt samples and 2 wire mesh samples)	20	01402	561		01/25/02	\$80.00
			QA requirements:						
			1) Steel set samples should meet chemical composition ranges specified in ASTM A36.						
			2) Rock bolt samples should meet chemical composition ranges specified in ASTM F432.						
			3) Wire mesh samples have no QA requirements for chemical composition.						
			4) Conam Inspection, Inc. should provide methods of analysis for each element, measurement uncertainties, and copies of standard analyses used to determine acceptable measurement results.						

INTERNAL NOTES TO BUYER

SPECIAL INSTRUCTIONS TO SUPPLIER

TOTAL

To be used for CNWRA Lab

1. Government Project? ☒ YES ☐ NOIF YES, CHECK THE APPROPRIATE PROPERTY  
TYPE (SEE BACK FOR EXPLANATION OF PROP-  
ERTY TYPES)a ☒ G-1 CONSUMABLEb ☐ G-2 DELIVERABLEc ☐ G-3 ACCOUNTABLE / REPORTABLEd IS GOVT. PROPERTY BEING SENT TO  
SUPPLIER?☐ YES☒ NO2. QUALITY ASSURANCE? ☒ YES ☐ NOa ASL REQUIRED? ☒ YES ☐ NOb QA CODES: Q20, Q39, Q40  
Q42

c INSPECTION CRITERIA

d QA APPROVAL (IF REQUIRED)

DATE

3. SOURCING NOTES

IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFAC-  
TURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY  
YOUR NEED? ☒ YES ☒ NOIF YOU HAVE SUGGESTED A SUPPLIER, AND NO OTHER SUPPLIER  
WILL MEET YOUR NEEDS, PLEASE ATTACH A MEMO OF EXPLANATION.

REQUESTOR'S SIGNATURE

EXT. NO. 5667

James D. Prikryl

DEPT. / DIVISION APPROVAL

DATE 1/04/02

English Pearcy

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

**STAVELEY  
SERVICES**

**Facsimile**

CONAM Inspection Inc.  
Materials Analysis Group/Kawin Lab.

194 Internationale Boulevard  
Glendale Heights, IL 60139

Telephones: (800) 537-4012  
(630) 681-0008  
Facsimile: (630) 871-5520

To: JIM PRIKRYL  
SOUTHWEST RESEARCH INSTITUTE QUOTE# 1/02/02-01  
CUSTOMER#:  
PHONE: 210-522-5667 FAX : 210-522-5184  
ADDRESS: 6220 CULEBRA ROAD, SAN ANTONIO, TX 78238

---

From: Frank Donmez PHONE# 630-681-0008 EXT: 167  
Sales Representative CELL PHONE# 847-712-8114

---

Date: 1 / 2 / 02 Pages: 1

Good morning Jim,  
Here is the quote that you have requested. **Please send this quote with the specimens. Please provide a UPS Account # if you would like the samples back after testing.**

**CHEMICAL ANALYSIS**

Chemical Analysis \$80 each x 10 specimens: \$ 800

**TOTAL:.....\$ 800**

Thank you,  
Regards,

Frank Donmez  
Sales Representative

**CONAM Kawin Contact information**

Reporting:	Darian Ditzler, x173	Regina Wy, x172
Chemical Lab.:	Bill Scorzo, x178	
Metallurgical Lab.:	Pavel Latash, x180 Terry Baldwin, x179	John Mikalik, x179
Mechanical Lab.:	Rich Brautigam, x176 John Kitsen x176	
Sales:	Frank Donmez, x 167	
General Manager:	John Mays, x157	

PRIVACY AND CONFIDENTIALITY NOTICE:

**Rosie Ard**

---

**From:** Lauren Browning [lbrowning@cnwra.swri.edu]  
**Sent:** Friday, January 04, 2002 4:21 PM  
**To:** Roseanne Ard  
**Subject:** FW: Added QA requirement

-----Original Message-----

**From:** Jim Prikryl [mailto:jprikryl@cnwra.swri.edu]  
**Sent:** Friday, January 04, 2002 4:02 PM  
**To:** English Percy  
**Cc:** Lauren Browning  
**Subject:** Added QA requirement

English,

I prepared this additional QA requirement for the metal sample chemical analysis which should allow us to evaluate the acceptability of the chemical analyses without regard to the ASTM specifications.

**Requirement D**

Conam Inspection Inc. should provide methods of analysis for each element, measurement uncertainties, and copies of standard analyses used to determine acceptable measurement results.

Jim



SOUTHWEST RESEARCH INSTITUTE™

REQUISITION DATE

3/4/02

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

609776

SUGGESTED OR PREVIOUS SUPPLIER

Herco Aircraft Machine Inc.

CITY, STATE

San Antonio, TX

ATTN:

Eddie Cortez

PHONE

924-4734

FAX

923-7351

DELIVER TO

R. Doyle Smith

SHIP VIA

PURCHASING SELECTED SUPPLIER

F.O.B.

SUPPLIER CODE

ATTN

TERMS

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	8	EA	Machine carbon steel mock-up						
			specimen per DWG 20-01402-572-20	20	01402	571	100	4/1/02	480.00
			Quality affecting purchase						
			Quality & Technical Requirements: Vendor will supply a dimensional inspection and show conformance with dimensional tolerances shown in SwRI Drawing 20-01402-571-20.						

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 CONSUMABLE
- b ☐ G-2 DELIVERABLE
- c ☐ G-3 ACCOUNTABLE / REPORTABLE
- d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?
- ☐ YES
- ☐ NO

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

b Q A CODES: Q11, Q20

c INSPECTION CRITERIA

d QA APPROVAL (IF REQUIRED) DATE



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

EXT. NO.

Darrell Dunn

6090

DEPT. / DIVISION APPROVAL

DATE

ADMIN. APPROVAL

DATE

3/4/02

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

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

Carbon Steel Mockup Specimen  
CNWRA Drawing 20-01402-571-20  
All Dimensions  $\pm 0.010"$   
unless otherwise specified  
Note: Detail A on Page 2

Page 1 of 2

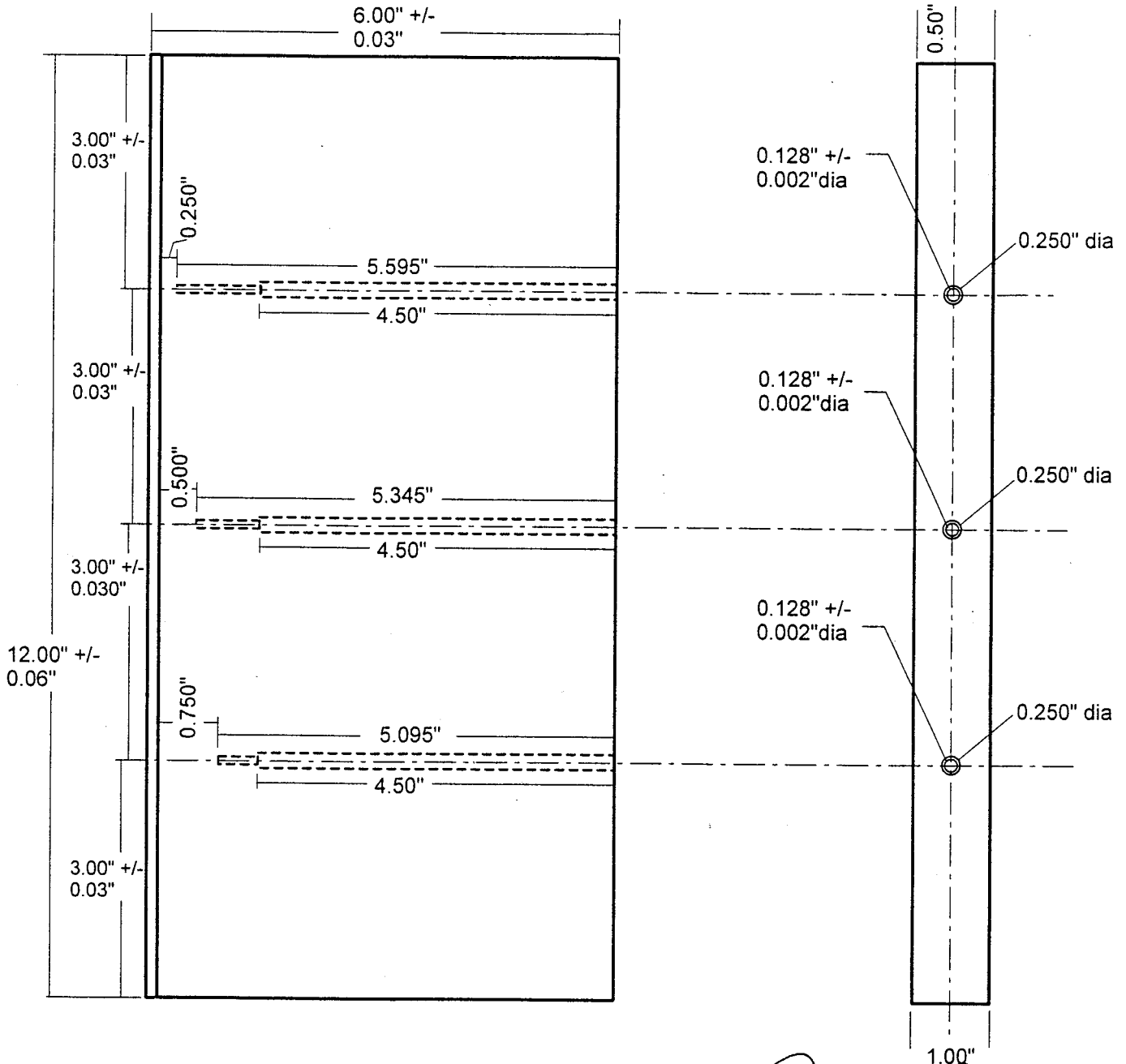
To be completed at time of order:

Material: \_\_\_\_\_

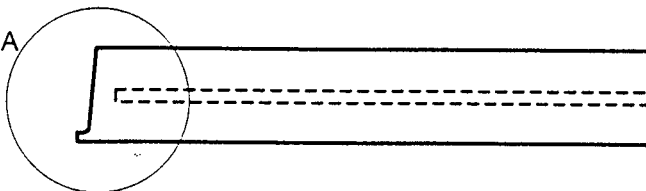
Heat: \_\_\_\_\_

Specimen Orientation: \_\_\_\_\_

Other: \_\_\_\_\_



Detail A



*Darrell Dunn* 2/14/2002  
Initiated by D. Dunn Date

*V. Jain* 2/14/2002  
Reviewed by V. Jain Date

*B. Mabrito* 2/14/2002  
QA Approval B. Mabrito Date

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

Carbon Steel Mockup Specimen  
CNWRA Drawing 20-01402-571-20  
All Dimensions  $\pm 0.005$ "  
unless otherwise specified  
Detail A identified on Page 1

Page 2 of 2

To: \_\_\_\_\_ completed at time of order:

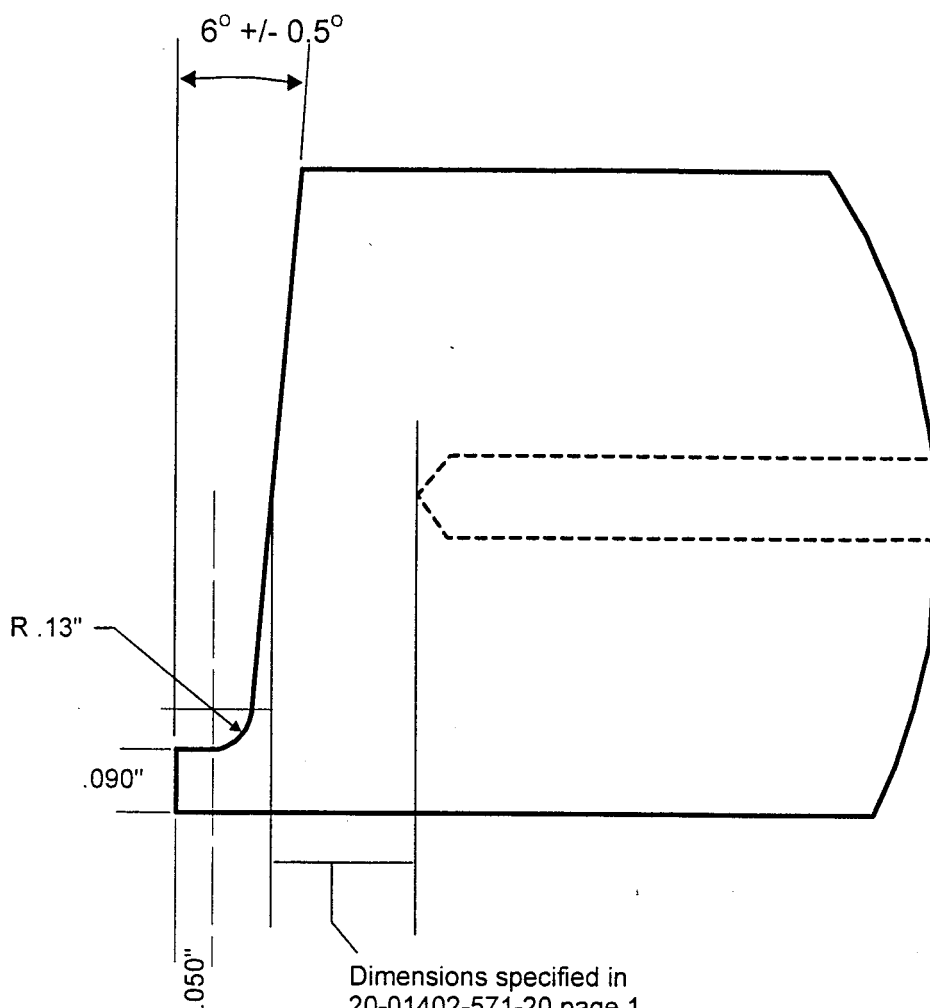
Material: \_\_\_\_\_

Heat: \_\_\_\_\_

Specimen Orientation: \_\_\_\_\_

Other: \_\_\_\_\_

Detail A



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

*Darrell Dunn* 2/14/2002  
Initiated by: D. Dunn Date

*V. Jain* 2/14/2002  
Reviewed by: V. Jain Date

*B. Mabrito* 2/14/2002  
QA Approval B. Mabrito Date

Project: 01402.571  
 Title: CONTAINER LIFE & SOURCE T  
 Client: US NRC  
 Manager: Jain, Vijay

Owning Org: 20  
 Contract: NRC0297009  
 Type: CPAF  
 Manager's Org: 20.05.04

Period 6 (4WK 03/15/02)  
 Sub Contract:  
 PO ID: NONE  
 Acct Grp CD: GCW

Sub Period	JE Number	Org ID	PO Number	Voucher Number	Description	Amount
1	APV	1.20		10122360	THE AMERICAN CERAMIC	830.00
1	APV	1.20		10123076	FEDERAL EXPRESS CORP.	18.38
1	APV	1.20		10124956	THE DIALOG CORPORATION	2.05
1	APV	1.20		10125169	FEDERAL EXPRESS CORP.	5.34
1	APV	1.20	<u>270179N</u>	10123157	CONAM KAWIN	80.00
1	APV	1.20	<u>270181N</u>	10122570	CONAM KAWIN	160.00
2	17	1.20			12844 Report Services	70.51
2	5002	1.20			COPY CHARGES	4.02
2	APV	1.20		10125787	TAD TECHNICAL SERVICES CO	27.63
2	APV	1.20		10128279	FEDERAL EXPRESS CORP.	7.71
2	APV	1.20		10128476	FEDERAL EXPRESS CORP.	16.46
2	APV	1.20		10128913	TAD TECHNICAL SERVICES CO	9.21
2	APV	1.20		10129050	FEDERAL EXPRESS CORP.	11.32
Total						1,242.63

1402.571



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE <b>1/10/02</b>	ORDER DATE	PURCHASE ORDER NUMBER <b>270179N</b>	REQ. NO. <b>609740</b>
DELIVER TO <b>D. Dunn bldg. 57</b>		PURCHASING SELECTED SUPPLIER	
SHIP VIA			
F.O.B.		SUPPLIER CODE	ATTN
TERMS		PHONE	FAX

SUGGESTED OR PREVIOUS SUPPLIER

**Conam Inspection**

CITY, STATE

**Glendale, IL 60139**

ATTN:

**Bill Scrozo**

PHONE

**630/681-0008**

FAX

**630/871-5520**

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
<b>A</b>	<b>1</b>	<b>EA</b>	<b>Chemical analyses of Alloy C-22</b>						
			<b>Heat 2277-1-3164</b>	<b>20</b>	<b>01402.</b>	<b>571</b>	<b>100</b>	<b>1/18/02</b>	<b>\$150.00</b>
			<b>Quality &amp; Technical Requirements: See attached documentation.</b>						
			<i>Quality Affecting Procurement</i>						

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 CONSUMABLE
- b ☐ G-2 DELIVERABLE
- c ☐ 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:

c INSPECTION CRITERIA

*PI to inspect upon receipt*

d QA APPROVAL (IF REQUIRED) DATE

*Mark R. Johnston 1/10/02*

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

EXT. NO.

**Darrell Dunn****6090**

DEPT. / DIVISION APPROVAL

DATE

*Dr. V. J. Jain**1/10/02*

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

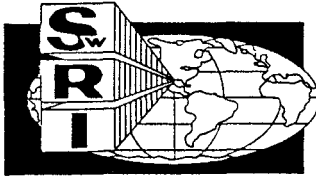
DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE





**CNWRRA** *A center of excellence in earth  
sciences and engineering*

6220 Culebra Road · San Antonio · Texas, U.S.A. 78228-5166

Darrell S. Dunn  
Bldg. 57  
Phone: (210) 522-6090  
Fax: (210) 522-5184  
E-Mail: [ddunn@swri.org](mailto:ddunn@swri.org)

Bill Scorzo  
Conam Inspection

Dear Mr. Scorzo,

Enclosed please find the heat of Alloy C-22 (heat #2277-1-3164) submitted for chemical analyses. Per our previous phone conversation I need to have the specimen analyzed for the Ni, Cr, Mo, W, Fe, C, Co, Cu, Mn, P, S, Si, and V. According to the vendor, the material heats are within the chemical composition ranges specified in ASTM B-575-99a. The chemical composition of UNS 06022, specified in ASTM B575-99a and listed in the UNS, 6<sup>th</sup> edition is provided below.

Cr: 20.0 - 22.5  
Mo: 12.5 - 14.5  
W: 2.5 - 3.5  
Fe: 2.0 - 6.0  
C: 0.015 max  
Co: 2.5 max  
Mn: 0.50 max  
P: 0.02 max  
S: 0.02 max  
Si: 0.08 max  
V: 0.35 max  
Ni: balance

I have provided a copy of ASTM B575-99a copy of the alloy composition listed in the UNS, 6<sup>th</sup> edition, and copies of the mill test reports.

The chemical analyses performed by Conam Inspection should provide the chemical composition of the alloy heats and should specify the heat number of the material. The analyses should conclusively determine if the heats submitted are within the specifications listed in ASTM B-575-99a. Any discrepancy between

the chemical analyses performed by Conam Inspection and the specifications of ASTM B-575-99a should be clearly identified. The method of analyses for each element and the measurement uncertainty must be identified. If multiple analyses or multiple analysis methods are performed, the results from all measurements should be presented along with measurement uncertainty. Finally, the remaining material should be returned to me at Southwest Research Institute so these samples are available to our QA department.

Please call me if you have any questions. Thank you for your assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "Darrell S. Dunn".

Darrell S. Dunn

## Southwest Research Institute

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 293376W

Page: 1

Date Printed: 03/04/2002

Order To: DURO-SENSE  
20801 HIGGINS COURT  
TORRANCE, CA 90501

110340

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: 3105336877 / 3105330330 JAY / ROSS

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
03/05/02	Robert Wolfe	NET 15	SHIPPING POINT		FED X 1 DAY	D.DUNN BLDG 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC MTC-D-12521-U-SP-24-DBOA TYPE K THERMOCOUPLES 1/8" DIAMETER INCONEL SHEATH 24 INCHES LONG  Req: 609769  Prime Contract #: NRC0297009 AOP: 704-000 1.20  Priority: NONE 01402.571		EA	03/06/02	03/01/02	18.0000	36.5000	\$657.00
2	MISC LOT CERTIFICATION FOR THERMOCOUPLES IN LINE ITEM A AT 1140 DEGREES C, 700 DEGREES C, AND 300 DEGREES C  Req: 609769  Prime Contract #: NRC0297009 AOP: 704-000 1.20  Priority: NONE 01402.571  QUALITY AFFECTING PURCHASE: QUALITY & TECHNICAL REQUIREMENTS: LOT CERTIFICATION FOR THERMOCOUPLES AT 1140, 700, AND 300 DEGREES C.  PI TO INSPECT ON RECEIPT.  Bill To: Southwest Research Institute		EA	03/06/02	03/01/02	1.0000	55.0000	\$55.00

Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 293376W

Page: 2  
Date Printed: 03/04/2002

Order To: DURO-SENSE  
20801 HIGGINS COURT  
TORRANCE, CA 90501

110340

Contact: 3105336877 / 3105330330 JAY / ROSS

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
03/25/02	Robert Wolfe	NET 15	SHIPPING POINT		FED X 1 DAY	D.DUNN BLDG 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510						PO Total Amt:	\$712.00
	<hr/> Authorized Signatures							



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE <b>2/14/02</b>	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. <b>609769</b>
------------------------------------	------------	-----------------------	---------------------------

SUGGESTED OR PREVIOUS SUPPLIER <b>Duro-Sense Corporation</b>		DELIVER TO <b>D. Dunn/bldg. 57</b>		PURCHASING SELECTED SUPPLIER	
CITY, STATE <b>Torrance, CA 90501</b>		SHIP VIA			
ATTN: <b>Ross Rossi</b>		F.O.B.		SUPPLIER CODE	ATTN
PHONE <b>310/533-6877</b>	FAX <b>310/533-0300</b>	TERMS		PHONE	FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	18	EA	MTC-D-12521-U-SP-24-DBOA Type K thermocouples 1/8" diameter Inconel sheath 24 inches long	20	01402	571	100		36.50
B	1	EA	Lot certification for thermocouples in line item A at 1140 degrees C, 700 degrees C, and 300 degrees C	"	"	"	"	"	55.00
			Quality affecting purchase.						
			Quality & Technical Requirements: Lot certification for thermocouples at 1140, 700, and 300 degrees C.						

