



**PRINCETON PLASMA
PHYSICS LAB**

Purchase Order Number:

S-04344-F

Part Number:

SE121

Part Name:

NSCX Vacuum Vessel
Prototype

MTM Work Order Number:

64880/1.0



Major

Tool & Machine, Inc.

Electronic Data Package Instructions



Open the data package file using Adobe Reader

Adobe® Reader® 6.0 or higher is free software that lets you view and print [Adobe Portable Document Format](#) (PDF) files on a variety of hardware and operating system platforms

This format is used to deliver our customers the easiest way of searching through the data package.

With the data package file open select Window _ Bookmarks (F5)
This opens a box that will show the categories within the data package.

Click on a bookmark and that page will appear in the window.

BookMark Tittles

Cover Sheet – Top page in the file

Instruction Page – The current page in the window

Table of Contents – Detailed listing of all the documents within the data package file.
Sorted by part numbers.

QAP Documents – Quality Assurance Documentation fulfilling and the requirements of the order.

Certificate of Conformance – All C of Cs and Material Certs in the order they appear in the table of contents.

IDCs – The MTM Inspection Data Checklist – Documentation of all critical dimensions.

NDTs – Non Destructive Test certification documentation.

Browsing

If you've selected a category like Certificate of Conformance the first C of C will pop up in the window then to browse through all the C of Cs just page down.

Searching

Click the binoculars icon or go to Edit _ Find, enter what you're looking for and select find.

Example: To Find a specific Material Cert

Within the table of contents Material Certs and C of Cs will show a .TIF file which is the scanned documentation. Click the binoculars and enter the file name and select find. The search will first find the name in the table of contents, select find again and the document will appear in the window.

For IDCs enter

“**ITEM:**” a space, then the number your searching for (Item numbers are in the left column within the Table of Contents)

For NDTs enter

the number your searching for (do not enter the “#” sign)

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S-04344-F
Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

Item#	Document Description / Material Description / File Name / Heat Lot
1	CERTIFICATE OF CONFORMANCE

ASTM B 705 MECH. TEST PIECE

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
2	33	40		Nondestructive Visual Test Certification #8517 - VISUAL

BASE PLATE - BASE PLATE

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
3	59	10	10	Material Certification: TRACE ID: 77337 / 304L_8 - PLATE,SST .75" THK - MC088566.TIF / 896084

DATUM TARGET - PVVS FIXED DATUM TARGET

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
4	38	10	10	Material Certification: / INCONEL 625_233 - BAR,ROUND,NICKEL ALLOY .438" DIA - MC095770.TIF / 885B

F1000000NC4 - FLANGE, CONFLAT, NON-ROTATE, 10.00"

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
5	20	10	10	Material Certification: / F1000000NC4 - FLANGE, CONFLAT, NON-ROTATE, 10.00" - mc094399.pdf / OV104&OV105

F1000800NC4 - FLANGE, CONFLAT, NON-ROTATE, 10.00"

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
6	52	10	10	Material Certification: TRACE ID: 96751 / F1000800NC4 - FLANGE, CONFLAT, NON-ROTATE, 10.00" - MC096585.TIF / N / A FROM VENDOR

FB1000C12S - BOLT AND NUT KIT, 12 PT, SILVER PLATED

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
7	20	10	40	Material Certification: TRACE ID: 93143 / FB1000C12S - BOLT AND NUT KIT, 12 PT, SILVER PLATED - MC094404.PDF / C OF C

FG1000CI - GASKET KIT (10/PK), COPPER, FOR 10" CFF

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
8	20	10	20	Material Certification: TRACE ID: 93141 / FG1000CI - GASKET KIT (10/PK), COPPER, FOR 10" CFF - Same as Item #7 / C OF C

FG1000VU - GASKET, VITON, FOR 10" CFF

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
9	20	10	30	Material Certification: TRACE ID: 93142 / FG1000VU - GASKET, VITON, FOR 10" CFF - Same as Item #7 / C OF C

GC0275S - GASKET CLIP KIT (10/PK), FOR 10" CFF

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
10	20	10	50	Material Certification: TRACE ID: 93144 / GC0275S - GASKET CLIP KIT (10/PK), FOR 10" CFF - Same as Item #7 / C OF C

NAMEPLATE

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
11	31	10	10	Material Certification: TRACE ID: 92220 / INCONEL 625_660 - SHEET,NICKEL ALLOY .125" THK - MC093762.TIF / 2650 3 6874

PVVS NAMEPLATE



CERTIFICATE OF CONFORMANCE

TO: PRINCETON PLASMA PHYSICS LAB

DATE: 04/15/2004

ATTENTION: Receiving Department

Seller certifies that:

Part Number: SE121

Purchase Order: S-04344-F

Part Name: NSCX Vacuum Vessel Prototype

Workorder: 64880/1.0

Part Serial Number:

Quantity: 1

- 1. These materials and/or parts were produced in conformance with all contractually applicable Government and/or Customer specifications referred in, or furnished with, the above Purchase Order.
2. The materials and/or parts furnished under the above Purchase Order were produced:
[] From materials furnished by Customer for the production of such parts.
[X] From materials for which the seller has available for examination chemical and/or physical test reports or other evidence of conformance to applicable specifications.
3. All processes required in the production of these part and/or materials are listed below and were performed by a facility or personnel approved or certified by the Seller and the customer when such approval or certification is required by contract.

Certifications are on file at this plant.

Other Requirements:

MANUFACTURED PER CUSTOMER REQUIREMENTS
CLEANED PER SPECIFICATION # PP475

Signature: _____ Title: _____ Date: _____



Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: ASTM B 705 MECH. TEST PIECE - Item002

Date of Inspection: 04/12/2004

Type of Material:

NDT#: 8517

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Casting <input type="checkbox"/> Bar Stock <input type="checkbox"/> Plate <input type="checkbox"/> Forging <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input checked="" type="checkbox"/> Rough <input type="checkbox"/> Other	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:33 -Op:40 Resource ID: 805-INPROCESS INSPECTION - Part ID: ASTM B 705 MECH. TEST PIECE Part Name: Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0	
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASTM B705 MTM Spec Number: Acceptance Standard:
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Inspection Methods Used: Magnification Used: Light Source Used:	
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: _____ **Date:** 04/09/2004

Reviewed By: 363-C.MANIFOLD **Date:** 04/08/2004

Reviewed By Customer: 8780-PRINCETON PLASMA PHY **Date:** _____

JS 0291 500



500 Green Street
Washington, PA 15301

Ship to: LANSING MI
To: 1800 WEST WILLOW
LANSING MI

**CERTIFIED MATERIAL
TEST REPORT**

ALRO STEEL CORP
ALRO STEEL DIV
P O BOX 927
JACKSON MI 49204

48915

49204

OUR ORDER NO. NE2612950
YOUR ORDER NO. 3977907
MEMO NO. 217000-00 ENPL STD
DATE 03/27/2002
SALESMAN NO. 182

H. M. O'Connor

AUTHORIZED SIGNATURE

ALC 304/304L STAINLESS HR3P
AMS 55116 (304L) AMS 55136 (304) ASTM F240-00 ASME SA-240-01
(NAIVE CLM)



Heat	Slip	Lot No	Size	Pcs	Weight
896914	70012 A	107830	.2500 x 96.0000 x 240.0000		1785 From slip 06200
896914	71989 A	107149	.2500 x 96.0000 x 252.0000	1	1875 From slip 02115
897201	70615 A	107942	.2500 x 96.0000 x 252.0000	1	1875 From slip 07128
897201	70625 A	107942	.2500 x 96.0000 x 252.0000	1	1875 From slip 07128
897201	70626 A	107942	.2500 x 96.0000 x 250.0000	1	1860 From slip 07128
897202	70076 A	108030	.5000 x 96.0000 x 250.0000	1	3609 From slip 06346
897202	70077 A	108030	.5000 x 96.0000 x 256.0000	1	3696 From slip 06346
897201	70080 A	108030	.5000 x 96.0000 x 252.0000	1	3638 From slip 06346
897476	70092 A	108123	1.0000 x 96.0000 x 242.0000	1	4891 From slip 0816.



Heat	C	MN	P	S	SI	NI	CR	MO	CU	CO	N
896914	.019	1.80	.032	.0006	.34	8.08	18.28	.50	.17	.40	.008
897201	.020	1.83	.028	.0009	.40	8.07	18.18	.43	.18	.34	.097
897202	.019	1.92	.03	.0006	.49	8.15	18.58	.62	.13	.40	.076
897476	.025	1.82	.032	.0005	.29	8.11	18.15	.53	.15	.39	.085



Lot No.	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size
107830	.2500	42.5 KSI	87.0 KSI	60.0	70.0	B95	OK	OK	
107149	.2500	45.0 KSI	92.0 KSI	57.0	75.0	B85	OK	OK	
107942	.2500	46.0 KSI	89.0 KSI	58.0	66.0	B85	OK	OK	
108030	.5000	46.0 KSI	90.5 KSI	57.0	71.0	BH167	OK	OK	
108123	1.0000	45.8 KSI	86.5 KSI	60.0	81.0	BH167	OK	OK	

PAGE 1 CONTINUE ON PAGE 2

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.

*Rec'd 6/21/11
MB 05/03/02*



20-11-5

5-17-02



0291 500



Allegheny Ludlum

An Allegheny Technologies Company

500 Green Street
Washington, PA 15301

Ship ALRO LANSING MI
To 1800 WEST WILLOW
LANSING MI

48215

ALCO STEEL CORP
ALRO LEVEL DIV
P O BOX 927
JACKSON MI

49203

CERTIFIED MATERIAL
TEST REPORT

OUR ORDER NO. 1176002700 11/16/02
YOUR ORDER NO. 3074302
MEMO NO. 117600 00 BUN. CLERK
DATE 02/07/2002
SALESMAN NO. 532

S. J. O'Connor

AUTHORIZED SIGNATURE

MATERIAL HAS NOT YET BEEN REPAIRED

PAGE 2 FINAL PAGE

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.

JS 0291 500



Allegheny Ludlum

An Allegheny Technologies Company

500 Green Street
Washington, PA 15301

Ship ALRO LANSING 2
To 1800 WEST WILLOW
LANSING MI

48915

ALRO STEEL CORP
ALRO STEEL DIV
P O BOX 927
JACKSON MI

CERTIFIED MATERIAL
TEST REPORT

49204

OUR ORDER NO. LP1640831
YOUR ORDER NO. 3879627
MEMO NO. 214449-00 DUAL CERT
DATE 12/13/2001
SALESMAN NO. 582

H. M. O'Donnor

AUTHORIZED SIGNATURE

20-17-02

ALC 304/304L STAINLESS HRAP
AMS 5511G (304L) AMS 5513G (304) ASTM A240-00 ASME SA-240-01
(WAIVE CLM)

Heat	Slip	Lot No	Size	Pcs	Weight
896479	50100 AA	106072	.3750 x 96.0000 x 242.0000	1	2660
896479	50100 AB	106072	.3750 x 96.0000 x 260.0000	1	2858
896479	50100 BA	106072	.3750 x 96.0000 x 242.0000	1	2660
896479	50100 BB	106072	.3750 x 96.0000 x 260.0000	1	2858
896856	50103 A	106029	.6250 x 96.0000 x 276.0000	1	4935
896856	50103 B	106029	.6250 x 96.0000 x 266.0000	1	4756

*Rec'd 6/7/11
MB 05/03/02*

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	N
896479	.022	1.90	.03	.0011	.30	8.12	18.36	.56	.14	.40	.097
896856	.022	1.84	.03	.0007	.30	8.09	18.26	.41	.22	.33	.091

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size
106072	.3750	47.7 KSI	87.5 KSI	58.0	77.0	BHN170	OK	OK	
106029	.6250	45.9 KSI	91.5 KSI	56.0	79.0	BHN159	OK	OK	

MATERIAL WAS NOT WELD REPAIRED

THE ALRO GROUP
RT03526752

THE ALRO GROUP
RT03526751

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.

JB 0291 500
CH



Allegheny Ludlum

An Allegheny Technologies Company

500 Green Street
Washington, PA 15301

Ship ALRO LANSING 2
To 1800 WEST WILLOW
LANSING MI

48915

ALRO STEEL CORP
ALRO STEEL DIV
P O BOX 927
JACKSON MI

49204

**CERTIFIED MATERIAL
TEST REPORT**

OUR ORDER NO: M1264900
YOUR ORDER NO: 3949569
MEMO NO: 216420-00 DUAL CERT
DATE: 02/08/2002
SALESMAN NO: 582

H. M. O'Donnor

AUTHORIZED SIGNATURE

5-17-02

ALC 304/304L STAINLESS HRAP
AMS 5511G (3041), AMS 5513G (304) ASTM A240-00 ASME SA-240-01
(WAIVE CLM)

Heat	Slip	Lot No	Size	Pcs	Weight
895757	70580 A	103926	.7500 x 96.0000 x 260.0000	1	5566 From slip 40074
896084	70912 A	105302	.7500 x 96.0000 x 254.0000	1	5438 From slip 46070

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	N
895757	.027	1.69	.029	.0009	.47	8.11	18.22	.54	.15	.48	.077
896084	.017	1.73	.026	.0004	.33	8.04	18.27	.49	.11	.35	.088

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size
103926	.7500	48.1 KSI	88.0 KSI	59.0	79.0	BHN159		OK	
105302	.7500	38.9 KSI	86.0 KSI	60.0	82.0	BHN163		OK	


*Rec'd 6/7/11
MBos/bj/bz*

MATERIAL WAS NOT WELD REPAIRED



PAGE 1 FINAL PAGE

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.

G.O. CARLSON Inc
Producers of Stainless Steel,
Nickel Alloys and Titanium 
THORNDALE, PA. 19372
TEST CERTIFICATE

GOC: 30005

DATE: 10-JAN-2002

**** SOLD TO: ****

**** SHIP TO: ****

VARIAN VACUUM PRODUCTS
121 HARTWELL AVENUE
LEXINGTON MA 02173

VARIAN VACUUM PRODUCTS
121 HARTWELL AVENUE
ORANGE DOOR IN REAR YARD
LEXINGTON MA 02173

CUSTOMER ORDER #
KANBAN STOCK

CUSTOMER MARK #
KANBAN STOCK

304L BB HOT ROLLED, ANNEALED, DESCALED
UNS S30403; PLATE, ASTM A240-00, GENERAL REQUIREMENTS ASTM A480-99b.

