

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>DESCRIPTION</u>
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	
1	0	0	0		BEST WAY	\$402.00	SERVICE PURCHASE ORDER
Total						\$402.00	

NOTES: (none)

FOOTNOTES: P8 P12 Q49 Q12 Q20 JHM1

20.61402.571
 pd
 period
 13

SUGGESTED OR PREVIOUS SUPPLIER An-Tech Laboratories		DELIVER TO R. Doyle Smith/bldg. 137		PURCHASING SELECTED SUPPLIER	
CITY, STATE Houston, TX 77207		SHIP VIA			
ATTN: Don Derrick		F.O.B.		SUPPLIER CODE	
PHONE 713/644-7501		FAX 713/644-1400		TERMS	
				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	<i>9/9/02</i>	50.00
B	2	EA	Machining reduced section tensile specimens	20	01402	571	100	<i>9/9/02</i>	60.00
C	4	EA	Machining side bend specimens	20	01402	571	100	<i>9/9/02</i>	35.00
D	2	EA	Test tensile specimens-yield by extensometer	20	01402	571	100	<i>9/9/02</i>	22.00
E	4	EA	Test side bend specimens	20	01402	571	100	<i>9/9/02</i>	12.00
			Quality affecting purchase.						

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

<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 type="checkbox"/> G-1 CONSUMABLE</p> <p>b <input type="checkbox"/> G-2 DELIVERABLE</p> <p>c <input checked="" 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 type="checkbox"/> NO</p>	<p>2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: <i>Q11, Q12, Q20</i></p> <p>c INSPECTION CRITERIA <i>P1 to meet per QAR-C16</i></p> <p>d QA APPROVAL (IF REQUIRED) _____ DATE <i>8/30/2002</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 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: Darrell Dunn EXT. NO. 6090</p> <p>DEPT. / DIVISION APPROVAL: _____ DATE <i>8/29/02</i></p> <p>ADMIN: APPROVAL _____ DATE _____</p>	<p>4. REPAIRS</p> <p>a IS THIS REQ. FOR A REPAIR? <input type="checkbox"/> YES <input checked="" 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>
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>DESCRIPTION</u>
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	
1	1	0	0		UPS	\$3,000.00	SERVICE PURCHASE ORDER
Total						\$3,000.00	

NOTES: (none)

FOOTNOTES: P8 Q3 Q4 JHM1 P12

*paid
period
13*

20.01402.571



PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE

DEPARTMENT

REQUISITION DATE 5/30/02	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. 610161
------------------------------------	------------	-----------------------	---------------------------

SUGGESTED OR PREVIOUS SUPPLIER Bob Gebhardt	DELIVER TO Yi-Ming Pan, bldg. 57	PURCHASING SELECTED SUPPLIER	
CITY, STATE Argonne, IL 60439	SHIP VIA		
ATTN:	F.O.B.	SUPPLIER CODE	ATTN
PHONE 630/252-7043	FAX 630/252-4517	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>Quality & 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.</p>									
<p>QUALITY-AFFECTING PURCHASE</p> <p>Is this order being placed with an AS...?</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
--	----------------------------------	-------

<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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: Q3, Q4</p> <p>c INSPECTION CRITERIA</p> <p><i>Acceptance of confirmatory analyses to be performed by Mark R. Edmiston 5/31/02</i></p> <p>d QA APPROVAL (IF REQUIRED) P.I. DATE</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 checked="" type="checkbox"/> YES <input 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: Yi-Ming Pan EXT. NO. 6640</p> <p>DEPT. / DIVISION APPROVAL: <i>[Signature]</i> DATE 5/24/02</p> <p>ADMIN. APPROVAL: <i>[Signature]</i> 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>
---	--	---	--

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

SUGGESTED OR PREVIOUS SUPPLIER Bob Gebhardt		DELIVER TO Yi-Ming Pan, bldg. 57		PURCHASING SELECTED SUPPLIER	
CITY, STATE Argonne, IL 60439		SHIP VIA			
ATTN:		F.O.B.		SUPPLIER CODE	
ATTN:		F.O.B.		ATTN	
PHONE 630/252-7043		FAX 630/252-4517		TERMS	
PHONE 630/252-7043		FAX 630/252-4517		PHONE	
FAX 630/252-4517		TERMS		FAX	

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE	
A	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>Quality & 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.</p>										
<p><i>Bill Ebert</i></p> <p><i>at</i></p>										
INTERNAL NOTES TO BUYER				INSTRUCTIONS TO SUPPLIER				TOTAL		JUN -3 02

1. Government Project? YES

IF YES, CHECK THE APPROPRIATE P TYPE (SEE BACK FOR EXPLANATION. ERTY TYPES)

a G-1 CONSUMABLE

b G-2 DELIVERABLE

c G-3 ACCOUNTABLE / REPORTABLE

d IS GOVT. PROPERTY BEING SENT TO SUPPLIER?

YES

NO

(630) 252-6103

b QA CODES: Q3, Q4

c INSPECTION CRITERIA

Acceptance of confirmatory analyses to be performed by Mark R. Ehnstrom 5/31/02

d QA APPROVAL (IF REQUIRED) P.I. 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 **Yi-Ming Pan** EXT. NO. **6640**

DEPT. / DIVISION APPROVAL *[Signature]* DATE **5/30/02**

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
--------------------------	------	-----------------	------	----------------------------------

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>DESCRIPTION</u>
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	
<u>1</u>	1	0	0		NA	\$2,950.00	SERVICE PURCHASE ORDER
Total						\$2,950.00	

NOTES: (none)

FOOTNOTES: P8 P12

20.01402.571



PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE

DEPARTMENT

REQUISITION DATE 3/4/02	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. 609774 ✓
-----------------------------------	------------	-----------------------	-----------------------------

SUGGESTED OR PREVIOUS SUPPLIER Arizona State University		DELIVER TO	PURCHASING SELECTED SUPPLIER	
CITY, STATE Tempe, AZ 85287-1704		SHIP VIA		
ATTN: Bonnie Melle		FO.B.	SUPPLIER CODE	ATTN
PHONE 480/965-0505	FAX 480/965-9004	TERMS	PHONE	FAX

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	20	01402	571	100	4/15/02	
			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.						

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

<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 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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b Q.A. CODES: NONE</p> <p>c INSPECTION CRITERIA NONE. Results recorded in CNWRA S. Notebook.</p> <p>d QA APPROVAL (IF REQUIRED) DATE <i>[Signature]</i> 3/6/02</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 checked="" type="checkbox"/> YES <input 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 Yi-King Pan EXT. NO. 6640</p> <p>REPT. / DIVISION APPROVAL <i>[Signature]</i> DATE 3/4/02</p> <p>ADMIN. APPROVAL <i>[Signature]</i> DATE</p>	<p>4. REPAIRS</p> <p>a IS THIS REQ. FOR A REPAIR? <input checked="" 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>
--	--	---	---

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 uranium 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
---------------------------------	-----------	---------

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

Total		<u>\$2,950</u>
--------------	--	-----------------------

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>DESCRIPTION</u>
<u>NO</u>	<u>QTY</u>	<u>QTY</u>	<u>QTY</u>	<u>DATE</u>	<u>VIA</u>	<u>AMT</u>	
<u>1</u>	8	0	0		UPS	\$640.00	SERVICE PURCHASE ORDER

Total \$640.00

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.	DELIVER TO James Prikryl/Bldg. 57	PURCHASING SELECTED SUPPLIER	
CITY, STATE Glendale Heights, IL 60139	SHIP VIA		
ATTN:	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 To be used for CNWRA Lab	SPECIAL INSTRUCTIONS TO SUPPLIER	TOTAL
---	----------------------------------	-------

1. Government Project? <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	2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b QA CODES: Q20, Q39, Q40, Q42 c INSPECTION CRITERIA <i>J. Prikryl To Receive Reports</i> d QA APPROVAL (IF REQUIRED) DATE <i>1/7/2002</i>	3. SOURCING NOTES 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 James D. Prikryl EXT. NO. 5667 DEPT. / DIVISION APPROVAL English Pearcy DATE 1/04/02 ADMIN. APPROVAL DATE	4. REPAIRS 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
--------------------------	------	-----------------	------	----------------------------------

**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.	DELIVER TO R. Doyle Smith	PURCHASING SELECTED SUPPLIER	
CITY, STATE San Antonio, TX	SHIP VIA		
ATTN: Eddie Cortez	F.O.B.	SUPPLIER CODE	ATTN
PHONE 924-4734	FAX 923-7351	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? <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 type="checkbox"/> NO	2. QUALITY ASSURANCE? <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, Q20 c INSPECTION CRITERIA d QA APPROVAL (IF REQUIRED) DATE  3/4/02	3. SOURCING NOTES 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 DATE  3/4/02 ADMIN. APPROVAL DATE	4. REPAIRS 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	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 ± 0.010 "
unless otherwise specified
Note: Detail A on Page 2

Page 1 of 2

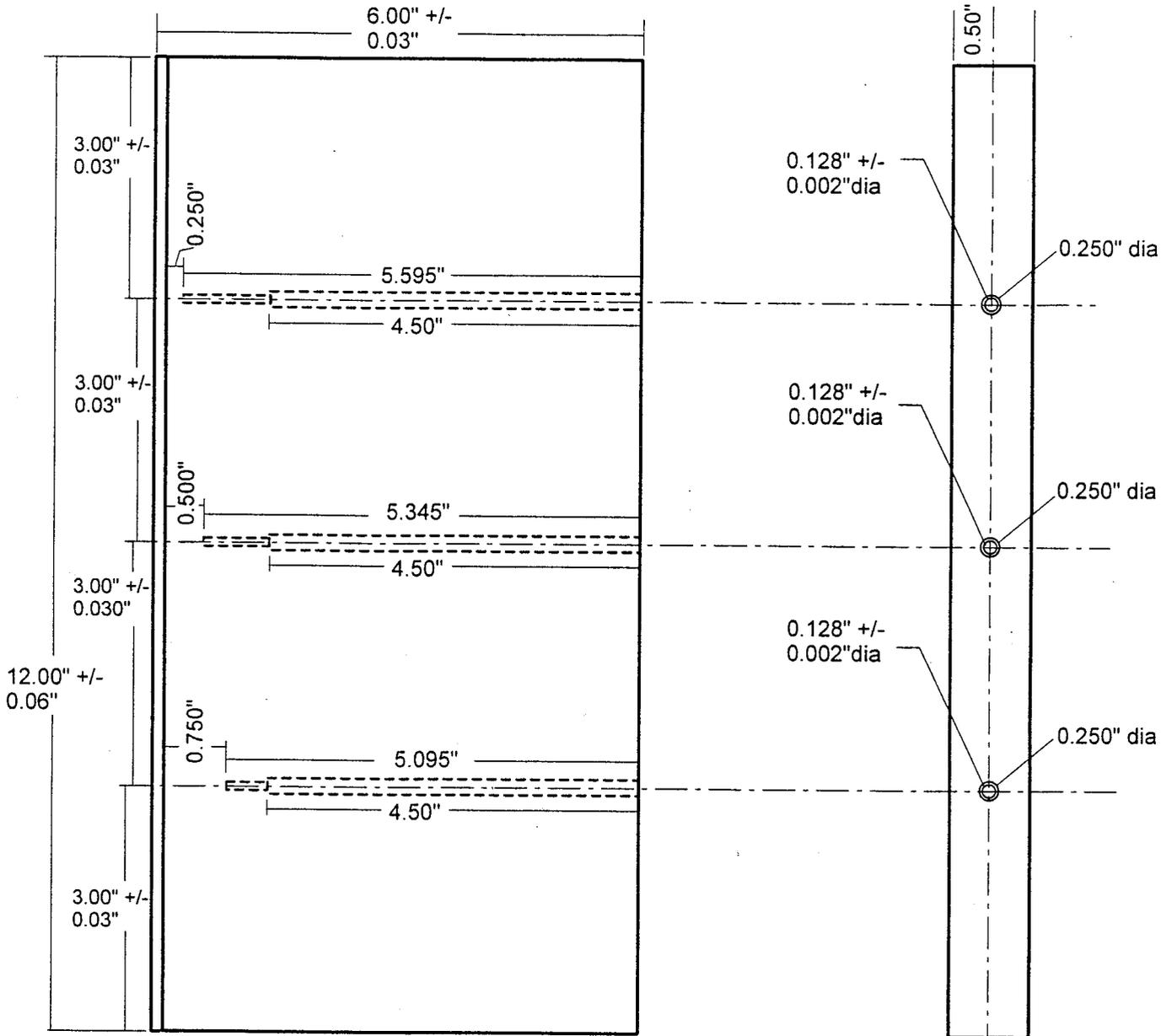
To be completed at time of order:

Material: _____

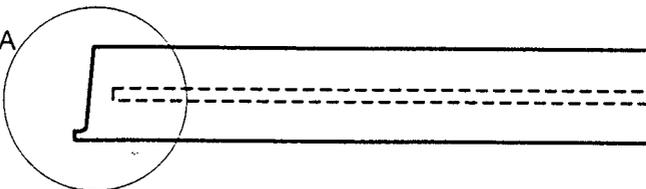
Heat: _____

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

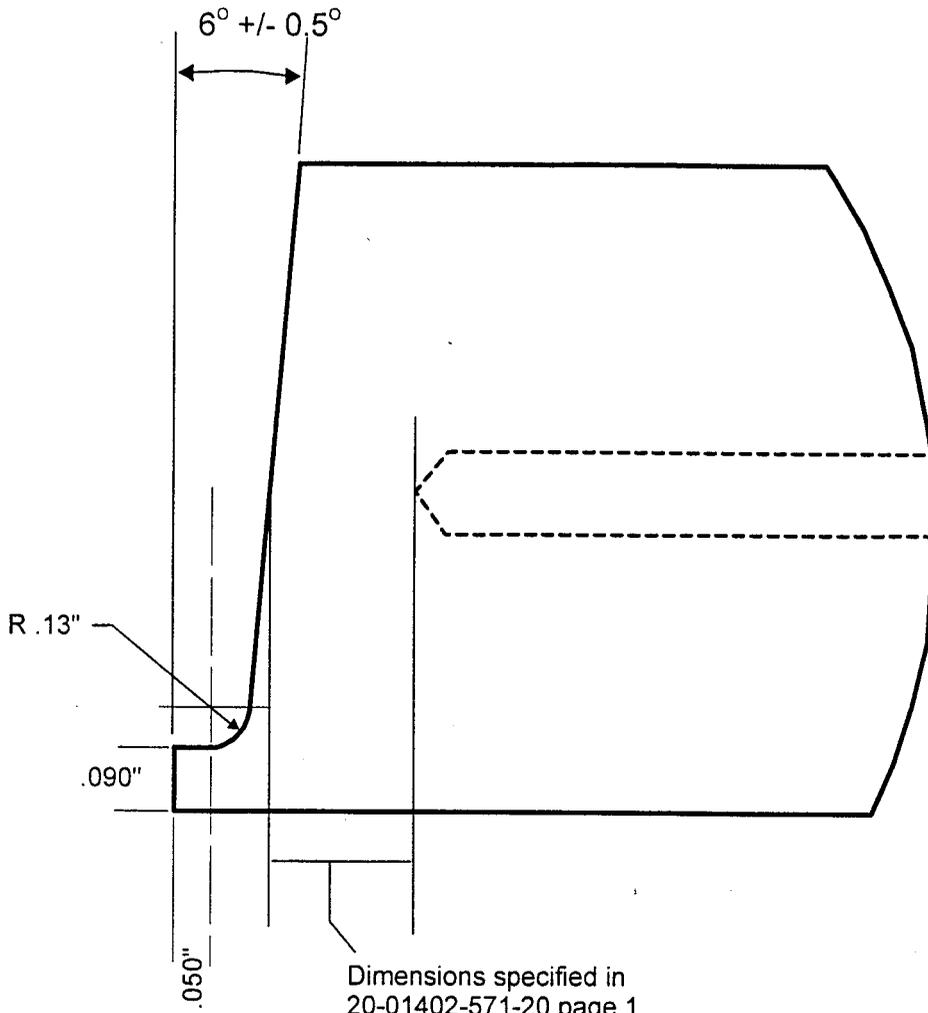
Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
Email: ddunn@swri.org

Carbon Steel Mockup Specimen
CNWRA Drawing 20-01402-571-20
All Dimensions ± 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



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 1/10/02	ORDER DATE	PURCHASE ORDER NUMBER 270179N	REQ. NO. 609740
------------------------------------	------------	---	---------------------------

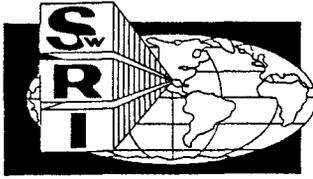
SUGGESTED OR PREVIOUS SUPPLIER Conam Inspection	DELIVER TO D. Duhng bldg. 57	PURCHASING SELECTED SUPPLIER	
CITY, STATE Glendale, IL 60139	SHIP VIA		
ATTN: Bill Scrozo	F.O.B.	SUPPLIER CODE	ATTN
PHONE 630/681-0008	FAX 630/871-5520	TERMS	PHONE FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	1	EA	Chemical analyses of Alloy C-22						
			Heat 2277-1-3164	20	01402.	571	190	1/18/02	\$150.00
Quality & Technical Requirements: See attached documentation.									
<i>Quality Affecting Procurement</i>									

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

1. Government Project? <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	2. QUALITY ASSURANCE? <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: c INSPECTION CRITERIA <i>PI to inspect upon receipt</i> d QA APPROVAL (IF REQUIRED) DATE <i>Mark R. Johnston 1/10/02</i>	3. SOURCING NOTES 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 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 <i>D.D. Dunn</i> DATE 1/10/02 ADMIN. APPROVAL <i>For Vicky Jain</i> DATE	4. REPAIRS a IS THIS REQ. FOR A REPAIR? <input type="checkbox"/> YES <input checked="" 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
--------------------------	------	-----------------	------	----------------------------------



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

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, 6th 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, 6th 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". The signature is fluid and somewhat stylized, with a large initial 'D'.

Darrell S. Dunn

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 2/14/02	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. 609769
------------------------------------	------------	-----------------------	---------------------------

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

<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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: 03, Q1</p> <p>c INSPECTION CRITERIA PI To inspect on receipt.</p> <p>d QA APPROVAL (IF REQUIRED) DATE [Signature] 2/15/02</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 checked="" type="checkbox"/> YES <input 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 Barrell Dunn EXT. NO. 6090</p> <p>DEPT / DIVISION APPROVAL [Signature] DATE 2/14/02</p> <p>ADMIN APPROVAL [Signature] DATE</p>	<p>4. REPAIRS</p> <p>a IS THIS REQ. FOR A REPAIR? <input checked="" 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>
---	---	---	---

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 ✓

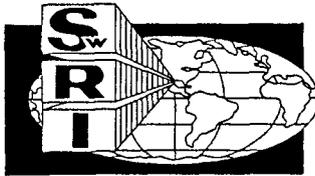
SUGGESTED OR PREVIOUS SUPPLIER Conam Inspection		DELIVER TO D. Dunn/bldg. 57		PURCHASING SELECTED SUPPLIER	
CITY, STATE Glendale, IL 60139		SHIP VIA			
ATTN: Bill Scrozo		F.O.B.		SUPPLIER CODE	
PHONE 630/681-0008		FAX 630/871-5520		ATTN	
		TERMS		PHONE	
				FAX	

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.						
			<i>Quality Affecting Purchase</i>						
			<i>2/1/02</i>						

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

<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 checked="" type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p>	<p>2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: Q20</p> <p>c INSPECTION CRITERIA <i>PI to inspect upon receipt.</i></p> <p>d QA APPROVAL (IF REQUIRED) DATE <i>Mark R. Shusterman 2/1/02</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 checked="" type="checkbox"/> YES <input 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 Darrell Dunn EXT. NO. 6090</p> <p>DEPT./DIVISION APPROVAL <i>Gregg</i> DATE 2/1/02</p> <p>ADMIN. APPROVAL _____ DATE _____</p>	<p>4. REPAIRS</p> <p>a IS THIS REQ. FOR A REPAIR? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p> <p>b IS THE REPAIR ON OR OFF CAMPUS? <input type="checkbox"/> ON <input checked="" type="checkbox"/> OFF</p> <p>c IF OFF CAMPUS PROVIDE SHIPPING TICKET</p> <p>NO. _____</p>
---	---	---	--

CONTRACT REVIEW APPROVAL	BUYER SIGNATURE	DATE	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

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, 6th 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, 6th 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 that reads "Darrell S. Dunn". The signature is written in black ink and is positioned to the right of 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.

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

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

REPAIR (INDICATE PROBLEM IN REMARKS AREA)
 WARRANTY
 CREDIT
 CREDIT LESS RESTOCKING CHG.
 EXCHANGE
 OTHER (EXPLAIN IN REMARKS AREA)

REMARKS

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.

Order To: CONAM INSPECTION 103744
FORMERLY CONAM KAWIN
194 INTERNATIONAL BLVD.
GLENDALE HEIGHTS, IL 60139

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>1) COUPONS SUPRACE MUST BE CLEANED THOROUGHLY TO AVOID CONTAMINANT EFFECT ON ANALYSIS. 2) COMPLETE CHEMICAL ANALYSIS FOR CONFIRMATION OF MATERIAL (Cr, Zn, Tio, AND Nb MUST BE INCLUDED FOR LINE ITEM #1).</p> <p>QUOTE # 9/6/02-SOUTHWEST RESEARCH INSTITUTE</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 & ACCEPTED: _____</p> <p>DATE: _____</p> <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>CERTIFIED INSPECTION/TEST DATA IS REQUIRED WITH SHIPMENT OF PARTS, MATERIALS, AND FOR SERVICES.</p> <p>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</p>							

Order To: CONAM INSPECTION 103744
FORMERLY CONAM KAWIN
194 INTERNATIONAL BLVD.
GLENDALE HEIGHTS, IL 60139

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>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 & HOLD HARMLESS INSTITUTE FROM ANY & ALL CAUSE OR CAUSES OF ACTION, INCLUDING PERSONAL INJURY, ILLNESS, DEATH, & PROPERTY DAMAGE, COSTS, CHARGES, CLAIMS, DEMANDS, & 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>							

Order To: CONAM INSPECTION 103744
FORMERLY CONAM KAWIN
194 INTERNATIONAL BLVD.
GLENDALE HEIGHTS, IL 60139

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>								
							PO Total Amt:	\$240.00	
	Authorized Signatures								



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
<p>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).</p> <p><i>Quality Affecting Purchase</i> <i>9/20/02</i></p>									

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

<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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: Q12, Q20</p> <p>c INSPECTION CRITERIA P.I. to inspect as per QAP-016</p> <p>d QA APPROVAL (IF REQUIRED) <i>9/20/02</i> DATE</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 checked="" type="checkbox"/> YES <input 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 Lietai Yang EXT. NO. 2483</p> <p>DEPT. DIVISION APPROVAL <i>[Signature]</i> DATE 9/19/02</p> <p>ADMIN. APPROVAL <i>[Signature]</i> DATE</p>	<p>4. REPAIRS</p> <p>a IS THIS REQ. FOR A REPAIR? <input checked="" 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>
---	--	--	---

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

FORM 1 (09/01)

**STAVELEY
SERVICES**

Facsimile

**AM Inspection
Materials Analysis Group**

194 Internationale Boulevard
Glendale Heights, IL 60139

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



Certificate # 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 Phonc# **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	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

wf 9/16/02

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
	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).