INTERNAL NOTES TO BUYER	SPECIAL INSTRUCTIONS TO SUPPLIER	TOTAL
-------------------------	----------------------------------	-------

<b>1. Government Project?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, CHECK THE APPROPRIATE PROPERTY TYPE (SEE BACK FOR EXPLANATION OF PROPERTY TYPES) a <input checked="" type="checkbox"/> G-1 CONSUMABLE b <input type="checkbox"/> G-2 DELIVERABLE c <input type="checkbox"/> G-3 ACCOUNTABLE / REPORTABLE d IS GOVT. PROPERTY BEING SENT TO SUPPLIER? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<b>2. QUALITY ASSURANCE?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO a. ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b. Q A CODES: <b>Q3, Q1</b> c. INSPECTION CRITERIA <b>PI To inspect on Receipt.</b> d. QA APPROVAL (IF REQUIRED) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <b>Barrell Dunn</b> <b>2/15/02</b>	<b>3. SOURCING NOTES</b> IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFACTURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY YOUR NEED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YOU HAVE SUGGESTED A SUPPLIER, AND NO OTHER SUPPLIER WILL MEET YOUR NEEDS, PLEASE ATTACH A MEMO OF EXPLANATION. REQUESTOR'S SIGNATURE <b>Barrell Dunn</b> EXT. NO. <b>6090</b> DEPT. / DIVISION APPROVAL <b>J. Caporale</b> DATE <b>2/14/02</b> ADMIN. APPROVAL _____ DATE _____	<b>4. REPAIRS</b> a IS THIS REQ. FOR A REPAIR? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b IS THE REPAIR ON OR OFF CAMPUS? <input type="checkbox"/> ON <input type="checkbox"/> OFF c IF OFF CAMPUS PROVIDE SHIPPING TICKET NO. _____
---	---	--	---

CONTRACT REVIEW APPROVAL	DATE	BUYER SIGNATURE	DATE	SEE INSTRUCTIONS ON REVERSE SIDE
--------------------------	------	-----------------	------	----------------------------------

Project: 01402.571  
 Title: CONTAINER LIFE & SOURCE T  
 Client: US NRC  
 Manager: Jain, Vijay

Owning Org: 20  
 Contract: NRC0297009  
 Type: CPAF  
 Manager's Org: 20.05.04

Period 6 (4WK 03/15/02)  
 Sub Contract:  
 PO ID: NONE  
 Acct Grp CD: GCW

Sub Period	JE Number	Org ID	PO Number	Voucher Number	Description	Amount
1	APV	1.20		10122360	THE AMERICAN CERAMIC	830.00
1	APV	1.20		10123076	FEDERAL EXPRESS CORP.	18.38
1	APV	1.20		10124956	THE DIALOG CORPORATION	2.05
1	APV	1.20		10125169	FEDERAL EXPRESS CORP.	5.34
1	APV	1.20	<u>270179N</u>	10123157	CONAM KAWIN	80.00
1	APV	1.20	<u>270181N</u>	10122570	CONAM KAWIN	160.00
2	17	1.20			12844 Report Services	70.51
2	5002	1.20			COPY CHARGES	4.02
2	APV	1.20		10125787	TAD TECHNICAL SERVICES CO	27.63
2	APV	1.20		10128279	FEDERAL EXPRESS CORP.	7.71
2	APV	1.20		10128476	FEDERAL EXPRESS CORP.	16.46
2	APV	1.20		10128913	TAD TECHNICAL SERVICES CO	9.21
2	APV	1.20		10129050	FEDERAL EXPRESS CORP.	11.32
Total						1,242.63

1402.571



SOUTHWEST RESEARCH INSTITUTE™

2/1/02

270181N

609760 ✓

SUGGESTED OR PREVIOUS SUPPLIER

Conan Inspection

CITY, STATE

Glendale, IL 60139

ATTN:

Bill Scrozo

PHONE

630/681-0008

FAX

630/871-5520

DELIVER TO

D. Dunn/bldg. 57

SHIP VIA

F.O.B.

TERMS

PURCHASING SELECTED SUPPLIER

SUPPLIER CODE

ATTN

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	1	EA	Chemical analyses of Alloy C-22						
			Heat 2277-013133	20	01002	571	100	2/8/02	150.00
B	1	EA	Chemical analyses of Alloy 22 base						
			metal and as deposited						
			Weld metal heat 059902LL/xx2048BG	20	01402	571	100	2/8/02	300.00
			Quality & Technical Requirements: See attached documentation.						
			Quality Affecting Purchase and						
			2/1/02						

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:

Q20

c INSPECTION CRITERIA

PI to inspect upon receipt.

d QA APPROVAL (IF REQUIRED)

DATE

DATE

BUYER SIGNATURE

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

EXT. NO.

Darrell Dunn

6090

DEPT./DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

SEE INSTRUCTIONS ON REVERSE SIDE



**CNWRRA** *A center of excellence in earth  
sciences and engineering*

6220 Culebra Road · San Antonio · Texas, U.S.A. 78228-5166

January 31, 2002

Darrell S. Dunn  
Bldg. 57  
Phone: (210) 522-6090  
Fax: (210) 522-5184  
E-Mail: [ddunn@swri.org](mailto:ddunn@swri.org)

Bill Scorzo  
Conam Inspection

Dear Mr. Scorzo,

Enclosed please find the heat of Alloy C-22 heat # 2277-1-3133 (Haynes International) submitted for chemical analyses. Per our previous phone conversation, I need to have the specimen analyzed for the Ni, Cr, Mo, W, Fe, C, Co, Cu, Mn, P, S, Si, and V. According to the vendor, the material heats are within the chemical composition ranges specified in ASTM B-575-99a. The chemical composition of UNS 06022, specified in ASTM B575-99a and listed in the UNS, 6<sup>th</sup> edition is provided below.

Cr: 20.0 - 22.5  
Mo: 12.5 - 14.5  
W: 2.5 - 3.5  
Fe: 2.0 - 6.0  
C: 0.015 max  
Co: 2.5 max  
Mn: 0.50 max  
P: 0.02 max  
S: 0.02 max  
Si: 0.08 max  
V: 0.35 max  
Ni: balance

I have provided a copy of ASTM B575-99a copy of the alloy composition listed in the UNS, 6<sup>th</sup> edition, and copies of the mill test reports.

Also enclosed is a welded Alloy 22 heat 059902LL2 (Allegheny Ludlum) plate. The plate was welded

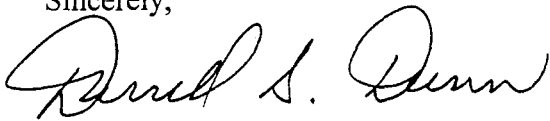


using Filler heat XX2048BG (Inco Alloys). The Mill certificates for the base metal and the filler metal are enclosed. A chemical analyses of the base metal and the as deposited filler metal is required.

The chemical analyses performed by Conam Inspection should provide the chemical composition of the alloy heats and should specify the heat number of the material. The chemical analyses report should include the heat number of the base metal for the analyses conducted outside the weld fusion zone, and the heat number of both the base alloy and the filler metal for the analyses of the as deposited weld. The analyses should conclusively determine if the heats submitted are within the specifications listed in ASTM B-575-99a. Any discrepancy between the chemical analyses performed by Conam Inspection and the specifications of ASTM B-575-99a should be clearly identified. The method of analyses for each element and the measurement uncertainty must be identified. If multiple analyses or multiple analysis methods are performed, the results from all measurements should be presented along with measurement uncertainty. Finally, the remaining material should be returned to me at Southwest Research Institute so these samples are available to our QA department.

Please call me if you have any questions. Thank you for your assistance.

Sincerely,

A handwritten signature in cursive script, reading "Darrell S. Dunn". The signature is written in black ink and is positioned below the word "Sincerely,".

Darrell S. Dunn



# SOUTHWEST RESEARCH INSTITUTE™

6220 CULEBRA • SAN ANTONIO, TX 78238-5166

(210) 684-5111

(FOR SHIPPING DEPT. USE ONLY)  
DATE SHIPPED:

SHIPPING TICKET NO.

391341

(THIS IS NOT A P.O. NO.)

DATE: 2/1/02

**PRIOR TO REPAIR OF ANY ITEM MENTIONED BELOW, PLEASE CONTACT (210) 522-3074 WITH ESTIMATE AND FOR P.O. NO.**

<b>SHIP TO</b>	COMPANY NAME <b>Conam Inspection</b>		Please check box for method of shipment to and from Vendor  Circle specific method of shipment			
	ATTN: <b>Bill Scorzo</b>					
	STREET ADDRESS <b>194 International Blvd.</b>		<b>SHIP VIA</b>	<b>TO VENDOR</b>	<b>RETURN TO SWRI</b>	
	CITY/PROVINCE <b>Glendale Heights,</b>		MOTOR FREIGHT <input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	STATE/COUNTRY <b>IL</b>		AIR FREIGHT (PRIORITY AIR GENERAL CARGO) <input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
ZIP CODE <b>60139</b>		UPS (1 day, 2 day, 3 day or 7-10 days) <input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
VENDOR PHONE NO.		FEDERAL EXPRESS (1 day, 2 days) <input checked="" type="checkbox"/> <b>P1</b>		<input type="checkbox"/>	<input type="checkbox"/>	
FAX		SATURDAY DELIVERY <input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
R.M.A. NO.		OTHER <input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
SwRI DRIVER				<input type="checkbox"/>	<input type="checkbox"/>	
PPD. <input type="checkbox"/> COLL. <input type="checkbox"/>		INSURE FOR		DECLARED VALUE		
GOVT. PROJ. <input checked="" type="checkbox"/>		ORG. <b>20</b>		BLDG. NO. <b>57</b>		
PURCHASE ORDER NO.						
AIR BILL OR W/B NO.		ACCOUNT OR PROJECT NO. <b>20.01402.571</b>		SWRI REQ. NO. <b>609760</b>		
SENDER'S NAME <b>D. Dunn</b>		EXT. <b>6090</b>				

QUANTITY	DESCRIPTION & SERIAL NO.	ORIGINAL P.O., S.O., R.O., C.O.D./REQ. NO. B/O
1	Alloy C-22 heat 2277-1-3133	
1	Welded Alloy 22 059902LL2 filler xx2048BG	

S.W.R.I. BUYER		BUYER NOTIFIED <input type="checkbox"/>	Please indicate if items are HAZARDOUS MATERIAL <input type="checkbox"/> YES <input type="checkbox"/> NO
NO. OF PACKAGES	TYPE OF PACKAGE <input type="checkbox"/> BOX <input type="checkbox"/> CRATE <input type="checkbox"/> DRUM <input type="checkbox"/> PALLET <input type="checkbox"/> OTHER	WEIGHT	DIMENSIONS (Length x Width x Height)

REASON FOR SHIPMENT AND/OR REMARKS				
<input type="checkbox"/> REPAIR (INDICATE PROBLEM IN REMARKS AREA)	<input type="checkbox"/> WARRANTY	<input type="checkbox"/> CREDIT	<input type="checkbox"/> CREDIT LESS RESTOCKING CHG.	<input type="checkbox"/> EXCHANGE
<input type="checkbox"/> OTHER (EXPLAIN IN REMARKS AREA)				

<b>REMARKS</b>	

DATE SHIPPED	VENDOR	Dept. Approval Signature
RECEIPT BY:		

THIS FORM TO BE USED FOR ANYTHING SHIPPED FROM S.W.R.I.

## IMPORTANT

PACKING LIST (PINK COPY) SHOULD BE ATTACHED TO THE OUTSIDE OF THE CONTAINER, REMAINDER OF SHIPPING TICKET SHOULD BE SENT TO SHIPPING. PART 5 (GOLDEN COPY) WILL BE SENT TO YOU FOR DEPARTMENT RECORDS.

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 270210N

Page: 1

Date Printed: 09/23/2002

Order To: CONAM INSPECTION  
FORMERLY CONAM KAWIN  
194 INTERNATIONAL BLVD.  
GLENDALE HEIGHTS, IL 60139

103744

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: FRANK      Ph: 630-681-0008/X167      Fax: 630-871-5520

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
09/02	Florence Cisneros	NET 30	SWRI		UPS	L.YANG/BLDG. 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).								
1	SERVICES 01 SERVICE PURCHASE ORDER CHEMICAL ANALYSIS OF COUPON 286643S		EA	09/25/02	09/25/02	1.0000	80.0000	\$80.00
				Req: 624956				
	Prime Contract #: NRC0297009 AOP: 705-000 1.20			Priority: NONE 01402.571				
2	SERVICES 01 SERVICE PURCHASE ORDER CHEMICAL ANALYSIS OF COUPON 183132S		EA	09/25/02	09/25/02	1.0000	80.0000	\$80.00
				Req: 624956				
	Prime Contract #: NRC0297009 AOP: 705-000 1.20			Priority: NONE 01402.571				
3	SERVICES 01 SERVICE PURCHASE ORDER CHEMICAL ANALYSIS OF COUPON 184439S		EA	09/25/02	09/25/02	1.0000	80.0000	\$80.00
				Req: 624956				
	Prime Contract #: NRC0297009 AOP: 705-000 1.20			Priority: NONE 01402.571				

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 270210N

Date Printed: 09/23/2002

Order To: CONAM INSPECTION  
FORMERLY CONAM KAWIN  
194 INTERNATIONAL BLVD.  
GLENDALE HEIGHTS, IL 60139

103744

Contact: FRANK Ph: 630-681-0008/X167 Fax: 630-871-5520

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
01 '9/02	Florence Cisneros	NET 30	SWRI		UPS	L.YANG/BLDG. 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	1) COUPONS SUPRACE MUST BE CLEANED THOROUGHLY TO AVOID CONTAMINANT EFFECT ON ANALYSIS. 2) COMPLETE CHEMICAL ANALYSIS FOR CONFIRMATION OF MATERIAL (Cr, Zn, Tin, AND Nb MUST BE INCLUDED FOR LINE ITEM #1)).  QUOTE # 9/6/02-SOUTHWEST RESEARCH INSTITUTE  THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN FIVE (5) WORKING DAYS.  AGREED & ACCEPTED: _____  DATE: _____  "IF THIS ORDER INCLUDES A GOVERNMENT CONTRACT NUMBER, THEN ANY PROPERTY FURNISHED HEREWITH IS CONSIDERED GOVERNMENT-FURNISHED PROPERTY WHICH MUST BE ACCOUNTED FOR IN ACCORDANCE WITH FAR, PART 45. REFER TO GENERAL PURCHASE ORDER TERMS AND CONDITIONS FOR RISK OF LOSS."  CERTIFIED INSPECTION/TEST DATA IS REQUIRED WITH SHIPMENT OF PARTS, MATERIALS, AND FOR SERVICES.  Your organization will provide services to the Center for Nuclear Waste Regulatory Analyses(CNWRA) in accordance with the requirements of your quality system or that of the CNWRA Quality Assurance Manual. any special technical or QA procedures required in the performance of your staff members' work will be provided. Special CNWRA requirements apply to scientific and engineering software and must be followed. Your organization's product will be accepted based on an evaluation by the CNWRA Principal Investigator or technical staff member and will be returned for rework at Seller's expense if the product does not meet CNWRA requirements. If scientific notebooks are utilized, they are subject to periodic review and must be returned at the conclusion of work to the CNWRA QA Records Room, or invoice remittance will be withheld. Additionally, there shall be "right of access" to your facility to confirm effective implementation of the quality requirements							

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 270210N

Page: 3

Date Printed: 09/23/2002

Order To: CONAM INSPECTION  
FORMERLY CONAM KAWIN  
194 INTERNATIONAL BLVD.  
GLENDALE HEIGHTS, IL 60139

1.03744

Contact: FRANK      Ph: 630-681-0008/X167      Fax: 630-871-5520

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO
05/19/02	Florence Cisneros	NET 30	SWRI		UPS	L.YANG/BLDG. 57

LINE	ITEM/DESCRIPTION	REV	U/M	DATE	DUE DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	<p>with the possibility of audits, source inspections, or surveillances. Any special documentation requirements shall be specified in the purchase order and will be supplied to the CNWRA with the product. The Seller shall notify CNWRA QA of any nonconformance to the requirements of this purchase order; further work shall not be done unless directed by CNWRA Director of QA at (210) 522-5149.</p> <p>SERVICES RENDERED BY SELLER FOR INSTITUTE AND SELLER'S AND INSTITUTE'S RESPECTIVE RELATIONSHIP IN ALL MATTERS RELATED TO THIS PURCHASE ORDER SHALL BE AS INDEPENDENT CONTRACTOR AND NOT AS EMPLOYEE, AGENT OR SERVANT. SELLER SHALL OBEY ALL FEDERAL, STATE, AND LOCAL SAFETY AND HEALTH REGULATIONS IN THE PERFORMANCE OF THE SERVICES TO BE SUPPLIED HEREUNDER, AND WHILE ON THE PREMISES OF THE INSTITUTE.</p> <p>SELLER HEREBY AGREES TO FOREVER RELEASE &amp; HOLD HARMLESS INSTITUTE FROM ANY &amp; ALL CAUSE OR CAUSES OF ACTION, INCLUDING PERSONAL INJURY, ILLNESS, DEATH, &amp; PROPERTY DAMAGE, COSTS, CHARGES, CLAIMS, DEMANDS, &amp; LIABILITIES OF WHATEVER KIND, NAME OR NATURE, ARISING FROM THE PERFORMANCE OF ANY SERVICES HEREUNDER AND HOWSOEVER THE SAME BE CAUSED; EXCEPT AS A RESULT OF THE SOLE NEGLIGENCE OF THE INSTITUTE.</p> <p>CONTRACTOR INSURANCE - SELLER SHALL COMPLY WITH THE INSURANCE REQUIREMENTS EXHIBIT ATTACHED TO THIS PURCHASE ORDER AND PROVIDE CERTIFICATE OF INSURANCE MEETING THESE REQUIREMENTS PRIOR TO THE START OF WORK. FAILURE TO COMPLY CAN RESULT IN DELAY OF PAYMENT.</p> <p>BY ACCEPTANCE OF THIS PURCHASE ORDER FOR THE PERFORMANCE OF SERVICES REQUIRED, THE SELLER AGREES AND COVENANTS THAT THE FOLLOWING CONDITIONS ARE MET WHEN PROVIDING ANY EMPLOYEE OF SELLER:</p> <p>1. NONE OF SELLER'S EMPLOYEES WHO PROVIDE SERVICES TO BUYER</p>							

## Southwest Research Institute

6220 Culebra Road

San Antonio, TX 78238-5166

Purchase Order: 270210N

Page: 4

Date Printed: 09/23/2002

Order To: CONAM INSPECTION  
 FORMERLY CONAM KAWIN  
 194 INTERNATIONAL BLVD.  
 GLENDALE HEIGHTS, IL 60139

103744

Contact: FRANK Ph: 630-681-0008/X167 Fax: 630-871-5520

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
09/19/02	Florence Cisneros	NET 30	SWRI		UPS	L.YANG/BLDG. 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	<p>PURSUANT TO THIS PURCHASE ORDER ARE UNAUTHORIZED ALIENS AS DEFINED IN THE IMMIGRATION REFORM AND CONTROL ACT OF 1986; AND</p> <p>2. IF SELLER'S EMPLOYEES ARE FOREIGN NATIONAL WORKERS PRESENT IN THE UNITED STATES UNDER A NONIMMIGRANT VISA CATEGORY THAT CARRIES AUTHORIZATION TO WORK, SELLER WILL FURNISH TO BUYER A COPY OF THE APPROPRIATE WORK AUTHORIZATION DOCUMENT FOR EACH FOREIGN NATIONAL WORKER VERIFYING THE WORK AUTHORIZATION, INCLUDING BUT NOT LIMITED TO COPY OF EMPLOYMENT AUTHORIZATION DOCUMENT, APPROVED FORM I-797 AND CERTIFIED LABOR CONDITION APPLICATION, OR OTHER ACCEPTABLE DOCUMENTATION. SUCH EMPLOYEES WILL ONLY BE UTILIZED TO PERFORM SERVICES WHICH ARE NOT EXPORT CONTROLLED; AND</p> <p>3. ALL OF SELLER'S EMPLOYEES WHO ARE TO PERFORM SERVICES WHICH ARE EXPORT CONTROLLED SHALL BE UNITED STATES CITIZENS OR LEGAL PERMANENT RESIDENTS OF THE UNITED STATES.</p> <p>Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510</p> <p>Authorized Signatures</p>							
							PO Total Amt:	\$240.00

Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 270210N

Page: 5  
Date Printed: 09/23/2002

Order To: CONAM INSPECTION  
FORMERLY CONAM KAWIN  
194 INTERNATIONAL BLVD.  
GLENDALE HEIGHTS, IL 60139

103744

Contact: FRANK Ph: 630-681-0008/X167 Fax: 630-871-5520

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
01/19/02	Florence Cisneros	NET 30	SWRI		UPS	L.YANG/BLDG. 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE

9/19/02

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

✓624956

SUGGESTED OR PREVIOUS SUPPLIER

Conam

DELIVER TO

L. Yang/bldg. 57

PURCHASING SELECTED SUPPLIER

CITY, STATE

Glendale Heights, IL

SHIP VIA

ATTN:

Frank Donmez

F.O.B.

SUPPLIER CODE

ATTN

PHONE

630/681-0008 x167

FAX

TERMS

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	1	EA	Chemical analysis of coupon 286643s	20	01402	571	100	9/25/02	80.00
B	1	EA	Chemical analysis of coupon 183132s	20	01402	571	100	9/25/02	80.00
C	1	EA	Chemical analysis of coupon 184439s	20	01402	571	100	9/25/02	80.00
			Note: (1) Coupons surface must be cleaned thoroughly to avoid contamination effect on analysis. (2) Complete chemical analysis for confirmation of material (Cr, Zn, Tin, and Nb must be included for line item #1).						

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 CONSUMABLE
- b ☐ G-2 DELIVERABLE
- c ☐ G-3 ACCOUNTABLE / REPORTABLE
- d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?

☐ YES

☒ NO

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

b QA CODES:

Q12, Q20

c INSPECTION CRITERIA

P.I. to inspect as per QAP-016

d QA APPROVAL (IF REQUIRED)

9/20/02 DATE

## 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

EXT. NO.

Lietai Yang

2483

DEPT. DIVISION APPROVAL

DATE

ADMIN. APPROVAL

DATE

9/19/02

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE



**STAVELEY  
SERVICES****Facsimile****AM Inspection  
Materials Analysis Group**194 Internationale Boulevard  
Glendale Heights, IL 60139Telephones: (800) 537-4012  
(630) 681-0008  
Facsimile: (630) 871-5520Certificate # 286.01  
Certificate # 286.02

---

To: **LIETAI YANG**  
Customer Name: **SOUTHWEST RESEARCH INSTITUTE**  
Quote # **9/6/02-Southwest Research Institute**  
Customer #: **7010**  
Phone: **210-522-2483** Fax: **210-522-5184**  
Address: **6220 Culebra Road, San Antonio, TX 78284**  
Bill To Address:

---

From: **Frank Donmez** Phone# **630-681-0008 EXT: 167**  
Sales Representative Cell Phone# **847-712-8114**  
e-mail: **frank.donmez@conaminsp.com**

---

Date: **9/6/02** Pages: **1 of 1**

---

- Please send this quote with the specimens.
- Provide a UPS Account # if you would like the samples back after testing.
- Please send the specimens to: **194 Internationale Boulevard  
Glendale Heights, IL 60139.**

Attn: **Frank Donmez**

**CHEMICAL ANALYSIS**

Number of Samples: **3 coupons**

Full Chemical Analysis: @ \$ 80 each x 3 coupons:..... **\$ 240**  
(Must include Chromium, Zinc, Tin, and Niobium)

**TOTAL:..... \$ 240**

Net 30 Days Minimum Billing Charge \$50  
Turn Around Time 2-3 Days upon receipt of samples

Regards,

Frank Donmez  
Sales Representative



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE

9/19/02

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

✓624956

SUGGESTED OR PREVIOUS SUPPLIER

Conam

CITY, STATE

Glendale Heights, IL

ATTN:

Frank Donmez

PHONE

630/681-0008 x167

FAX

DELIVER TO

L. Yang/bldg. 57

SHIP VIA

F.O.B.