ITEM	DESCRIPTION	MARK: 0920VZ719742/Z1000601	PO# 719742 PA 2100601 50 per 1/16/02		
16	1.125 x 10.02 DIAMETER				
	Qty Heat-Slab	Test	Yield-.2% Tensile	Elong-2in	
		Dir	PSI	%	
320	32 OV104-4F	TT	38683	82478	62
320	18 OV105-6A	TT	40758	82504	61.60
		Rock			
		B			
	OV104-4F	86			
	OV105-6A	85			

***** LADLE ANALYSIS *****								
HEAT:	C	MN	P	S	SI	CR	NI	N
OV104	.020	1.83	.028	.001	.60	18.13	9.08	.061
OV105	.022	1.93	.028	.001	.58	18.04	9.03	.060



OCT 15 2003

80548
Line 1
B.J.

Susan S. Haldeman
Susan S. Haldeman
Quality Assistant
G. O. Carlson, Inc.

I HEREBY CERTIFY THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN RECORDS OF THIS CORPORATION.

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____.



VARIAN

Date: 02/24/2004

CERTIFICATE OF CONFORMANCE

I hereby certify that the products provided to **MAJOR TOOL MACHI**
on Purchase Order **P04-00866**
Varian Sales Order **318942246**
have been manufactured in accordance with all applicable Varian drawings
and Varian specifications.

<u>ITEM</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
001	1	F10000800NC4	FLANGE,CF,10.00" X 8.00",NR,30

Varian Vacuum Technologies
Michael R. Blanchette
Michael R. Blanchette
Quality Assurance Engineer

FEB 24 2004

83267
Line 1
B.A.

OKK
3-1-04



VARIAN

Varian Vacuum Technologies
121 Hartwell Avenue
Lexington, MA 02421-3133 USA

Phone: 781.861.7200
Fax: 781.860.5437
<http://www.varianinc.com>

10 October 2003

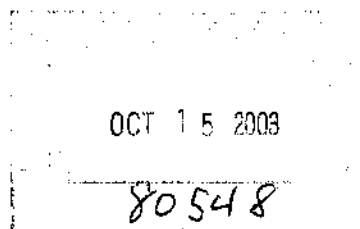
CERTIFICATE OF CONFORMANCE

I hereby certify that the products provided to Major Tool & Machine Inc. on PO# P03-02043 and Varian SO# 318664333 have been manufactured in accordance with all applicable Varian drawings and Varian specifications.

<u>ITEM</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
001	1	F10000000NC4	Flange, Conflat, 10.00" x 0.00", Non-rotatable, 304 SST Raw Material# Z1000601 Report# 30005 Heat# 0V104 & 0V105
002	1	FG1000CI	Gasket, Oxygen Free Copper, for 10.0" CFF, 10/pk
003	1	FG1000VU	Gasket, Dupont Viton, for 10.0", 1/Pk
004	1	FB1000C12S	Bolt Set, 12Pt, 304 SST, Silver plated, for 10"
005	1	GC0275S	Gasket Clip, Spring Steel, Nickel Plated, 10/Pk

Varian Vacuum Technologies

Tim Clough
Quality Assurance Engineer



LINES 2-5

B.J.



10/20/03

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No. No. De Facture Rechnungs Nr 391282001-0	Date Entered Date De Commande Bestelldatum 08/14/03	Customer Reference Référence Client Kundenbest/Maten P03-03302	Report No. Rapport No Zeugnis Nr 20030822079	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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HAYNES
International

FILE COPY 2
Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellausschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestelldatung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
---	---

Product Description • Description Produit • Material Beschreibung
0.125 (0.12/0.13) x 36 x 120
HAYNES(R) 625 ALLOY SHEET -
NADCAP CERTIFICATE NUMBER 0089
S400E,S1000E, EN 10204 3.1.B

Quantity Ordered Quantité Commandée Bestelldatung	Quantity Shipped Quantité Expédiée Liefermenge
1 PC	1 PC

Specification • Spécification • Spezifikation
AMS 5599 Rev F ASTM-B-443 Rev 99 N06625 1

Heat Number Numero De Cuille Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																			
	Al	B	C	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W				
2650 3 6874	0.16		0.030	3.63	0.23	21.79		4.71	0.28	8.86	58.96	0.008	0.002	0.11	0.26					
2650 3 6874	3.580	<0.050																		

Certified By • Certifié Par • Bescheinigt Durch: **Paul Guest** 08/22/03
Certification Supervisor/Technician

Paul O. Guest

MTM
016
8-28-03

RECEIVED
AUG 27 2003
79491 line 1 B.J.

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DISCLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES RÉSULTATS CONTENUS ICI ONT ÉTÉ OBTENUS À PARTIR D'ÉCHANTILLONS REPRÉSENTATIFS DES PRODUITS EXPÉDIÉS ET SONT CONSIDÉRÉS COMME ÉTANT FIABLES. NOUS REÇUSONS TOUTE RESPONSABILITÉ LIÉE À L'UTILISATION DE CETTE CERTIFICATION.
DIE VORGEDRUCKTEN ANGABEN BASIEREN AUF PROBEEN DIE ALS REPRÄSENTATIV OBTENUT WURDEN. DIE ERGEBNISSE WERDEN ALS ZUFÜHRERBELEG UND ZUFÜHRERBELEG ANGESEHEN. WIR LEHNEBEN JEDE RECHTLICHE VERANTWORTLICHKEIT FÜR DIE VERWENDUNG DIESER ZEUGNISSE AB.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, APPROVED BY ANY EXEMPTIONS OR PURCHASE ORDER REQUIREMENTS.
SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC093762.TIF 1 of 1

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S-04344-F
Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
12	31	15	10	Material Certification: / INCONEL 625_660 - SHEET,NICKEL ALLOY .125" THK - Same as Item #11 / 2650 3 6874

SE121-001P 1-3

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
13	43	10		Inspection Data Checklist: 8 steps
14	43	20		Map(s): SE121-001P-1MTM - MC096186.TIF
15	43	20		Map(s): SE121-001P-1MTM - MC096185.TIF
16	43	20		Inspection Data Checklist: 2 steps
17	43	30		Inspection Data Checklist: 5 steps
18	43	30		Nondestructive Visual Test Certification #7938 - MTM WELD INSPECTION FORM
19	43	40		Inspection Data Checklist: 2 steps
20	43	50		Inspection Data Checklist: 5 steps
21	43	50		Nondestructive Visual Test Certification #7939 - MTM WELD INSPECTION FORM
22	43	60		Inspection Data Checklist: 2 steps
23	43	70		Inspection Data Checklist: 5 steps
24	43	70		Nondestructive Visual Test Certification #7940 - MTM WELD INSPECTION FORM
25	43	80		Inspection Data Checklist: 2 steps
26	43	90		Inspection Data Checklist: 5 steps
27	43	90		Nondestructive Visual Test Certification #7943 - MTM WELD INSPECTION FORM
28	43	100		Inspection Data Checklist: 2 steps
29	43	110		Inspection Data Checklist: 5 steps
30	43	110		Nondestructive Visual Test Certification #7952 - MTM WELD INSPECTION FORM
31	43	120		Inspection Data Checklist: 2 steps
32	43	130		Inspection Data Checklist: 5 steps
33	43	130		Nondestructive Visual Test Certification #7959 - MTM WELD INSPECTION FORM
34	43	140		Inspection Data Checklist: 2 steps
35	43	160		Map(s): SE121-001P-1MTM - MC096171.TIF
36	43	160		Map(s): SE121-001P-1MTM - MC096172.TIF
37	43	160		Inspection Data Checklist: 2 steps
38	43	180		Map(s): SE121-001P-1MTM - MC096214.TIF
39	43	180		Test Certification: RADIOGRAPHIC CERTIFICATE - Same as Item #38

SE121-001P 2-5

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
40	45	10		Inspection Data Checklist: 8 steps
41	45	20		Map(s): SE121-001P-1MTM - MC096197.TIF
42	45	20		Map(s): SE121-001P-1MTM - MC096198.TIF
43	45	20		Inspection Data Checklist: 2 steps
44	45	30		Inspection Data Checklist: 5 steps
45	45	30		Nondestructive Visual Test Certification #7982 - MTM WELD INSPECTION FORM
46	45	40		Inspection Data Checklist: 2 steps
47	45	50		Inspection Data Checklist: 5 steps

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 13

Workorder: 64880/1-0 Sub:43 Op:10

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Verify Panel Joint Alignment Weld Seam # 1-3 (.02" Max)		MFG			INSPECTED ALIGNME OF WELD JOINT (ACC EPTED)	791	712		A
(10)				CWI				02-06-0	02-06-0		
*		Verify Panel / Rest Stop Position Panel #1 (0 - .09" Gap)		MFG			.090 OR LESS	791			A
(20)								02-06-0			
*		Verify Panel / Rest Stop Position Panel #3 (0 - .09" Gap)		MFG			.090 OR LESS	791			A
(30)								02-06-0			
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			PURGE @20CFH WELD @40CFH	791			A
(40)								02-06-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 INCO 625 HT AV 8128 .093 INCO 625 HT CB7996	791			A
(50)								02-06-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S.S.WOOL INSERT	791			A
(60)								02-06-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO		QA			QUALIFIED TO WPS390 PPPL REV0 MTM QUAL FICATION SYSTEM	791			A

INSPECTION DATA CHECKLIST

(70)		PRIOR TO OPERATION START AND THROUGH COMPLETION						02-06-0		
*				QA			.062 75 - 175 AMPS .093 100-210 AMPS ALL PER WPS 390PP PL REV0	791		A
(80)		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION						02-06-0		

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#P/K) After structural welding After welding Port Final Inspection											
Part # / Panel #: SE121-001P PANEL #3			Gage/Std S/N(s): 4470 / J-1165 / J-1009-NDT			Date of Inspection: 02/06/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.034	0.379	LESS THAN 1.01	N/A	NCSX 061	44	-0.014	0.382	LESS THAN 1.01	N/A	NCSX 061
2	0.033	0.378	LESS THAN 1.01	N/A		45	-0.011	0.381	LESS THAN 1.01	N/A	
3	0.033	0.380	LESS THAN 1.01	N/A		46	-0.007	0.380	LESS THAN 1.01	N/A	
4	0.034	0.380	LESS THAN 1.01	N/A		47	-0.004	0.380	LESS THAN 1.01	N/A	
5	0.034	0.381	LESS THAN 1.01	N/A		48	-0.004	0.382	LESS THAN 1.01	N/A	
6	0.032	0.380	LESS THAN 1.01	N/A		49	-0.005	0.385	LESS THAN 1.01	N/A	
7	0.029	0.381	LESS THAN 1.01	N/A		50	-0.005	0.383	LESS THAN 1.01	N/A	
8	0.026	0.380	LESS THAN 1.01	N/A		51	E		LESS THAN 1.01	N/A	
9	0.023	0.379	LESS THAN 1.01	N/A		52	E		LESS THAN 1.01	N/A	
10	0.019	0.379	LESS THAN 1.01	N/A		53	E		LESS THAN 1.01	N/A	
11	0.016	0.378	LESS THAN 1.01	N/A		54	E		LESS THAN 1.01	N/A	
12	0.014	0.378	LESS THAN 1.01	N/A		55	E		LESS THAN 1.01	N/A	
13	0.013	0.378	LESS THAN 1.01	N/A		56	E		LESS THAN 1.01	N/A	
14	0.012	0.378	LESS THAN 1.01	N/A		57	E		LESS THAN 1.01	N/A	
15	0.012	0.377	LESS THAN 1.01	N/A		58	0.059		LESS THAN 1.01	N/A	
16	0.012	0.378	LESS THAN 1.01	N/A		59	0.099		LESS THAN 1.01	N/A	
17	0.013	0.378	LESS THAN 1.01	N/A		60	0.078		LESS THAN 1.01	N/A	
18	0.027	0.378	LESS THAN 1.01	N/A		61	0.079		LESS THAN 1.01	N/A	
19	0.027	0.381	LESS THAN 1.01	N/A		62	0.085		LESS THAN 1.01	N/A	
20	0.017	0.380	LESS THAN 1.01	N/A		63	0.085		LESS THAN 1.01	N/A	
21	0.006	0.380	LESS THAN 1.01	N/A		64	0.034		LESS THAN 1.01	N/A	
22	-0.002	0.381	LESS THAN 1.01	N/A		65	0.065		LESS THAN 1.01	N/A	
23	-0.008	0.380	LESS THAN 1.01	N/A		66	0.079		LESS THAN 1.01	N/A	
24	-0.009	0.380	LESS THAN 1.01	N/A		67	0.058		LESS THAN 1.01	N/A	
25	-0.008	0.381	LESS THAN 1.01	N/A		68	0.039		LESS THAN 1.01	N/A	
26	-0.008	0.381	LESS THAN 1.01	N/A		69	0.092		LESS THAN 1.01	N/A	
27	-0.006	0.380	LESS THAN 1.01	N/A		70	0.071		LESS THAN 1.01	N/A	
28	-0.005	0.380	LESS THAN 1.01	N/A		71	0.051		LESS THAN 1.01	N/A	
29	-0.003	0.381	LESS THAN 1.01	N/A		72	0.013		LESS THAN 1.01	N/A	
30	-0.002	0.380	LESS THAN 1.01	N/A		73	0.059		LESS THAN 1.01	N/A	
31	0.001	0.380	LESS THAN 1.01	N/A		74	0.052		LESS THAN 1.01	N/A	
32	0.002	0.379	LESS THAN 1.01	N/A		75	0.007		LESS THAN 1.01	N/A	
33	0.004	0.380	LESS THAN 1.01	N/A		76	0.014		LESS THAN 1.01	N/A	
34	0.004	0.380	LESS THAN 1.01	N/A		77	0.062		LESS THAN 1.01	N/A	
35	0.006	0.380	LESS THAN 1.01	N/A		78	0.063		LESS THAN 1.01	N/A	
36	0.007	0.381	LESS THAN 1.01	N/A		79	0.046		LESS THAN 1.01	N/A	
37	0.009	0.382	LESS THAN 1.01	N/A		80	0.000		LESS THAN 1.01	N/A	
38	0.007	0.380	LESS THAN 1.01	N/A		81	-0.002		LESS THAN 1.01	N/A	
39	0.000	0.381	LESS THAN 1.01	N/A		82	-0.013		LESS THAN 1.01	N/A	
40	-0.004	0.381	LESS THAN 1.01	N/A		83	0.020		LESS THAN 1.01	N/A	
41	-0.008	0.381	LESS THAN 1.01	N/A		84	0.064		LESS THAN 1.01	N/A	
42	-0.013	0.381	LESS THAN 1.01	N/A		85	0.050		LESS THAN 1.01	N/A	
43	-0.014	0.382	LESS THAN 1.01	N/A		86	-0.006		LESS THAN 1.01	N/A	