Quality Affecting Purchase
9/20/02

Purchasing - The attached quote was inadvertently left off of the req. Please attach to P.R. 624956. Thanks!
Roseanne

INTERNAL NOTES TO BUYER	SPECIAL INSTRUCTIONS TO SUPPLIER <i>original.</i>	TOTAL	<i>Roseanne</i>
-------------------------	--	-------	-----------------

1. Government Project? <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	2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b QA CODES: <i>Q12, Q20</i> c INSPECTION CRITERIA <i>P.I. to inspect as per QAP-016</i> d QA APPROVAL (IF REQUIRED) <i>9/20/02</i> DATE <i>[Signature]</i>	3. SOURCING NOTES 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: <i>Lietai Yang</i> EXT. NO. <i>2483</i> DEPT. DIVISION APPROVAL: <i>[Signature]</i> DATE: <i>9/19/02</i> ADMIN. APPROVAL: _____ DATE: _____	4. REPAIRS a IS THIS REQ. FOR A REPAIR? <input 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
--------------------------	------	-----------------	------	----------------------------------

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 280593R

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

Ph: 713-692-1600

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
08/20/02	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 style="text-align: center;">***** * 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 style="text-align: right;">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 & 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	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
	Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510						PO Total Amt:	\$300.00
	<hr/> Authorized Signatures							

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 286643S

Page: 1
Date Printed: 06/07/2002

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
06/06/02	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 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			07/10/02	07/10/02	1.0000	950.0000	\$950.00
<p>***** * CONFIRMATION * * DUPLICATE PO * *****</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: 610159</p> <p>Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571</p> <p>OK TO CUT FOR UPS SHIPMENT</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 & ACCEPTED: _____</p> <p>DATE: _____</p> <p>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___ *</p>								

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
	<p>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.</p> <p>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.</p> <p>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.</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:	\$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: Rob Hall		F.O.B.		SUPPLIER CODE	
PHONE 541/967-6911		FAX		ATTN	
		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
--	----------------------------------	-------

<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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: Q1, Q3, Q4</p> <p>c INSPECTION CRITERIA visual</p> <p>d QA APPROVAL (IF REQUIRED) <i>5/29/02</i> DATE</p> <p><i>Paul R. Johnston</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 checked="" type="checkbox"/> YES <input 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 Lietai Yang EXT. NO. 2483</p> <p>DEPT. / DIVISION APPROVAL <i>[Signature]</i> DATE 5/28/02</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>
---	---	---	--

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		
0 4/02	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		EA	09/02/02	09/02/02	12.0000	133.2500	\$1,599.00
Req: 624933 QC Insp Required Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571								
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		EA	09/02/02	09/02/02	12.0000	133.2500	\$1,599.00
Req: 624933 QC Insp Required Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571								
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

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 282134S

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
08/14/02	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
	<p>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.</p> <p style="text-align: center;">Req: 624933 QC Insp Required</p> <p>Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571</p> <p>SWRI QA RECEIVING INSPECTION CRITERIA: QAP-016</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 & ACCEPTED: _____</p> <p>DATE: _____</p> <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>SUPPLIER SHALL FURNISH DIMENSIONAL INSPECTION DATA VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF THE FABRICATION DRAWINGS.</p>							

Southwest Research Institute

6220 Culebra Road
 San Antonio, TX 78238-5166

Purchase Order: 282134S

Page: 3
 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
	<hr/> 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
-------------------------	----------------------------------	-------

<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 checked="" type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p>	<p>2. QUALITY ASSURANCE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b QA CODES: Q11, Q4</p> <p>c INSPECTION CRITERIA PI 10153 P52 CAP-016</p> <p>d QA APPROVAL (IF REQUIRED) DATE <i>[Signature]</i> 8/12/02</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 checked="" type="checkbox"/> YES <input 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: Darrell Dunn EXT. NO. 6090</p> <p>DEPT. DIVISION APPROVAL: <i>[Signature]</i> DATE: 8/12/02</p> <p>ADMIN. APPROVAL: <i>[Signature]</i> DATE:</p>	<p>4. REPAIRS</p> <p>a IS THIS REQ. FOR A REPAIR? <input checked="" 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>
---	--	---	---

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-hercoa@satx.llnwd.net



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	Bid / 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
Work Instructions:						Total	\$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.

Reviewed by: _____ Date: _____ P.O. provided at time of review: Yes No

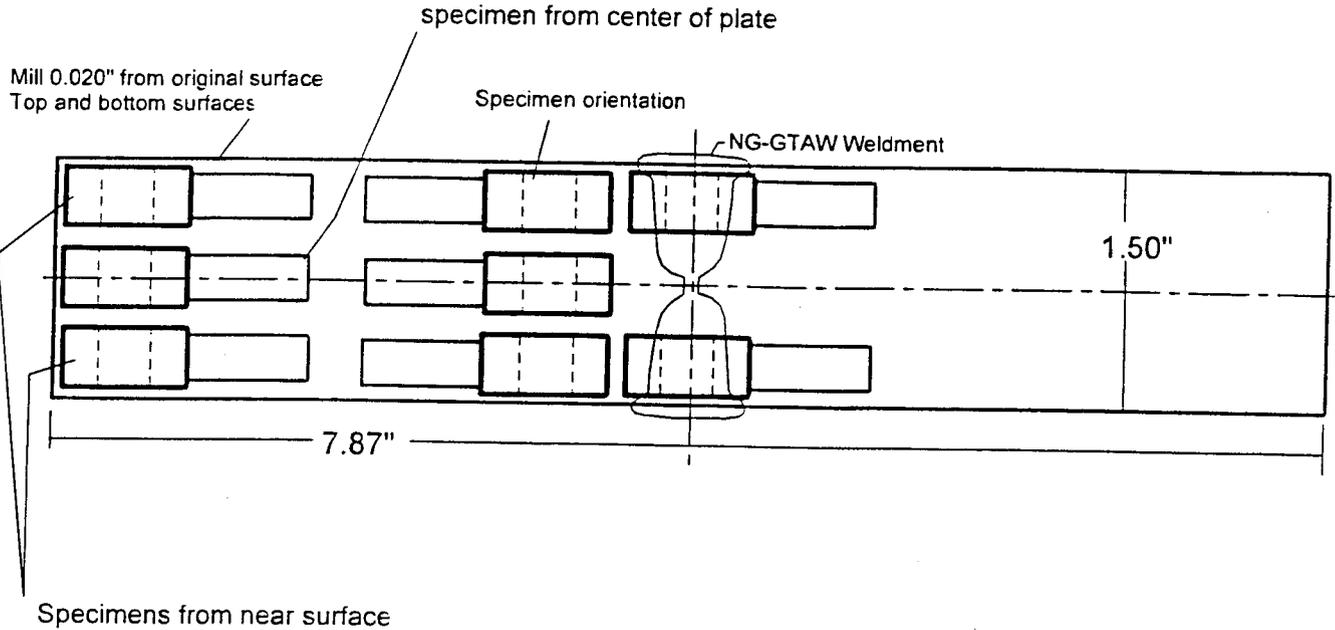
Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

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

Page 2 of 2

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



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

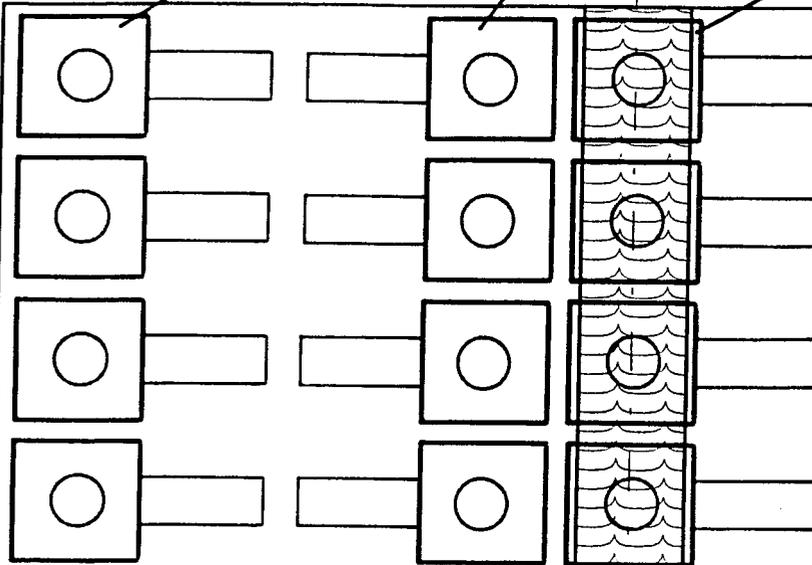
Specimen Orientation: As shown

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



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

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

NG-GTAW

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"

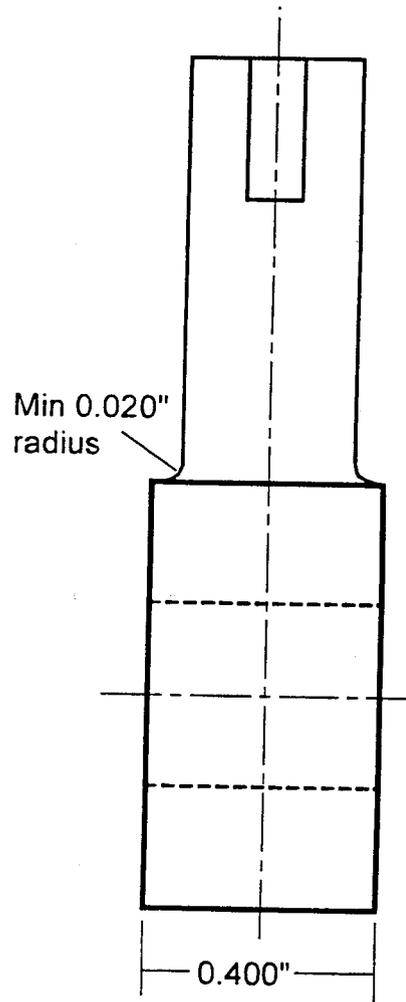
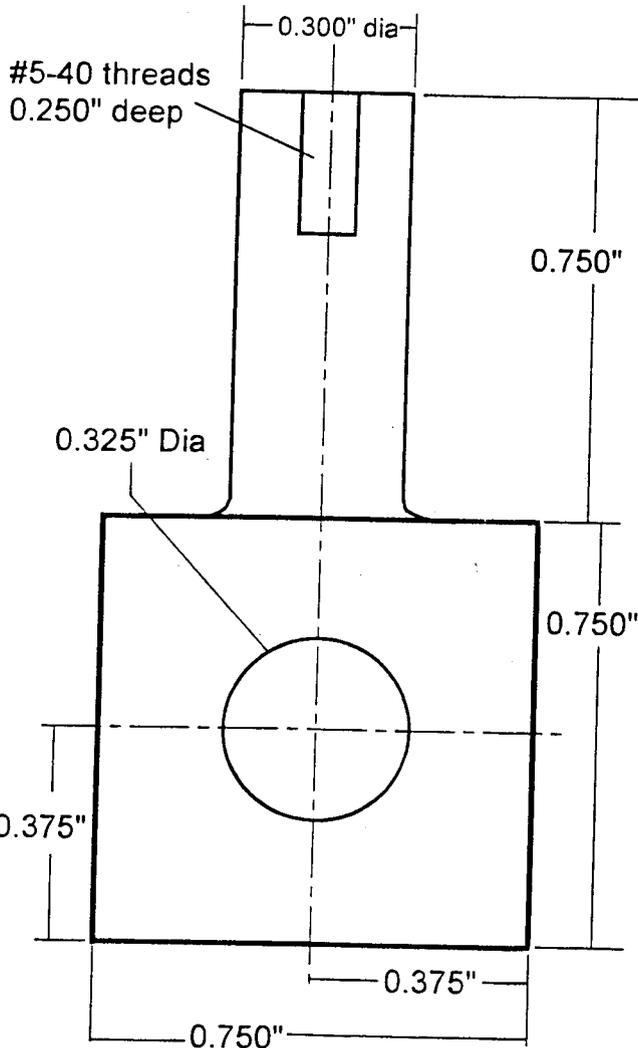
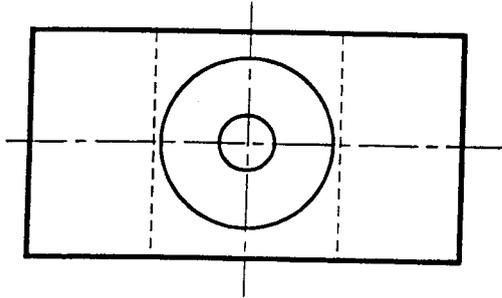
Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