TERMS

PURCHASING SELECTED SUPPLIER

SUPPLIER CODE

ATTN

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	1	EA	Chemical analysis of coupon 286643s	20	01402	571	100	9/25/02	80.00
A	1	EA	Chemical analysis of coupon 183132s	20	01402	571	100	9/25/02	80.00
C	1	EA	Chemical analysis of coupon 184439s	20	01402	571	100	9/25/02	80.00
Note: (1) Coupons surface must be cleaned thoroughly to avoid contamination effect on analysis. (2) Complete chemical analysis for confirmation of material (Cr, Zn, Tin, and Nb must be included for line item #1).									
<i>Quality Affecting Purchase</i> <i>9/20/02</i>									
<i>Purchasing - The attached quote was inadvertently left off of the req. Please attach to P.R. 624956. original.</i>									

INTERNAL NOTES TO BUYER

SPECIAL INSTRUCTIONS TO SUPPLIER

TOTAL

Roseanne

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:

Q12, Q20

c INSPECTION CRITERIA

P.I. to inspect as per QAP-016

d QA APPROVAL (IF REQUIRED)

9/20/02 DATE

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

EXT. NO.

Lietai Yang

2483

DEPT. DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

6220 Culebra Road  
San Antonio, TX 78238-5166

Page: 1  
Date Printed: 08/21/2002

Order To: TECHNOLOGY & CALIBRATION, INC.  
4120 SIEGEL ST.  
HOUSTON, TX 77009

111373

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
08/22/02	Karen Keener	NET 30	SHIPPING POINT		UPS GROUND	R. CRUZ/B 64		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
1	05 CALIBRATION OF AMETEK DEAD WEIGHT TESTER SN: 94214 MODEL# T-100		EA	08/23/02	08/23/02	1.0000	300.0000	\$300.00
<p>***** * C O N F I R M A T I O N * *****</p> <p>This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).</p> <p>Req: 584294</p> <p>Prime Contract #: NRC0297009      Priority: NONE AOP: 705-000 1.20      01402.571</p> <p>INVOICE# 57035</p> <p>ST# 399596</p> <p>SWRI QA RECEIVING INSPECTION CRITERIA: OP-10.2-30-1</p> <p>THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN FIVE (5) WORKING DAYS.</p> <p>AGREED &amp; ACCEPTED: _____</p> <p>DATE: _____</p> <p>RECEIVING DO NOT INSPECT.</p> <p>Bill To:</p>								

Order To: TECHNOLOGY & CALIBRATION, INC.  
 4120 SIEGEL ST.  
 HOUSTON, TX 77009

111373

Ph: 713-692-1600

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO	
02/02/02	Karen Keener	NET 30	SHIPPING POINT		UPS GROUND	R. CRUZ/B 64	
LINE	ITEM/DESCRIPTION	REV	DUE U/M DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510					PO Total Amt:	\$300.00
	Authorized Signatures						

Page: 1  
Date Printed: 06/07/2002

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: RON HALL Ph: 541-967-6911 Fax: 541-967-6994

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
06/06/02	Jimmie Silvers	NET 30	SHIPPING POINT		UPS BLUE	LIETAI YANG/57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * * DUPLICATE PO * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC ZR-4 ANNEALED 0.5 BAR STOCK, ( APPROX. 25 FEET ) 1.) QUALITY & TECHNICAL REQUIREMENTS: SPECIFICATION AS PER ASTM B351, ITEM NAME AND HEAT NUMBER PROPERLY IDENTIFIED ON BAR. 2.) MATERIAL MUST BE FROM SAME HEAT AND FROM SAME BAR. ALL 25- FEET MUST BE CUT FROM THE SAME HEAT AND BAR. 3.) MATERIALS WILL BE USED FOR THE HLW PROJECT, IDEPENDENT CONFIRMATORY CHEMICAL ANALYSIS TO BE PERFORMED AFTER RECEIVING  Req: 610159  Prime Contract #: NRC0297009                      Priority: NONE AOP: 704-000 1.20                                      01402.571  OK TO CUT FOR UPS SHIPMENT  THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN 5 WORKING DAYS.  AGREED & ACCEPTED: _____  DATE: _____  2. DO YOU QUALIFY AS A SMALL DISADVANTAGED BUSINESS CONCERN? YES____ NO____ *SMALL DISADVANTAGED: A CONCERN OWNED & CONTROLLED BY MINORITIES, WHICH INCLUDES BLACK, HISPANIC, NATIVE, OR ASIAN- PACIFIC. 3. ARE YOU A WOMAN OWNED BUSINESS? YES____ NO____ *	LOT 07/10/02 07/10/02	1.0000	950.0000	\$950.00			

Order To: WAH CHANG  
P.O. BOX 460  
ALBANY, OR 97321

510529

Contact: RON HALL Ph: 541-967-6911 Fax: 541-967-6994

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
06/06/02	Jimmie Silvers	NET 30	SHIPPING POINT		UPS BLUE	LIETAI YANG/57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	WOMAN OWNED: A CONCERN THAT IS AT LEAST 51% OWNED BY A WOMAN OR WOMEN WHO ALSO ACTIVELY CONTROL & OPERATE THE BUSINESS. SUPPLIER SHALL SUPPLY A CERTIFICATE OF COMPLIANCE WITH THE PURCHASED ITEMS. INVOICE WILL NOT BE PAID UNTIL A CERTIFICATE OF COMPLIANCE HAS BEEN RECEIVED.							
	MATERIAL CERTIFICATION SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. CERTIFICATION SHALL VERIFY CONFORMANCE TO APPLICABLE SPECIFICATION(S) AND REFERENCE THE APPLICABLE HEAT NUMBER, LOT/BATCH NUMBER OR DATE CODE. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.							
	MILL TEST REPORT SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. TEST REPORT SHALL BE IN THE FORM OF A PRODUCTION BATCH ANALYSIS OR LADLE ANALYSIS. CHEMICAL AND/OR PHYSICAL TEST DATA SHALL BE PROVIDED. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.							
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510							
	Authorized Signatures							
							PO Total Amt:	\$950.00



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE

5/28/02

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

✓ 610159

SUGGESTED OR PREVIOUS SUPPLIER

Wah Chang

DELIVER TO

Lietai Yang/bldg. 57

PURCHASING SELECTED SUPPLIER

CITY, STATE

SHIP VIA

ATTN:

Rab Hall

F.O.B.

SUPPLIER CODE

ATTN

PHONE

541/967-6911

FAX

TERMS

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	25	Ft	Zr-4 annealed 0.5" bar stock,						
			minimum order (\$950.00)	20	01402	571	100	6/6/02	\$950.00
			1. Quality & Technical Requirements: Specification as per ASTM B351, item name and heat number properly identified on bar.						
			2. Material must be from same heat and from same bar. All 25-feet must be cut from the same heat & bar.						
			3. Materials will be used for the HLW project, independent confirmatory chemical analysis to be performed after receipt. <i>ing. VS. 7/8</i>						

INTERNAL NOTES TO BUYER

Wah Chang is not on the ASL. However, it is the manufacturer of the Zr-4 materials we used to buy from Metal Samples that is on the ASL.

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: Q1, Q3, Q4

c INSPECTION CRITERIA  
visual

d QA APPROVAL (IF REQUIRED)

DATE

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

EXT. NO.

Lietai Yang

2483

DEPT. / DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

**Southwest Research Institute**

6220 Culebra Road  
San Antonio, TX 78238-5166

**Purchase Order: 282134S**

Page: 1  
Date Printed: 08/14/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: MIKE RIDGEWAY

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
04/02	Jimmie Silvers	.5% 10	SHIPPING POINT		OUR TRUCK	DARRELL DUNN/B57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC CREVICE CORROSION TEST SPECIMENS 20-01402-571-006, REV 01, TYPE 1, MACHINED FROM MATERIAL AWAY FROM THE WELD AND HEAT AFFECTED ZONE AS PER DRAWING 20-01402-571-24  Req: 624933 QC Insp Required  Prime Contract #: NRC0297009      Priority: NONE AOP: 704-000 1.20      01402.571		EA	09/02/02	09/02/02	12.0000	133.2500	\$1,599.00
2	MISC CREVICE CORROSION TEST SPECIMENS 20-01402-571-006, REV 01, TYPE 2, MACHINED FROM MATERIAL NEAR THE WELD AND HEAT AFFECTED ZONE AS PER DRAWING 20-01402-571-24  Req: 624933 QC Insp Required  Prime Contract #: NRC0297009      Priority: NONE AOP: 704-000 1.20      01402.571		EA	09/02/02	09/02/02	12.0000	133.2500	\$1,599.00
3	MISC CREVICE CORROSION TEST SPECIMENS 20-01402-571-006, REV 01, TYPE 3, MACHINED FROM MATERIAL THAT INCLUDES THE WELD AND HEAT AFFECTED ZONE AS PER DRAWING 20-01402-571-24		EA	09/02/02	09/02/02	8.0000	133.2500	\$1,066.00



6220 Culebra Road  
San Antonio, TX 78238-5166

Page: 2  
Date Printed: 08/14/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Contact: MIKE RIDGEWAY

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
04/02	Jimmie Silvers	.5% 10	SHIPPING POINT		OUR TRUCK	DARRELL DUNN/B57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	QUALITY & TECHNICAL REQUIREMENTS: SPECIMENS MACHINED AS PER CNWRA DRAWING 20-01402.571-006, REV 1. DIMENSIONAL INSPECTION PER DIMENSIONS AND TOLERANCES IDENTIFIED IN CNWRA DRAWING 20-01402-571-006, REV 1. IS REQUIRED. CNWRA DRAWING 20-01402-571-024 IDENTIFIES SPECIMEN LOCATION. ATTACHED DRAWINGS AND QUOTES.							
	Req: 624933 QC Insp Required							
	Prime Contract #: NRC0297009 AOP: 704-000 1.20		Priority: NONE 01402.571					
	SWRI QA RECEIVING INSPECTION CRITERIA: QAP-016							
	THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN FIVE (5) WORKING DAYS.							
	AGREED & ACCEPTED: _____							
	DATE: _____							
	"IF THIS ORDER INCLUDES A GOVERNMENT CONTRACT NUMBER, THEN ANY PROPERTY FURNISHED HERewith IS CONSIDERED GOVERNMENT-FURNISHED PROPERTY WHICH MUST BE ACCOUNTED FOR IN ACCORDANCE WITH FAR, PART 45. REFER TO GENERAL PURCHASE ORDER TERMS AND CONDITIONS FOR RISK OF LOSS."							
	SUPPLIER SHALL FURNISH DIMENSIONAL INSPECTION DATA VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF THE FABRICATION DRAWINGS.							

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 282134S

Date Printed: 08/14/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Contact: MIKE RIDGEWAY

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
04/02	Jimmie Silvers	.5% 10	SHIPPING POINT		OUR TRUCK	DARRELL DUNN/B57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	MILL TEST REPORT SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. TEST REPORT SHALL BE IN THE FORM OF A PRODUCTION BATCH ANALYSIS OR LADLE ANALYSIS. CHEMICAL AND/OR PHYSICAL TEST DATA SHALL BE PROVIDED. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.							
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510						PO Total Amt:	\$4,264.00
	_____ Authorized Signatures							



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE 8/12/02	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. 624933
-----------------------------	------------	-----------------------	--------------------

SUGGESTED OR PREVIOUS SUPPLIER Texas Toolmakers		DELIVER TO Darrell/Dunn/bldg. 57		PURCHASING SELECTED SUPPLIER	
CITY, STATE		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	12	EA	Crevice corrosion test specimens 20-01402-571-006, rev. 01, type 1, machined from material away from the weld and heat affected zone as per drawing 20-01402-571-24	20	01402	571±	100	9/2/02	133.25
B	12	EA	Crevice corrosion test specimens 20-01402-571-006, rev. 01, type 2, machined from material near the weld and heat affected zone as per drawing 20-01402-571-24	20	01402	571	100	9/2/02	133.25
C	8	EA	Crevice corrosion test specimens 20-01402-571-006, rev. 1, type 3, machined from material that includes the weld and heat affected zone as per drawing 20-01402-571-24	20	01402	571	100	9/2/02	133.25

Quality & Technical Requirements: Specimens machined as per CNWRA drawing 20-01402-571-006, Rev. 1. Dimensional inspection per  
dimensions and tolerances identified in CNWRA drawing 20-01402-571-006, Rev. 1 is required. CNWRA drawing 20-01402-571-024  
identifies specimen location. Attached drawings and quotes.

INTERNAL NOTES TO BUYER	SPECIAL INSTRUCTIONS TO SUPPLIER	TOTAL
-------------------------	----------------------------------	-------

<b>1. Government Project?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, CHECK THE APPROPRIATE PROPERTY TYPE (SEE BACK FOR EXPLANATION OF PROPERTY TYPES) a <input checked="" type="checkbox"/> G-1 CONSUMABLE b <input type="checkbox"/> G-2 DELIVERABLE c <input type="checkbox"/> G-3 ACCOUNTABLE / REPORTABLE d IS GOVT. PROPERTY BEING SENT TO SUPPLIER? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<b>2. QUALITY ASSURANCE</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b QA CODES: Q11, Q4 c INSPECTION CRITERIA PI 10103 P52 CAP-016 d QA APPROVAL (IF REQUIRED) <input type="checkbox"/> YES <input type="checkbox"/> NO DATE 8/14/02	<b>3. SOURCING NOTES</b> IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFACTURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY YOUR NEED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> 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: [Signature] DATE 8/12/02 ADMIN. APPROVAL: [Signature] DATE	<b>4. REPAIRS</b> a IS THIS REQ. FOR A REPAIR? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b IS THE REPAIR ON OR OFF CAMPUS? <input type="checkbox"/> ON <input type="checkbox"/> OFF c IF OFF CAMPUS PROVIDE SHIPPING TICKET NO. _____
---	---	---	---

CONTRACT REVIEW APPROVAL	DATE	BUYER SIGNATURE	DATE	SEE INSTRUCTIONS ON REVERSE SIDE
--------------------------	------	-----------------	------	----------------------------------

# HERCO AIRCRAFT MACHINE INC.

BOX 240189 SAN ANTONIO, TEXAS 78224-0189

TELEPHONE: (210) 924-4734

FAX: (210) 923-7351

EMAIL: [mu-hercoacft@satax.fl.com](mailto:mu-hercoacft@satax.fl.com)



May 4, 2002

## QUOTE

TO: SWRI

Attn: DARRELL DUNN

Fax: 210-522-5184

### Your Reference:

Ref Number:	
Delivery	15 to 20 DAYS
Revision	
Ship Via	
Weight	

ID	
Condition	FN
Quote Validity	60 DAYS
FOB	ORIGIN
Terms	

Thank you for giving Herco the Opportunity to Quote.

Quantity	Part Number	Description	Unit Price	Total
12 EA		TYPE 1 SPECIMAN MACHINE COMPLETE PER DWG AND INSTRUCTIONS	\$240.00	\$2880.00
12 EA		TYPE 2 SPECIMAN MACHINE COMPLETE PER DWG AND INSTRUCTIONS	\$240.00	\$2880.00
8 EA		TYPE 3 SPECIMAN MACHINE COMPLETE PER DWG FROM WELD AREA AND INSTRUCTIONS	\$260.00	\$2080.00
CERTIFICATE OF CONFORMANCE:				
Total				\$7840.00

### NOTES:

SEE YOUR RFQ ATTACHMENT

### Estimated Costs:

Values Determined By Oral Or Written Quotations From Suppliers In Association With HERCO, Estimates For Production And Labor. Each Part Number And Description Corresponds To The Matching Part Found In Drawing Sheets.

POC: Melinda Uvalle

PLEASE CONTACT US IF YOU HAVE ANY QUESTION REGARDING PRICE AND DELIVERY

# 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:	
	1596		NEGOTIABLE	01111	MIKE RIDGWAY	
Customer:				Quote Good For:	Terms:	
SOUTHWEST RESEARCH INSTITUTE				90 DAYS	½% 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	Price Ea.	Total
1	12	20-01402-571-006	1	TYPE 1	133.25	\$1,599.00
2	12	20-01402-571-006	1	TYPE 2	133.25	\$1,599.00
3	8	20-01402-571-006	1	TYPE 3	133.25	\$1,066.00
						\$ 0.00
						\$ 0.00
						\$ 0.00
						\$ 0.00
						\$ 0.00
<b>Work Instructions:</b>						<b>Total</b> \$4,264.00

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: 4/26/02

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

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

Location of Crevice corrosion specimens  
CNWRA Drawing 20-01402-571-024

Page 2 of 2

be completed at time of order:

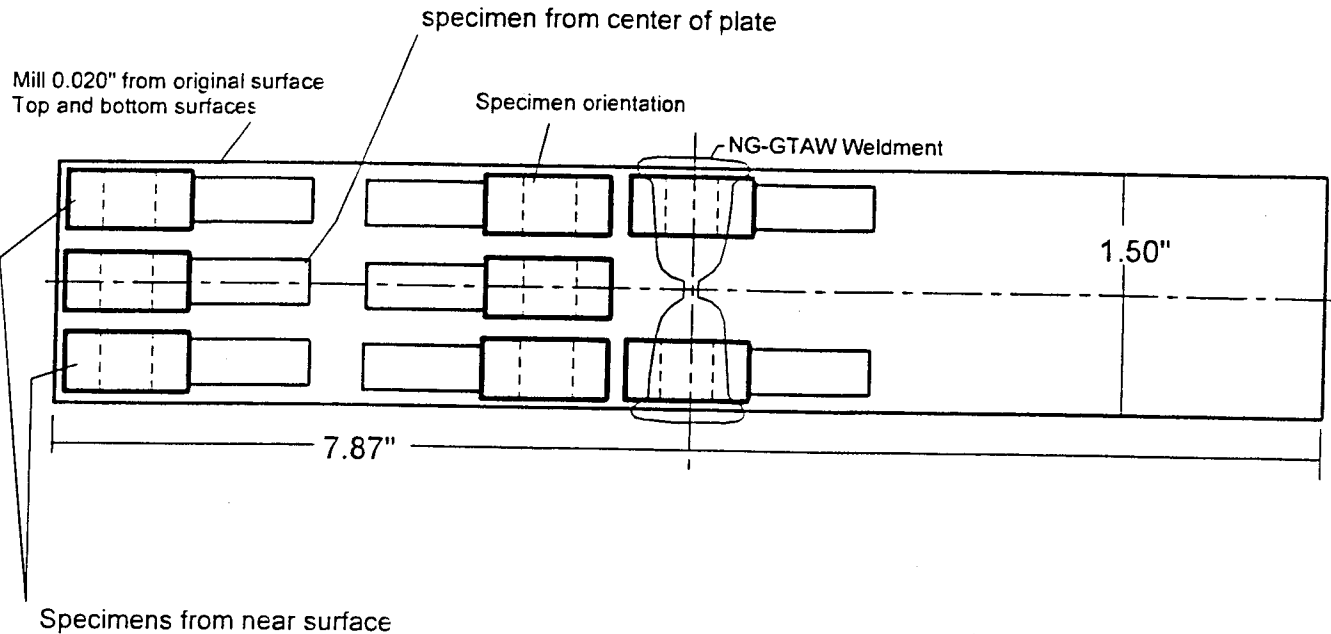
Material: Welded Alloy 22 NG-GTAW

(58Ni-22Cr-13.5Mo-3W-3Fe)

Heat: 059902LL2 & XX2048BG

Specimen Orientation: As shown

Other: Framatome D62X plate



*Darrell S. Dunn* 5/6/2002  
Initiated by. D. Dunn Date

*V. Jain* 5/6/02  
Reviewed by V. Jain Date

*B. Mabrito* 5/6/2002  
QA Approval B. Mabrito Date

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

Location of Crevice corrosion specimens  
CNWRA Drawing 20-01402-571-024  
Dimensional tolerances as specified

Page 1 of 2

to be completed at time of order:

Material: Welded Alloy 22 NG-GTAW  
(58Ni-22Cr-13.5Mo-3W-3Fe)

Heat: 059902LL2 & XX2048BG

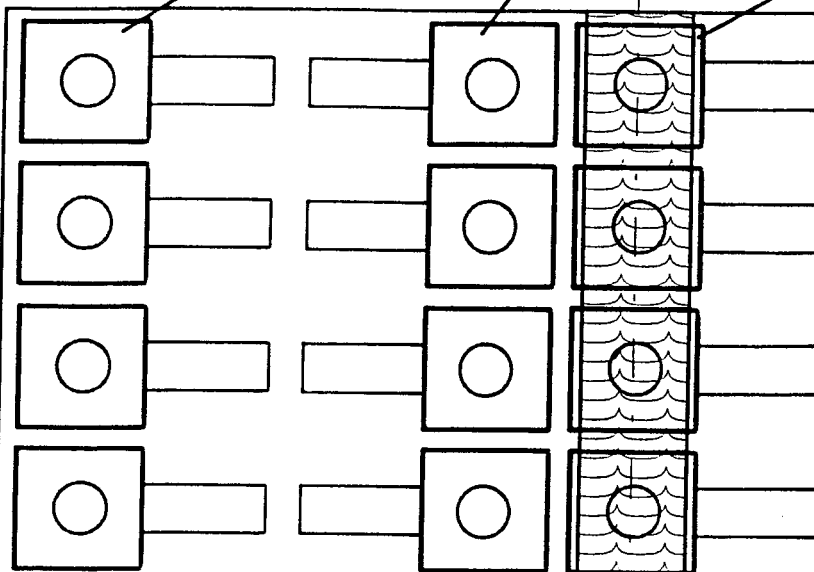
Specimen Orientation: As shown

Other: Framatome D62X plate

Type 1 specimen  
Far from weld and HAZ  
12 specimens  
Effect of Alloy composition  
and thermal stability

Type 2 specimen  
near weld and HAZ  
12 specimens  
Effect of Alloy composition  
and thermal stability

Type 3 specimen  
includes weld and HAZ  
8 specimens  
Effect of weld and  
induction annealing



Type 1 specimens:  
0.325" bore centered 0.450" +/- 0.020"  
from outside edge of plate  
specimens 0.400 thick  
3 specimens obtained from 1.5"  
plate thickness