64880 PPPL NCSX PVVS INSPECTION RECORD						Inspection Drawing Number: SE121-001P-1MTM Rev: 0B					
Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection											
Part # / Panel #: SE121-001P PANEL #3			Gage/Std S/N(s): 4470 / J-1165 / J-1009-NDT			Date of Inspection: 02/06/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
87	0.028	MTM 051	LESS THAN 1.01	N/A		126					
88	0.040		LESS THAN 1.01	N/A		127					
89	-0.010		LESS THAN 1.01	N/A		128					
90	0.017		LESS THAN 1.01	N/A		129					
91	E		LESS THAN 1.01	N/A		130					
92	E		LESS THAN 1.01	N/A		131					
93	E		LESS THAN 1.01	N/A		132					
94	0.039		LESS THAN 1.01	N/A		133					
95	E		LESS THAN 1.01	N/A		134					
96	E		LESS THAN 1.01	N/A		135					
97	E	MTM 051	LESS THAN 1.01	N/A		136					
98						137					
99						138					
100						139					
101						140					
102						141					
103						142					
104						143					
105						144					
106						145					
107						146					
108						147					
109						148					
110						149					
111						150					
112						151					
113						152					
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116						155					
117						156					
118						157					
119						158					
120						159					
121						160					
122						161					
123						162					
124						163					
125						164					

64680 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel		Interpass (#TACK)		After structural welding		After welding Port		Final Inspection			
Part # / Panel #: SE121-001P PANEL #1		Gage/Std S/N(s): 4470 / J-1165 / J-1009-NDT				Date of Inspection: 02/06/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.000	0.377	LESS THAN 1.01	N/A		44	0.063	0.384	LESS THAN 1.01	N/A	
2	-0.005	0.378	LESS THAN 1.01	N/A		45	0.079	0.383	LESS THAN 1.01	N/A	
3	-0.009	0.378	LESS THAN 1.01	N/A		46	0.077	0.382	LESS THAN 1.01	N/A	
4	-0.015	0.379	LESS THAN 1.01	N/A		47	0.075	0.381	LESS THAN 1.01	N/A	
5	-0.018	0.378	LESS THAN 1.01	N/A		48	0.072	0.382	LESS THAN 1.01	N/A	
6	-0.020	0.379	LESS THAN 1.01	N/A		49	0.066	0.383	LESS THAN 1.01	N/A	
7	-0.022	0.378	LESS THAN 1.01	N/A		50	0.061	0.381	LESS THAN 1.01	N/A	
8	-0.022	0.378	LESS THAN 1.01	N/A		51	0.055	0.382	LESS THAN 1.01	N/A	
9	-0.023	0.379	LESS THAN 1.01	N/A		52	0.050	0.382	LESS THAN 1.01	N/A	
10	-0.022	0.380	LESS THAN 1.01	N/A		53	0.049	0.381	LESS THAN 1.01	N/A	
11	-0.020	0.379	LESS THAN 1.01	N/A		54	0.054	0.382	LESS THAN 1.01	N/A	
12	-0.013	0.378	LESS THAN 1.01	N/A		55	0.060	0.378	LESS THAN 1.01	N/A	
13	-0.003	0.380	LESS THAN 1.01	N/A		56	0.063	0.379	LESS THAN 1.01	N/A	
14	0.012	0.380	LESS THAN 1.01	N/A		57	0.055	0.382	LESS THAN 1.01	N/A	
15	0.026	0.381	LESS THAN 1.01	N/A		58	0.044	0.380	LESS THAN 1.01	N/A	
16	0.032	0.380	LESS THAN 1.01	N/A		59	0.030	0.382	LESS THAN 1.01	N/A	
17	0.025	0.379	LESS THAN 1.01	N/A		60	E		LESS THAN 1.01	N/A	
18	0.017	0.380	LESS THAN 1.01	N/A		61	E		LESS THAN 1.01	N/A	
19	0.014	0.381	LESS THAN 1.01	N/A		62	E		LESS THAN 1.01	N/A	
20	0.013	0.382	LESS THAN 1.01	N/A		63	0.015		LESS THAN 1.01	N/A	
21	0.012	0.383	LESS THAN 1.01	N/A		64	-0.008		LESS THAN 1.01	N/A	
22	0.010	0.381	LESS THAN 1.01	N/A		65	0.046		LESS THAN 1.01	N/A	
23	0.007	0.381	LESS THAN 1.01	N/A		66	0.056		LESS THAN 1.01	N/A	
24	0.006	0.381	LESS THAN 1.01	N/A		67	0.047		LESS THAN 1.01	N/A	
25	0.010	0.381	LESS THAN 1.01	N/A		68	-0.005		LESS THAN 1.01	N/A	
26	0.016	0.379	LESS THAN 1.01	N/A		69	0.071		LESS THAN 1.01	N/A	
27	0.018	0.379	LESS THAN 1.01	N/A		70	0.045		LESS THAN 1.01	N/A	
28	0.015	0.376	LESS THAN 1.01	N/A		71	0.050		LESS THAN 1.01	N/A	
29	0.003	0.374	LESS THAN 1.01	N/A		72	0.091		LESS THAN 1.01	N/A	
30	-0.009	0.380	LESS THAN 1.01	N/A		73	0.050		LESS THAN 1.01	N/A	
31	-0.015	0.382	LESS THAN 1.01	N/A		74	0.067		LESS THAN 1.01	N/A	
32	-0.013	0.383	LESS THAN 1.01	N/A		75	0.044		LESS THAN 1.01	N/A	
33	-0.016	0.382	LESS THAN 1.01	N/A		76	0.062		LESS THAN 1.01	N/A	
34	0.020	0.383	LESS THAN 1.01	N/A		77	0.055		LESS THAN 1.01	N/A	
35	0.024	0.384	LESS THAN 1.01	N/A		78	0.050		LESS THAN 1.01	N/A	
36	0.025	0.384	LESS THAN 1.01	N/A		79	0.031		LESS THAN 1.01	N/A	
37	0.029	0.385	LESS THAN 1.01	N/A		80	0.057		LESS THAN 1.01	N/A	
38	0.040	0.384	LESS THAN 1.01	N/A		81	0.077		LESS THAN 1.01	N/A	
39	0.053	0.383	LESS THAN 1.01	N/A		82	0.023		LESS THAN 1.01	N/A	
40	0.064	0.385	LESS THAN 1.01	N/A		83	0.041		LESS THAN 1.01	N/A	
41	0.072	0.385	LESS THAN 1.01	N/A		84	0.031		LESS THAN 1.01	N/A	
42	0.077	0.384	LESS THAN 1.01	N/A		85	0.025		LESS THAN 1.01	N/A	
43	0.080	0.385	LESS THAN 1.01	N/A		86	0.060		LESS THAN 1.01	N/A	

64880 PPPL NCSX PVVS INSPECTION RECORD

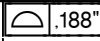
Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding						After welding Port Final Inspection					
Part # / Panel #: SE121-001P PANEL #1			Gage/Std S/N(s): 4470 / J-1165 / J-1009-NDT			Date of Inspection: 02/06/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
87	0.012		LESS THAN 1.01	N/A	MTM OS	126					
88	E		LESS THAN 1.01	N/A		127					
89	E		LESS THAN 1.01	N/A		128					
90	-0.004		LESS THAN 1.01	N/A		129					
91	E		LESS THAN 1.01	N/A		130					
92	E		LESS THAN 1.01	N/A		131					
93	0.022		LESS THAN 1.01	N/A		132					
94	E		LESS THAN 1.01	N/A		133					
95	E		LESS THAN 1.01	N/A		134					
96						135					
97					136						
98					137						
99					138						
100					139						
101					140						
102					141						
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125					164						

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 16

Workorder: 64880/1-0 Sub:43 Op:20

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .188"		QA		4470	PANEL #1 +0.091 / -0.023 PANEL #3 +0.099 / -0.014 [N/C:15024]	522			R
(10)		Upper Half Of Bilateral Tolerance (tack welded vessel)						02-11-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-06-0			

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 17

Workorder: 64880/1-0 Sub:43 Op:30

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 SHIELDING 20 PUR GE GAS SETTINGS	712			A
(10)								02-07-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA HEAT #AV8 128	712			A
(20)								02-07-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT 300 SERIES SS W/WSS WOOL	712			A
(30)								02-07-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390	712			A
(40)								02-07-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA FILLER AM PERAGE ACCEPTABLE O WPS	712			A
(50)								02-07-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 18

Date of Inspection:02/07/2004

Type of Material:625 INCONEL

NDT#:7938

Inspection Requirements:

Inspector: 712-W.MILLER

Date: 02/07/2004

NDT003

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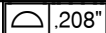
Page: 2

User ID: LONAKER Date: 04/15/04

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 19

Workorder: 64880/1-0 Sub:43 Op:40

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .208"		QA		4470	PANEL #1 +0.001 / -0.057 PANEL #3 +0.023 / -0.048 [N/C:15027]	522			R
(10)		Profile Tolerance (+.188 / -.020") (tack welded vessel)						02-07-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-07-0			

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 20

Workorder: 64880/1-0 Sub:43 Op:50

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (SHIELDING 40 PURGE 20)	712			A
(10)								02-07-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			VERIFIED 1/16 DIA HEAT# AV8128	712			A
(20)								02-07-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS W/ S S WOOL	712			A
(30)								02-07-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683 ACCEPT	712			A
(40)								02-07-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTED PER WPS 3 0 REV 1	712			A
(50)								02-07-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 21

Date of Inspection:02/07/2004

Type of Material:625 INCONEL

NDT#:7939

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging <input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS- WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	---	---	--

Part Information: MTM Job Number: 64880/1.0 -Sub:43 -Op:50 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 1-3 Part Name: PANEL 1-3 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
---	---

Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PAR 6.29.1
--	---

Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
--

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Interpass Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
FILL PASS #1

Notes:

Performed visual inspection of weld fill pass #1 to the router instructions. welder # 683 performed welding. no rejectable indications was found.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

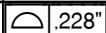
Date: 02/07/2004



Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 22

Workorder: 64880/1-0 Sub:43 Op:60

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .228"		QA		4470	PANEL #1 +0.033 / -0.022 PANEL #3 +0.035 / -0.022	522			A
(10)		Profile Tolerance (+.188/-.040") (tack welded vessel)						02-07-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-07-0			

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 23

Workorder: 64880/1-0 Sub:43 Op:70

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (SHIELDING 40 PURGE 20)	712			A
(10)									02-07-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 INCONEL FILLER HEAT # CB7996	712			A
(20)									02-07-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS W/ SS WOOL	712			A
(30)									02-07-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683	712			A
(40)									02-07-0		
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTED PER WPS 30- PPPL WITH .093 FILLER	712			A
(50)									02-07-0		



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 24

Date of Inspection:02/07/2004

Type of Material:625 INCONEL

NDT#:7940

Inspection Requirements:

Inspector: 712-W.MILLER

Date: 02/07/2004

NDT003

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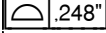
Page: 4

User ID: LONAKER Date: 04/15/04

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 25

Workorder: 64880/1-0 Sub:43 Op:80

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NSCX-SOW-121-01-02 SPECIFICATION: NSCX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .248"		QA		4470	PANEL #1 +0.063 / - 0.009 PANEL #3 +0.0 57 / +0.007	522			A
(10)		Profile Tolerance (+.188/-.060") (tack welded vessel)						02-07-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-07-0			

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 26

Workorder: 64880/1-0 Sub:43 Op:90

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (SHI ELDING 40 PURGE 20)	712			A
(10)								02-07-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA HEAT # CB7996	712			A
(20)								02-07-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS W/ SS WOOL	712			A
(30)								02-07-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER # 683	712			A
(40)								02-07-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390-P PPL .093 RANGE	712			A
(50)								02-07-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 27

Date of Inspection:02/07/2004

Type of Material:625 INCONEL

NDT#:7943

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:43 -Op:90 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 1-3 Part Name: PANEL 1-3 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PAR 6.29.1
--	---

Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
--

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
COVER PASS INSIDE WELD ASSEMBLY 1-3

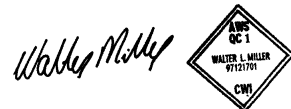
Notes:

PERFORMED THE VISUAL INSPECTION OF THE COVER PASS ON THE INSED WELD JOINT OF ASSEMBLY 1-3 WELDER #683 PERFORMED THIS TASK. THERE WAS NO REJECTABLE INDICATIONS FOUND.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

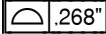
Date: 02/07/2004



Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 28

Workorder: 64880/1-0 Sub:43 Op:100

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .268"		QA		4470	PANEL #1 +0.008 / +0.087 PANEL #3 +0.023 / +0.072	522			A
(10)		Profile Tolerance (+.188/-.080") (tack welded vessel)						02-07-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-07-0			

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 29

Workorder: 64880/1-0 Sub:43 Op:110

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			PURGE SETTINGS (4 0 SHIELDING 20 PURG E)	712			A
(10)								02-09-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA HEAT # AV8 128	712			A
(20)								02-09-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS- WOOL	712			A
(30)								02-09-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683	712			A
(40)								02-09-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTED PER 1/16 D IA (BACK GRING PASS) WPS390	712			A
(50)								02-09-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 30

Date of Inspection:02/09/2004

Type of Material:625 INCONEL

NDT#:7952

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:43 -Op:110 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 1-3 Part Name: PANEL 1-3 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS.D1.6 SECTION 629.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
--

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
BACK GRIND / ROOT PASS

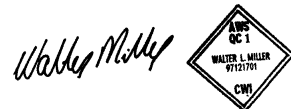
Notes:

PERFORMED THE INSPECTION OF THE BACK GRIND PERP. AND THE WELDING OF THE ROOT PASS 2ND SIDE. WELD OPERATOR #683 PERFORMED THE WELDING. THERE WAS NO REJECTABLE INDICATIONS FOUND AT INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