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

Crevice Repassivation Specimen

to be completed at time of order:

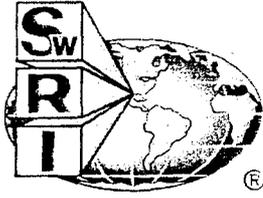
Material: ALLOY 22 D62X
PLATE WELDED BY FILLMETON
Heat: 059902 WZ & XX 2048 R6
Specimen Orientation: AS SPECIFIED
IN DRAWING 20-01402-571-006
Other: _____



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.

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

Purchase Order: 286894S

Page: 1
 Date Printed: 07/11/2002

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		
07/1/02	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: 07/11/2002

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
07/1/02	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
	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
	<hr/> Authorized Signatures							

SUGGESTED OR PREVIOUS SUPPLIER Texas Toolmakers		DELIVER TO D. 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	20	EA	Crevice corrosion test specimens 20-01402-571-027 machines from Alloy 22 plate	20	01402	571	100	7/29/02	149.50
			Attached quote and CNWRA drawing 20-01402-571-027						
			Quality & Technical Requirements: Specimens machined as per CNWRA drawing 20-01402-571-027.						
			Dimensional inspection per dimensions and tolerances identified in CNWRA drawing 20-1402-571-027 is required.						
			Quality affecting purchase.						

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

<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 type="checkbox"/> NO</p>	<p>2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b Q A CODES: Q11</p> <p>c INSPECTION CRITERIA</p> <p>d QA APPROVAL (IF REQUIRED) DATE</p> <p><i>[Signature]</i> 7/1/02</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 checked="" type="checkbox"/> YES <input 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 Darrell Dunn EXT. NO. 6090</p> <p>DEPT. / DIVISION APPROVAL for Dean DATE 7/8/2002</p> <p>ADMIN. APPROVAL Budhi Sagar DATE 7/9/02</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>
--	--	---	--

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

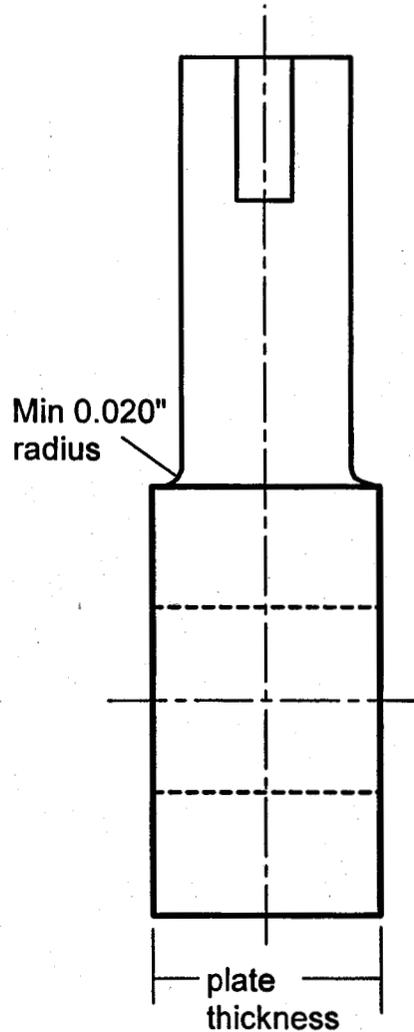
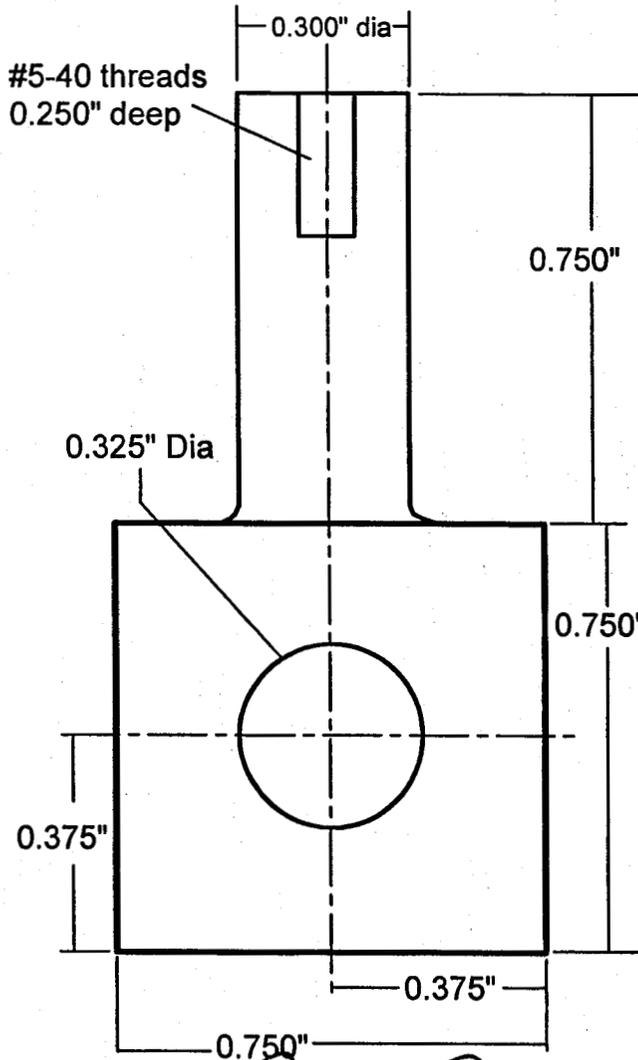
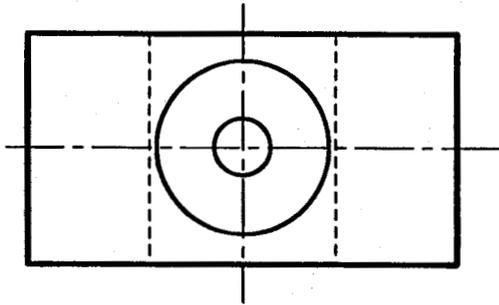
Darrell S. Dunn
SwRI-CNwRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

CNwRA Drawing 20-01402-571-027
Dimensional tolerances ± 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

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



PURCHASE REQUISITION
SOUTHWEST RESEARCH INSTITUTE™

division 20

DEPARTMENT

REQUISITION DATE	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO.
	7-25-2002	CO # 1 to PO. 2566439	610159 X 618094
SUGGESTED OR PREVIOUS SUPPLIER	DELIVER TO	PURCHASING SELECTED SUPPLIER	
		Wah Chang	
CITY, STATE	SHIP VIA		
ATTN:	F.O.B.	SUPPLIER CODE	ATTN
		510529	R-11-11
PHONE	FAX	TERMS	PHONE
			541-967-6911
			FAX 541-967-6994

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
			Change Order #1 to PO. 2566439 item description as		to change				
			from 1/2" dia		1402	571			
			to .526/.531" dia						

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

1. Government Project? <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	2. QUALITY ASSURANCE? <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: 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? <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: <u>L. Yang</u> EXT. NO. _____ DEPT. / DIVISION APPROVAL _____ DATE _____ ADMIN. APPROVAL _____ DATE _____	4. REPAIRS 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	

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 286643S

Page: 1
Date Printed: 06/07/2002

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 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
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			07/10/02	07/10/02	1.0000	950.0000	\$950.00
<p style="text-align: center;">***** * CONFIRMATION * *****</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 style="text-align: center;">Req: 610159</p> <p>Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571</p> <p>OK TO CUT FOR UPS SHIPMENT</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 & ACCEPTED: _____</p> <p>DATE: _____</p> <p>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___ *</p>								

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 7/02	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						PO Total Amt:	\$950.00
	<hr/> Authorized Signatures							

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 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			LOT 07/10/02	07/10/02	1.0000	950.0000	\$950.00
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: 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		
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
	<p>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.</p> <p>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.</p> <p>Bill To: Southwest Research Institute P.O. Drawer 28510 Attention: Accounts Payable San Antonio, TX 78228-0510</p> <p>_____ Authorized Signature</p>							
							PO Total Amt:	\$950.00
							PO Net Change:	\$0.00

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 270184N

Page: 1
Date Printed: 02/14/2002

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

103744

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

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 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.							

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

SUGGESTED OR PREVIOUS SUPPLIER Conam Inspection	DELIVER TO D. Dunn, bldg. 57	PURCHASING SELECTED SUPPLIER	
CITY, STATE Glendale Heights, IL 60139	SHIP VIA		
ATTN: Bill Scorzo	F.O.B.	SUPPLIER CODE	ATTN
PHONE 630/681-0008	FAX 630/671-5520	TERMS	PHONE FAX

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	3	EA	Chemical analyses of ER NiCrMo-10 filler metal	20	01402	571	100	2/15/02	150.00
			Quality & Technical Requirements: See attached documentation.						

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:
Q20

c INSPECTION CRITERIA
AI To Review upon receipt.

d QA APPROVAL (IF REQUIRED) DATE
[Signature] **2/7/02**

3. SOURCING NOTES

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

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

REQUESTOR'S SIGNATURE **Darrell Dunn** EXT. NO. **6090**

DEPT. / DIVISION APPROVAL *[Signature]* DATE **2/7/02**

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. **391342**

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

February 6, 2002

Darrell S. Dunn

Bldg. 57

Phone: (210) 522-6090

Fax: (210) 522-5184

E-Mail: 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 written in a cursive, flowing style with a large initial "D".

Darrell S. Dunn

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

AWS Classification	UNS Number ⁽³⁾	Weight Percent [Notes (1) (2)]																Other Elements Total
		C	Mn	Fe	P	S	Si	Cu	Ni ⁽⁴⁾	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						PO Total Amt:	\$4,494.00
	<hr/> Authorized Signatures							



PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE™

DEPARTMENT

REQUISITION DATE 5/22/02	ORDER DATE	PURCHASE ORDER NUMBER <i>14011</i>	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	
PHONE 494-3651		FAX 494-6139		ATTN	
		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
<p>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.</p>									

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: **Q11**

c INSPECTION CRITERIA
PI to inspect upon receipt.

d QA APPROVAL (IF REQUIRED) DATE
Mark R. Elstrom 5/22/02

3. SOURCING NOTES

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

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

REQUESTOR'S SIGNATURE: **Darrell Dunn** EXT. NO. **6090**

DEPT. / DIVISION APPROVAL: *[Signature]* DATE: **5/27/01**

ADMIN. APPROVAL: *[Signature]* 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. _____

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				DARRELL DUNN	
			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.