Type 2 specimens  
0.325" bore centered  
0.875" +/- 0.020" from centerline of weld  
specimens 0.400 thick  
3 specimens obtained from 1.5"  
plate thickness

Type 3 specimens  
0.325" bore centered  
on centerline of weld +/- 0.020"  
Specimens 0.400" thick  
2 specimens obtained from  
1.5" plate thickness

Specimen layout assumes 0.125" for cutting

NG-GTAW

Alloy 22 D62X welded by Framatome ANP  
Dimensions:  
7.87" wide x 17.10" long x 1.50" thick

*Darrell Dunn* 5/6/2002  
Initiated by: D. Dunn Date

*V. Jain* 5/6/02  
Reviewed by: V. Jain Date

*B. Mabrito* 5/6/2002  
QA Approval B. Mabrito Date

7.87"

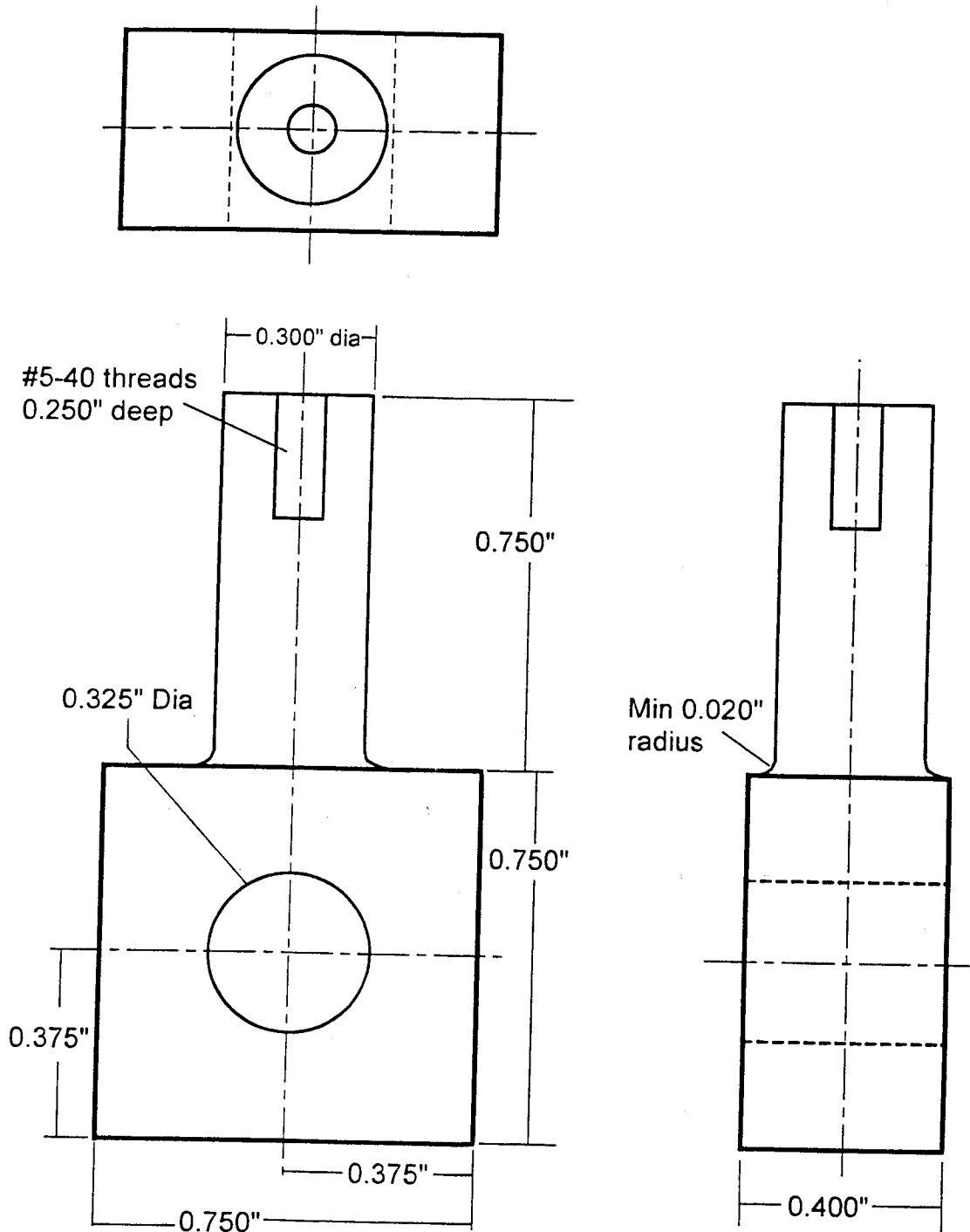
Darrell S. Dunn  
SwRI-CNWRA  
Phone: (210) 522-6090  
Fax: (210) 522-5184  
e-mail: ddunn@swri.org

CNWRA Drawing 20-01402-571-006 rev. 1  
Dimensional tolerances  $\pm 0.005$ "  
unless otherwise specified  
16 rms surface finish

Crevice Repassivation Specimen

to be completed at time of order:

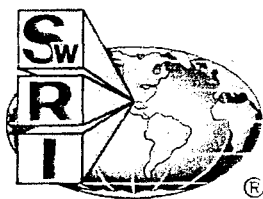
Material: ALLOY 22 D62X  
PLATE WELDED BY FLAME TONGUE  
Heat: 05990242 & XX 2048RG  
Specimen Orientation: AS SPECIFIED  
IN DRAWING 20-01402-571-006  
Other: \_\_\_\_\_



*Darrell Dunn* 5/6/2002  
Initiated by: D. Dunn Date

*V. Jain* 5/6/02  
Reviewed by V. Jain Date  
*B. Mabrito* 5/6/2002  
QA Approval B. Mabrito Date





## **CNWRA** *A center of excellence in earth sciences and engineering*

6220 Culebra Road · San Antonio · Texas, U.S.A. 78228-5166

Darrell S. Dunn  
Bldg 57  
Phone: 210 522 6090  
Fax: 210 522 5184  
e-mail: ddunn@swri.org

### **Description of test specimens from Alloy 22 D62X plate**

**Reference: CNWRA drawings 20-01402-571-006 rev 1 and 20-01402-571-024**

Crevice corrosion specimens will be machined from a welded Alloy 22 plate (58Ni-22Cr-13.5Mo-3W-3Fe) plate that measures approximately 1.50 " thick, 7.87" wide and 17.10" long. The weld is a double U-groove through thickness weld that runs along the 17.10" dimension of the plate. The dimensions of the specimens are provided in CNWRA Drawing 20-01402-571-006 rev 1. Additional drawings are provided to indicate the locations of the specimens with respect to the weld. As shown in drawing 20-01402-571-024 page 1 specimens will be machined from 3 sections of the plate.

The Type 1 specimens will be machined from material located as far from the weld as possible. The specimens will be oriented such that three specimens will be machined from the material thickness as shown in drawing 20-01402-571-024 page 2. The specimens will need to be labeled as Type 1 and are required to be identified as either coming from the near surface or the center of the plate as shown in drawing 20-01402-571-024 page 2.

Type 2 specimens are similar with the exception that the specimens will be machined from entirely base metal near the weld fusion zone. The specimens will need to be labeled as Type 2 and are required to be identified as either coming from the near surface or the center of the plate as shown in drawing 20-01402-571-024 page 2.

Type 3 specimens will be positioned to include the entire welded region as shown in drawings 20-01402-571-024 pages 1 and 2. The specimens will need to be identified as Type 3. Note that the specimens will only be machined from the near surface material and not from the center of the plate/weld thickness as shown in drawing 20-01402-571-024 page 2.

The required number for each type of specimen is identified on drawing 20-01402-571-024 page 1. Dimensional inspection of the specimens per the dimensions and tolerances specified in CNWRA drawing 20-01402-571-006 Rev 1 is required. Material will be provided and all unused material will be required to be returned with the machined specimens.

6220 Culebra Road  
San Antonio, TX 78238-5166

100987

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Page: 1  
Date Printed: 07/11/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

Contact: MIKE RIDGEWAY

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
07-11/02	Jimmie Silvers	.5% 10	SHIPPING POINT		OUR TRUCK	D.DUNN/B57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** CONFIRMATION *****							
	This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC CREVICE CORROSION TEST SPECIMENS 20-01402-571-027 MACHINES FROM ALLOY 22 PLATE		EA	07/29/02	07/29/02	20.0000	149.5000	\$2,990.00
	Req: 610196							
	Prime Contract #: NRC0297009		Priority: NONE					
	AOP: 704-000 1.20		01402.571					
	QUALITY & TECHNICAL REQUIREMENTS: SPECIMENS MACHINED AS PER CNWRA DRAWING 20-01402-51-027. DIMENSIONAL INSPECTION PER DIMENSIONS AND TOLERANCES IDENTIFIED IN CNWRA DRAWING 20-1402-571-027 IS REQUIRED. QUALITY AFFECTING PURCHASE.							
	THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN FIVE (5) WORKING DAYS.							
	AGREED & ACCEPTED: _____							
	DATE: _____							
	"IF THIS ORDER INCLUDES A GOVERNMENT CONTRACT NUMBER, THEN ANY PROPERTY FURNISHED HEREWITH IS CONSIDERED GOVERNMENT-FURNISHED PROPERTY WHICH MUST BE ACCOUNTED FOR IN ACCORDANCE WITH FAR, PART 45. REFER TO GENERAL PURCHASE ORDER TERMS AND CONDITIONS							

**Southwest Research Institute**6220 Culebra Road  
San Antonio, TX 78238-5166**Purchase Order: 286894S**Page: 2  
Date Printed: 07/11/2002Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Contact: MIKE RIDGEWAY

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO	
07/01/02	Jimmie Silvers	.5% 10	SHIPPING POINT		OUR TRUCK	D.DUNN/B57	
LINE	ITEM/DESCRIPTION	REV	DUE U/M DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	FOR RISK OF LOSS."						
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510					PO Total Amt:	\$2,990.00
	<div>Authorized Signatures</div>						



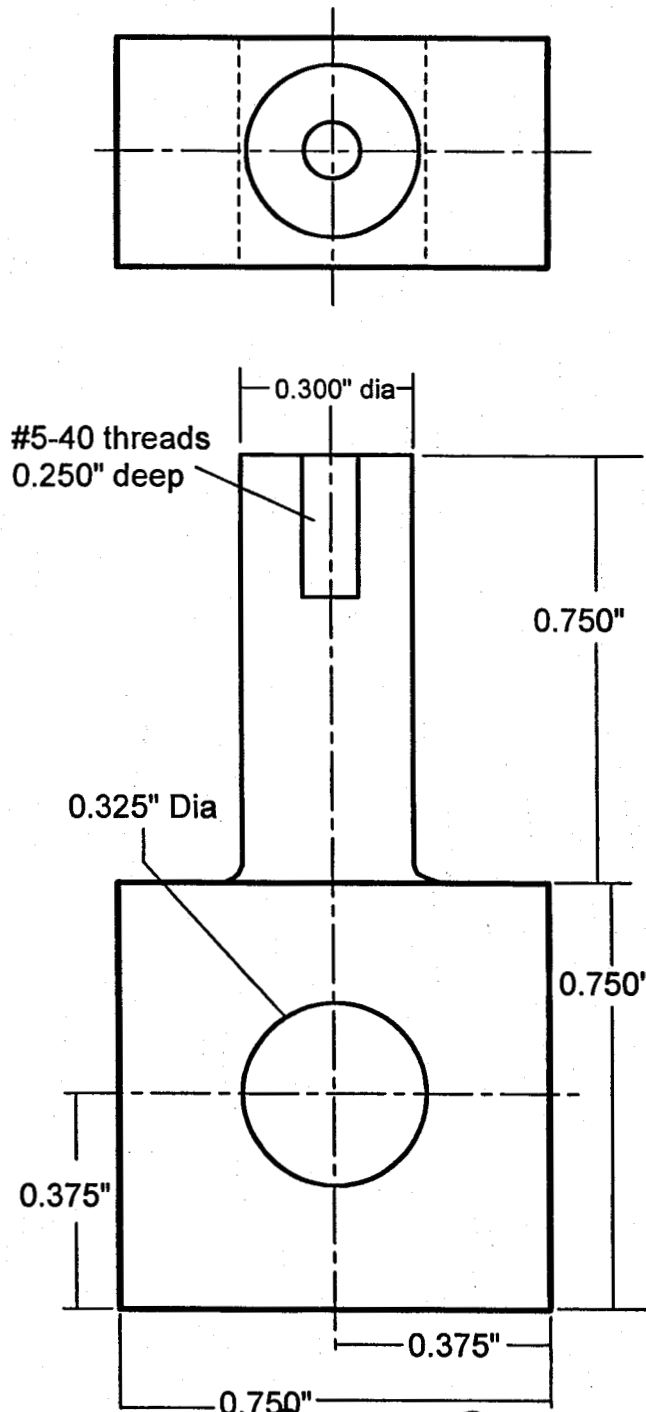
Darrell S. Dunn  
SwRI-CNWRA  
Phone: (210) 522-6090  
Fax: (210) 522-5184  
e-mail: ddunn@swri.org

CNWRA Drawing 20-01402-571-027  
Dimensional tolerances  $\pm 0.005$ "  
unless otherwise specified  
16 rms surface finish

Crevice Repassivation Specimen

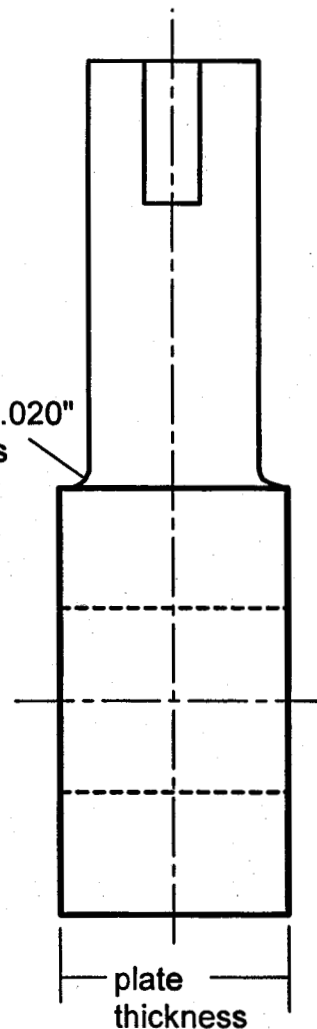
To be completed at time of order:

Material: ALLOY 22  
2277-8-3175  
Heat: 2277-8-3175  
Specimen Orientation: N/A  
Other: \_\_\_\_\_



*Darrell Dunn* 7/5/2002  
Initiated by: D. Dunn Date

Min 0.020"  
radius



*V. Jan* 7/5/02  
Reviewed by V. Jan Date  
*B. Mabrito* 7/5/2002  
QA Approval B. Mabrito Date

**Fax: (210) 494-6139**

<b>Total</b>	<b>\$2,990.00</b>
--------------	-------------------

Rev 2



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

division 20

## DEPARTMENT

REQUISITION DATE	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO.
	7-25-2002	2166439	610159 ✓ 618094
SUGGESTED OR PREVIOUS SUPPLIER		PURCHASING SELECTED SUPPLIER	
CITY, STATE		Wah Chang	
ATTN:		SUPPLIER CODE	ATTN
		510529	R-11-11
PHONE	FAX	PHONE	FAX
		541-967-6911	541-967-6994

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
			Change Order #1 to PO. 2166439		to change				
			item description as						
			from 1/2" dia		1402	571			
			to .526/.531" dia						

INTERNAL NOTES TO BUYER	SPECIAL INSTRUCTIONS TO SUPPLIER	TOTAL
		n/c

<b>1. Government Project?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, CHECK THE APPROPRIATE PROPERTY TYPE (SEE BACK FOR EXPLANATION OF PROPERTY TYPES) a <input type="checkbox"/> G-1 CONSUMABLE b <input type="checkbox"/> G-2 DELIVERABLE c <input type="checkbox"/> G-3 ACCOUNTABLE / REPORTABLE d IS GOVT. PROPERTY BEING SENT TO SUPPLIER? <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>2. QUALITY ASSURANCE?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b QA CODES: c INSPECTION CRITERIA d QA APPROVAL (IF REQUIRED) _____ DATE _____	<b>3. SOURCING NOTES</b> IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFACTURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY YOUR NEED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YOU HAVE SUGGESTED A SUPPLIER, AND NO OTHER SUPPLIER WILL MEET YOUR NEEDS, PLEASE ATTACH A MEMO OF EXPLANATION. REQUESTOR'S SIGNATURE _____ EXT. NO. _____ DEPT. / DIVISION APPROVAL _____ DATE _____ ADMIN. APPROVAL _____ DATE _____	<b>4. REPAIRS</b> a IS THIS REQ. FOR A REPAIR? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b IS THE REPAIR ON OR OFF CAMPUS? <input type="checkbox"/> ON <input type="checkbox"/> OFF c IF OFF CAMPUS PROVIDE SHIPPING TICKET NO. _____
---	---	--	---

CONTRACT REVIEW APPROVAL	DATE	BUYER SIGNATURE	DATE	SEE INSTRUCTIONS ON REVERSE SIDE
			7-25-2002	

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
06 5/02	Jimmie Silvers	NET 30	SHIPPING POINT		UPS BLUE	LIETAI YANG/57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	*****							
	* CONFIRMATION *							
	*****							
	This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC			LOT 07/10/02	07/10/02	1.0000	950.0000	\$950.00
	ZR-4 ANNEALED 0.5 BAR STOCK, ( APPROX. 25 FEET )							
	1.) QUALITY & TECHNICAL REQUIREMENTS: SPECIFICATION AS PER ASTM B351, ITEM NAME AND HEAT NUMBER PROPERLY IDENTIFIED ON BAR.							
	2.) MATERIAL MUST BE FROM SAME HEAT AND FROM SAME BAR. ALL 25- FEET MUST BE CUT FROM THE SAME HEAT AND BAR.							
	3.) MATERIALS WILL BE USED FOR THE HLW PROJECT, IDEPENDENT CONFIRMATORY CHEMICAL ANALYSIS TO BE PERFORMED AFTER RECEIVING							
	Req: 610159							
	Prime Contract #: NRC0297009 Priority: NONE							
	AOP: 704-000 1.20 01402.571							
	OK TO CUT FOR UPS SHIPMENT							
	THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN 5 WORKING DAYS.							
	AGREED & ACCEPTED: _____							
	DATE: _____							
	2. DO YOU QUALIFY AS A SMALL DISADVANTAGED BUSINESS CONCERN? YES___ NO___ *SMALL DISADVANTAGED: A CONCERN OWNED & CONTROLLED BY MINORITIES, WHICH INCLUDES BLACK, HISPANIC, NATIVE, OR ASIAN- PACIFIC. 3. ARE YOU A WOMAN OWNED BUSINESS? YES___ NO___ *							



**Southwest Research Institute**

6220 Culebra Road  
San Antonio, TX 78238-5166

**Purchase Order: 286643S**

Page: 2  
Date Printed: 06/07/2002

Order To: WAH CHANG  
P.O. BOX 460  
ALBANY, OR 97321

510529

Contact: RON HALL Ph: 541-967-6911 Fax: 541-967-6994

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO			
06 5/02	Jimmie Silvers	NET 30	SHIPPING POINT		UPS BLUE	LIETAI YANG/57			
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST	
	WOMAN OWNED: A CONCERN THAT IS AT LEAST 51% OWNED BY A WOMAN OR WOMEN WHO ALSO ACTIVELY CONTROL & OPERATE THE BUSINESS. SUPPLIER SHALL SUPPLY A CERTIFICATE OF COMPLIANCE WITH THE PURCHASED ITEMS. INVOICE WILL NOT BE PAID UNTIL A CERTIFICATE OF COMPLIANCE HAS BEEN RECEIVED.  MATERIAL CERTIFICATION SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. CERTIFICATION SHALL VERIFY CONFORMANCE TO APPLICABLE SPECIFICATION(S) AND REFERENCE THE APPLICABLE HEAT NUMBER, LOT/BATCH NUMBER OR DATE CODE. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.  MILL TEST REPORT SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. TEST REPORT SHALL BE IN THE FORM OF A PRODUCTION BATCH ANALYSIS OR LADLE ANALYSIS. CHEMICAL AND/OR PHYSICAL TEST DATA SHALL BE PROVIDED. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.  Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510								
	Authorized Signatures							PO Total Amt:	\$950.00

6220 Culebra Road  
San Antonio, TX 78238-5166

Change Order No: 1

Page: 1

Date Printed: 07/29/2002

Change Date: 07/29/2002

Order To: WAH CHANG  
P.O. BOX 460  
ALBANY, OR 97321

510529

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: RON HALL Ph: 541-967-6911 Fax: 541-967-6994

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
06/02	Jimmie Silvers	NET 30	SHIPPING POINT		UPS BLUE	LIETAI YANG/57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	*****							
	* CONFIRMATION						*	
	* DUPLICATE PO						*	
	*****							
	This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
	OK TO CUT FOR UPS SHIPMENT							
	CHANGE ORDER #1 ISSUED TO PO 286643S TO CHANGE DESCRIPTION FROM : 1/2" DIA. TO .526/.531" DIA. AS FOLLOWS:							
*****	FROM: *****							
1	MISC			LOT 07/10/02	07/10/02	1.0000	950.0000	\$950.00
	ZR-4 ANNEALED 0.5 BAR STOCK, ( APPROX. 25 FEET )							
	1.) QUALITY & TECHNICAL REQUIREMENTS: SPECIFICATION AS PER ASTM B351, ITEM NAME AND HEAT NUMBER PROPERLY IDENTIFIED ON BAR.							
	2.) MATERIAL MUST BE FROM SAME HEAT AND FROM SAME BAR. ALL 25- FEET MUST BE CUT FROM THE SAME HEAT AND BAR.							
	3.) MATERIALS WILL BE USED FOR THE HLW PROJECT, IDEPENDENT CONFIRMATORY CHEMICAL ANALYSIS TO BE PERFORMED AFTER RECEIVING							
	Req: 610159							
	Prime Contract #: NRC0297009 Priority: NONE							
	AOP: 704-000 1.20 01402.571							
*****	TO: *****							