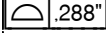
Date: 02/09/2004



Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 31

Workorder: 64880/1-0 Sub:43 Op:120

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .288"		QA		4470	PANEL #1 -0.022 / +0.033 PANEL #3 -0.027 / +0.041	522			A
(10)		Profile Tolerance (+.188/-.100") (tack welded vessel)						02-09-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-09-0			

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 32

Workorder: 64880/1-0 Sub:43 Op:130

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURGE 20 SHIELDING 40)	712			A
(10)									02-09-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA HEAT # CB7 996	712			A
(20)									02-09-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES W/ SS -W OOL	712			A
(30)									02-09-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683	712			A
(40)									02-09-0		
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEOT PER WPS 390 W/ .093 DIA WIRE	712			A
(50)									02-09-0		



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 33

Date of Inspection:02/09/2004

Type of Material:625 INCONEL

NDT#:7959

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS- WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	--	---	---	--

Part Information: MTM Job Number: 64880/1.0 -Sub:43 -Op:130 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 1-3 Part Name: PANEL 1-3 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
COVER PASS SECOND SIDE (OUTSIDE)

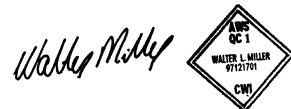
Notes:

PERFORMED THE INSPECTION OF THE FINAL COVER WELD ON THE OUTSIDE OF PART. OPERATOR 683 PERFORMED THE WELDING PER W.P.S.390 NO REJECTABLE INDICATION WAS FOUND AT THIS INSPECTION POINT. WELDMENT 1-3 ASSEMBLY.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

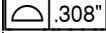
Date: 02/09/2004



Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 34

Workorder: 64880/1-0 Sub:43 Op:140

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .308"		QA		4470	P #1 (W +0.006/-0.049)(F +0.079/-0.002)-P#3 (W +0.026/-0.047)(F +0.088/+0.002)	522			A
(10)		Profile Tolerance (+.188/-.120") (tack welded vessel)						02-09-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-09-0			

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: **SE121-001P-1MTM Rev: 0B**

Inspection type: Formed Panel Interpass (#) * After structural welding * After welding Port Final Inspection

Part # / Panel #: **SE121-001P PANEL #1** Gage/Std S/N(s): **4470 / J-1009-NDT / J-1165** Date of Inspection: **02/10/04**

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.050	0.377	LESS THAN 1.01	N/A		44	0.070	0.384	LESS THAN 1.01	N/A	
2	0.037	0.378	LESS THAN 1.01	N/A		45	0.074	0.383	LESS THAN 1.01	N/A	
3	0.024	0.378	LESS THAN 1.01	N/A		46	0.075	0.382	LESS THAN 1.01	N/A	
4	0.014	0.379	LESS THAN 1.01	N/A		47	0.073	0.381	LESS THAN 1.01	N/A	
5	0.006	0.378	LESS THAN 1.01	N/A		48	0.069	0.382	LESS THAN 1.01	N/A	
6	-0.002	0.379	LESS THAN 1.01	N/A		49	0.063	0.383	LESS THAN 1.01	N/A	
7	-0.006	0.378	LESS THAN 1.01	N/A		50	0.057	0.381	LESS THAN 1.01	N/A	
8	-0.013	0.378	LESS THAN 1.01	N/A		51	0.053	0.382	LESS THAN 1.01	N/A	
9	-0.017	0.379	LESS THAN 1.01	N/A		52	0.048	0.382	LESS THAN 1.01	N/A	
10	-0.020	0.380	LESS THAN 1.01	N/A		53	0.043	0.381	LESS THAN 1.01	N/A	
11	-0.021	0.379	LESS THAN 1.01	N/A		54	0.040	0.382	LESS THAN 1.01	N/A	
12	-0.019	0.378	LESS THAN 1.01	N/A		55	0.045	0.378	LESS THAN 1.01	N/A	
13	-0.014	0.380	LESS THAN 1.01	N/A		56	0.052	0.379	LESS THAN 1.01	N/A	
14	-0.002	0.380	LESS THAN 1.01	N/A		57	0.051	0.382	LESS THAN 1.01	N/A	
15	0.016	0.381	LESS THAN 1.01	N/A		58	0.045	0.380	LESS THAN 1.01	N/A	
16	0.031	0.380	LESS THAN 1.01	N/A		59	0.035	0.382	LESS THAN 1.01	N/A	
17	0.035	0.379	LESS THAN 1.01	N/A		60	0.059	0.381	LESS THAN 1.01	N/A	
18	0.028	0.380	LESS THAN 1.01	N/A		61	0.076	0.383	LESS THAN 1.01	N/A	
19	0.017	0.381	LESS THAN 1.01	N/A		62	0.063	0.384	LESS THAN 1.01	N/A	
20	0.010	0.382	LESS THAN 1.01	N/A		63	0.031	0.384	LESS THAN 1.01	N/A	
21	0.006	0.383	LESS THAN 1.01	N/A		64	0.016	0.383	LESS THAN 1.01	N/A	
22	0.005	0.381	LESS THAN 1.01	N/A		65	0.081	0.380	LESS THAN 1.01	N/A	
23	0.003	0.381	LESS THAN 1.01	N/A		66	0.073	0.382	LESS THAN 1.01	N/A	
24	-0.002	0.381	LESS THAN 1.01	N/A		67	0.067	0.384	LESS THAN 1.01	N/A	
25	-0.005	0.381	LESS THAN 1.01	N/A		68	0.005	0.382	LESS THAN 1.01	N/A	
26	-0.003	0.379	LESS THAN 1.01	N/A		69	0.091	0.385	LESS THAN 1.01	N/A	
27	-0.002	0.379	LESS THAN 1.01	N/A		70	0.062	0.385	LESS THAN 1.01	N/A	
28	-0.005	0.376	LESS THAN 1.01	N/A		71	0.067	0.382	LESS THAN 1.01	N/A	
29	-0.014	0.374	LESS THAN 1.01	N/A		72	0.104	0.381	LESS THAN 1.01	N/A	
30	-0.027	0.380	LESS THAN 1.01	N/A		73	0.046	0.384	LESS THAN 1.01	N/A	
31	-0.036	0.382	LESS THAN 1.01	N/A		74	0.084	0.383	LESS THAN 1.01	N/A	
32	-0.039	0.383	LESS THAN 1.01	N/A		75	0.067	0.383	LESS THAN 1.01	N/A	
33	-0.027	0.382	LESS THAN 1.01	N/A		76	0.062	0.383	LESS THAN 1.01	N/A	
34	0.023	0.383	LESS THAN 1.01	N/A		77	0.069	0.382	LESS THAN 1.01	N/A	
35	0.026	0.384	LESS THAN 1.01	N/A		78	0.059	0.381	LESS THAN 1.01	N/A	
36	0.029	0.384	LESS THAN 1.01	N/A		79	0.034	0.379	LESS THAN 1.01	N/A	
37	0.029	0.385	LESS THAN 1.01	N/A		80	0.047	0.380	LESS THAN 1.01	N/A	
38	0.029	0.384	LESS THAN 1.01	N/A		81	0.094	0.382	LESS THAN 1.01	N/A	
39	0.035	0.383	LESS THAN 1.01	N/A		82	0.060	0.385	LESS THAN 1.01	N/A	
40	0.048	0.385	LESS THAN 1.01	N/A		83	0.064	0.384	LESS THAN 1.01	N/A	
41	0.056	0.385	LESS THAN 1.01	N/A		84	0.049	0.384	LESS THAN 1.01	N/A	
42	0.063	0.384	LESS THAN 1.01	N/A		85	0.026	0.385	LESS THAN 1.01	N/A	
43	0.067	0.385	LESS THAN 1.01	N/A		86	0.081	0.381	LESS THAN 1.01	N/A	

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) ~~After structural welding~~ After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #1

Gage/Std S/N(s): 4470 / J-1009-NDT / J-1165

Date of Inspection: 02/10/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	
87	0.044	0.384	LESS THAN 1.01	N/A		126						
88	0.007	0.383	LESS THAN 1.01	N/A		127						
89	0.064	0.378	LESS THAN 1.01	N/A		128						
90	0.047	0.384	LESS THAN 1.01	N/A		129						
91	0.032	0.384	LESS THAN 1.01	N/A		130						
92	0.031	0.383	LESS THAN 1.01	N/A		131						
93	0.035	0.382	LESS THAN 1.01	N/A		132						
94	0.030	0.384	LESS THAN 1.01	N/A		133						
95	0.030	0.381	LESS THAN 1.01	N/A		134						
96						135						
97						136						
98						137						
99						138						
100						139						
101					140							
102					141							
103					142							
104					143							
105					144							
106					145							
107					146							
108					147							
109					148							
110					149							
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121					160							
122					161							
123					162							
124					163							
125					164							

64880 PPPL NCSX PVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) *After structural welding* After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #3

Gage/Std S/N(s): 4470 / J-1009-NDT / J-1165

Date of Inspection: 02/10/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.032	0.379	LESS THAN 1.01	N/A		44	-0.038	0.382	LESS THAN 1.01	N/A	
2	0.031	0.378	LESS THAN 1.01	N/A		45	-0.040	0.381	LESS THAN 1.01	N/A	
3	0.030	0.380	LESS THAN 1.01	N/A		46	-0.039	0.380	LESS THAN 1.01	N/A	
4	0.027	0.380	LESS THAN 1.01	N/A		47	-0.035	0.380	LESS THAN 1.01	N/A	
5	0.025	0.381	LESS THAN 1.01	N/A		48	-0.028	0.382	LESS THAN 1.01	N/A	
6	0.023	0.380	LESS THAN 1.01	N/A		49	-0.022	0.385	LESS THAN 1.01	N/A	
7	0.019	0.381	LESS THAN 1.01	N/A		50	-0.012	0.383	LESS THAN 1.01	N/A	
8	0.012	0.380	LESS THAN 1.01	N/A		51	0.081	0.382	LESS THAN 1.01	N/A	
9	0.007	0.379	LESS THAN 1.01	N/A		52	0.083	0.382	LESS THAN 1.01	N/A	
10	0.007	0.379	LESS THAN 1.01	N/A		53	0.080	0.384	LESS THAN 1.01	N/A	
11	0.003	0.378	LESS THAN 1.01	N/A		54	0.041	0.381	LESS THAN 1.01	N/A	
12	0.002	0.378	LESS THAN 1.01	N/A		55	0.022	0.385	LESS THAN 1.01	N/A	
13	0.000	0.378	LESS THAN 1.01	N/A		56	0.085	0.384	LESS THAN 1.01	N/A	
14	0.000	0.378	LESS THAN 1.01	N/A		57	0.061	0.381	LESS THAN 1.01	N/A	
15	0.003	0.377	LESS THAN 1.01	N/A		58	0.069	0.384	LESS THAN 1.01	N/A	
16	0.008	0.378	LESS THAN 1.01	N/A		59	0.117	0.385	LESS THAN 1.01	N/A	
17	0.013	0.378	LESS THAN 1.01	N/A		60	0.098	0.384	LESS THAN 1.01	N/A	
18	0.069	0.378	LESS THAN 1.01	N/A		61	0.092	0.378	LESS THAN 1.01	N/A	
19	0.065	0.381	LESS THAN 1.01	N/A		62	0.100	0.379	LESS THAN 1.01	N/A	
20	0.056	0.380	LESS THAN 1.01	N/A		63	0.098	0.379	LESS THAN 1.01	N/A	
21	0.042	0.380	LESS THAN 1.01	N/A		64	0.041	0.380	LESS THAN 1.01	N/A	
22	0.029	0.381	LESS THAN 1.01	N/A		65	0.061	0.380	LESS THAN 1.01	N/A	
23	0.018	0.380	LESS THAN 1.01	N/A		66	0.102	0.383	LESS THAN 1.01	N/A	
24	0.008	0.380	LESS THAN 1.01	N/A		67	0.102	0.383	LESS THAN 1.01	N/A	
25	0.000	0.381	LESS THAN 1.01	N/A		68	0.068	0.379	LESS THAN 1.01	N/A	
26	-0.003	0.381	LESS THAN 1.01	N/A		69	0.114	0.379	LESS THAN 1.01	N/A	
27	-0.006	0.380	LESS THAN 1.01	N/A		70	0.091	0.381	LESS THAN 1.01	N/A	
28	-0.005	0.380	LESS THAN 1.01	N/A		71	0.069	0.379	LESS THAN 1.01	N/A	
29	-0.005	0.381	LESS THAN 1.01	N/A		72	0.008	0.378	LESS THAN 1.01	N/A	
30	-0.005	0.380	LESS THAN 1.01	N/A		73	0.078	0.384	LESS THAN 1.01	N/A	
31	-0.004	0.380	LESS THAN 1.01	N/A		74	0.092	0.385	LESS THAN 1.01	N/A	
32	-0.004	0.379	LESS THAN 1.01	N/A		75	0.048	0.383	LESS THAN 1.01	N/A	
33	-0.003	0.380	LESS THAN 1.01	N/A		76	0.045	0.383	LESS THAN 1.01	N/A	
34	-0.004	0.380	LESS THAN 1.01	N/A		77	0.089	0.379	LESS THAN 1.01	N/A	
35	-0.004	0.380	LESS THAN 1.01	N/A		78	0.085	0.382	LESS THAN 1.01	N/A	
36	-0.003	0.381	LESS THAN 1.01	N/A		79	0.059	0.381	LESS THAN 1.01	N/A	
37	-0.002	0.382	LESS THAN 1.01	N/A		80	0.013	0.382	LESS THAN 1.01	N/A	
38	-0.004	0.380	LESS THAN 1.01	N/A		81	0.050	0.381	LESS THAN 1.01	N/A	
39	-0.007	0.381	LESS THAN 1.01	N/A		82	0.024	0.380	LESS THAN 1.01	N/A	
40	-0.012	0.381	LESS THAN 1.01	N/A		83	0.044	0.379	LESS THAN 1.01	N/A	
41	-0.018	0.381	LESS THAN 1.01	N/A		84	0.075	0.383	LESS THAN 1.01	N/A	
42	-0.026	0.381	LESS THAN 1.01	N/A		85	0.057	0.385	LESS THAN 1.01	N/A	
43	-0.032	0.382	LESS THAN 1.01	N/A		86	0.018	0.386	LESS THAN 1.01	N/A	

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) ~~After structural welding~~ After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #3

Gage/Std S/N(s): 4470 / J-1009-NDT / J-1165

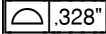
Date of Inspection: 02/10/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
87	0.039	0.385	LESS THAN 1.01	N/A	NTM 02/10/04	126					
88	0.038	0.380	LESS THAN 1.01	N/A		127					
89	-0.022	0.383	LESS THAN 1.01	N/A		128					
90	0.076	0.382	LESS THAN 1.01	N/A		129					
91	0.055	0.382	LESS THAN 1.01	N/A		130					
92	0.071	0.384	LESS THAN 1.01	N/A		131					
93	0.060	0.380	LESS THAN 1.01	N/A		132					
94	0.059	0.381	LESS THAN 1.01	N/A		133					
95	0.065	0.383	LESS THAN 1.01	N/A		134					
96	0.031	0.382	LESS THAN 1.01	N/A		135					
97	0.014	0.379	LESS THAN 1.01	N/A	136						
98	0.000	0.381	LESS THAN 1.01	N/A	137						
99					138						
100					139						
101					140						
102					141						
103					142						
104					143						
105					144						
106					145						
107					146						
108					147						
109					148						
110					149						
111					150						
112					151						
113					152						
114					153						
115					154						
116					155						
117					156						
118					157						
119					158						
120					159						
121					160						
122					161						
123					162						
124					163						
125					164						

Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 37

Workorder: 64880/1-0 Sub:43 Op:160

Part: SE121-001P 1-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .328"		QA		4470	PANEL #1 +0.140 / -0.039 PANEL #3 +0.117 / -0.040	522			A
(10)		Profile Tolerance (+.188/-.120") (tack welded vessel)						02-11-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-11-0			



MQS Inspection, Inc.