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

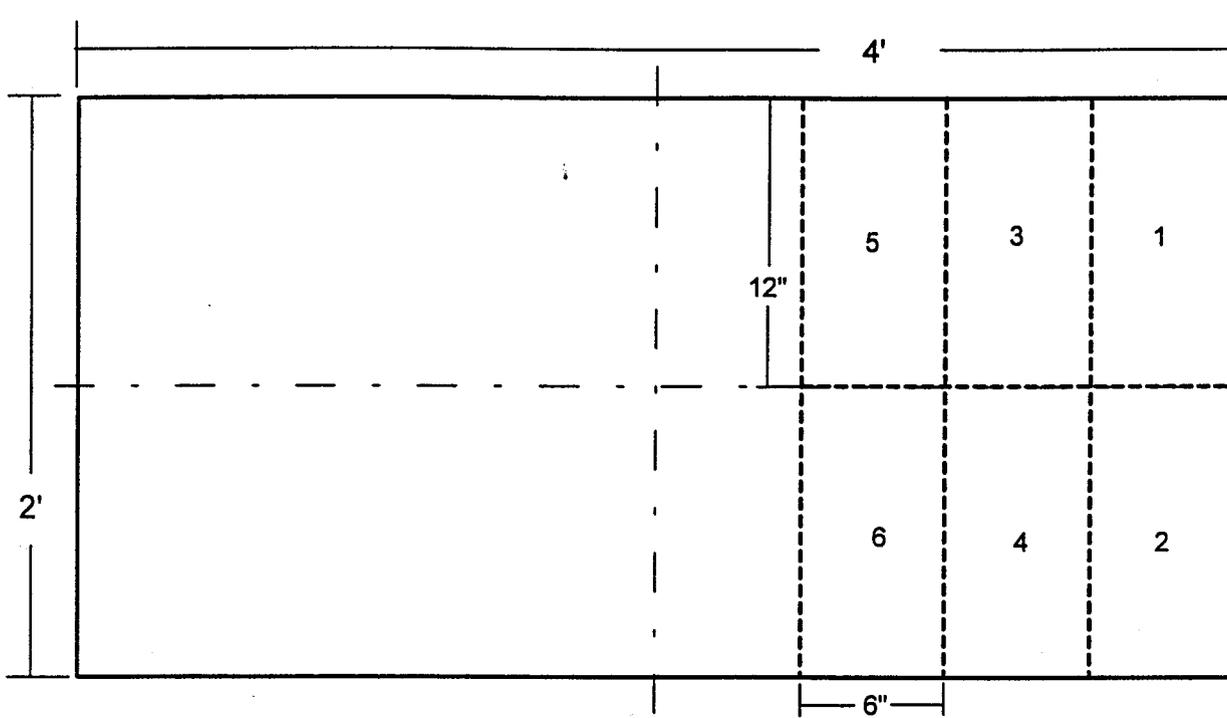
To be completed at time of order:

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 ± 0.005 "
unless otherwise specified
Detail A identified on Page 1

Page 2 of 2

To be completed at time of order:

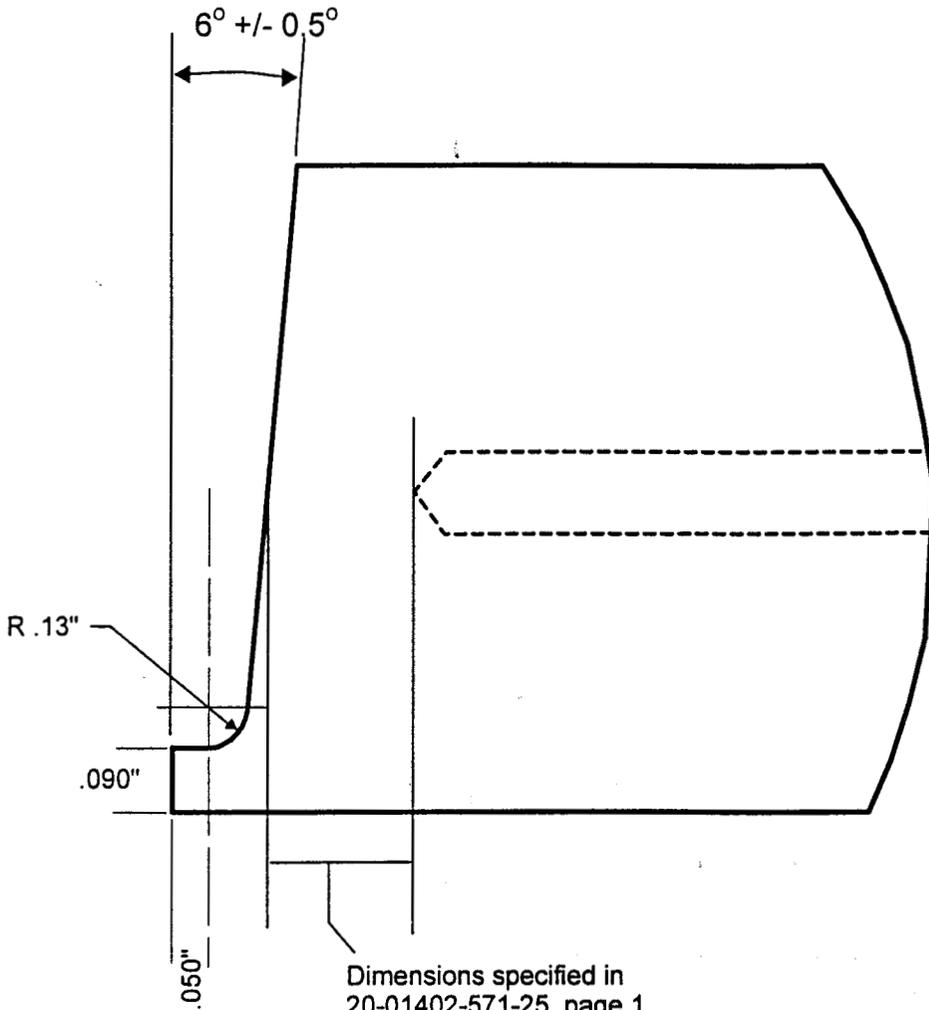
Material: ALLOY 22

Heat: 2277-1-3164

Specimen Orientation: _____

Other: _____

Detail A



Darrell S. 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 ± 0.010 "
unless otherwise specified
Note: Detail A on Page 2

Page 1 of 2

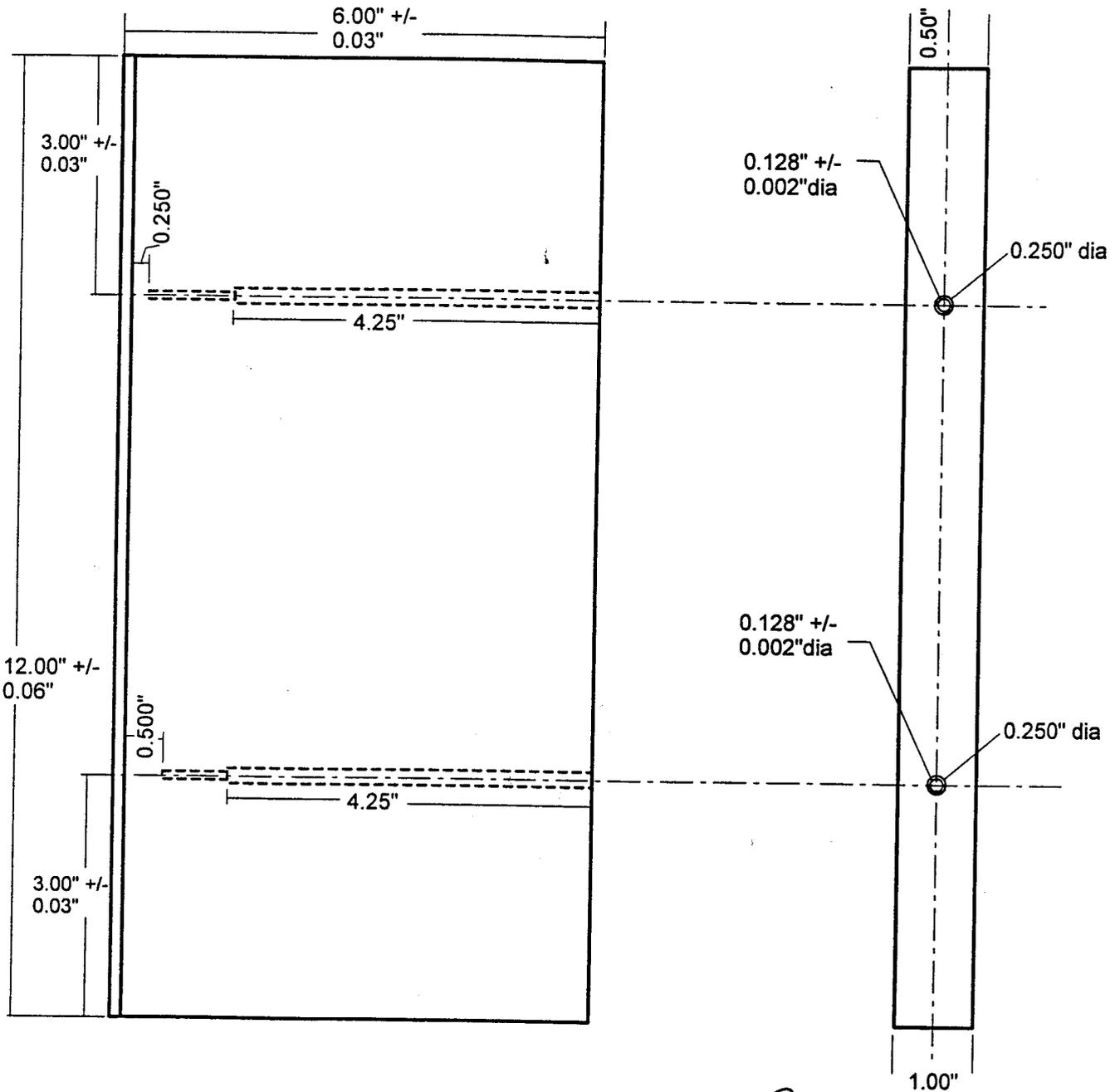
To be completed at time of order:

Material: ALLOY 22

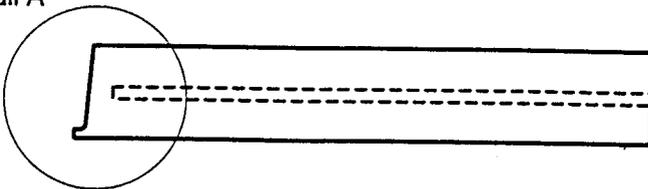
Heat: 2277-1-3164

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		
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
	***** * 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		EA	05/24/02	05/24/02	12.0000	133.2400	\$1,598.88
				Req: 610111 QC Insp Required				
	Prime Contract #: NRC0297009 AOP: 704-000 1.20			Priority: NONE 01402.571				
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		EA	05/24/02	05/24/02	12.0000	133.2400	\$1,598.88
				Req: 610111 QC Insp Required				
	Prime Contract #: NRC0297009 AOP: 704-000 1.20			Priority: NONE 01402.571				
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