## Southwest Research Institute

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order No: 286643S

Change Order No: 1

Page: 2

Date Printed: 07/29/2002

Change Date: 07/29/2002

Order To: WAH CHANG  
P.O. BOX 460  
ALBANY, OR 97321

510529

Contact: RON HALL Ph: 541-967-6911 Fax: 541-967-6994

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
06/02	Jimmie Silvers	NET 30	SHIPPING POINT		UPS BLUE	LIETAI YANG/57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
1	MISC ZR-4 ANNEALED .526/.531" DIA BAR STOCK, ( APPROX. 25 FEET ) 1.) QUALITY & TECHNICAL REQUIREMENTS: SPECIFICATION AS PER ASTM B351, ITEM NAME AND HEAT NUMBER PROPERLY IDENTIFIED ON BAR. 2.) MATERIAL MUST BE FROM SAME HEAT AND FROM SAME BAR. ALL 25- FEET MUST BE CUT FROM THE SAME HEAT AND BAR. 3.) MATERIALS WILL BE USED FOR THE HLW PROJECT, IDEPENDENT CONFIRMATORY CHEMICAL ANALYSIS TO BE PERFORMED AFTER RECEIVING  Req: 610159  Prime Contract #: NRC0297009                      Priority: NONE AOP: 704-000 1.20                                      01402.571  THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN FIVE (5) WORKING DAYS.  AGREED & ACCEPTED: _____  DATE: _____  2. DO YOU QUALIFY AS A SMALL DISADVANTAGED BUSINESS CONCERN? YES___ NO___ *SMALL DISADVANTAGED: A CONCERN OWNED & CONTROLLED BY MINORITIES, WHICH INCLUDES BLACK, HISPANIC, NATIVE, OR ASIAN- PACIFIC. 3. ARE YOU A WOMAN OWNED BUSINESS? YES___ NO___ * WOMAN OWNED: A CONCERN THAT IS AT LEAST 51% OWNED BY A WOMAN OR WOMEN WHO ALSO ACTIVELY CONTROL & OPERATE THE BUSINESS. SUPPLIER SHALL SUPPLY A CERTIFICATE OF COMPLIANCE WITH THE PURCHASED ITEMS. INVOICE WILL NOT BE PAID UNTIL A CERTIFICATE OF COMPLIANCE HAS BEEN RECEIVED.  MATERIAL CERTIFICATION SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. CERTIFICATION SHALL			LOT 07/10/02	07/10/02	1.0000	950.0000	\$950.00
							Line Net Change:	\$0.00

6220 Culebra Road  
San Antonio, TX 78238-5166

**Purchase Order No: 286643S**

Change Order No: 1

Page: 3

Date Printed: 07/29/2002

Change Date: 07/29/2002

Order To: WAH CHANG  
P.O. BOX 460  
ALBANY, OR 97321

510529

Contact: RON HALL Ph: 541-967-6911 Fax: 541-967-6994

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
C 06/02	Jimmie Silvers	NET 30	SHIPPING POINT		UPS BLUE	LIETAI YANG/57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	VERIFY CONFORMANCE TO APPLICABLE SPECIFICATION(S) AND REFERENCE THE APPLICABLE HEAT NUMBER, LOT/BATCH NUMBER OR DATE CODE. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.							
	MILL TEST REPORT SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. TEST REPORT SHALL BE IN THE FORM OF A PRODUCTION BATCH ANALYSIS OR LADLE ANALYSIS. CHEMICAL AND/OR PHYSICAL TEST DATA SHALL BE PROVIDED. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.							
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510							
	<div>Authorized Signature</div>							
							PO Total Amt:	\$950.00
							PO Net Change:	\$0.00

6220 Culebra Road  
San Antonio, TX 78238-5166

103744

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Date Printed: 02/14/2002

Order To: CONAM KAWIN  
194 INTERNATIONALE BLVD.  
GLENDALE HEIGHTS, IL 60139

Contact: JAKE      Ph: 630-681-0008      Fax: 630-871-5520

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
7/02	Florence Cisneros	NET 30	SHIPPING POINT		VENDOR TRUCK	D DUNN / BLD. 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700). *****							
1	SERVICES 01 SERVICE PURCHASE ORDER CHEMICAL ANALYSES OF ER NICRMO-10 FILLER METAL		EA	02/15/02	02/15/02	3.0000	150.0000	\$450.00
	QUALITY AND TECHNICAL REQUIREMENTS. SEE ATTACHED DOCUMENTATION.  Req: 609738  Prime Contract #: NRC0297009 Priority: NONE AOP: 705-000 1.20 01402.571  Your organization will provide services to the Center for Nuclear Waste Regulatory Analyses(CNWRA) in accordance with the requirements of your quality system or that of the CNWRA Quality Assurance Manual. any special technical or QA procedures required in the performance of your staff members' work will be provided. Special CNWRA requirements apply to scientific and engineering software and must be followed. Your organization's product will be accepted based on an evaluation by the CNWRA Principal Investigator or technical staff member and will be returned for rework at Seller's expense if the product does not meet CNWRA requirements. If scientific notebooks are utilized, they are subject to periodic review and must be returned at the conclusion of work to the CNWRA QA Records Room, or invoice remittance will be withheld. Additionally, there shall be "right of access" to your facility to confirm effective implementation of the quality requirements with the possiblility of audits, source inspections, or surveillances. Any special documentation requirements shll be specified in the purchaes order and will be supplied to the CNWRA with the product. The Seller shall notify CNWRA QA of any nonconformance to the requirements of this purchase order; further work shall not be done unless directed by CNWRA Director of QA at (210) 522-5149.							

Order To: CONAM KAWIN  
 194 INTERNATIONALE BLVD.  
 GLENDALE HEIGHTS, IL 60139

103744

Contact: JAKE Ph: 630-681-0008 Fax: 630-871-5520

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO
06/07/02	Florence Cisneros	NET 30	SHIPPING POINT		VENDOR TRUCK	D DUNN / BLD. 57

LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	<p>"IF THIS ORDER INCLUDES A GOVERNMENT CONTRACT NUMBER, THEN ANY PROPERTY FURNISHED HERewith IS CONSIDERED GOVERNMENT-FURNISHED PROPERTY WHICH MUST BE ACCOUNTED FOR IN ACCORDANCE WITH FAR, PART 45. REFER TO GENERAL PURCHASE ORDER TERMS AND CONDITIONS FOR RISK OF LOSS."</p> <p>THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN 5 WORKING DAYS.</p> <p>AGREED &amp; ACCEPTED: _____</p> <p>DATE: _____</p> <p>RECEIVING DO NOT INSPECT.</p> <p>Bill To:            Southwest Research Institute            P.O. Drawer 28510            Attention: Accounts Payable            San Antonio, TX 78228-0510</p> <p>_____            Authorized Signatures</p>							
							PO Total Amt:	\$450.00

## PURCHASE REQUISITION

**SOUTHWEST RESEARCH INSTITUTE™**

## DEPARTMENT

REQUISITION DATE	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO.
2/7/02			✓ 609738

SUGGESTED OR PREVIOUS SUPPLIER		DELIVER TO	PURCHASING SELECTED SUPPLIER	
Conam Inspection		D. Dunn, bldg. 57		
CITY, STATE		SHIP VIA		
Glendale Heights, IL 60139				
ATTN:		F.O.B.	SUPPLIER CODE	ATTN
Bill Scorzo				
PHONE	FAX	TERMS	PHONE	FAX
630/681-0008	630/871-5520			

[illegible]

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 CONSUMABLE
- b ☐ G-2 DELIVERABLE
- c ☐ G-3 ACCOUNTABLE / REPORTABLE
- d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?
- ☐ YES
- ☐ NO

2. QUALITY ASSURANCE? ☒ YES ☐ NO

a ASL REQUIRED? ☒ YES ☐ NO

b Q A CODES:

### C INSPECTION CRITERIA

d QA APPROVAL (IF REQUIRED)

DATE \_\_\_\_\_

### 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

EXT. NO.

**Barrell Dunn**

6090

DEPT. / DIVISION APPROVAL

DATE \_\_\_\_\_

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. 391342

SEE INSTRUCTIONS ON REVERSE SIDE



**CNWRA** *A center of excellence in earth  
sciences and engineering*

6220 Culebra Road · San Antonio · Texas, U.S.A. 78228-5166

February 6, 2002

Darrell S. Dunn

Bldg. 57

Phone: (210) 522-6090

Fax: (210) 522-5184

E-Mail: [ddunn@swri.org](mailto:ddunn@swri.org)

Bill Scorzo

Conam Inspection

Dear Mr. Scorzo,

Enclosed please find the heat of Alloy 622 weld filler metals heat numbers XX1832BG (0.045" diameter), XX1973BG12 (3/32" diameter) and XX2147BG11 (1/8" diameter) submitted for chemical analyses. Per our previous phone conversations, I need to have the specimen analyzed for the Ni, Cr, Mo, W, Fe, C, Co, Cu, Mn, P, S, Si, and V. According to the vendor, the material heats are within the chemical composition ranges specified in AWS A5.14 ERNiCrMo-10. The specified chemical composition is provided below.

Cr: 20.0 - 22.5

Mo: 12.5 - 14.5

W: 2.5 - 3.5

Fe: 2.0 - 6.0

C: 0.015 max

Co: 2.5 max

Mn: 0.50 max

P: 0.02 max

S: 0.010 max

Si: 0.08 max

V: 0.35 max

Cu: 0.50

Others Elements Total: 0.5

Ni: balance

A copy of the specification requirements in AWS A5.14 and copies of the mill test reports are included.



The chemical analyses performed by Conam Inspection should provide the chemical composition of the alloy heats and should specify the heat number of the material. The chemical analyses report should include the heat number of the base metal for the analyses conducted outside the weld fusion zone, and the heat number of both the base alloy and the filler metal for the analyses of the as deposited weld. The analyses should conclusively determine if the heats submitted are within the specifications listed in AWS A5.14 for ERNiCrMo-10. Any discrepancy between the chemical analyses performed by Conam Inspection and the specifications of AWS A5.14 for ERNiCrMo-10 should be clearly identified.

Please call me if you have any questions. Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Darrell S. Dunn". The signature is fluid and cursive, with the first name being the most prominent.

Darrell S. Dunn

**TABLE 1**  
**CHEMICAL COMPOSITION REQUIREMENTS FOR UNDILUTED WELD METAL (CONT'D)**

AWS Classification	UNS Number <sup>(3)</sup>	Weight Percent [Notes (1) (2)]																Other Elements Total
		C	Mn	Fe	P	S	Si	Cu	Ni <sup>(4)</sup>	Co	Al	Ti	Cr	Cb Plus Ta	Mo	V	W	
ENiCrMo-10	W86022	0.02	1.0	2.0 to 6.0	0.03	0.015	0.2	0.50	Rem	2.5	...	...	20.0 to 22.5	...	12.5 to 14.5	0.35	2.5 to 3.5	0.50
ENiCrMo-11	W86030	0.03	1.5	13.0 to 17.0	0.04	0.02	1.0	1.0 to 2.4	Rem	5.0	...	...	28.0 to 31.5	0.3 to 1.5	4.0 to 6.0	...	1.5 to 4.0	0.50
ENiCrMo-12	W86040	0.03	2.2	5.0	0.03	0.02	0.7	0.50	Rem	...	...	...	20.5 to 22.5	1.0 to 2.8	8.8 to 10.0	...	...	0.50

**NOTES:**

- (1) The weld metal shall be analyzed for the specific elements for which values are shown in this table. If the presence of other elements is indicated in the course of the work, the amount of those elements shall be determined to ensure that their total does not exceed the limit specified for "Other Elements, Total" in the last column of the table.
- (2) Single values are maximum, except where otherwise specified.
- (3) ASTM/SAE Unified Numbering System for Metals and Alloys.
- (4) Includes incidental cobalt.
- (5) Cobalt — 0.12 maximum, when specified.
- (6) Tantalum — 0.30 maximum, when specified.

**Southwest Research Institute**

6220 Culebra Road  
San Antonio, TX 78238-5166

**Purchase Order: 286716S**

Page: 1

Date Printed: 06/12/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: MIKE RIDGEWAY

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
06/12/02	Jimmie Silvers	.5% 10	DEST		YOUR TRUCK	DARRELL DUNN/B57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700). *****							
1	MISC C22 WELD PROCEDURE QUALIFICATION SPECIMENS CNWRA DRAWING 20-01402-571-025		EA	06/21/02	06/21/02	6.0000	749.0000	\$4,494.00
				Req: 610121 QC Insp Required				
	Prime Contract #: NRC0297009 AOP: 704-000 1.20			Priority: NONE 01402.571				
	QUALITY AND TECHNICAL REQUIREMENTS: SPECIMENTS AS PER CNWRA DRAWING 20-01402-571-025. DIMENSIONAL INSPECTION PER DIMENSIONS AND TOLERANCES IDENTIFIED IN CNWRA DRAWING 20-01402-571-025 IS REQUIRED							
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510							
	Authorized Signatures							
							PO Total Amt:	\$4,494.00



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

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	G22 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. Elumstrom 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

EXT. NO.

Darrell Dunn

6090

DEPT. / DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

**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	½% 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
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

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

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

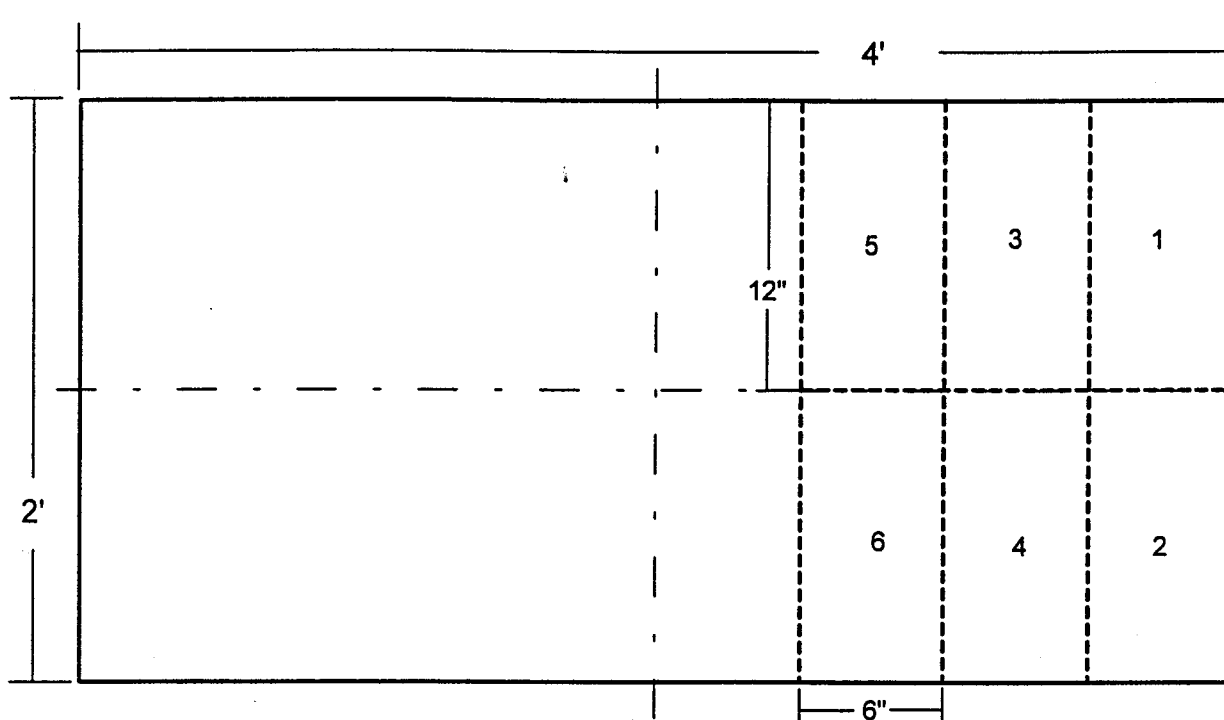
To be completed at time of order:

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

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

Alloy 22 vWeld Specimen  
CNWRA Drawing 20-01402-571-25  
All Dimensions  $\pm 0.005$ "  
unless otherwise specified  
Detail A identified on Page 1

Page 2 of 2

To be completed at time of order:

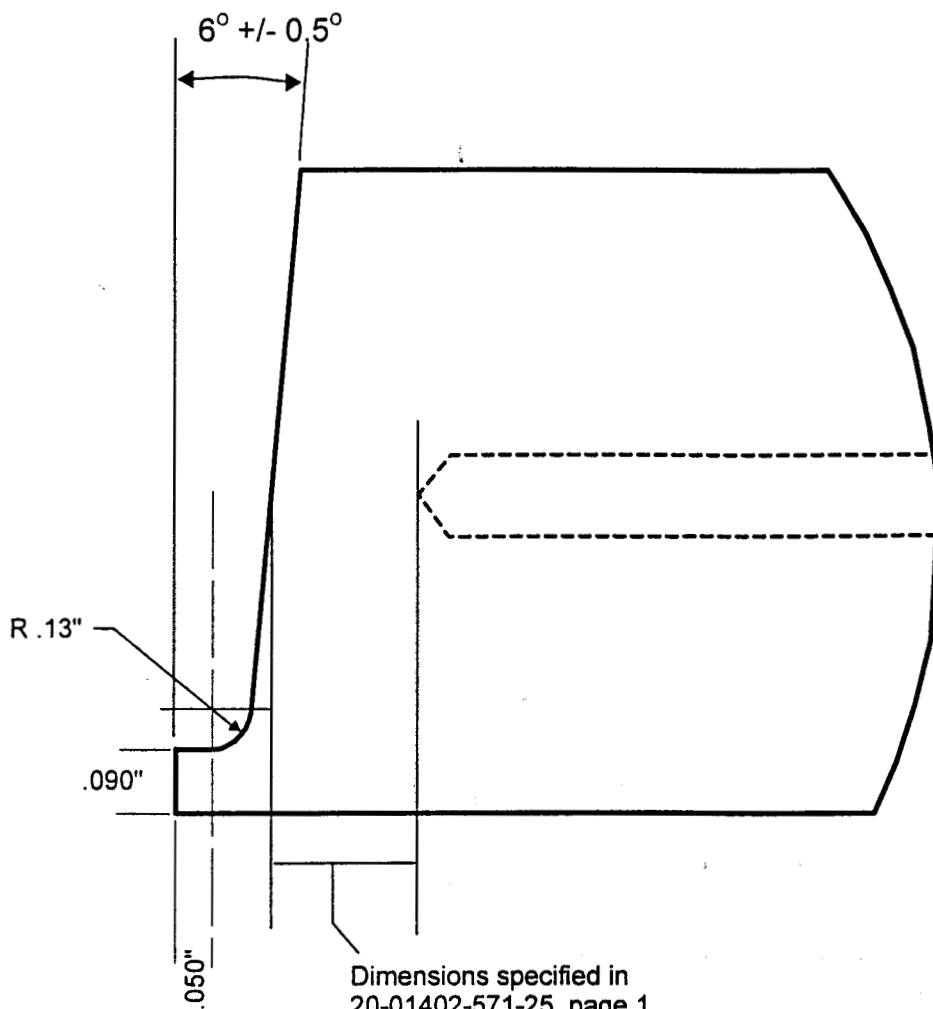
Material: ALLOY 22

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

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

Page 1 of 2

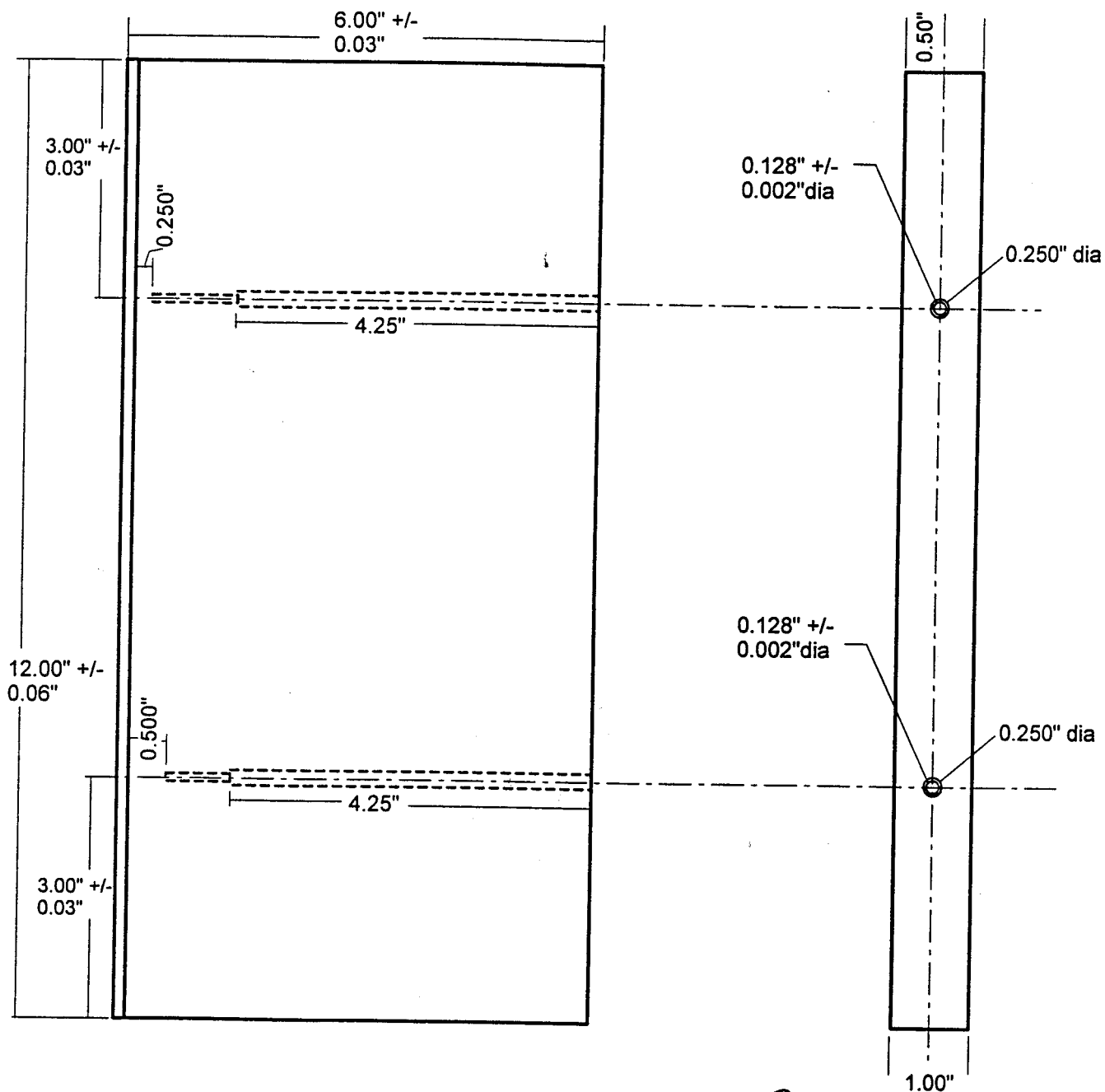
To: completed at time of order:

Material: ALLOY 22

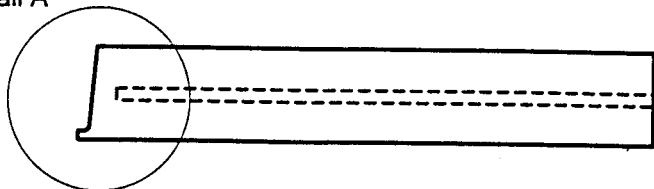
Heat: 2277-1-3164

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



Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 250411J

Page: 1  
Date Printed: 05/08/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: MIKE RIDGWAY Ph: 210-494-3651 Fax: 210-494-6139