5307 West 86th Street
 Indianapolis, IN 46268
 Phone: 317-872-8196
 Fax: 317-872-4796

MQS W.O.# 371-F0004

RADIOGRAPHIC REPORT: Page 1 of 2

DATE: 3/11/04

Customer: Major Tool & Machine
1458 E. 19th St.
Indpls, IN.

Customer's P.O. No.: _____
 Job Location: Same

Item Description: SE 21-001P 1-3
 100% Insp. _____ Spot Insp. _____

SERIAL NO. or PIECE NO.: 64880/1.0/43/180/818

Weld No.	Weld No.	ACC.	REJ.	CODE	REMARKS
	<u>0-1</u>	<u>✓</u>			
	<u>1-2</u>	<u>✓</u>			
	<u>2-3</u>	<u>✓</u>			

TECHNIQUE DATA

Inspection Specification: ASME VIII div.1 UWS1
 Acceptance Standard: ASME VIII div.1 UWS1
 RT Procedure No.: 20.A.100
 RT Technique Used Below: E

Diagram A: Pipe with source and film. *SOURCE, PENE., FILM

Diagram B: Pipe with source and film. *SOURCE, PENE.

Diagram C: Pipe with source and film. *SOURCE

Diagram D: Pipe with source and film. SOURCE, FILM, PENE.

Diagram E: Pipe with source and film. SOURCE, PENE.

SOURCE POSITIONED IN CENTER OF PIPE

MATERIAL: 625 Inconel
 PIPE SIZE: N/A WALL THICKNESS: .375"
 WELD PROCESS: STAW GTAW GMAW
 SOURCE: ISOTOPE: Ir 192 CURIE: 28 KVP/MA: N/A
 PHYSICAL SIZE: .154"
 EXPOSURE TIME: 1:25 SPD: 12"
 FILM/OBJECT INCHES: contact
 GEOMETRIC UNSHARPNESS: ≤.020"
 PENETRATOR: TYPE SIZE: ASTM 1B
 MATERIAL: FS PLACEMENT: FS
 SHIMS: MATERIAL: N/A THICKNESS: N/A
 MARKER/NO BELT: Pb #5
 FILM: BRAND: Kodak TYPE: AA
 SIZE: 4.5" x 17" LOAD: Single
 EMULSION(S): N/A
 SCREENS: FRONT: 0.03" BACK: 0.03" BACKING: N/A
 VIEWING: SINGLE: ✓ DOUBLE: _____
 DENSITY (PEN.) 2.0-4.0
 DENSITY (WELD) MIN/MAX: 2.0-4.0

CODE

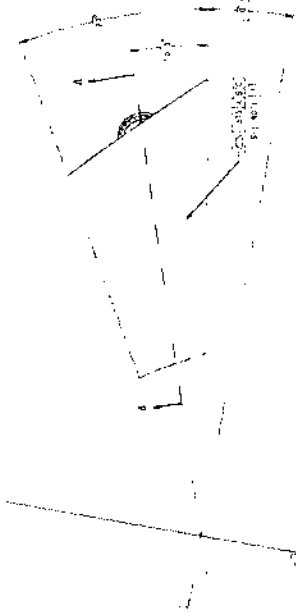
P - Porosity	SI - Slag Inclusions	TI - Tungsten Inclusion
C - Crack	BT - Burn Through	CV - Root Concavity
F - Incomplete Fusion	MT - Melt Through	CX - Root Convexity
IP - Incomplete Penetration	UC - Undercut	OX - Oxidation
S - Surface		

1. Robert Weaver 2/11/04
 RADIOGRAPHER

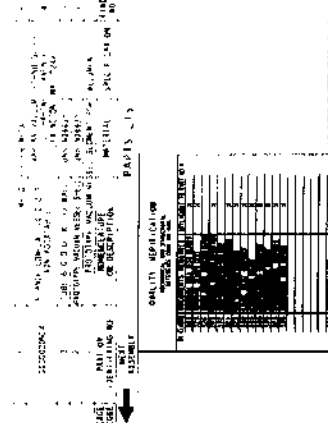
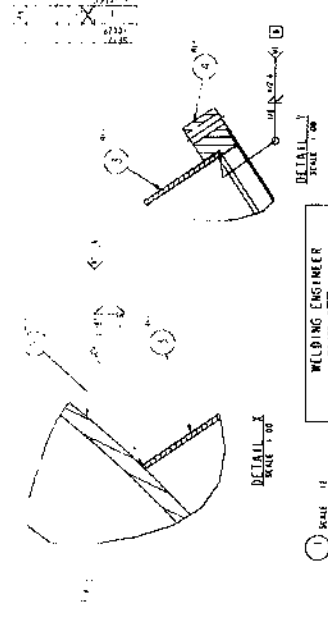
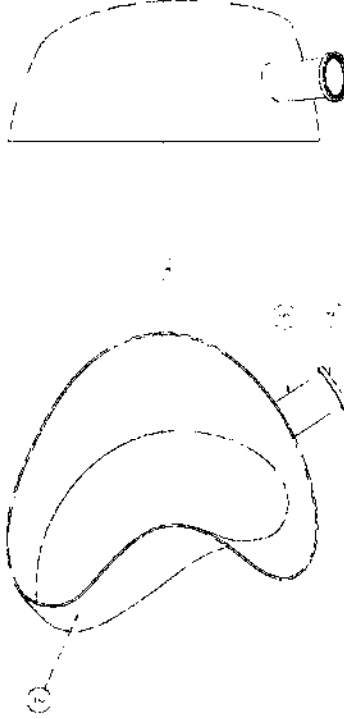
1. Robert Weaver
 INTERPRETER
D. Edwards 2/11/04

NOTES:
 1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 3. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 4. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 5. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 6. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 7. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 8. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 9. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 10. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

C4880/1.0/43/RS08R
 SE 101-001P 1-3
 2/11/04
 Page 2 of 2



SOME VIEW



NO.	DESCRIPTION	DATE	BY	CHECKED
1	DESIGN	2/11/04	J. SMITH	M. JONES
2	REVISION			
3	REVISION			
4	REVISION			
5	REVISION			
6	REVISION			
7	REVISION			
8	REVISION			
9	REVISION			
10	REVISION			

SECTION A-A
 1:10
 WELDING ENGINEER
 APPROVED: [Signature] DATE: [Date]

QUALITY APPLICATION
 SECTION A-A
 1:10
 WELDING ENGINEER
 APPROVED: [Signature] DATE: [Date]

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 40

Workorder: 64880/1-0 Sub:45 Op:10

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Verify Panel Joint Alignment Weld Seam # 2-5 (.02" Max)		MFG		J1149	CONTOUR FIT UP MAX .010	712	712		A
(10)				CWI				02-12-0	02-12-0		
*		Verify Panel / Rest Stop Position Panel #2 (0 - .09" Gap)		MFG		J-1149	MAX GAP OF PANEL 2 .060	712			A
(20)								02-12-0			
*		Verify Panel / Rest Stop Position Panel #5 (0 - .09" Gap)		MFG		J-1149	MAX. GAP OF PANEL # 5 .062	712			A
(30)								02-12-0			
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (40 S HIELDING 20 PURGE)	712			A
(40)								02-12-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA HEAT # AV8 128	712			A
(50)								02-12-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS W/ SS WOOL	712			A
(60)								02-12-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683 PERFOR ED WELDING	712			A
(70)								02-12-0			
*				QA			ACCEPT PER WPS 390	712			A



INSPECTION DATA CHECKLIST

(80)	CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION								02-12-0	
------	--	--	--	--	--	--	--	--	---------	--

04680 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#7/2) After structural welding After welding Port Final inspection

Part # / Panel #: SE121-001P PANEL #2 Gage/Std S/N(s): J-1009-NDT / J-1165 / 4470 Date of inspection: 02/12/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.017	0.386	LESS THAN 1.01	N/A	MTH 061	44	0.024	0.391	LESS THAN 1.01	N/A	MTH 061
2	0.023	0.387	LESS THAN 1.01	N/A		45	0.019	0.408	LESS THAN 1.01	N/A	
3	0.028	0.388	LESS THAN 1.01	N/A		46	0.006	0.385	LESS THAN 1.01	N/A	
4	0.034	0.385	LESS THAN 1.01	N/A		47	0.060	0.391	LESS THAN 1.01	N/A	
5	0.041	0.383	LESS THAN 1.01	N/A		48	0.054	0.379	LESS THAN 1.01	N/A	
6	0.049	0.383	LESS THAN 1.01	N/A		49	0.126	0.380	LESS THAN 1.01	N/A	
7	0.053	0.382	LESS THAN 1.01	N/A		50	0.068	0.379	LESS THAN 1.01	N/A	
8	0.059	0.383	LESS THAN 1.01	N/A		51	0.116	0.379	LESS THAN 1.01	N/A	
9	0.066	0.387	LESS THAN 1.01	N/A		52	0.061	0.382	LESS THAN 1.01	N/A	
10	0.072	0.383	LESS THAN 1.01	N/A		53	0.066	0.386	LESS THAN 1.01	N/A	
11	0.072	0.387	LESS THAN 1.01	N/A		54	0.053	0.384	LESS THAN 1.01	N/A	
12	0.067	0.387	LESS THAN 1.01	N/A		55	0.031	0.385	LESS THAN 1.01	N/A	
13	0.059	0.387	LESS THAN 1.01	N/A		56	0.055	0.389	LESS THAN 1.01	N/A	
14	0.053	0.386	LESS THAN 1.01	N/A	57						
15	0.039	0.389	LESS THAN 1.01	N/A	58						
16	0.027	0.385	LESS THAN 1.01	N/A	59						
17	0.017	0.386	LESS THAN 1.01	N/A	60						
18	0.011	0.385	LESS THAN 1.01	N/A	61						
19	0.007	0.383	LESS THAN 1.01	N/A	62						
20	0.004	0.385	LESS THAN 1.01	N/A	63						
21	0.000	0.386	LESS THAN 1.01	N/A	64						
22	-0.005	0.384	LESS THAN 1.01	N/A	65						
23	-0.006	0.384	LESS THAN 1.01	N/A	66						
24	-0.005	0.410	LESS THAN 1.01	N/A	67						
25	-0.003	0.407	LESS THAN 1.01	N/A	68						
26	0.032	0.405	LESS THAN 1.01	N/A	69						
27	0.035	0.407	LESS THAN 1.01	N/A	70						
28	0.043	0.396	LESS THAN 1.01	N/A	71						
29	0.038	0.395	LESS THAN 1.01	N/A	72						
30	0.019	0.394	LESS THAN 1.01	N/A	73						
31	0.016	0.396	LESS THAN 1.01	N/A	74						
32	0.018	0.396	LESS THAN 1.01	N/A	75						
33	0.036	0.394	LESS THAN 1.01	N/A	76						
34	0.058	0.391	LESS THAN 1.01	N/A	77						
35	0.062	0.389	LESS THAN 1.01	N/A	78						
36	0.060	0.389	LESS THAN 1.01	N/A	79						
37	0.059	0.388	LESS THAN 1.01	N/A	80						
38	0.056	0.387	LESS THAN 1.01	N/A	81						
39	0.052	0.386	LESS THAN 1.01	N/A	82						
40	0.046	0.385	LESS THAN 1.01	N/A	83						
41	0.040	0.383	LESS THAN 1.01	N/A	84						
42	0.037	0.397	LESS THAN 1.01	N/A	85						
43	0.031	0.398	LESS THAN 1.01	N/A	86						