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

Purchase Order: 250411J

Page: 2
 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
	<p style="text-align: center;">Req: 610111 QC Insp Required</p> <p>Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571</p> <p>SWRI QA RECEIVING INSPECTION CRITERIA: PI TO RECEIVE</p> <p>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.</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 & ACCEPTED: _____</p> <p>DATE: _____</p> <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>SUPPLIER SHALL FURNISH DIMENSIONAL INSPECTION DATA VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF THE FABRICATION DRAWINGS.</p> <p>Bill To: Southwest Research Institute P.O. Drawer 28510</p>							

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
	Authorized Signatures							



PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE

DEPARTMENT

REQUISITION DATE 5/6/02	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. 610111
-----------------------------------	------------	-----------------------	---------------------------

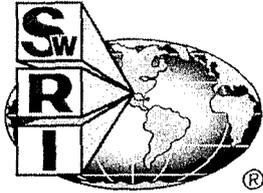
SUGGESTED OR PREVIOUS SUPPLIER Texas Toolmakers		DELIVER TO D. Dunn/bldg. 57		PURCHASING SELECTED SUPPLIER	
CITY, STATE San Antonio, TX		SHIP VIA			
ATTN: Hike Ridgway		F.O.B.		SUPPLIER CODE	
PHONE 494-3651		FAX 494-6139		PHONE	
		TERMS		FAX	

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	12	EA	Crevice corrosion test specimens, 20-01402-571-006, Rev 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	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	20	01402	571	100	5/24/02	133.24
C	3	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	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 CWRA drawing 20-01402-571-006, Rev 1 is required. CWRA drawing 20-01402-571-024 identifies specimen location. Attached drawings & quotes.

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

1. Government Project? <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 type="checkbox"/> NO	2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO b QA 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? <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 5/6 ADMIN. APPROVAL _____ DATE _____	4. REPAIRS 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



**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

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

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



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

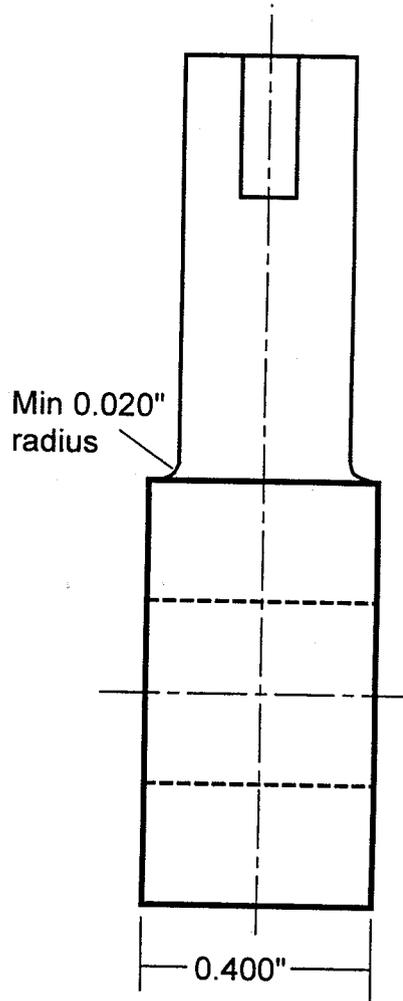
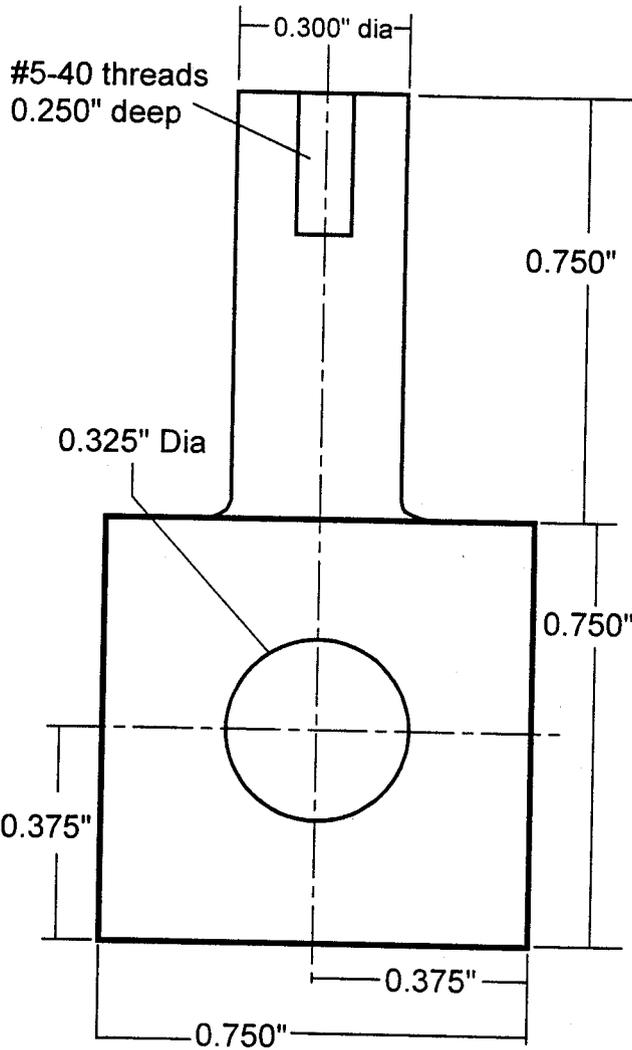
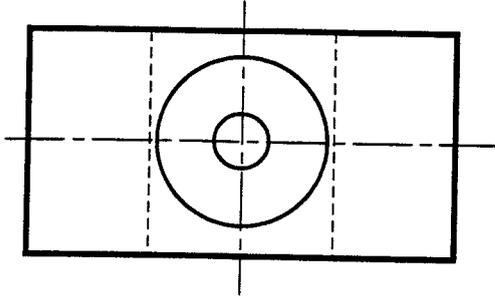
Darrell S. Dunn
SwRI-CNWRA
Phone: (210) 522-6090
Fax: (210) 522-5184
e-mail: ddunn@swri.org

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

Crevice Repassivation Specimen

to be completed at time of order:

Material: ALLOY 22 P62X
PLATE WELDED BY FRAMATOR
Heat: 059902LLZ # XX 2048BG
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

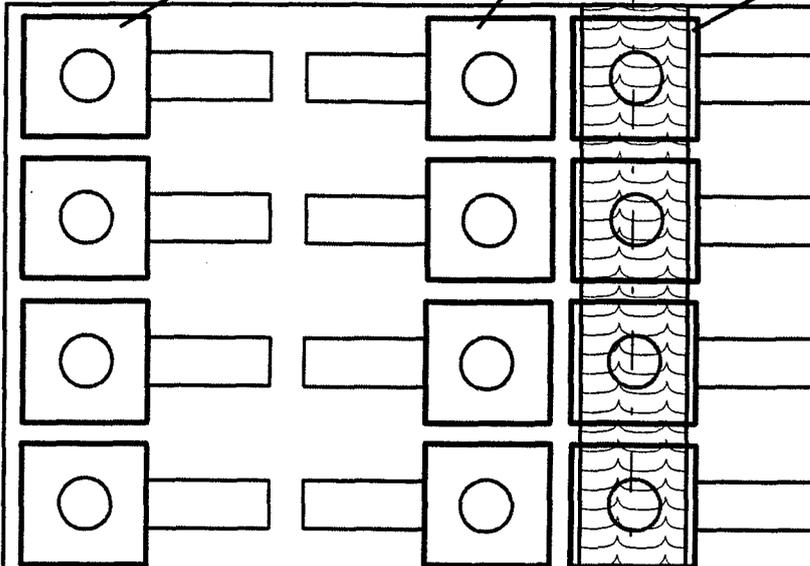
Specimen Orientation: As shown

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



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

Bruno 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

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

Page 2 of 2

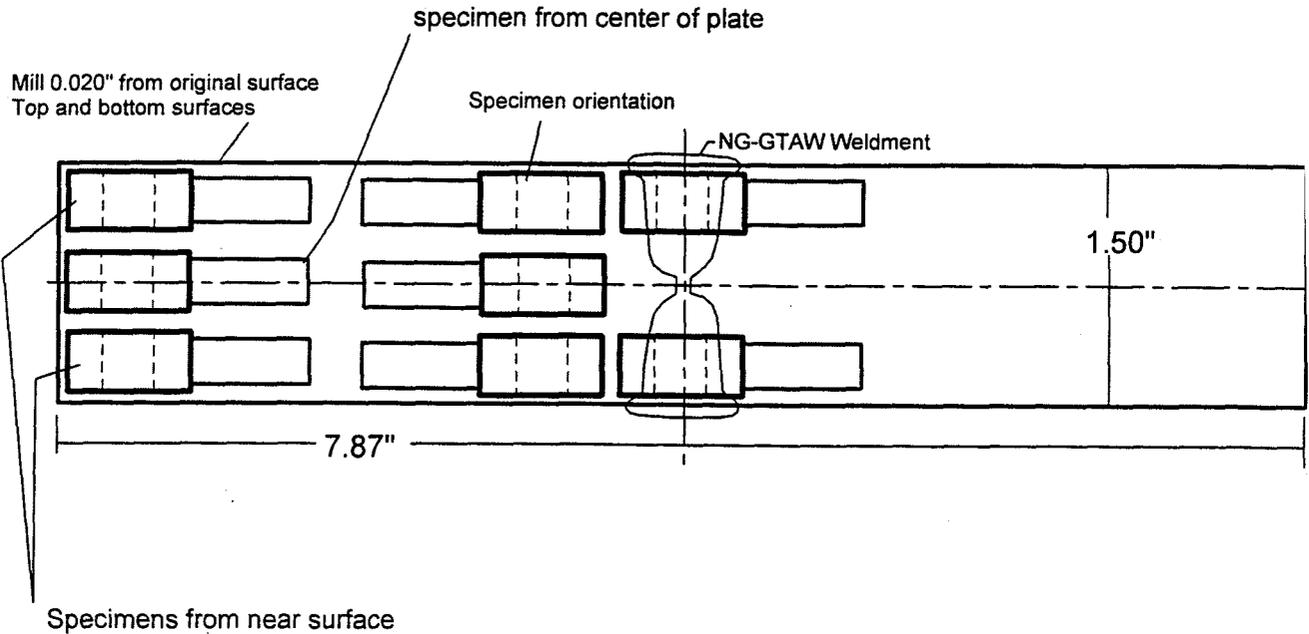
to be completed at time of order:

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

Heat: 059902LL2 & XX2048BG

Specimen Orientation: As shown

Other: Framatome D62X plate



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							
	<hr/> Authorized Signatures							
							PO Total Amt:	\$360.00



PURCHASE REQUISITION

SOUTHWEST RESEARCH INSTITUTE,™

DEPARTMENT

REQUISITION DATE 3/22/02	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. 610104
------------------------------------	------------	-----------------------	---------------------------

SUGGESTED OR PREVIOUS SUPPLIER Scribner Associates		DELIVER TO Darrell Dunn, bldg. 57		PURCHASING SELECTED SUPPLIER	
CITY, STATE Southern Pines, North Carolina		SHIP VIA			
ATTN: Louie Scribner		F.O.B.		SUPPLIER CODE	
PHONE 910/695-8884		FAX 910/695-8886		PHONE	
		TERMS		FAX	