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
07/02	Jesse Lozano	NET 30	DESTINATION		THEIR TRUCK	D.DUNN/BLDG 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC CREVICE CORROSION TEST SPECIMENS, 20-01402-571-006, REV 1, TYPE 1 MACHINED FROM MATERIALS AWAY FROM TEH WELD AND HEAT AFFECTED ZONE AS PER DRAWING 20-01402-571-24  Req: 610111 QC Insp Required  Prime Contract #: NRC0297009                      Priority: NONE AOP: 704-000 1.20                      01402.571		EA	05/24/02	05/24/02	12.0000	133.2400	\$1,598.88
2	MISC CREVICE CORROSION TEST SPECIMENS, 20-01402-571-006, REV 1, TYPE 2 MACHINED FROM MATERIAL NEAR THE WELD AND HEAT AFFECTED ZONE AS PER DRAWING 20-01402-571-24  Req: 610111 QC Insp Required  Prime Contract #: NRC0297009                      Priority: NONE AOP: 704-000 1.20                      01402.571		EA	05/24/02	05/24/02	12.0000	133.2400	\$1,598.88
3	MISC CREVICE CORROSION TEST SPECIMENS, 20-01402-571-006, REV 1, TYPE 3 MACHINED FROM MATERIAL THAT INCLUDES THE WELD AND HEAT AFFECTED ZONE AS PER DRAWING 20-01402-571-24		EA	05/24/02	05/24/02	8.0000	133.2400	\$1,065.92

Purchase Order: 250411J

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Contact: MIKE RIDGWAY Ph: 210-494-3651 Fax: 210-494-6139

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
07/02	Jesse Lozano	NET 30	DESTINATION		THEIR TRUCK	D.DUNN/BLDG 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	Req: 610111 QC Insp Required							
	Prime Contract #: NRC0297009 AOP: 704-000 1.20			Priority: NONE 01402.571				
	SWRI QA RECEIVING INSPECTION CRITERIA: PI TO RECEIVE							
	NOTE: QUALITY & TECHNICAL REQUIREMENTS: SPECIMENS MACHINED AS PER DRAWING 20-01402-571-006, REV 1. DIMENSIONAL INSPECTION PER DIMENSIONS AND TOLERANCES IDENTIFIED IN CNWRA 20-01402-571-006, REV 1 IS REQUIRED. CNWRA DRAWING 20-01402-571-024 IDENTIFIES SPECIMEN LOCATION.							
	THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN 5 WORKING DAYS.							
	AGREED & ACCEPTED: _____							
	DATE: _____							
	"IF THIS ORDER INCLUDES A GOVERNMENT CONTRACT NUMBER, THEN ANY PROPERTY FURNISHED HERewith IS CONSIDERED GOVERNMENT-FURNISHED PROPERTY WHICH MUST BE ACCOUNTED FOR IN ACCORDANCE WITH FAR, PART 45. REFER TO GENERAL PURCHASE ORDER TERMS AND CONDITIONS FOR RISK OF LOSS."							
	SUPPLIER SHALL FURNISH DIMENSIONAL INSPECTION DATA VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF THE FABRICATION DRAWINGS.							
	Bill To: Southwest Research Institute P.O. Drawer 28510							

Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 250411J

Page: 3  
Date Printed: 05/08/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Contact: MIKE RIDGWAY Ph: 210-494-3651 Fax: 210-494-6139

ORDER DATE		BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
05/07/02		Jesse Lozano	NET 30	DESTINATION		THEIR TRUCK	D.DUNN/BLDG 57		
LINE	ITEM/DESCRIPTION		REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	Attention: Accounts Payable San Antonio, TX 78228-0510							PO Total Amt:	\$4,263.68
	<div>Authorized Signatures</div>								



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE <b>5/6/02</b>	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. <b>610111</b>
DELIVER TO <b>D. Dunn/bldg. 57</b>		PURCHASING SELECTED SUPPLIER	
SHIP VIA			
F.O.B.		SUPPLIER CODE	ATTN
TERMS		PHONE	FAX

SUGGESTED OR PREVIOUS SUPPLIER

**Texas Toolmakers**

CITY, STATE

**San Antonio, TX**

ATTN:

**Hike Ridgway**

PHONE

**494-3651**

FAX

**494-6139**

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	12	EA	Grevice corrosion test specimens, 20-01402-571-006, Rev 1, type 1 machined from materials away from the weld and heat affected zone as per drawing 20-01402-571-24	20	01402	571	100	5/24/02	133.24
B	12	EA	Grevice corrosion test specimens 20-01402-571-006, Rev 1, type 2 machined from material near the weld and heat affected zone as per drawing 20-01402-571-24	20	01402	571	100	5/24/02	133.24
C	3	EA	Grevice corrosion test specimens 20-01402-571-006, Rev 1, type 3 machined from material that includes the weld and heat affected zone as per drawing 20-01402-571-24	20	01402	571	100	5/24/02	133.24
Quality & Technical Requirements: Specimens machined as per drawing 20-01402-571-006, Rev 1. Dimensional inspection per dimensions and tolerances identified in CNWRA drawing 20-01402-571-006, Rev 1 is required. CNWRA drawing 20-01402-571-024 identifies specimen location. Attached drawings & quotes.									

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 CONSUMABLE
- b ☐ G-2 DELIVERABLE
- c ☐ G-3 ACCOUNTABLE / REPORTABLE
- d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?
- ☐ YES
- ☐ NO

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

b Q A CODES:

**Q12**

c INSPECTION CRITERIA

**PI To Receive.**

d QA APPROVAL (IF REQUIRED) DATE

**Dunn/Valade 5/6/02**

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

EXT. NO.

**Darrell Dunn****6090**

DEPT. / DIVISION APPROVAL

DATE

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. \_\_\_\_\_

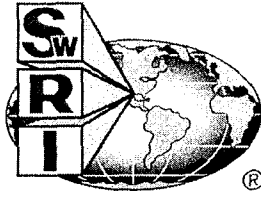
CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE



## **CNWRA *A center of excellence in earth sciences and engineering***

6220 Culebra Road · San Antonio · Texas, U.S.A. 78228-5166

Darrell S. Dunn  
Bldg 57  
Phone: 210 522 6090  
Fax: 210 522 5184  
e-mail: ddunn@swri.org

### **Description of test specimens from Alloy 22 D62X plate**

**Reference: CNWRA drawings 20-01402-571-006 rev 1 and 20-01402-571-024**

Crevice corrosion specimens will be machined from a welded Alloy 22 plate (58Ni-22Cr-13.5Mo-3W-3Fe) plate that measures approximately 1.50 " thick, 7.87" wide and 17.10" long. The weld is a double U-groove through thickness weld that runs along the 17.10" dimension of the plate. The dimensions of the specimens are provided in CNWRA Drawing 20-01402-571-006 rev 1. Additional drawings are provided to indicate the locations of the specimens with respect to the weld. As shown in drawing 20-01402-571-024 page 1 specimens will be machined from 3 sections of the plate.

The Type 1 specimens will be machined from material located as far from the weld as possible. The specimens will be oriented such that three specimens will be machined from the material thickness as shown in drawing 20-01402-571-024 page 2. The specimens will need to be labeled as Type 1 and are required to be identified as either coming from the near surface or the center of the plate as shown in drawing 20-01402-571-024 page 2.

Type 2 specimens are similar with the exception that the specimens will be machined from entirely base metal near the weld fusion zone. The specimens will need to be labeled as Type 2 and are required to be identified as either coming from the near surface or the center of the plate as shown in drawing 20-01402-571-024 page 2.

Type 3 specimens will be positioned to include the entire welded region as shown in drawings 20-01402-571-024 pages 1 and 2. The specimens will need to be identified as Type 3. Note that the specimens will only be machined from the near surface material and not from the center of the plate/weld thickness as shown in drawing 20-01402-571-024 page 2.

The required number for each type of specimen is identified on drawing 20-01402-571-024 page 1. Dimensional inspection of the specimens per the dimensions and tolerances specified in CNWRA drawing 20-01402-571-006 Rev 1 is required. Material will be provided and all unused material will be required to be returned with the machined specimens.

**Texas Toolmakers, Inc.**

11411 E. Coker Loop / San Antonio, TX 78216

Phone: (210) 494-3651

Fax: (210) 494-6139

**CUSTOMER WORK ORDER / QUOTE**

<b>Job No.:</b>	<b>Quote No.:</b> 1596	<b>Date Opened:</b>	<b>Delivery Date:</b> NEGOTIABLE	<b>Customer No.:</b> 01111	<b>Job Taken/Quoted by:</b> MIKE RIDGWAY
<b>Customer:</b> SOUTHWEST RESEARCH INSTITUTE				<b>Quote Good For:</b> 90 DAYS	<b>Terms:</b> ½% 10 NET 30
6220 CULEBRA				<b>Customer P.O.:</b>	<b>Contact:</b> DARRELL DUNN
SAN ANTONIO, TEXAS 78238				<b>Phone No.:</b> 210-684-5111	<b>Fax No.:</b> 210-522-5184

Item	Qty	Part No.	Rev	Part Name	Bld T&M	Price Ea.	Total
1	12	20-01402-571-006	1	TYPE 1		133.25	\$1,599.00
2	12	20-01402-571-006	1	TYPE 2		133.25	\$1,599.00
3	8	20-01402-571-006	1	TYPE 3		133.25	\$1,066.00
							\$ 0.00
							\$ 0.00
							\$ 0.00
							\$ 0.00
							\$ 0.00
<b>Work Instructions:</b>						<b>Total</b>	<b>\$4,264.00</b>

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:** 4/26/02

**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

# HERCO AIRCRAFT MACHINE INC.

BOX 240189 SAN ANTONIO, TEXAS 78224-0189

TELEPHONE: (210) 924-4734

FAX: (210) 923-7351

EMAIL: [mu-hercoacft@satx.tx.com](mailto:mu-hercoacft@satx.tx.com)



May 4, 2002

## QUOTE

TO: SWRI

Attn: DARRELL DUNN

Fax: 210-522-5184

### Your Reference:

Ref Number:	
Delivery	15 to 20 DAYS
Revision	
Ship Via	
Weight	

ID	
Condition	FN
Quote Validity	60 DAYS
FOB	ORIGIN
Terms	

Thank you for giving Herco the Opportunity to Quote.

Quantity	Part Number	Description	Unit Price	Total
12 EA		TYPE 1 SPECIMAN MACHINE COMPLETE PER DWG AND INSTRUCTIONS	\$240.00	\$2880.00
12 EA		TYPE 2 SPECIMAN MACHINE COMPLETE PER DWG AND INSTRUCTIONS	\$240.00	\$2880.00
8 EA		TYPE 3 SPECIMAN MACHINE COMPLETE PER DWG FROM WELD AREA AND INSTRUCTIONS	\$260.00	\$2080.00
CERTIFICATE OF CONFORMANCE:				
Total				\$7840.00

### NOTES:

SEE YOUR RFQ ATTACHMENT

### Estimated Costs:

Values Determined By Oral Or Written Quotations From Suppliers In Association With HERCO, Estimates For Production And Labor. Each Part Number And Description Corresponds To The Matching Part Found In Drawing Sheets.

POC: Melinda Uvalle

PLEASE CONTACT US IF YOU HAVE ANY QUESTION REGARDING PRICE AND DELIVERY

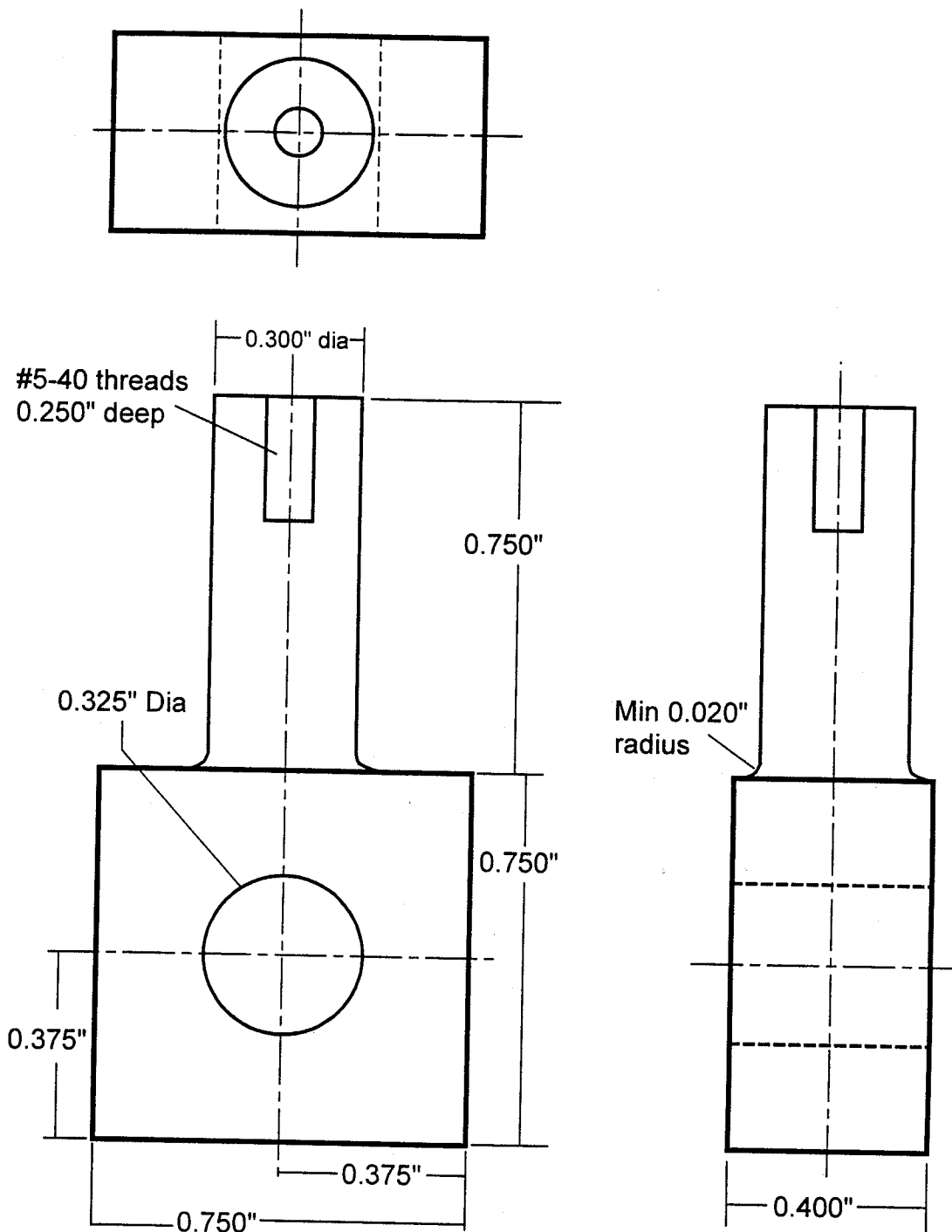
Darrell S. Dunn  
SwRI-CNWRA  
Phone: (210) 522-6090  
Fax: (210) 522-5184  
e-mail: ddunn@swri.org

CNWRA Drawing 20-01402-571-006 rev. 1  
Dimensional tolerances  $\pm 0.005"$   
unless otherwise specified  
16 rms surface finish

Crevice Repassivation Specimen

to be completed at time of order:

Material: ALLOY 22 D62X  
PLATE UNCLAD BY FRAMATOME  
Heat: 059902LL2 8XX 2048RG  
Specimen Orientation: AS SPECIFIED  
IN DRAWING 20-01402-571-006  
Other: \_\_\_\_\_



*Darrell Dunn* 5/6/2002  
Initiated by: D. Dunn Date

*V. Jain* 5/6/02  
Reviewed by V. Jain Date  
*B. Mabrito* 5/6/2002  
QA Approval B. Mabrito Date



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

Location of Crevice corrosion specimens  
CNWRA Drawing 20-01402-571-024  
Dimensional tolerances as specified

Page 1 of 2

to be completed at time of order:

Material: Welded Alloy 22 NG-GTAW  
(58Ni-22Cr-13.5Mo-3W-3Fe)

Heat: 059902LL2 & XX2048BG

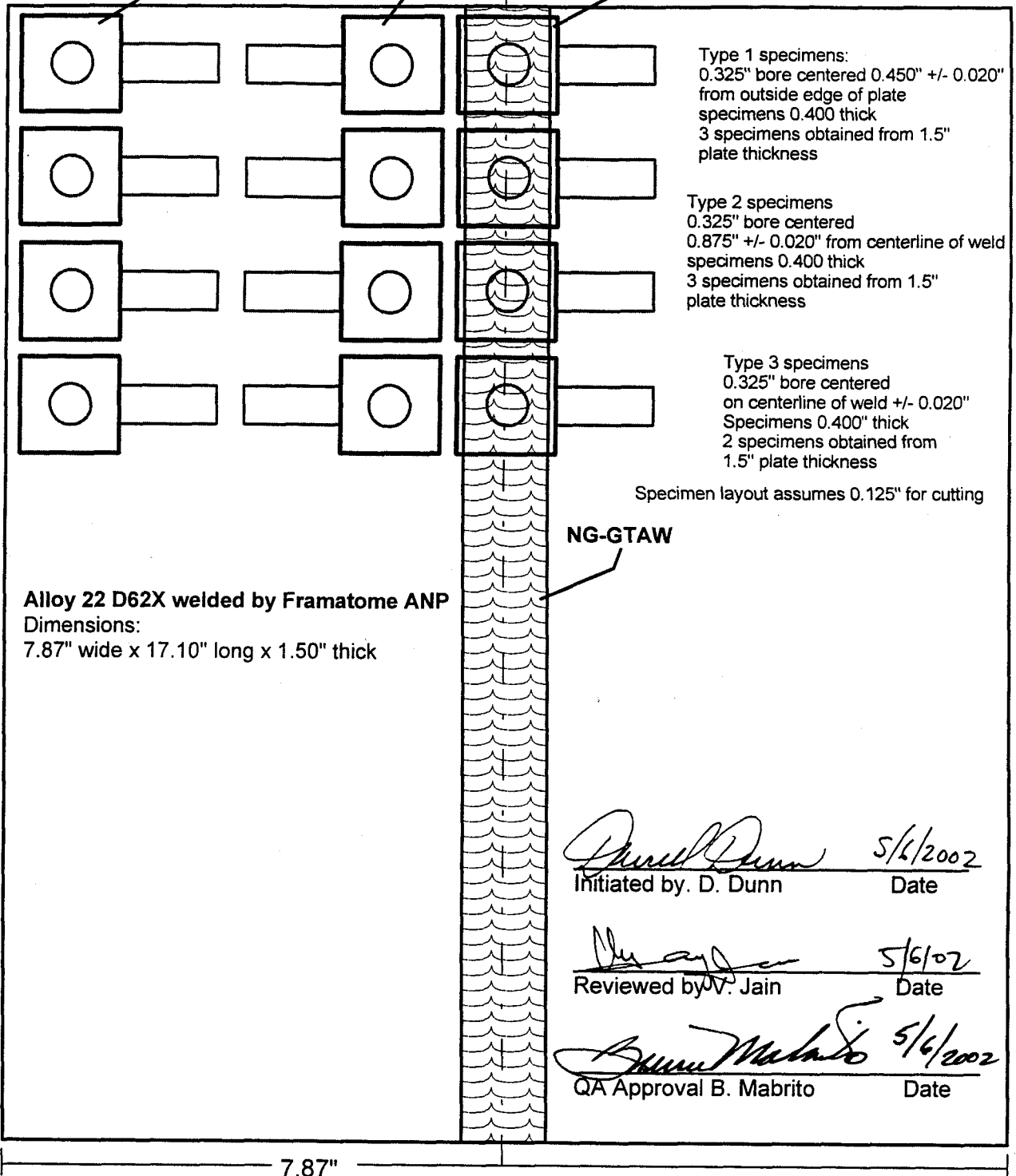
Specimen Orientation: As shown

Other: Framatome D62X plate

Type 1 specimen  
Far from weld and HAZ  
12 specimens  
Effect of Alloy composition  
and thermal stability

Type 2 specimen  
near weld and HAZ  
12 specimens  
Effect of Alloy composition  
and thermal stability

Type 3 specimen  
includes weld and HAZ  
8 specimens  
Effect of weld and  
induction annealing



*Darrell Dunn* 5/6/2002  
Initiated by: D. Dunn Date

*V. Jain* 5/6/02  
Reviewed by: V. Jain Date

*B. Mabrito* 5/6/2002  
QA Approval B. Mabrito Date

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

ation of Crevice corrosion specimens  
CNWRA Drawing 20-01402-571-024

Page 2 of 2

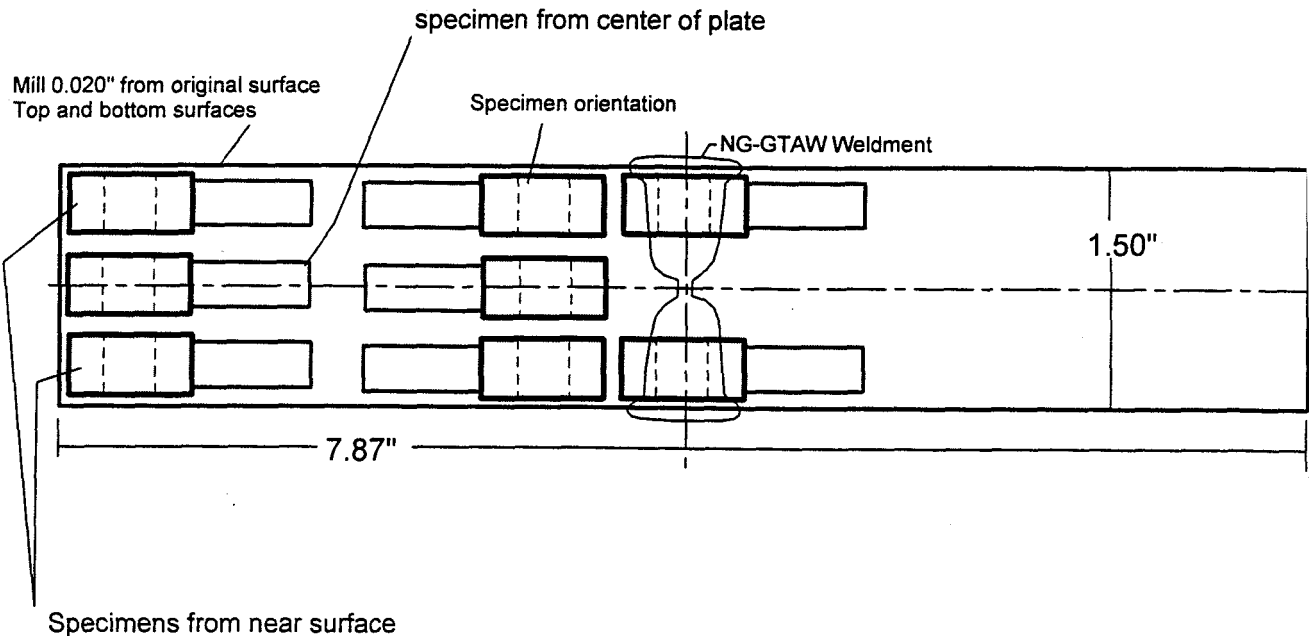
be completed at time of order:

Material: Welded Alloy 22 NG-GTAW  
(58Ni-22Cr-13.5Mo-3W-3Fe)

Heat: 059902LL2 & XX2048BG

Specimen Orientation: As shown

Other: Framatome D62X plate



*Darrell S. Dunn* 5/6/2002  
Initiated by: D. Dunn Date

*V. Jain* 5/6/02  
Reviewed by V. Jain Date

*B. Mabrito* 5/6/2002  
QA Approval B. Mabrito Date



**Southwest Research Institute**

6220 Culebra Road  
San Antonio, TX 78238-5166

**Purchase Order: 265536M**

Page: 2  
Date Printed: 03/28/2002

Order To: SCRIBNER ASSOCIATES, INC.  
150 E. CONNECTICUT AVE.  
SOUTHERN PINES, NC 28387

138770

Contact: 910-695-8884 CHERYL

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
03/28/02	Mary Hernandez	NET 30	SHIPPING POINT		FED STANDARD	DARRELL DUNN BLDG 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	CERTIFICATE OF COMPLIANCE FORM AND RETURN WITH THE ARTICLES TO BE DELIVERED. INVOICE WILL NOT BE PAID UNTIL A CERTIFICATE OF COMPLIANCE HAS BEEN RECEIVED.							
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510							
	<div>Authorized Signatures</div>							
							PO Total Amt:	\$360.00



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

Plated Nb  
CNWRA Drawing 20-01402-571-23  
Dimensional tolerances specified

to be completed at time of order:

Material: Pt coated Nb, Nb yarn

Heat: Not applicable

Specimen Orientation: Not applicable

Other: None

3.25 mm  $\pm$  0.1 mm  
dia Nb rod

25 cm  
 $\pm$  5 mm

Pt Plated Nb Mesh

50 mm  
 $\pm$  1 mm

50 mm  
 $\pm$  1 mm

Darrell Dunn 3/21/02  
Initiated by: D. Dunn Date

V. Jain 3/21/02  
Reviewed by V. Jain Date

for Mark R. Ehnert 3/21/02  
QA Approval B. Mabrito Date

Purchase Order: 293376W

Order To: DURO-SENSE  
20801 HIGGINS COURT  
TORRANCE, CA 90501

110340

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: 3105336877 / 3105330330 JAY / ROSS

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
02/25/02	Robert Wolfe	NET 15	SHIPPING POINT		FED X 1 DAY	D.DUNN BLDG 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * * DUPLICATE PO * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC MTC-D-12521-U-SP-24-DBOA TYPE K THERMOCOUPLES 1/8" DIAMETER INCONEL SHEATH 24 INCHES LONG  Req: 609769  Prime Contract #: NRC0297009      Priority: NONE AOP: 704-000 1.20      01402.571		EA	03/06/02	03/01/02	18.0000	36.5000	\$657.00
2	MISC LOT CERTIFICATION FOR THERMOCOUPLES IN LINE ITEM A AT 1140 DEGREES C, 700 DEGREES C, AND 300 DEGREES C  Req: 609769  Prime Contract #: NRC0297009      Priority: NONE AOP: 704-000 1.20      01402.571  QUALITY AFFECTING PURCHASE: QUALITY & TECHNICAL REQUIREMENTS: LOT CERTIFICATION FOR THERMOCOUPLES AT 1140, 700, AND 300 DEGREES C.  PI TO INSPECT ON RECEIPT.  Bill To: Southwest Research Institute		EA	03/06/02	03/01/02	1.0000	55.0000	\$55.00

Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 293376W

Page: 2  
Date Printed: 03/08/2002

Order To: DURO-SENSE  
20801 HIGGINS COURT  
TORRANCE, CA 90501

110340

Contact: 3105336877 / 3105330330 JAY / ROSS

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
03/25/02	Robert Wolfe	NET 15	SHIPPING POINT		FED X 1 DAY	D.DUNN BLDG 57		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510						PO Total Amt:	\$712.00
	<div>Authorized Signatures</div>							



6220 Culebra Road  
San Antonio, TX 78238-5166

Page: 1  
Date Printed: 03/13/2002

Order To: TEXAS TOOL MAKERS  
11411 E. COKER LOOP  
SAN ANTONIO, TX 78216

100987

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: MIKE RIDGEWAY

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
03/13/02	Jimmie Silvers	.5% 10	SHIPPING POINT		OUR TRUCK	R. DOYLE SMITH		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	*****							
	* CONFIRMATION *							
	*****							
	This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC			EA 04/01/02	04/01/02	8.0000	288.0000	\$2,304.00
	MACHINE CARBON STEEL OCK UP SPECIMEN 20-01402-571-20, REV 01							
	Req: 609777							
	Prime Contract #: NRC0297009 Priority: NONE							
	AOP: 704-000 1.20 01402.571							
	QUALITY AFFECTING PURCHASE.							
	QUALITY AND TECHNICAL REQUIRMENTS: VENDOR WILL SUPPLY A DIMENSIONAL INSPECTION TOLERANCES SHOWN IN SWRI DWG 20-01402-571-20, REV 01							
	Bill To:							
	Southwest Research Institute							
	P.O. Drawer 28510							
	Attention: Accounts Payable							
	San Antonio, TX 78228-0510							
	PO Total Amt: \$2,304.00							
	Authorized Signatures							



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE <b>3/6/02</b>	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. <b>609777</b> ✓
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SUGGESTED OR PREVIOUS SUPPLIER <b>Texas Toolmakers</b>		DELIVER TO <b>R. Doyle Smith</b>		PURCHASING SELECTED SUPPLIER	
CITY, STATE <b>San Antonio, TX</b>		SHIP VIA			
ATTN: <b>Mike Ridgway</b>		F.O.B.		SUPPLIER CODE	ATTN
PHONE <b>494-3651</b>	FAX <b>402-0369</b>	TERMS		PHONE	FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
<b>A</b>	<b>8</b>	<b>EA</b>	<b>Machine carbon steel mock-up specimen</b>						
			<b>per DWG 20-01402-571-20, Rev. 01</b>	<b>20</b>	<b>01402</b>	<b>571</b>	<b>100</b>	<b>4/1/02</b>	<b>288.00</b>
			<b>Quality affecting purchase.</b>						
			<b>Quality &amp; Technical Requirements: Vendor</b>						
			<b>will supply a dimensional inspection and</b>						
			<b>show conformance with dimensional tolerances</b>						
			<b>shown in SwRI DWG 20-01402-571-20, Rev. 01</b>						

INTERNAL NOTES TO BUYER	SPECIAL INSTRUCTIONS TO SUPPLIER	TOTAL
-------------------------	----------------------------------	-------

<b>1. Government Project?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, CHECK THE APPROPRIATE PROPERTY TYPE (SEE BACK FOR EXPLANATION OF PROPERTY TYPES) <b>a</b> <input checked="" type="checkbox"/> G-1 CONSUMABLE <b>b</b> <input type="checkbox"/> G-2 DELIVERABLE <b>c</b> <input type="checkbox"/> G-3 ACCOUNTABLE / REPORTABLE <b>d</b> IS GOVT. PROPERTY BEING SENT TO SUPPLIER? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<b>2. QUALITY ASSURANCE?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <b>a</b> ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <b>b</b> Q A CODES: <b>Q11</b> <b>c</b> INSPECTION CRITERIA <b>PI To check upon RECEIPT.</b> <b>d</b> QA APPROVAL (IF REQUIRED) <b>DATE</b> <b>3/6/02</b>	<b>3. SOURCING NOTES</b> IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFACTURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY YOUR NEED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YOU HAVE SUGGESTED A SUPPLIER, AND NO OTHER SUPPLIER WILL MEET YOUR NEEDS, PLEASE ATTACH A MEMO OF EXPLANATION. REQUESTOR'S SIGNATURE <b>R. Doyle Smith</b> EXT. NO. <b>3976</b> DEPT. / DIVISION APPROVAL <b>DATE</b> <b>3/6/02</b> ADMIN. APPROVAL <b>DATE</b>	<b>4. REPAIRS</b> <b>a</b> IS THIS REQ. FOR A REPAIR? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <b>b</b> IS THE REPAIR ON OR OFF CAMPUS? <input type="checkbox"/> ON <input type="checkbox"/> OFF <b>c</b> IF OFF CAMPUS PROVIDE SHIPPING TICKET NO. _____
---	---	--	--

CONTRACT REVIEW APPROVAL	DATE	BUYER SIGNATURE	DATE	SEE INSTRUCTIONS ON REVERSE SIDE
--------------------------	------	-----------------	------	----------------------------------

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

Carbon Steel Mockup Specimen  
CNWRA Drawing 20-01402-571-20 Rev. 01  
All Dimensions  $\pm 0.010$ "  
unless otherwise specified  
Note: Detail A on Page 2

Page 1 of 2

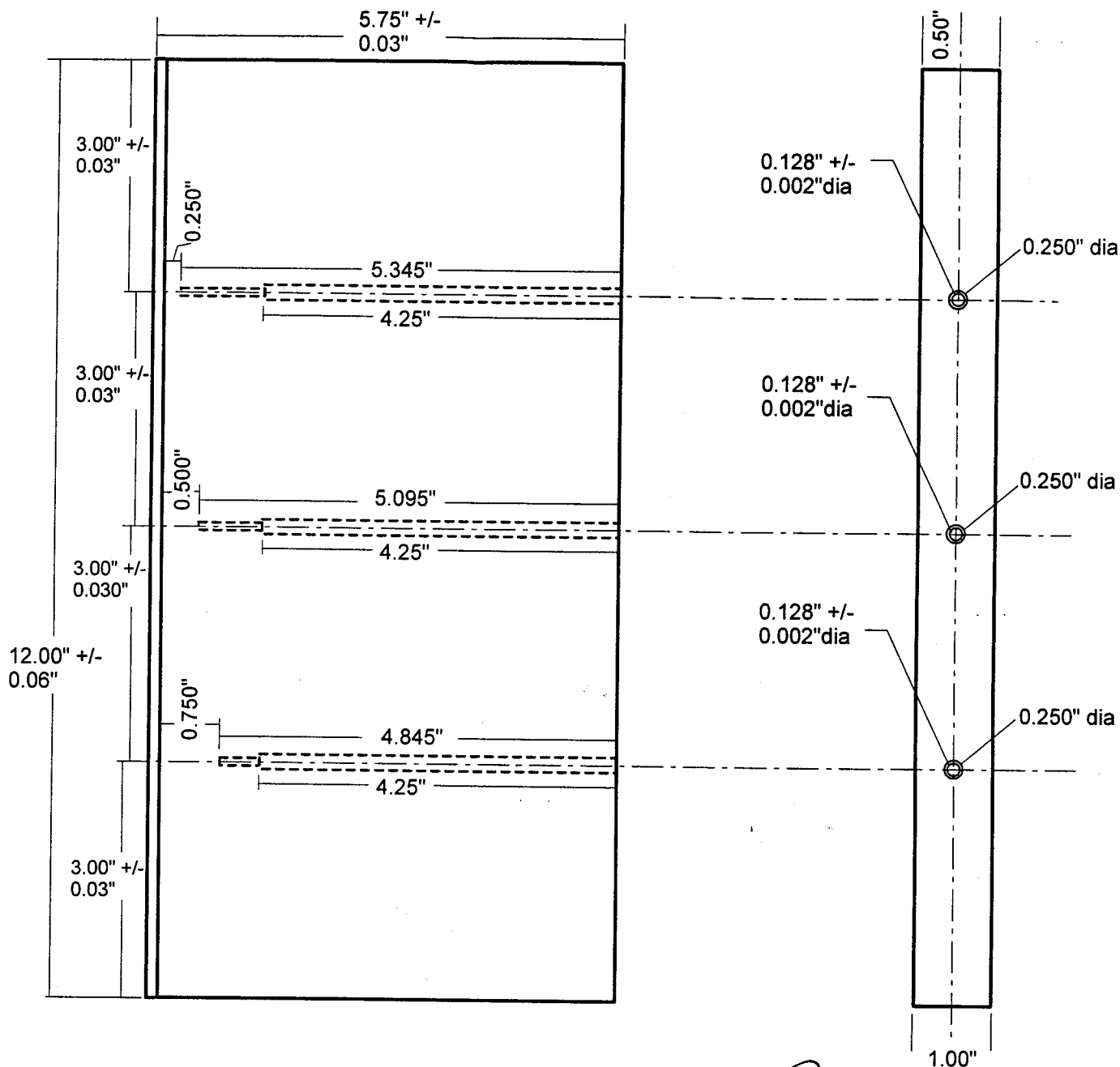
Time completed at time of order:

Material: \_\_\_\_\_

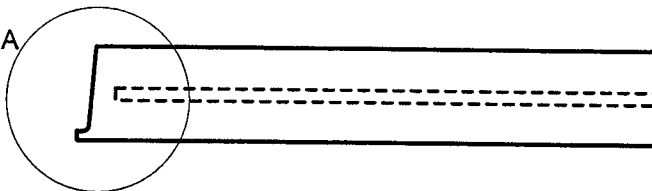
Heat: \_\_\_\_\_

Specimen Orientation: \_\_\_\_\_

Other: \_\_\_\_\_



Detail A



*Darrell Dunn* 3/6/02  
Initiated by: D. Dunn Date

*V. Jain* 3/6/02  
Reviewed by: V. Jain Date

*B. Mabrito* 3/6/2002  
QA Approval B. Mabrito Date

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

Carbon Steel Mockup Specimen  
CNWRA Drawing 20-01402-571-20 Rev. 01  
All Dimensions  $\pm 0.005"$   
unless otherwise specified  
Detail A identified on Page 1

Page 2 of 2

Time completed at time of order:

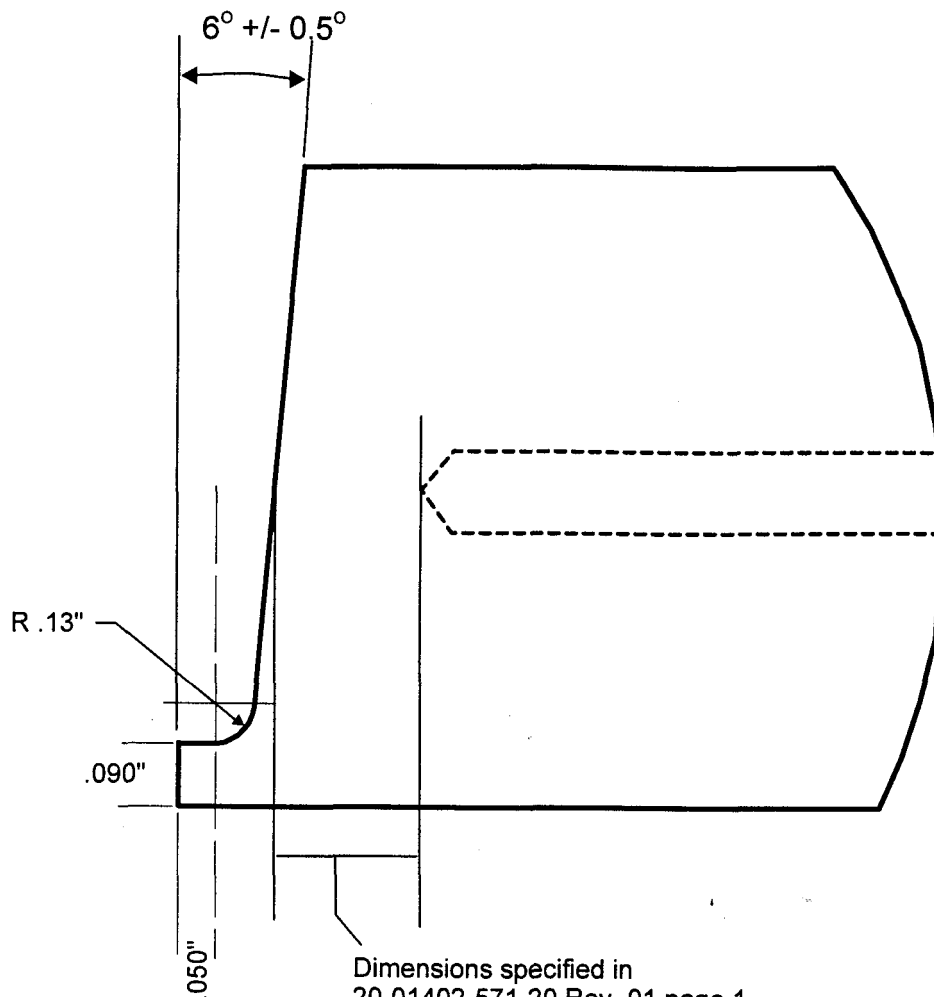
Material: \_\_\_\_\_

Heat: \_\_\_\_\_

Specimen Orientation: \_\_\_\_\_

Other: \_\_\_\_\_

### Detail A



*Darrell Dunn* 3/6/02  
Initiated by. D. Dunn Date

*Vijay Jain* 3/6/02  
Reviewed by V. Jain Date

*B. Mabrito* 3/6/2002  
QA Approval B. Mabrito Date

Order To: PRAXAIR DISTRIBUTION, INC.  
10790 IOTA  
SAN ANTONIO, TX 78217

104045

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: ELDRICK Ph: 800-269-2897 Fax: 512-389-3345

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
C 5/02	J. Evans	NET 30	SHIPPING POINT		VENDOR TRUCK	R.DOYLE SMITH BLDG 137		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC 99.999% PURE ARGON		EA	01/24/02	01/18/02	4.0000	34.7400	\$138.96
	Req: 609730							
	Prime Contract #: NRC0297009		Priority: NONE					
	AOP: 704-000 1.20		01402.571					
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510							
	_____ Authorized Signatures							
							PO Total Amt:	\$138.96



**Southwest Research Institute**

6220 Culebra Road  
San Antonio, TX 78238-5166

**Purchase Order: 285778S**

Page: 1  
Date Printed: 01/16/2002

Order To: WELDERS SUPPLY CO.  
5406 JACKWOOD  
SAN ANTONIO, TX 78238

107287

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: DONALD JAMES Ph: 684-0232 Fax: 684-1445

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
0 5/02	Jimmie Silvers	NET 10	SHIPPING POINT		YOUR TRUCK	R.DOYLE SMITH BLDG 137		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC 3/32" x 36" ERNICRMO-10 WELD WIRE, ID'D, ACTUAL CERTS Req: 609729  Prime Contract #: NRC0297009 AOP: 704-000 1.20		LB	01/18/02	01/18/02	10.0000	21.4900	\$214.90
	Priority: NONE 01402.571							
2	MISC 1/8" x 36" ERNICROMO-10 WELD WIRE, ID'D ACTUAL CERTS Req: 609729  Prime Contract #: NRC0297009 AOP: 704-000 1.20		LB	01/18/02	01/18/02	20.0000	21.1000	\$422.00
	Priority: NONE 01402.571							
3	MISC 0.045" ERNICROMO-10 WELD WIRE ON 30-LB SPOOL, ACTUAL CERTS Req: 609729  Prime Contract #: NRC0297009 AOP: 704-000 1.20		LB	01/18/02	01/18/02	30.0000	21.5700	\$647.10
	Priority: NONE 01402.571							
4	MISC 3/32" 2% THORIATED TUNGSTEN ELECTRODE Req: 609729  Prime Contract #: NRC0297009		EA	01/18/02	01/18/02	10.0000	1.6200	\$16.20
	Priority: NONE							

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 285778S

Date Printed: 01/16/2002

Order To: WELDERS SUPPLY CO.  
5406 JACKWOOD  
SAN ANTONIO, TX 78238

107287

Contact: DONALD JAMES      Ph: 684-0232      Fax: 684-1445

[illegible]



6220 Culebra Road  
San Antonio, TX 78238-5166

Page: 3  
Date Printed: 01/16/2002

Order To: WELDERS SUPPLY CO.  
5406 JACKWOOD  
SAN ANTONIO, TX 78238

Contact: DONALD JAMES      Ph: 684-0232      Fax: 684-1445

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
0 5/02	Jimmie Silvers	NET 10	SHIPPING POINT		YOUR TRUCK	R.DOYLE SMITH BLDG 137		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	VERIFIY CONFORMANCE TO APPLICABLE SPECIFICATION(S) AND REFERENCE THE APPLICABLE HEAT NUMBER, LOT/BATCH NUMBER OR DATE CODE. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.							
	MILL TEST REPORT SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. TEST REPORT SHALL BE IN THE FORM OF A PRODUCTION BATCH ANALYSIS OR LADLE ANALYSIS. CHEMICAL AND/OR PHYSICAL TEST DATA SHALL BE PROVIDED. MATERIAL SHALL BE IDENTIFIED BY HEAT NUMBER IF APPLICABLE.							
	Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510							
	<div>Authorized Signatures</div>							
							PO Total Amt:	\$1,342.30



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE

1/11/02

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

609729

SUGGESTED OR PREVIOUS SUPPLIER

Welders Supply Co.

CITY, STATE

San Antonio, TX

ATTN:

Donald James

PHONE

684-0232

FAX

DELIVER TO

R. Doyle Smith, bldg. 137

SHIP VIA

PURCHASING SELECTED SUPPLIER

F.O.B.

SUPPLIER CODE

ATTN

TERMS

PHONE

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	10	lbs	3/32" x 36" ERNiCrMo-10 weld wire, ID'd, actual certs	20	01402	571	100	1/18/02	22.90
B	20	lbs	1/8" x 36" ERNiCrMo-10 weld wire, ID'd, actual certs	20	01402	571	100	1/18/02	22.70
C	30	lbs	0.045" ERNiCrMo-10 weld wire on 30-lb spool, actual certs	20	01402	571	100	1/18/02	23.70
D	10	EA	3/32" 2% thoriated tungsten	20	01402	571	100	1/18/02	1.62
E	25	EA	0.045" contact tip, P/N 14H-45	20	01402	571	100	1/18/02	
F	1	EA	0.045 wire conduit assembly,						
			P/N 44-3545-15	20	01402	571	100	1/18/02	
			QUALITY AFFECTING						
			PURCHASE						

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 Q A CODES: Q3; Q4

c INSPECTION CRITERIA

d QA APPROVAL (IF REQUIRED) DATE

DATE

BUYER SIGNATURE

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

EXT. NO.