64680 PPPL NCSX PVVS INSPECTION RECORD

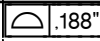
Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel		Interpass (#/A)		After structural welding		After welding Port		Final Inspection			
Part # / Panel #: SE121-001P PANEL #5		Gage/Std S/N(s): J-1009-NDT / J-1165 / 4470				Date of inspection: 02/12/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.039	0.430	LESS THAN 1.01	N/A	NTD	44	0.014	0.432	LESS THAN 1.01	N/A	NTD
2	0.029	0.431	LESS THAN 1.01	N/A		45	0.016	0.433	LESS THAN 1.01	N/A	
3	0.027	0.428	LESS THAN 1.01	N/A		46	0.078	0.422	LESS THAN 1.01	N/A	
4	0.040	0.426	LESS THAN 1.01	N/A		47	0.073	0.419	LESS THAN 1.01	N/A	
5	0.043	0.424	LESS THAN 1.01	N/A		48	0.048	0.419	LESS THAN 1.01	N/A	
6	0.036	0.426	LESS THAN 1.01	N/A		49	0.010	0.417	LESS THAN 1.01	N/A	
7	0.021	0.426	LESS THAN 1.01	N/A		50	-0.019	0.419	LESS THAN 1.01	N/A	
8	0.006	0.426	LESS THAN 1.01	N/A		51	0.046	0.420	LESS THAN 1.01	N/A	
9	-0.003	0.426	LESS THAN 1.01	N/A		52	0.071	0.414	LESS THAN 1.01	N/A	
10	0.000	0.426	LESS THAN 1.01	N/A		53	0.078	0.419	LESS THAN 1.01	N/A	
11	0.000	0.427	LESS THAN 1.01	N/A		54	0.051	0.410	LESS THAN 1.01	N/A	
12	-0.001	0.428	LESS THAN 1.01	N/A		55	0.057	0.409	LESS THAN 1.01	N/A	
13	-0.003	0.426	LESS THAN 1.01	N/A		56	0.017	0.410	LESS THAN 1.01	N/A	
14	0.000	0.427	LESS THAN 1.01	N/A		57	0.069	0.420	LESS THAN 1.01	N/A	
15	0.003	0.428	LESS THAN 1.01	N/A		58	0.095	0.424	LESS THAN 1.01	N/A	
16	0.004	0.425	LESS THAN 1.01	N/A		59	0.089	0.421	LESS THAN 1.01	N/A	
17	0.006	0.424	LESS THAN 1.01	N/A		60	0.054	0.407	LESS THAN 1.01	N/A	
18	0.010	0.426	LESS THAN 1.01	N/A		61	0.077	0.413	LESS THAN 1.01	N/A	
19	0.018	0.428	LESS THAN 1.01	N/A		62	0.068	0.421	LESS THAN 1.01	N/A	NTD
20	0.025	0.423	LESS THAN 1.01	N/A		63					
21	0.033	0.424	LESS THAN 1.01	N/A		64					
22	0.027	0.418	LESS THAN 1.01	N/A		65					
23	0.031	0.420	LESS THAN 1.01	N/A		66					
24	0.033	0.420	LESS THAN 1.01	N/A		67					
25	0.037	0.422	LESS THAN 1.01	N/A		68					
26	0.041	0.423	LESS THAN 1.01	N/A		69					
27	0.044	0.422	LESS THAN 1.01	N/A		70					
28	0.051	0.424	LESS THAN 1.01	N/A		71					
29	0.054	0.423	LESS THAN 1.01	N/A		72					
30	0.055	0.424	LESS THAN 1.01	N/A		73					
31	0.056	0.424	LESS THAN 1.01	N/A		74					
32	0.059	0.421	LESS THAN 1.01	N/A		75					
33	0.061	0.422	LESS THAN 1.01	N/A		76					
34	0.059	0.421	LESS THAN 1.01	N/A		77					
35	0.058	0.422	LESS THAN 1.01	N/A		78					
36	0.064	0.422	LESS THAN 1.01	N/A		79					
37	0.050	0.426	LESS THAN 1.01	N/A		80					
38	0.058	0.433	LESS THAN 1.01	N/A		81					
39	0.069	0.429	LESS THAN 1.01	N/A		82					
40	0.043	0.422	LESS THAN 1.01	N/A		83					
41	0.029	0.422	LESS THAN 1.01	N/A		84					
42	0.057	0.417	LESS THAN 1.01	N/A	NTD	85					
43	0.022	0.429	LESS THAN 1.01	N/A		86					

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 43

Workorder: 64880/1-0 Sub:45 Op:20

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NSCX-SOW-121-01-02 SPECIFICATION: NSCX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .188"		QA		4470	P #2 -0.006 / +0.12 6 P #5 -0.019 / +0. 095 [N/C:15054]	522			R
(10)		Upper Half Of Bilateral Tolerance (tack welded vessel)						02-12-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-12-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 44

Workorder: 64880/1-0 Sub:45 Op:30

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURG E 20 SHIELDING 40)	712			A
(10)								02-12-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA HEAT #AV81 28	712			A
(20)								02-12-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS W/ SS WOOL	712			A
(30)								02-12-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER 683	712			A
(40)								02-12-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390 WITH .062 FILLER	712			A
(50)								02-12-0			



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1458 E. 19th Street, Indianapolis, In 46218
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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 45

Date of Inspection:02/12/2004

Type of Material:625 INCONEL

NDT#:7982

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	--	--	---	--

Part Information: MTM Job Number: 64880/1.0 -Sub:45 -Op:30 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5 Part Name: PANEL 2-5 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
INSPECTION OF ROOT PASS INSIDE WELD

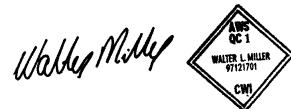
Notes:

PERFORMED THE INSPECTION OF THE INSIDE ROOT PASS ON ASSEMBLY 2-5 PANELS. OPERATOR 683 PERFORMED THE WELDING TO WPS 390. THERE WAS NO REJECTABLE INDICATION FOUND DURING THE INSPECTION.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

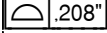
Date: 02/12/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 46

Workorder: 64880/1-0 Sub:45 Op:40

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .208" Profile Tolerance (+.188 / -.020") (tack welded vessel)		QA		4470	P #2 +0.005 / +0.05 4 P #5 -0.018 / +0.039	522			A
(10)								02-12-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-12-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 47

Workorder: 64880/1-0 Sub:45 Op:50

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURGE E 20 SHIELDING 40)	712			A
(10)								02-12-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA HEAT #A V8128	712			A
(20)								02-12-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(30)								02-12-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683	712			A
(40)								02-12-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTED PER WPS 3 0 W/ .093 FILLER	712			A
(50)								02-12-0			

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S-04344-F
Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

48	45	50	Nondestructive Visual Test Certification #7985 - MTM WELD INSPECTION FORM
49	45	60	Inspection Data Checklist: 2 steps
50	45	70	Inspection Data Checklist: 5 steps
51	45	70	Nondestructive Visual Test Certification #7996 - MTM WELD INSPECTION FORM
52	45	80	Inspection Data Checklist: 2 steps
53	45	90	Inspection Data Checklist: 5 steps
54	45	90	Nondestructive Visual Test Certification #7997 - MTM WELD INSPECTION FORM
55	45	100	Inspection Data Checklist: 2 steps
56	45	110	Inspection Data Checklist: 5 steps
57	45	110	Nondestructive Visual Test Certification #8007 - MTM WELD INSPECTION FORM
58	45	120	Inspection Data Checklist: 2 steps
59	45	130	Inspection Data Checklist: 5 steps
60	45	130	Nondestructive Visual Test Certification #8010 - MTM WELD INSPECTION FORM
61	45	140	Inspection Data Checklist: 2 steps
62	45	160	Map(s): SE121-001P-1MTM - mc096253.tif
63	45	160	Map(s): SE121-001P-1MTM - mc096254.tif
64	45	160	Inspection Data Checklist: 2 steps

SE121-001P 2-5-4

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
65	41	10		Inspection Data Checklist: 8 steps
66	41	20		Map(s): SE121-001P-1MTM - mc096252.tif
67	41	20		Inspection Data Checklist: 2 steps
68	41	30		Inspection Data Checklist: 5 steps
69	41	30		Nondestructive Visual Test Certification #8019 - MTM WELD INSPECTION FORM
70	41	50		Inspection Data Checklist: 5 steps
71	41	50		Nondestructive Visual Test Certification #8020 - MTM WELD INSPECTION FORM
72	41	70		Inspection Data Checklist: 5 steps
73	41	70		Nondestructive Visual Test Certification #8021 - MTM WELD INSPECTION FORM
74	41	90		Inspection Data Checklist: 5 steps
75	41	90		Nondestructive Visual Test Certification #8031 - MTM WELD INSPECTION FORM
76	41	140		Inspection Data Checklist: 2 steps
77	41	150		Inspection Data Checklist: 5 steps
78	41	150		Nondestructive Visual Test Certification #8032 - MTM WELD INSPECTION FORM
79	41	155		Inspection Data Checklist: 5 steps
80	41	155		Nondestructive Visual Test Certification #8036 - MTM WELD INSPECTION FORM
81	41	160		Inspection Data Checklist: 2 steps
82	41	175		Map(s): SE121-001P-1MTM - MC096325.TIF
83	41	175		Map(s): SE121-001P-1MTM - MC096328.TIF
84	41	175		Map(s): SE121-001P-1MTM - MC096326.TIF
85	41	175		Inspection Data Checklist: 2 steps
86	41	180		Test Certification: RADIOGRAPHIC CERTIFICATE - mc096769.tif
87	41	180		Map(s): SE121-001P-1MTM - Same as Item #86



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 48

Date of Inspection:02/12/2004

Type of Material:625 INCONEL

NDT#:7985

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:45 -Op:50 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5 Part Name: PANEL 2-5 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
#1 FILL PASS INSIDE WELD

Notes:

PERFORMED THE INSPECTION OF FILL PASS ON THE INSIDE WELD OF DETAIL 2 TO 5 ASSEMBLY. WELDER #683 PERFORMED WELDING OF THIS PASS. THERE WAS NO REJECTABLE INDICATIONS FOUND DURING INSPECTION.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/12/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 49

Workorder: 64880/1-0 Sub:45 Op:60

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		{g ,228"} Profile Tolerance (+.188/-.040") (tack welded vessel)		QA		4470	P #2 +0.003 / +0.06 2 P #5 -0.008 / +0. 051	522			A
(10)								02-12-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-12-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 50

Workorder: 64880/1-0 Sub:45 Op:70

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTING 9 PURG E 20 SHIELDING 40)	712			A
(10)								02-13-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA WIRE HEAT # CB7996	712			A
(20)								02-13-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS MATER IAL W/ SS WOOL	712			A
(30)								02-13-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER # 683	712			A
(40)								02-13-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDED PER WPS 390 WITH .093 FILLER	712			A
(50)								02-13-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 51

Date of Inspection:02/13/2004

Type of Material:625 INCONEL

NDT#:7996

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Casting <input type="checkbox"/> Bar Stock <input type="checkbox"/> Plate <input type="checkbox"/> Forging <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:45 -Op:70 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5 Part Name: PANEL 2-5 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0	
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT	
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
 2ND FILL PASS INSIDE

Notes:

PERFORMED THE VISUAL INSPECTION OF THE INSIDE WELD FILL PASS #2. WELDER #683 PERFORMED THE WELDING TO WPS390. UPON INSPECTION THERE WAS NO REJECTABLE INDICATION FOUND.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/13/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 52

Workorder: 64880/1-0 Sub:45 Op:80

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,248") Profile Tolerance (+.188/-.060") (tack welded vessel)		QA		4470	P #2 0 +0.021 / +0. 085 P #5 +0.009 / + 0.081	522			A
(10)								02-13-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-13-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 53

Workorder: 64880/1-0 Sub:45 Op:90

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURG E 20 SHIELDING 40)	712			A
(10)								02-13-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER HEAT # CB7996	712			A
(20)								02-13-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS MATER IAL W/ SS WOOL	712			A
(30)								02-13-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683	712			A
(40)								02-13-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTED PER WPS 3 0 W/ .093 FILLER	712			A
(50)								02-13-0			



Major

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1458 E. 19th Street, Indianapolis, In 46218
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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 54

Date of Inspection:02/13/2004

Type of Material:625 INCONEL

NDT#:7997

Inspection Requirements:

Notes:

PERFORMED THE VISUAL INSPECTION ON THE INSIDE COVER WELD. (ASSEMBLY 2-5) WELD OPERATOR 683 PERFORMED THIS COVER PASS. THERE WAS NO REJECTABLE INDICATION FOUND AT THIS INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/13/2004

NDT003

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Page: 11

User ID: LONAKER Date: 04/15/04

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 55

Workorder: 64880/1-0 Sub:45 Op:100

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		{g ,268"} Profile Tolerance (+.188/-.080") (tack welded vessel)		QA		4470	P #2 +0.023 / +0.10 0 P #5 +0.034 / +0 .091	522			A
(10)								02-13-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-13-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 56

Workorder: 64880/1-0 Sub:45 Op:110

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURG E 20 SHIELDING 40)	712			A
(10)									02-13-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 FILLER HEAT # AV8128	712			A
(20)									02-13-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS W/ SS WOOL	712			A
(30)									02-13-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER 683	712			A
(40)									02-13-0		
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390 W/ .062 WIRE	712			A
(50)									02-13-0		



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 57

Date of Inspection:02/13/2004

Type of Material:625 INCONEL

NDT#:8007

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:45 -Op:110 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5 Part Name: PANEL 2-5 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
ROOT PASS OUTSIDE

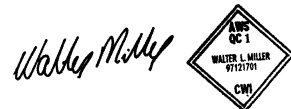
Notes:

PERFORMED THE INSPECTION ON THE BACK GOUGE PRIOR TO WELDING AND THE ROOT PASS ON THE OUTSIDE JOINT OF ASSEMBLY 2-5. WELDER # 683 PERFORMED THE WELDING TO WPS 390. THERE WAS NO INDICATION FOUND DURING THIS INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/13/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 58

Workorder: 64880/1-0 Sub:45 Op:120

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,288") Profile Tolerance (+.188/-.100") (tack welded vessel)		QA		4470	P #2 +0.008 / +0.07 8 P #5 +0.003 / +0.067	522			A
(10)								02-13-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-13-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 59

Workorder: 64880/1-0 Sub:45 Op:130

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PUR GE 20 SHIELDING 40)	712			A
(10)								02-13-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA HEAT #CB79 96	712			A
(20)								02-13-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS W/ SS WOOL	712			A
(30)								02-13-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER 683 PERFOR D WELDING	712			A
(40)								02-13-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390 WITH .093 DIA WIRE	712			A
(50)								02-13-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 60

Date of Inspection:02/13/2004

Type of Material:625 INCONEL

NDT#:8010

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:45 -Op:130 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5 Part Name: PANEL 2-5 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
COVER PASS OUTSIDE WELD

Notes:

PERFORMED THE INSPECTION OF THE COVER WELD ON THE OUTSIDE OF ASSEMBLY 2-5 THERE WAS NO INDICATION FOUND AT INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/13/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 61

Workorder: 64880/1-0 Sub:45 Op:140

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		{g ,308"} Profile Tolerance (+.188/-.120") (tack welded vessel)		QA		4470	P #2 +0.001 / +0.06 1 P #5 -0.023 / +0. 051	522			A
(10)								02-13-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-13-0			