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
A	4	EA	Pt coated Nb electrode as per drawing CNWRA 20.01402.571.023	20	01402.	571	100	4/5/02	\$90.00
			Quality & Technical Requirements: Electrodes must meet the requirements of SwRI drawing 20.01402.023						

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:
Q1

c INSPECTION CRITERIA

D. DUNN TO INSPECT UPON RECEIPT

d QA APPROVAL (IF REQUIRED) - DATE
3/25/02

3. SOURCING NOTES

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

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

REQUESTOR'S SIGNATURE: **Darrell Dunn** EXT. NO. **6900**

DEPT. / DIVISION APPROVAL: *[Signature]* DATE: **3/22/02**

ADMIN. APPROVAL: *[Signature]* 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

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

Pt 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 +/- 0.1 mm
dia Nb rod

25 cm
+/- 5 mm

Pt Plated Nb Mesh

50 mm
+/- 1 mm

50 mm
+/- 1 mm

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

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

B. Mabrito 3/21/02
for QA Approval B. Mabrito Date

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 293376W

Page: 1
Date Printed: 03/08/2002

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		
03/25/02	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		EA	03/06/02	03/01/02	18.0000	36.5000	\$657.00
	Req: 609769 Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571							
2	MISC LOT CERTIFICATION FOR THERMOCOUPLES IN LINE ITEM A AT 1140 DEGREES C, 700 DEGREES C, AND 300 DEGREES C		EA	03/06/02	03/01/02	1.0000	55.0000	\$55.00
	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							

Southwest Research Institute
 6220 CuRebra 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
	<hr/> Authorized Signatures							

Southwest Research Institute

6220 Culebra Road
 San Antonio, TX 78238-5166

Purchase Order: 286191S

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 MACHINE CARBON STEEL OCK UP SPECIMEN 20-01402-571-20, REV 01		EA	04/01/02	04/01/02	8.0000	288.0000	\$2,304.00	
	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 3/6/02	ORDER DATE	PURCHASE ORDER NUMBER	REQ. NO. 609777 ✓
-----------------------------------	------------	-----------------------	-----------------------------

SUGGESTED OR PREVIOUS SUPPLIER Texas Toolmakers		DELIVER TO R. Doyle Smith		PURCHASING SELECTED SUPPLIER	
CITY, STATE San Antonio, TX		SHIP VIA			
ATTN: Mike Ridgway		F.O.B.		SUPPLIER CODE	
PHONE 494-3651		FAX 402-0369		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 20-01402-571-20, Rev. 01	20	01402	571	100	4/1/02	288.00
			Quality affecting purchase.						
			Quality & Technical Requirements: Vendor						
			will supply a dimensional inspection and						
			show conformance with dimensional tolerances						
			shown in SwRI DWG 20-01402-571-20, Rev. 01						

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: **Q11**

c INSPECTION CRITERIA

PI To check upon RECEIPT.

d QA APPROVAL (IF REQUIRED) DATE

Dennis White to 3/6/02

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
R. Doyle Smith

EXT. NO.
3976

DEPT. / DIVISION APPROVAL
[Signature]

DATE
3/6/02

ADMIN. APPROVAL
[Signature]

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
--------------------------	------	-----------------	------	----------------------------------

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 ± 0.010 "
 unless otherwise specified
 Note: Detail A on Page 2

Time completed at time of order:

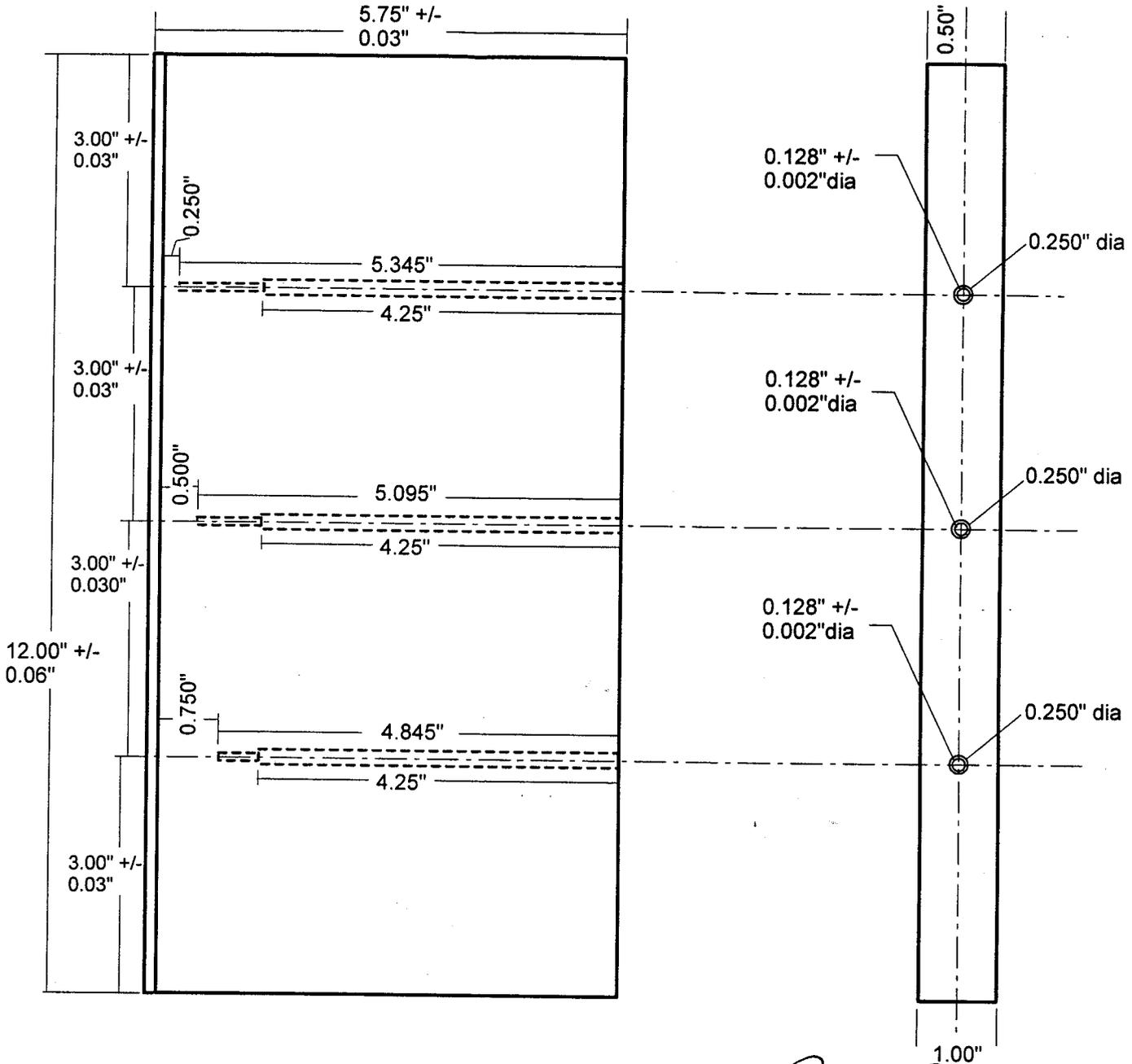
Material: _____

Heat: _____

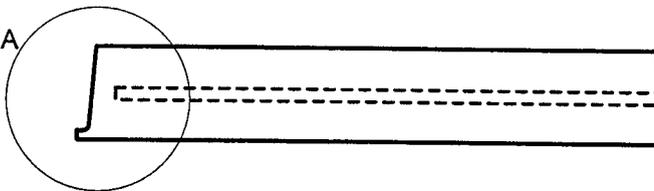
Specimen Orientation: _____

Other: _____

Page 1 of 2



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 ± 0.005 "
unless otherwise specified
Detail A identified on Page 1

Page 2 of 2

Time completed at time of order:

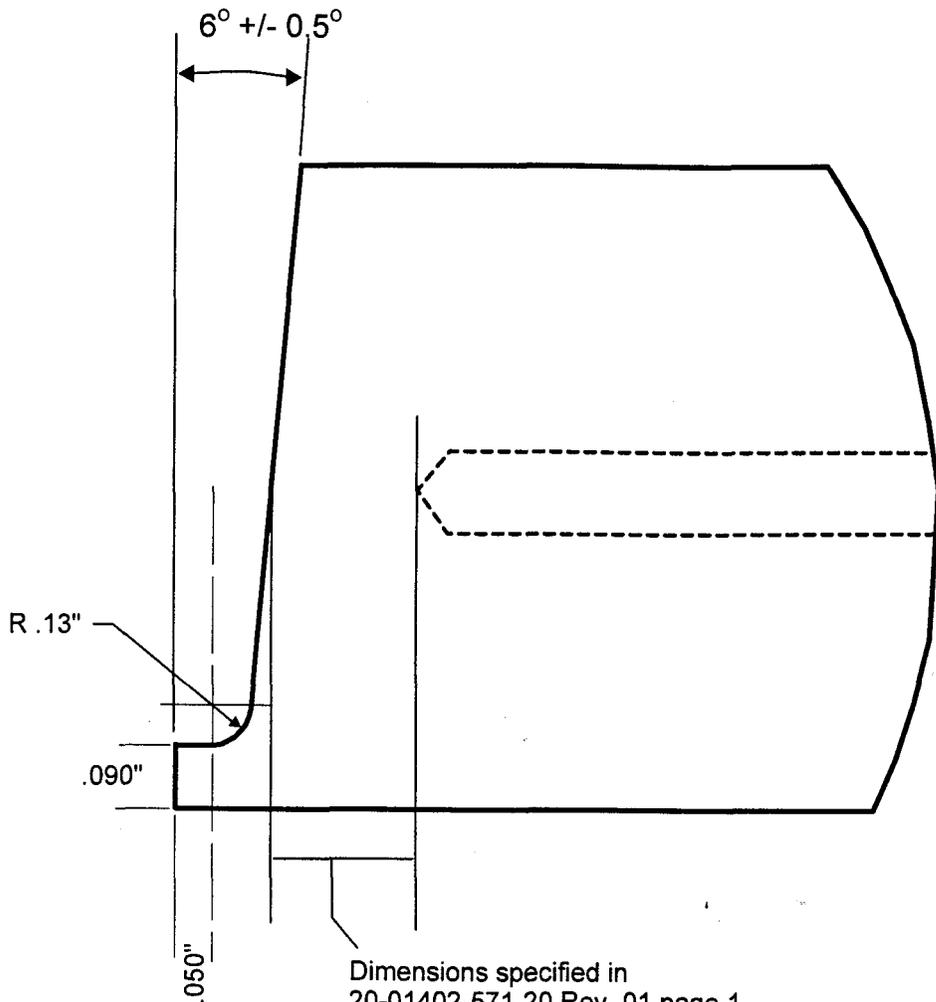
Material: _____

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							PO Total Amt:	\$138.96
_____ Authorized Signatures								

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		LB	01/18/02	01/18/02	10.0000	21.4900	\$214.90
	Prime Contract #: NRC0297009 AOP: 704-000 1.20			01402.571	Priority: NONE			
2	MISC 1/8" x 36" ERNICROMO-10 WELD WIRE, ID'D ACTUAL CERTS Req: 609729		LB	01/18/02	01/18/02	20.0000	21.1000	\$422.00
	Prime Contract #: NRC0297009 AOP: 704-000 1.20			01402.571	Priority: NONE			
3	MISC 0.045" ERNICROMO-10 WELD WIRE ON 30-LB SPOOL, ACTUAL CERTS Req: 609729		LB	01/18/02	01/18/02	30.0000	21.5700	\$647.10
	Prime Contract #: NRC0297009 AOP: 704-000 1.20			01402.571	Priority: NONE			
4	MISC 3/32" 2% THORIATED TUNGSTEN ELECTRODE Req: 609729		EA	01/18/02	01/18/02	10.0000	1.6200	\$16.20
	Prime Contract #: NRC0297009				Priority: NONE			