R. Doyle Smith

3976

DEPT. / DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 232922E

Date Printed: 01/17/2002

104045

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: ELDRICK      Ph: 800-269-2897      Fax: 512-389-3345

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
05/02	J. Evans	NET 30	SHIPPING POINT		VENDOR TRUCK	R.DOYLE SMITH BLDG 137		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	*****							
	* CONFIRMATION						*	
	* DUPLICATE PO						*	
	*****							
	This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC		EA	01/24/02	01/18/02	4.0000	34.7400	\$138.96
	99.999% PURE ARGON							
	Req: 609730							
	Prime Contract #: NRC0297009 Priority: NONE							
	AOP: 704-000 1.20 01402.571							
	THE GENERAL PURCHASE ORDER TERMS AND CONDITIONS ATTACHED ARE MADE A PART OF THIS ORDER. PLEASE SIGN AND RETURN A PHOTOCOPY ACKNOWLEDGING ORDER WITHIN 5 WORKING DAYS.							
	AGREED & ACCEPTED:				DATE:			
	"IF THIS ORDER INCLUDES A GOVERNMENT CONTRACT NUMBER, THEN ANY PROPERTY FURNISHED HEREWITH IS CONSIDERED GOVERNMENT-FURNISHED PROPERTY WHICH MUST BE ACCOUNTED FOR IN ACCORDANCE WITH FAR, PART 45. REFER TO GENERAL PURCHASE ORDER TERMS AND CONDITIONS FOR RISK OF LOSS."							
	SUPPLIER SHALL PROVIDE A CERTIFICATE OF ANALYSIS FOR EACH CHEMICAL(S) SHIPPED. THE CERTIFICATE SHALL PROVIDE EVIDENCE FOR CONFORMANCE TO APPLICABLE SPECIFICATION(S) WITH THE PERCENT OF PURITY AND REFERENCE THE APPROPRIATE LOT/BATCH NUMBER OF THE CHEMICAL(S).							
	Bill To: Southwest Research Institute							

Order To: PRAXAIR DISTRIBUTION, INC.  
10790 IOTA  
SAN ANTONIO, TX 78217

104045

Contact: ELDRICK Ph: 800-269-2897 Fax: 512-389-3345

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
01/15/02	J. Evans	NET 30	SHIPPING POINT		VENDOR TRUCK	R.DOYLE SMITH BLDG 137		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510						PO Total Amt:	\$138.96
	<hr/> Authorized Signatures							

6220 Culebra Road  
San Antonio, TX 78238-5166

509360

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Page: 1  
Date Printed: 01/02/2002

Order To: HAYNES INTERNATIONAL, INC.  
NORTHWOODS INDUSTRIAL PARK WEST  
12241 F.M. 529  
HOUSTON, TX 77041

Contact: GLENDA Ph: 800-231-4548 Fax: 713-937-4596

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
2/02	Jimmie Silvers	NET 30	SHIPPING POINT		MOTOR FREIGHT	DOYLE SMITH/B 137		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	*****							
	* CONFIRMATION *							
	*****							
	This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700).							
1	MISC			PCS 01/09/02	01/09/02	1.0000	3,506.2500	\$3,506.25
	ALLOY C-22 PLATE, 1-INCH THICK, 2 FEET WIDE, AND 4 FT. LONG							
	NOTE: QUALITY & TECHNICAL REQUIREMENTS: MATERIAL MUST MEET THE							
	COMPOSITIONAL SPECIFICATIONS IN ASTM B 575 FOR PLATE MATERIALS.							
	VENDOR WILL PROVIDE A COPY OF THE MILL TEST REPORT CONTAINING FOR							
	THE PLATE WITH THE HEAT NUMBER. AN INDEPENDENT CHEMICAL ANALYSES OF							
	THE MATERIAL WILL BE PERFORMED. ACCEPTANCE OF THE MATERIAL WILL BE							
	PERFORMED. ACCEPTANCE OF THE MATERIAL WILL BE DETERMINED BY THE							
	OUTCOME OF THE INDEPENDENT CHEMICAL ANALYSES.							
	QUALITY AFFECTING PURCHASE.							
	Req: 600521							
	QC Insp Required							
	Prime Contract #: NRC0297009 Priority: NONE							
	AOP: 704-000 1.20 01402.571							
	SWRI QA RECEIVING INSPECTION CRITERIA: PI TO PERFORM RECEIPT INSPECTION.							
	Bill To:							
	Southwest Research Institute							
	P.O. Drawer 28510							
	Attention: Accounts Payable							
	San Antonio, TX 78228-0510							
	PO Total Amt:							\$3,506.25

Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 285697S

Page: 2  
Date Printed: 01/02/2002

Order To: HAYNES INTERNATIONAL, INC.  
NORTHWOODS INDUSTRIAL PARK WEST  
12241 F.M. 529  
HOUSTON, TX 77041

509360

Contact: GLENDA Ph: 800-231-4548 Fax: 713-937-4596

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
0 2/02	Jimmie Silvers	NET 30	SHIPPING POINT		MOTOR FREIGHT	DOYLE SMITH/B 137		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	Authorized Signatures							



## PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

## DEPARTMENT

REQUISITION DATE

12/14/01

ORDER DATE

PURCHASE ORDER NUMBER

REQ. NO.

600521

SUGGESTED OR PREVIOUS SUPPLIER

Haynes International

CITY, STATE

ATTN:

PHONE

FAX

DELIVER TO

Doyle Smith, bldg. 137

SHIP VIA

F.O.B.

TERMS

PURCHASING SELECTED SUPPLIER

SUPPLIER CODE

PHONE

ATTN

FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
1	1	EA	Alloy C-22 plate, 12inch thick, 2 feet wide, and 4 ft long	20	01402	571	100	1/7/02	3730.00
Quality & Technical Requirements: Material must meet the compositional specifications in ASTM B 575 for plate materials. Vendor will provide a copy of the mill test report containing for the plate with the heat number. An independent chemical analyses of the material will be performed. Acceptance of the material will be determined by the outcome of the independent chemical analyses.				QUALITY-AFFECTING PURCHASE					
				Is this order being placed with an ASL supplier?					
				<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
				Is confirmatory analysis required?					
				<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
Quality Affecting Purchase									

INTERNAL NOTES TO BUYER

SPECIAL INSTRUCTIONS TO SUPPLIER

TOTAL

1. Government Project? ☒ YES ☐ NOIF YES, CHECK THE APPROPRIATE PROPERTY  
TYPE (SEE BACK FOR EXPLANATION OF PROP-  
ERTY TYPES)a ☒ G-1 CONSUMABLEb ☐ G-2 DELIVERABLEc ☐ G-3 ACCOUNTABLE / REPORTABLEd IS GOVT. PROPERTY BEING SENT TO  
SUPPLIER?☐ YES☐ NO2. QUALITY ASSURANCE? ☒ YES ☐ NOa ASL REQUIRED? ☒ YES ☐ NO

b Q A CODES: Q4

c INSPECTION CRITERIA

d QA APPROVAL (IF REQUIRED)

DATE

3. SOURCING NOTES

IF YOU HAVE SELECTED A BRAND NAME OR PARTICULAR MANUFAC-  
TURER, WOULD AN EQUIVALENT BRAND OR PRODUCT ALSO SATISFY  
YOUR NEED? ☒ YES ☐ NOIF YOU HAVE SUGGESTED A SUPPLIER, AND NO OTHER SUPPLIER  
WILL MEET YOUR NEEDS, PLEASE ATTACH A MEMO OF EXPLANATION.

REQUESTOR'S SIGNATURE

EXT. NO.

Darrell S. Dunn

6090

DEPT. / DIVISION APPROVAL

DATE

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. \_\_\_\_\_

CONTRACT REVIEW APPROVAL

DATE

BUYER SIGNATURE

DATE

SEE INSTRUCTIONS ON REVERSE SIDE

## Southwest Research Institute

6220 Culebra Road  
San Antonio, TX 78238-5166

Purchase Order: 285426S

Page: 1

Date Printed: 11/14/2001

Order To: METAL SAMPLES, INC.  
ROUTE 1, BOX 152  
MUNFORD, AL 36268

104367

Ship To: Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238-5166

Contact: BENJAMIN

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO	
1 4/01	Jimmie Silvers	NET 30	SHIPPING POINT		FED EXP	Y.M. PAN/X6640	
LINE	ITEM/DESCRIPTION	REV	U/M	DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	***** * CONFIRMATION * ***** This is a rated order certified for national defense use, and the Contractor shall follow all requirements of the Defense Priorities Allocations System Regulation (15 CFR Part 700). *****						
1	MISC ALLOY C22, ASTM G30 SINGLE U-BEND SPECIMEN, T-S ORIENTATION, UNSTRESSED FLAT SPECIMEN, DIMENSIONS: 5"(L) X 3.975"(M) X 0.750"(W) X 0.125"(T) 0.375" DIAMETER MOUNTING HOLES  Req: 584365 QC Insp Required  Prime Contract #: NRC0297009                      Priority: NONE AOP: 704-000 1.20                      01402.571		PCS	11/30/01 11/30/01	20.0000	22.5500	\$451.00
2	MISC ALLOY C22, ASTM G30 DOUBLE U-BEND SPECIMEN, T-S ORIENTATION, UNSTRESSED FLAT SPECIMEN, DIMENSIONS: (A) 5"(L) X 3.975"(M) X 0.750"(W) X 0.125"(T) (B) 5.395"(L) X 4.370(M) X 0.750"(W) X 0.125"(T)  Req: 584365 QC Insp Required  Prime Contract #: NRC0297009                      Priority: NONE AOP: 704-000 1.20                      01402.571		PCS	11/30/01 11/30/01	20.0000	62.8500	\$1,257.00
3	MISC ALLOY C22 ARCHIVE SPECIMEN, 0.125" X 6" X 6"  Req: 584365		PCS	11/30/01 11/30/01	1.0000	45.0000	\$45.00



6220 Culebra Road  
San Antonio, TX 78238-5166

Page: 2  
Date Printed: 11/14/2001

Order To: METAL SAMPLES, INC.  
ROUTE 1, BOX 152  
MUNFORD, AL 36268

104367

Contact: BENJAMIN

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
4/01	Jimmie Silvers	NET 30	SHIPPING POINT		FED EXP	Y.M. PAN/X6640		
LINE	ITEM/DESCRIPTION	REV	U/M	DUE DATE	DESIRED DATE	QUANTITY	NET UNIT COST	EXTENDED COST
	QC Insp Required							
	Prime Contract #: NRC0297009			Priority: NONE				
	AOP: 704-000 1.20			01402.571				
4	MISC			PCS 11/30/01	11/30/01	4.0000	350.0000	\$1,400.00
	316L SS INTERNAL CHEMISTRY SPECIMEN, SWRI DRAWING							
	#20-01402-571-009 REV. 01 MACHINED FROM 1/2" THICK PLATE SUPPLIED BY							
	SWRI, HEAT NO. P80746							
				Req: 584365				
				QC Insp Required				
	Prime Contract #: NRC0297009			Priority: NONE				
	AOP: 704-000 1.20			01402.571				
	QA REQUIREMENTS: ALLOY C22 MATERIAL MEETS THE SPECIFICATIONS OF ASTM B-575. MATERIAL							
	CERTIFICATION AND MILL TEST REPORT REQUIRED WITH ORDER.							
	SEND ALL PAPERWORK TO R.ARD/BLG. 189							
	Bill To:							
	Southwest Research Institute							
	P.O. Drawer 28510							
	Attention: Accounts Payable							
	San Antonio, TX 78228-0510							
							PO Total Amt:	\$3,153.00
	Authorized Signatures							



PURCHASE REQUISITION  
SOUTHWEST RESEARCH INSTITUTE™

"Attach Memos, quotations and any other correspondence."

PURCHASE ORDER NO.

REQ. NO.

584365

VENDOR			DATE OF ORDER	SHIP VIA	SUGGESTED SUPPLIER		
			F.O.B. POINT	TERMS	Metal Samples Company		
			CONTRACT NO.		152 Metal Samples Road		
					Munford, AL 36268		
VENDOR CODE	ATTN:	PHONE	PRIORITY	PHONE	FAX		
				(256) 358-4202	(256) 358-4515		
ITEM	QTY.	UNIT	DESCRIPTION	ITEM IDENTIFIER	EST. COST EA.	UNIT PRICE	AMOUNT
A	20	PC	Alloy C22, ASTM G30 single U-bend specimen, T-S orientation, unstressed flat specimen Dimensions: 5"(L) x 3.975" (M) x 0.750"(W) x 0.125"(T) 0.375" diameter mounting holes		\$22.55		
B	20	PC	Alloy C22, ASTM G30 double U-bend specimen, T-S orientation, unstressed flat specimen, Dimensions: (a) 5"(L) x 3.975"(M) x 0.750"(W) x 0.125"(T) (b) 5.395"(L) x 4.370"(M) x 0.750"(W) x 0.125"(T)		\$62.85		
C	1	PC	Alloy C22 archive specimen, 0.125" x 6" x 6"		\$45.00		
D	4	PC	316L SS internal chemistry specimen, SwRI Drawing #20-01402-571-009A, machined from 1/2" thick plate supplied by SwRI, Heat No. P80746		\$250.00		
			QA Requirements: Alloy C22 material meets the specifications of ASTM B0575. Material certification and Mill Test Report required with order.				
						TOTAL	

DATE REQUIRED 11/26/01	REQUISITION DATE 11/8/01	TO BE USED FOR CLST	DELIVER TO NAME/LOCATION Y-M. Pan	SPECIAL INSTRUCTIONS Send all paperwork to R. Ard/bldg. 189			
ACCOUNT NO.(s) 20.01402.571	REQUESTOR'S SIGNATURE Yi-Ming Pan DEPARTMENTAL/DIVISIONAL APPROVAL [Signature] ADMIN. APPROVAL [Signature]		EXT.NO. 6640 DATE 11/8/01	1. If you have specified a brand name, would an equivalent brand or product also satisfy your need? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	2. If you have suggested a supplier for the item or service, could other suppliers meet your requirements? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	3. If this requisition is for a repair-is the repair on campus or off campus? <input type="checkbox"/> ON <input type="checkbox"/> OFF	
4. Government Project? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If the item is being charged to a government contract: a. Will it be substantially consumed, destroyed, or exhausted during the performance of the project? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		b. If "NO", will it be attached to, built into, or used as an accessory to a piece of equipment either in existence or to be constructed? <input type="checkbox"/> YES <input type="checkbox"/> NO c. If "NO", is the item uniquely required to instrument the project that is funding the purchase? <input type="checkbox"/> YES <input type="checkbox"/> NO		d. Is government furnished property being sent to vendor <input type="checkbox"/> YES <input type="checkbox"/> NO e. QA Approval (if required) [Signature] 11/8/2001		f. QA Footnotes: Q3 & Q4 PI To 1-505050-0-1 RECEIPT	5. Do you want receiving to open and inspect your shipment? <input type="checkbox"/> YES <input type="checkbox"/> NO SEE INSTRUCTIONS ON REVERSE SIDE
CONTRACT ADMINISTRATOR		DATE	BUYER SIGNATURE	DATE	EXPEDITE DATE		

## QUOTE

Quote Number: 29121

Page: 1 of 2

## Metal Samples Company

P.O. Box 8  
152 Metal Samples Road  
Munford, AL 36268

Phone: (256)358-4202

Fax: (256)358-4515

## Quote To:

YIMING PAN  
SOUTHWEST RESEARCH INSTITUTE  
P.O. BOX 28510  
SAN ANTONIO TX 78228-0510  
USA

Date: 11/1/01

Expires: 12/1/01

Sales Person: BENJAMIN J. LACKEY

Line	Part Number	Description	Revision	Drawing #
1	CS*TBD*A110304100	C22,120,,S&A,WGH,,		
Lead Time: SHIP : 2 WEEKS ARO				
HASTELLOY C22, SINGLE U-BEND SPECIMEN PER CUSTOMER SPECIFICATION. MACHINED FROM MATERIAL SUPPLIED BY METAL SAMPLES CO.				
SPECIMEN DIMENSIONS : 1/8" X 3/4" X 5" LONG BEFORE BENDING. 1/4" BEND RADIUS. 3/8" DIAMETER MOUNTING HOLES, 3.975" CENTER TO CENTER.				
TO BE MANUFACTURED FROM METAL SAMPLES LOT# U839. NO HARDWARE OR INSULATORS INCLUDED.				
		<u>Quantity</u>	<u>UM</u>	<u>Unit Price</u> <u>UM</u>
		20.00	EA @	22.55 EA



ALABAMA  
RESEARCH AND  
DEVELOPMENT

## QUOTE

Quote Number: 29121

Page: 2 of 2

Line	Part Number	Description	Revision	Drawing #
2	CS*TBD*A110304100	C22,120,,S&A,WGH,, <i>HASTELLOY C22, DOUBLE U-BEND SPECIMEN PER CUSTOMER SPECIFICATION. MACHINED FROM MATERIAL SUPPLIED BY METAL SAMPLES CO.</i>  <i>SPECIMEN DIMENSIONS :</i> <i>(a) 1/8" X 3/4" X 5" LONG BEFORE BENDING. 1/4" BEND RADIUS. 3/8" DIAMETER MOUNTING HOLES, 3.975" CENTER TO CENTER.</i> <i>(b) 1/8" X 3/4" X 5.395" LONG BEFORE BENDING. 3/8" DIAMETER MOUNTING HOLES, 4.370" CENTER TO CENTER (TO FIT ALIGNMENT OF THE INNER SPECIMEN (a).</i>  <i>TO BE MANUFACTURED FROM METAL SAMPLES LOT# U839. NO HARDWARE OR INSULATORS INCLUDED.</i>		
		<b>Quantity</b> <b>UM</b>	<b>Unit Price</b> <b>UM</b>	
		20.00 EA @	62.85	EA
3	CU014829999	C22 ARCHIVE SPECIMEN <i>HASTELLOY C22, ARCHIVE SPECIMEN. 1/8" X 6" X 6"</i>  <i>TO BE MANUFACTURED FROM METAL SAMPLES LOT# U839.</i>		
		<b>Quantity</b> <b>UM</b>	<b>Unit Price</b> <b>UM</b>	
		1.00 EA @	45.00	EA
4	CU01482*TBD	316L(CSM) INTERNAL CHEMISTRY SPECIMEN  <i>316L S.S., INTERNAL CHEMISTRY SPECIMEN MACHINED FROM CUSTOMER SUPPLIED MATERIAL (CSM).</i>  <i>CSM = 1/2" THICK PLATE</i>  <i>SPECIMEN DIMENSIONS : .500" X 4.250" X 4.250", DRILLED PER SwRI DRAWING# 20-01402-571-009</i>		
		<b>Quantity</b> <b>UM</b>	<b>Unit Price</b> <b>UM</b>	
		4.00 EA @	350.00	EA

AVAILABLE TO SHIP 2 WEEKS AFTER RECEIPT OF ORDER.

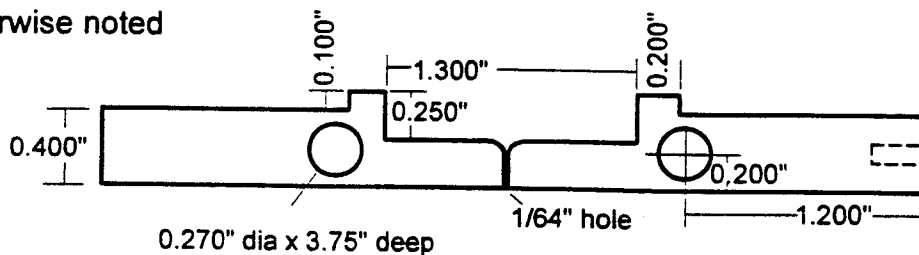
THANK YOU FOR YOUR INQUIRY. IF YOU HAVE ANY QUESTIONS, PLEASE LET US KNOW.

ALABAMA  
RESEARCH AND  
DEVELOPMENT

Darrell S. Dunn  
SwRI-CNWRA  
Phone (210) 522-6090  
Fax (210) 522-5184

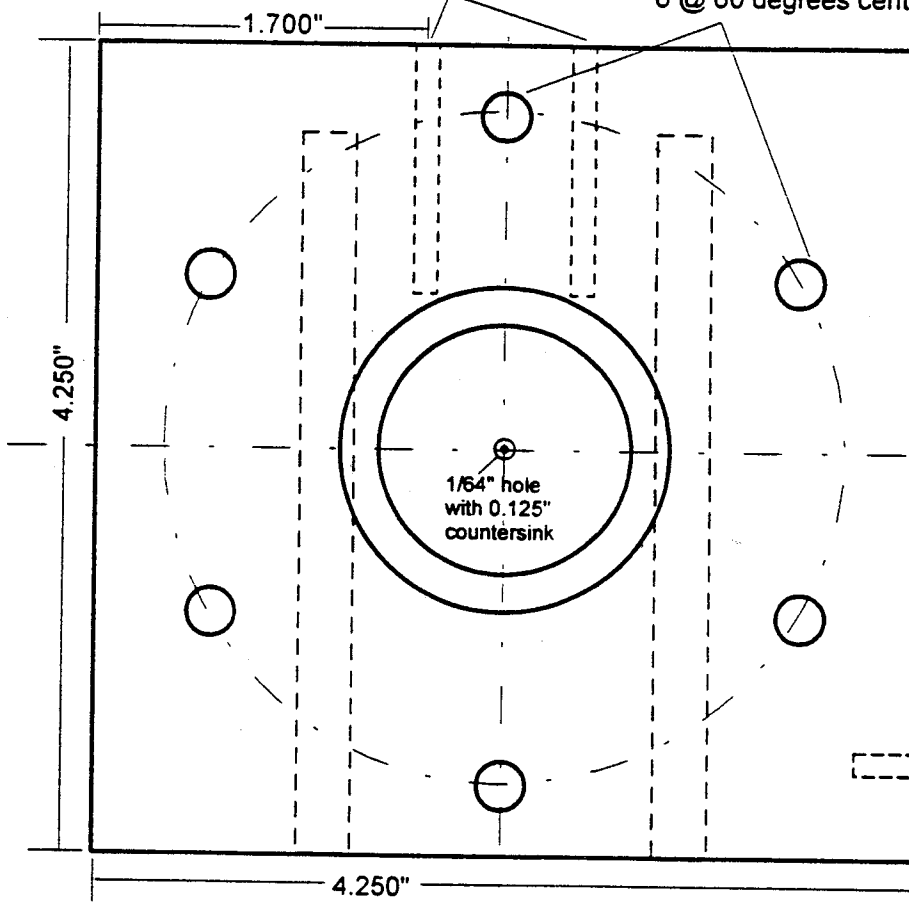
Internal Chemistry Specimen  
Drawing # 20-01402-571-009 rev.01

All dimensions +/- 0.005"  
unless otherwise noted



0.130" dia x 1.300 deep  
on center of 0.400" thickness

Drill to clear 1/4 - 20 threads  
6 @ 60 degrees centered on 3.5 inch circle



Drill and tap  
#5-40 thread  
0.250" deep  
centered on thickness

0.500"

*Darrell Dunn* 4/03/2001  
Initiated by D. Dunn date

*V. Jain* 4/3/01  
Reviewed by V. Jain date

*B. Mabrito* 4/5/2001  
QA Approval: B. Mabrito date