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) (After structural welding) After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #2 Gage/Std S/N(s): 4470 / J-1165 / J-1009-NDT Date of Inspection: 02/14/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.018	0.390	LESS THAN 1.01	N/A	MTM 087	44	0.034	0.3.83	LESS THAN 1.01	N/A	MTM 087
2	0.024	0.387	LESS THAN 1.01	N/A		45	0.035	0.385	LESS THAN 1.01	N/A	
3	0.030	0.387	LESS THAN 1.01	N/A		46	0.034	0.387	LESS THAN 1.01	N/A	
4	0.038	0.387	LESS THAN 1.01	N/A		47	0.061	0.395	LESS THAN 1.01	N/A	
5	0.047	0.385	LESS THAN 1.01	N/A		48	0.040	0.400	LESS THAN 1.01	N/A	
6	0.058	0.383	LESS THAN 1.01	N/A		49	0.136	0.389	LESS THAN 1.01	N/A	
7	0.067	0.384	LESS THAN 1.01	N/A		50	0.080	0.411	LESS THAN 1.01	N/A	
8	0.073	0.384	LESS THAN 1.01	N/A		51	0.119	0.388	LESS THAN 1.01	N/A	
9	0.083	0.385	LESS THAN 1.01	N/A		52	0.070	0.392	LESS THAN 1.01	N/A	
10	0.091	0.384	LESS THAN 1.01	N/A		53	0.061	0.383	LESS THAN 1.01	N/A	
11	0.093	0.388	LESS THAN 1.01	N/A		54	0.064	0.378	LESS THAN 1.01	N/A	
12	0.090	0.387	LESS THAN 1.01	N/A		55	0.026	0.379	LESS THAN 1.01	N/A	
13	0.084	0.387	LESS THAN 1.01	N/A		56	0.043	0.380	LESS THAN 1.01	N/A	
14	0.078	0.388	LESS THAN 1.01	N/A		57					
15	0.066	0.389	LESS THAN 1.01	N/A		58					
16	0.051	0.390	LESS THAN 1.01	N/A		59					
17	0.040	0.389	LESS THAN 1.01	N/A		60					
18	0.033	0.386	LESS THAN 1.01	N/A		61					
19	0.025	0.383	LESS THAN 1.01	N/A		62					
20	0.020	0.385	LESS THAN 1.01	N/A		63					
21	0.016	0.384	LESS THAN 1.01	N/A		64					
22	0.013	0.383	LESS THAN 1.01	N/A		65					
23	0.009	0.385	LESS THAN 1.01	N/A		66					
24	0.007	0.385	LESS THAN 1.01	N/A		67					
25	0.008	0.385	LESS THAN 1.01	N/A		68					
26	0.019	0.409	LESS THAN 1.01	N/A		69					
27	0.023	0.410	LESS THAN 1.01	N/A		70					
28	0.027	0.406	LESS THAN 1.01	N/A		71					
29	0.016	0.402	LESS THAN 1.01	N/A		72					
30	0.005	0.397	LESS THAN 1.01	N/A		73					
31	0.013	0.395	LESS THAN 1.01	N/A		74					
32	0.024	0.394	LESS THAN 1.01	N/A		75					
33	0.057	0.395	LESS THAN 1.01	N/A		76					
34	0.070	0.398	LESS THAN 1.01	N/A		77					
35	0.066	0.395	LESS THAN 1.01	N/A		78					
36	0.065	0.391	LESS THAN 1.01	N/A		79					
37	0.063	0.390	LESS THAN 1.01	N/A		80					
38	0.058	0.390	LESS THAN 1.01	N/A		81					
39	0.051	0.389	LESS THAN 1.01	N/A		82					
40	0.041	0.385	LESS THAN 1.01	N/A		83					
41	0.040	0.387	LESS THAN 1.01	N/A		84					
42	0.040	0.385	LESS THAN 1.01	N/A		85					
43	0.033	0.384	LESS THAN 1.01	N/A		86					

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#)						After structural welding						After welding Port						Final Inspection					
Part # / Panel #: SE121-001P PANEL #5						Gage/Std S/N(s): 4470 / J-1165 / J-1009-NDT						Date of Inspection: 02/14/04											
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials						
1	0.034	0.428	LESS THAN 1.01	N/A		44	0.012	0.431	LESS THAN 1.01	N/A		44	0.012	0.431	LESS THAN 1.01	N/A							
2	0.022	0.430	LESS THAN 1.01	N/A		45	0.032	0.420	LESS THAN 1.01	N/A		45	0.032	0.420	LESS THAN 1.01	N/A							
3	0.031	0.426	LESS THAN 1.01	N/A		46	0.096	0.415	LESS THAN 1.01	N/A		46	0.096	0.415	LESS THAN 1.01	N/A							
4	0.042	0.428	LESS THAN 1.01	N/A		47	0.085	0.419	LESS THAN 1.01	N/A		47	0.085	0.419	LESS THAN 1.01	N/A							
5	0.040	0.423	LESS THAN 1.01	N/A		48	0.054	0.420	LESS THAN 1.01	N/A		48	0.054	0.420	LESS THAN 1.01	N/A							
6	0.027	0.423	LESS THAN 1.01	N/A		49	0.010	0.426	LESS THAN 1.01	N/A		49	0.010	0.426	LESS THAN 1.01	N/A							
7	0.009	0.424	LESS THAN 1.01	N/A		50	-0.035	0.428	LESS THAN 1.01	N/A		50	-0.035	0.428	LESS THAN 1.01	N/A							
8	-0.002	0.423	LESS THAN 1.01	N/A		51	0.038	0.425	LESS THAN 1.01	N/A		51	0.038	0.425	LESS THAN 1.01	N/A							
9	-0.010	0.423	LESS THAN 1.01	N/A		52	0.072	0.408	LESS THAN 1.01	N/A		52	0.072	0.408	LESS THAN 1.01	N/A							
10	-0.014	0.425	LESS THAN 1.01	N/A		53	0.087	0.404	LESS THAN 1.01	N/A		53	0.087	0.404	LESS THAN 1.01	N/A							
11	-0.017	0.424	LESS THAN 1.01	N/A		54	0.057	0.415	LESS THAN 1.01	N/A		54	0.057	0.415	LESS THAN 1.01	N/A							
12	-0.021	0.428	LESS THAN 1.01	N/A		55	0.064	0.423	LESS THAN 1.01	N/A		55	0.064	0.423	LESS THAN 1.01	N/A							
13	-0.020	0.424	LESS THAN 1.01	N/A		56	0.015	0.422	LESS THAN 1.01	N/A		56	0.015	0.422	LESS THAN 1.01	N/A							
14	-0.017	0.424	LESS THAN 1.01	N/A		57	0.061	0.423	LESS THAN 1.01	N/A		57	0.061	0.423	LESS THAN 1.01	N/A							
15	-0.014	0.428	LESS THAN 1.01	N/A		58	0.086	0.419	LESS THAN 1.01	N/A		58	0.086	0.419	LESS THAN 1.01	N/A							
16	-0.009	0.426	LESS THAN 1.01	N/A		59	0.092	0.407	LESS THAN 1.01	N/A		59	0.092	0.407	LESS THAN 1.01	N/A							
17	0.002	0.422	LESS THAN 1.01	N/A		60	0.060	0.414	LESS THAN 1.01	N/A		60	0.060	0.414	LESS THAN 1.01	N/A							
18	0.017	0.423	LESS THAN 1.01	N/A		61	0.082	0.420	LESS THAN 1.01	N/A		61	0.082	0.420	LESS THAN 1.01	N/A							
19	0.028	0.425	LESS THAN 1.01	N/A		62	0.069	0.422	LESS THAN 1.01	N/A		62	0.069	0.422	LESS THAN 1.01	N/A							
20	0.041	0.424	LESS THAN 1.01	N/A		63						63											
21	0.057	0.422	LESS THAN 1.01	N/A		64						64											
22	0.021	0.421	LESS THAN 1.01	N/A		65						65											
23	0.022	0.420	LESS THAN 1.01	N/A		66						66											
24	0.023	0.423	LESS THAN 1.01	N/A		67						67											
25	0.025	0.424	LESS THAN 1.01	N/A		68						68											
26	0.027	0.424	LESS THAN 1.01	N/A		69						69											
27	0.028	0.420	LESS THAN 1.01	N/A		70						70											
28	0.033	0.422	LESS THAN 1.01	N/A		71						71											
29	0.036	0.426	LESS THAN 1.01	N/A		72						72											
30	0.039	0.424	LESS THAN 1.01	N/A		73						73											
31	0.042	0.422	LESS THAN 1.01	N/A		74						74											
32	0.041	0.420	LESS THAN 1.01	N/A		75						75											
33	0.040	0.420	LESS THAN 1.01	N/A		76						76											
34	0.041	0.422	LESS THAN 1.01	N/A		77						77											
35	0.037	0.422	LESS THAN 1.01	N/A		78						78											
36	0.062	0.427	LESS THAN 1.01	N/A		79						79											
37	0.066	0.434	LESS THAN 1.01	N/A		80						80											
38	0.067	0.428	LESS THAN 1.01	N/A		81						81											
39	0.066	0.422	LESS THAN 1.01	N/A		82						82											
40	0.052	0.420	LESS THAN 1.01	N/A		83						83											
41	0.028	0.421	LESS THAN 1.01	N/A		84						84											
42	0.074	0.426	LESS THAN 1.01	N/A		85						85											
43	0.042	0.430	LESS THAN 1.01	N/A		86						86											

Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 64

Workorder: 64880/1-0 Sub:45 Op:160

Part: SE121-001P 2-5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		{g ,328"} Profile Tolerance (+.188/-.140") (tack welded vessel)		QA		4470	P #2 +0.005 / +0.13 6 P #5 -0.035 / +0. 096	522			A
(10)								02-17-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-17-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 65

Workorder: 64880/1-0 Sub:41 Op:10

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		Verify Panel Joint Alignment Weld Seam # 4-5 (.02" Max)		MFG			ACCEPT	712	712	A
(10)				CWI				02-16-0	02-16-0	
*		Verify Panel / Rest Stop Position Panel #4 (0 - .09" Gap)		MFG			.020	712		A
(20)								02-16-0		
*		Verify Panel / Rest Stop Position Panel Sub-Set #2-5 (0 - .09" Gap)		MFG			.080	712		A
(30)								02-16-0		
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PUR GE 20 SHIELDING 40)	712		A
(40)								02-16-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA HEAT #CB7 996	712		A
(50)								02-16-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712		A
(60)								02-16-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683	712		A
(70)								02-16-0		

INSPECTION DATA CHECKLIST

*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390 W/ .093 FILLER	712					A
(80)								02-16-0					

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#7ACK) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #4 Gage/Std S/N(s): 4470 / J-770-NDT / J-1165 Date of Inspection: 02/14/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.013	0.399	LESS THAN 1.01	N/A		44					
2	0.031	0.398	LESS THAN 1.01	N/A		45					
3	0.045	0.396	LESS THAN 1.01	N/A		46					
4	0.055	0.396	LESS THAN 1.01	N/A		47					
5	0.058	0.396	LESS THAN 1.01	N/A		48					
6	0.057	0.395	LESS THAN 1.01	N/A		49					
7	0.054	0.395	LESS THAN 1.01	N/A		50					
8	0.049	0.398	LESS THAN 1.01	N/A		51					
9	0.045	0.394	LESS THAN 1.01	N/A		52					
10	0.038	0.393	LESS THAN 1.01	N/A		53					
11	0.034	0.393	LESS THAN 1.01	N/A		54					
12	0.028	0.393	LESS THAN 1.01	N/A		55					
13	0.027	0.394	LESS THAN 1.01	N/A		56					
14	0.025	0.393	LESS THAN 1.01	N/A		57					
15	0.034	0.394	LESS THAN 1.01	N/A		58					
16	0.037	0.394	LESS THAN 1.01	N/A		59					
17	0.038	0.397	LESS THAN 1.01	N/A		60					
18	0.038	0.397	LESS THAN 1.01	N/A		61					
19	0.040	0.391	LESS THAN 1.01	N/A		62					
20	0.042	0.392	LESS THAN 1.01	N/A		63					
21	0.043	0.395	LESS THAN 1.01	N/A		64					
22	0.042	0.394	LESS THAN 1.01	N/A		65					
23	0.045	0.391	LESS THAN 1.01	N/A		66					
24	0.046	0.391	LESS THAN 1.01	N/A		67					
25	0.049	0.394	LESS THAN 1.01	N/A		68					
26	0.052	0.393	LESS THAN 1.01	N/A		69					
27	0.055	0.392	LESS THAN 1.01	N/A		70					
28	0.057	0.393	LESS THAN 1.01	N/A		71					
29	0.054	0.392	LESS THAN 1.01	N/A		72					
30	0.049	0.400	LESS THAN 1.01	N/A		73					
31	0.030	0.396	LESS THAN 1.01	N/A		74					
32	0.039	0.397	LESS THAN 1.01	N/A		75					
33	0.044	0.396	LESS THAN 1.01	N/A		76					
34	0.033	0.393	LESS THAN 1.01	N/A		77					
35	0.061	0.394	LESS THAN 1.01	N/A		78					
36	0.014	0.389	LESS THAN 1.01	N/A		79					
37	0.002	0.394	LESS THAN 1.01	N/A		80					
38	0.012	0.392	LESS THAN 1.01	N/A		81					
39						82					
40						83					
41						84					
42						85					
43						86					

4470
J-770

J-1165

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 67

Workorder: 64880/1-0 Sub:41 Op:20

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,188") Upper Half Of Bilateral Tolerance (tack welded vessel)		QA		4470	P #5 +0.003 / +0.03 5 P #4 +0.004 / +0. 057	522			A
(10)								02-17-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-17-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 68

Workorder: 64880/1-0 Sub:41 Op:30

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURGE 20 SHIELDING 40)	712			A
(10)									02-16-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WIRE .062 DIA HEAT # AV8128	712			A
(20)									02-16-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(30)									02-16-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER 709	712			A
(40)									02-16-0		
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTED PER WPS 3 0 W/ .062 FILLER	712			A
(50)									02-16-0		



Major

Tool & Machine, Inc.