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 285778S

Page: 2
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

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
	AOP: 704-000 1.20	01402.571						
5	MISC 0.045" CONTACT TIP, P/N 14H-45		EA	01/18/02	01/18/02	25.0000	0.9000	\$22.50
	Req: 609729							
	Prime Contract #: NRC0297009	Priority: NONE						
	AOP: 704-000 1.20	01402.571						
6	MISC 0.045 WIRE CONDUIT ASSEMBLY, P/N 44-3545-15		EA	01/18/02	01/18/02	1.0000	14.6000	\$14.60
	Req: 609729							
	Additional Charges: 04 Delivery							\$5.00
	Prime Contract #: NRC0297009	Priority: NONE						
	AOP: 704-000 1.20	01402.571						\$19.60
<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 & ACCEPTED: _____ DATE: _____</p> <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>MATERIAL CERTIFICATION SHALL ACCOMPANY EACH LOT OF ITEMS SHIPPED. CERTIFICATION SHALL</p>								

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 285778S

Page: 3
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

ORDER DATE	BUYER	TERMS	FOB	SALES ORDER	SHIP VIA	DELIVER TO		
05/02	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
	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							
	<hr/> Authorized Signatures						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.		DELIVER TO R. Doyle Smith, bldg. 137		PURCHASING SELECTED SUPPLIER	
CITY, STATE San Antonio, TX		SHIP VIA			
ATTN: Donald James		F.O.B.		SUPPLIER CODE	
PHONE 684-0232		TERMS		PHONE	
FAX				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
-------------------------	----------------------------------	-------

<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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b Q A CODES: Q3; Q4</p> <p>c INSPECTION CRITERIA</p> <p>d QA APPROVAL (IF REQUIRED) DATE 1/14/02</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 checked="" type="checkbox"/> YES <input 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 R. Doyle Smith EXT. NO. 3976</p> <p>DEPT. / DIVISION APPROVAL DATE 1/11/02</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>
---	---	---	--

Southwest Research Institute

6220 Culebra Road
San Antonio, TX 78238-5166

Purchase Order: 232922E

Page: 1
Date Printed: 01/17/2002

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
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
1	MISC 99.999% PURE ARGON		EA	01/24/02	01/18/02	4.0000	34.7400	\$138.96
<p>***** * CONFIRMATION * * DUPLICATE PO * *****</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: 609730</p> <p>Prime Contract #: NRC0297009 Priority: NONE AOP: 704-000 1.20 01402.571</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 & ACCEPTED: DATE:</p> <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>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).</p> <p>Bill To: Southwest Research Institute</p>								

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							

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. 509360
 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		
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		DELIVER TO Doyle Smith, bldg. 137		PURCHASING SELECTED SUPPLIER	
CITY, STATE		SHIP VIA			
ATTN:		F.O.B.		SUPPLIER CODE	
PHONE		TERMS		PHONE	
FAX				FAX	

LN.	QTY.	UNIT	DESCRIPTION	ORG	PROJECT	ACCT	%	DATE REQUIRED	EST. UNIT PRICE
1	1	EA	Alloy C-22 plate, 1/2 inch thick, 2 feet wide, and 4 ft long	20	01402	571	100	1/7/02	3730.00
			<p>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.</p> <p><i>Quality Affecting Purchase</i></p>	<p>QUALITY-AFFECTING PURCHASE</p> <p>Is this order being placed with an ASL supplier?</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p> <p>Is confirmatory analysis required?</p> <p><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>					

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

<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 type="checkbox"/> NO</p>	<p>2. QUALITY ASSURANCE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>a ASL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>b Q.A. CODES: Q4</p> <p>c INSPECTION CRITERIA</p> <p><i>AI To perform Receipt Inspection</i></p> <p>d QA APPROVAL (IF REQUIRED) DATE 12/14/01</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 checked="" type="checkbox"/> YES <input 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: Darrell S. Dunn EXT. NO. 6090</p> <p>DEPT. / DIVISION APPROVAL: <i>[Signature]</i> DATE 12/14/01</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>
--	--	---	--

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: 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
4	MISC 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			11/30/01	11/30/01	4.0000	350.0000	\$1,400.00
	Prime Contract #: NRC0297009 AOP: 704-000 1.20 Priority: NONE 01402.571 QC Insp Required Req: 584365 QC Insp Required							
	Prime Contract #: NRC0297009 AOP: 704-000 1.20 Priority: NONE 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-N. Pan	SPECIAL INSTRUCTIONS Send all paperwork to R. Ard/bldg. 189	
ACCOUNT NO.(s) 20.01402.571	REQUESTOR'S SIGNATURE Yi-Ming Pan	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? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	2. If you have suggested a supplier for the item or service, could other suppliers meet your requirements? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	DEPARTMENTAL/DIVISIONAL APPROVAL <i>[Signature]</i>	DATE 11/8/01	ADMIN. APPROVAL <i>[Signature]</i>	DATE 11/8/01	3. If this requisition is for a repair-is the repair on campus or off campus? ON <input type="checkbox"/> OFF <input type="checkbox"/>
4. Government Project? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	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? YES <input type="checkbox"/> NO <input type="checkbox"/>	d. Is government furnished property being sent to vendor YES <input type="checkbox"/> NO <input type="checkbox"/>	f. QA Footnotes: Q3 & Q4	5. Do you want receiving to open and inspect your shipment? YES <input type="checkbox"/> NO <input type="checkbox"/>	
a. Will it be substantially consumed, destroyed, or exhausted during the performance of the project? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	c. If "NO", is the item uniquely required to instrument the project that is funding the purchase? YES <input type="checkbox"/> NO <input type="checkbox"/>	e. QA Approval (if required) <i>[Signature]</i> 11/8/2001	g. Inspection Criteria: PI To 1-50502 0-1 RSCC PT	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				
<i>HASTELLOY C22, SINGLE U-BEND SPECIMEN PER CUSTOMER SPECIFICATION. MACHINED FROM MATERIAL SUPPLIED BY METAL SAMPLES CO.</i>				
<i>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.</i>				
<i>TO BE MANUFACTURED FROM METAL SAMPLES LOT# U839. NO HARDWARE OR INSULATORS INCLUDED.</i>				
			Quantity <u>UM</u>	Unit Price <u>UM</u>
			20.00 EA @	22.55 EA



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>		
			<u>Quantity</u> <u>UM</u>	<u>Unit Price</u> <u>UM</u>
			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>		
			<u>Quantity</u> <u>UM</u>	<u>Unit Price</u> <u>UM</u>
			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>		
			<u>Quantity</u> <u>UM</u>	<u>Unit Price</u> <u>UM</u>
			4.00 EA @	350.00 EA

AVAILABLE TO SHIP 2 WEEKS AFTER RECEIPT OF ORDER.

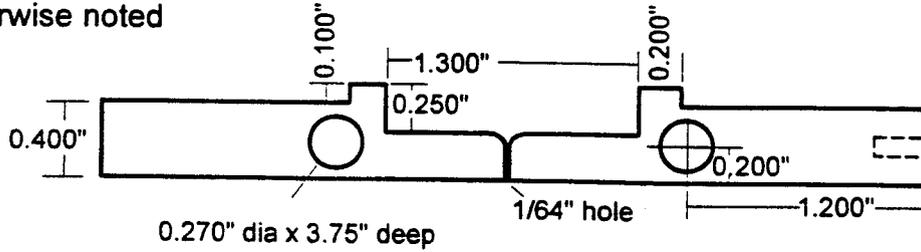
THANK YOU FOR YOUR INQUIRY. IF YOU HAVE ANY QUESTIONS, PLEASE LET US KNOW.



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

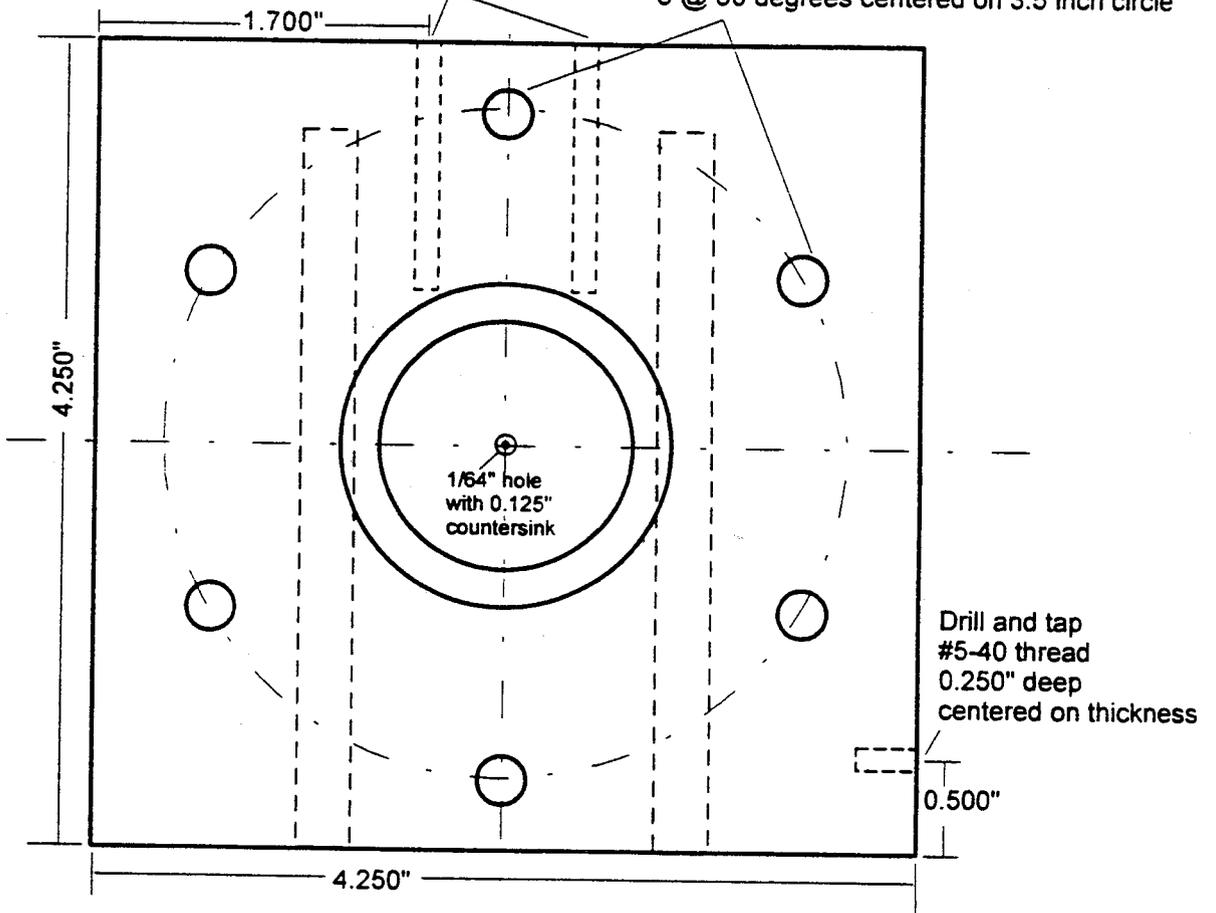
Internal Chemistry Specimen
Drawing # 20-01402-571-009 rev.01

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



Darrell S. 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