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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 69

Date of Inspection:02/16/2004

Type of Material:625 INCONEL

NDT#:8019

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:41 -Op:30 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5-4 Part Name: PANEL 2-5-4 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
ROOT PASS SUB-ASSY 4-5 INSIDE

Notes:

PERFORMED THE INSPECTION OF THE ROOT PASS ON DETAILS 4-5 OPERATOR 709 PERFORMED THE WELDING OF THIS PASS UNDER WPS 390. THERE WAS NO INDICATIONS FOUND AT INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/16/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 70

Workorder: 64880/1-0 Sub:41 Op:50

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PUR GE 20 SHIELDING40)	712			A
(10)								02-16-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA HEAT # AV 8128	712			A
(20)								02-16-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/SS WOOL	712			A
(30)								02-16-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER 709	712			A
(40)								02-16-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390 WITH .062 DIA WIRE	712			A
(50)								02-16-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 71

Date of Inspection:02/16/2004

Type of Material:625 INCONEL

NDT#:8020

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:41 -Op:50 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5-4 Part Name: PANEL 2-5-4 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
FILL PASS #1 SUB-ASSY 4-5 INSIDE

Notes:

PERFORMED THE INSPECTION OF THE fill PASS ON DETAILS 4-5 OPERTATOR 709 PERFORMED THE WELDING OF THIS PASS UNDER WPS 390. w/ .062 FILLER THERE WAS NO INDICATIONS FOUND AT INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/16/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 72

Workorder: 64880/1-0 Sub:41 Op:70

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURGE 20 SHIELDING 40)	712			A
(10)									02-16-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER HEAT # CB7996	712			A
(20)									02-16-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(30)									02-16-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #709	712			A
(40)									02-16-0		
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTER PER WPS 3 0 W/ .093 FILLER	712			A
(50)									02-16-0		



Major

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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 73

Date of Inspection:02/16/2004

Type of Material:625 INCONEL

NDT#:8021

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:41 -Op:70 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5-4 Part Name: PANEL 2-5-4 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
FILL PASS #2 SUB-ASSY 4-5 INSIDE

Notes:

PERFORMED THE INSPECTION OF THE FILL PASS ON DETAILS 4-5 OPERTATOR 709 PERFORMED THE WELDING OF THIS PASS UNDER WPS 390. THERE WAS NO INDICATIONS FOUND AT INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/16/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 74

Workorder: 64880/1-0 Sub:41 Op:90

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTING (PURGE 20 SHIELDING 40)	712			A
(10)								02-17-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA HEAT # CB7 996	712			A
(20)								02-17-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(30)								02-17-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER # 709	712			A
(40)								02-17-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390 USINF .093 FILLER	712			A
(50)								02-17-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 75

Date of Inspection:02/17/2004

Type of Material:625 INCONEL

NDT#:8031

Inspection Requirements:

Inspector: 712-W.MILLER

Date: 02/16/2004

NDT003

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Page: 17

User ID: LONAKER Date: 04/15/04

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 76

Workorder: 64880/1-0 Sub:41 Op:140

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		{g ,268"} Profile Tolerance (+.188/-.080") (tack welded vessel)		QA		4470	P #5 +0.003 / +0.03 5 P #4 +0.004 / +0. 057	522			A
(10)								02-17-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-17-0			

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 77

Workorder: 64880/1-0 Sub:41 Op:150

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURG E 20 SHIELDING 40)	712			A
(10)								02-17-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIA HEAT # AV 8128	712			A
(20)								02-17-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(30)								02-17-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER # 709	712			A
(40)								02-17-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390 W/ .062 FILLER	712			A
(50)								02-17-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 78

Date of Inspection:02/17/2004

Type of Material:625 INCONEL

NDT#:8032

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:41 -Op:150 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5-4 Part Name: PANEL 2-5-4 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
BACK GRIND / ROOT PASS

Notes:

PERFORMED THE INSPECTION OF THE BACK GRIND ON THE OUTER JOINT OF DETAILS 4-5. BACK GRIND ACCEPTED. OPERTATOR 709 PERFORMED THE WELDING OF THIS PASS UNDER WPS 390. THERE WAS NO INDICATIONS FOUND AT INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/16/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 79

Workorder: 64880/1-0 Sub:41 Op:155

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURGE E 20 SHIELDING 40)	712			A
(10)								02-17-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA / HEAT #CB 7996	712			A
(20)								02-17-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(30)								02-17-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER # 709	712			A
(40)								02-17-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTED PER WPS 3 0 W/ .093 FILLER	712			A
(50)								02-17-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 80

Date of Inspection:02/17/2004

Type of Material:625 INCONEL

NDT#:8036

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:41 -Op:155 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P 2-5-4 Part Name: PANEL 2-5-4 SUB-SET Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
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Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
COVER PASS SUB-ASSY 4-5 OUTSIDE

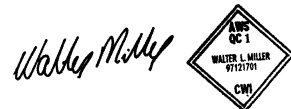
Notes:

PERFORMED THE INSPECTION OF THE COVER PASS ON DETAILS 4-5 OPERTATOR 709 PERFORMED THE WELDING OF THIS PASS UNDER WPS 390. THERE WAS NO INDICATIONS FOUND AT INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/16/2004



Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 81

Workorder: 64880/1-0 Sub:41 Op:160

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		{g ,328"} Profile Tolerance (+.188/-.140") (tack welded vessel)		QA		4470	P #4 -0.016 / +0.02 4 P #5 -0.019 / +0.018	522			A
(10)								02-17-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-17-0			

24880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 08

Inspection type: Formed Panel Interpass (#) (After structural welding) After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL # 2 Gage/Std S/N(s): 44707/J-770-NDT / J-1165 Date of Inspection: 02/17/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.053	0.385	LESS THAN 1.01	N/A	MTM	44	0.041	0.381	LESS THAN 1.01	N/A	MTM
2	0.060	0.387	LESS THAN 1.01	N/A		45	0.046	0.381	LESS THAN 1.01	N/A	MTM
3	0.067	0.385	LESS THAN 1.01	N/A		46	0.047	0.385	LESS THAN 1.01	N/A	
4	0.073	0.383	LESS THAN 1.01	N/A		47	0.091				
5	0.079	0.383	LESS THAN 1.01	N/A		48	0.061				
6	0.089	0.387	LESS THAN 1.01	N/A		49	0.164				
7	0.097	0.385	LESS THAN 1.01	N/A		50	0.096				
8	0.101	0.385	LESS THAN 1.01	N/A		51	0.140				
9	0.109	0.384	LESS THAN 1.01	N/A		52	0.078				
10	0.117	0.382	LESS THAN 1.01	N/A		53	0.072				
11	0.118	0.384	LESS THAN 1.01	N/A		54	0.071				
12	0.114	0.386	LESS THAN 1.01	N/A		55	0.034				MTM
13	0.106	0.387	LESS THAN 1.01	N/A		56	0.058				
14	0.099	0.383	LESS THAN 1.01	N/A		57					
15	0.087	0.383	LESS THAN 1.01	N/A		58					
16	0.070	0.388	LESS THAN 1.01	N/A		59					
17	0.057	0.385	LESS THAN 1.01	N/A		60					
18	0.047	0.388	LESS THAN 1.01	N/A		61					
19	0.040	0.383	LESS THAN 1.01	N/A		62					
20	0.033	0.380	LESS THAN 1.01	N/A		63					
21	0.025	0.385	LESS THAN 1.01	N/A		64					
22	0.019	0.382	LESS THAN 1.01	N/A		65					
23	0.013	0.381	LESS THAN 1.01	N/A		66					
24	0.012	0.381	LESS THAN 1.01	N/A		67					
25	0.009	0.383	LESS THAN 1.01	N/A		68					
26	0.030	0.404	LESS THAN 1.01	N/A		69					
27	0.031	0.405	LESS THAN 1.01	N/A		70					
28	0.031	0.404	LESS THAN 1.01	N/A		71					
29	0.021	0.401	LESS THAN 1.01	N/A		72					
30	0.013	0.395	LESS THAN 1.01	N/A		73					
31	0.018	0.391	LESS THAN 1.01	N/A		74					
32	0.027	0.393	LESS THAN 1.01	N/A		75					
33	0.055	0.394	LESS THAN 1.01	N/A		76					
34	0.077	0.394	LESS THAN 1.01	N/A		77					
35	0.078	0.392	LESS THAN 1.01	N/A		78					
36	0.076	0.390	LESS THAN 1.01	N/A		79					
37	0.072	0.389	LESS THAN 1.01	N/A		80					
38	0.067	0.386	LESS THAN 1.01	N/A		81					
39	0.059	0.386	LESS THAN 1.01	N/A		82					
40	0.052	0.385	LESS THAN 1.01	N/A		83					
41	0.046	0.383	LESS THAN 1.01	N/A		84					
42	0.045	0.383	LESS THAN 1.01	N/A	MTM	85					
43	0.043	0.382	LESS THAN 1.01	N/A		86					

94880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) (After structural welding) After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL # 5 Gage/Std S/N(s): 4470 / J-770-NDT / J-1185 Date of Inspection: 02/17/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.038	0.428	LESS THAN 1.01	N/A	STP	44	-0.003				STP
2	0.024	0.426	LESS THAN 1.01	N/A		45	0.013				
3	0.026	0.425	LESS THAN 1.01	N/A		46	0.088				
4	0.040	0.422	LESS THAN 1.01	N/A		47	0.079				
5	0.044	0.422	LESS THAN 1.01	N/A		48	0.045				
6	0.035	0.420	LESS THAN 1.01	N/A		49	-0.003				
7	0.020	0.423	LESS THAN 1.01	N/A		50	0.042				
8	0.007	0.424	LESS THAN 1.01	N/A		51	0.014				
9	0.001	0.421	LESS THAN 1.01	N/A		52	0.050				
10	-0.010	0.422	LESS THAN 1.01	N/A		53	0.075				
11	-0.011	0.422	LESS THAN 1.01	N/A		54	0.050				
12	-0.015	0.422	LESS THAN 1.01	N/A		55	0.058				
13	-0.017	0.424	LESS THAN 1.01	N/A		56	-0.002				
14	-0.015	0.423	LESS THAN 1.01	N/A		57	0.054				
15	-0.009	0.426	LESS THAN 1.01	N/A		58	0.063				
16	-0.002	0.424	LESS THAN 1.01	N/A		59	0.069				
17	0.007	0.420	LESS THAN 1.01	N/A		60	0.048				
18	0.018	0.421	LESS THAN 1.01	N/A		61	0.079				MTM
19	0.031	0.423	LESS THAN 1.01	N/A		62	0.069				
20	0.044	0.423	LESS THAN 1.01	N/A		63					
21	0.063	0.422	LESS THAN 1.01	N/A		64					
22	0.031	0.416	LESS THAN 1.01	N/A		65					
23	0.028	0.417	LESS THAN 1.01	N/A		66					
24	0.016	0.417	LESS THAN 1.01	N/A		67					
25	0.010	0.418	LESS THAN 1.01	N/A		68					
26	0.003	0.418	LESS THAN 1.01	N/A		69					
27	0.004	0.417	LESS THAN 1.01	N/A		70					
28	0.005	0.417	LESS THAN 1.01	N/A		71					
29	0.007	0.417	LESS THAN 1.01	N/A		72					
30	0.009	0.421	LESS THAN 1.01	N/A		73					
31	0.013	0.417	LESS THAN 1.01	N/A		74					
32	0.019	0.419	LESS THAN 1.01	N/A		75					
33	0.027	0.419	LESS THAN 1.01	N/A		76					
34	0.035	0.419	LESS THAN 1.01	N/A		77					
35	0.041	0.415	LESS THAN 1.01	N/A		78					
36	0.069					79					
37	0.065					80					
38	0.087					81					
39	0.088					82					
40	0.045					83					
41	0.026					84					
42	0.058					85					
43	0.039				STP	86					

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) (After structural welding) After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL # 4 Gage/Std S/N(s): 4470 / J-770-NDT / J-1165 Date of Inspection: 02/17/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.034	0.395	LESS THAN 1.01	N/A		44					
2	0.044	0.395	LESS THAN 1.01	N/A		45					
3	0.052	0.396	LESS THAN 1.01	N/A		46					
4	0.056	0.394	LESS THAN 1.01	N/A		47					
5	0.052	0.401	LESS THAN 1.01	N/A		48					
6	0.048	0.398	LESS THAN 1.01	N/A		49					
7	0.042	0.395	LESS THAN 1.01	N/A		50					
8	0.037	0.396	LESS THAN 1.01	N/A		51					
9	0.032	0.394	LESS THAN 1.01	N/A		52					
10	0.027	0.394	LESS THAN 1.01	N/A		53					
11	0.022	0.394	LESS THAN 1.01	N/A		54					
12	0.016	0.391	LESS THAN 1.01	N/A		55					
13	0.017	0.392	LESS THAN 1.01	N/A		56					
14	0.023	0.393	LESS THAN 1.01	N/A		57					
15	0.052	0.398	LESS THAN 1.01	N/A		58					
16	0.055	0.397	LESS THAN 1.01	N/A		59					
17	0.059	0.396	LESS THAN 1.01	N/A		60					
18	0.062	0.398	LESS THAN 1.01	N/A		61					
19	0.064	0.396	LESS THAN 1.01	N/A		62					
20	0.068	0.399	LESS THAN 1.01	N/A		63					
21	0.069	0.395	LESS THAN 1.01	N/A		64					
22	0.071	0.397	LESS THAN 1.01	N/A		65					
23	0.076	0.393	LESS THAN 1.01	N/A		66					
24	0.077	0.396	LESS THAN 1.01	N/A		67					
25	0.083	0.394	LESS THAN 1.01	N/A		68					
26	0.086	0.395	LESS THAN 1.01	N/A		69					
27	0.090	0.396	LESS THAN 1.01	N/A		70					
28	0.088	0.396	LESS THAN 1.01	N/A		71					
29	0.084	0.398	LESS THAN 1.01	N/A		72					
30	0.079	0.396	LESS THAN 1.01	N/A		73					
31	0.056					74					
32	0.071					75					
33	0.077					76					
34	0.053					77					
35	0.089					78					
36	0.041					79					
37	0.021					80					
38	0.023					81					
39						82					
40						83					
41						84					
42						85					
43						86					

4470
J-770

4470
J-770

Quality Assurance Documentation for Part ID: SE121-001P 2-5-4 - Item: 85

Workorder: 64880/1-0 Sub:41 Op:175

Part: SE121-001P 2-5-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,288") Profile Tolerance (+.188/-.140") (tack welded vessel)		QA		4470	P #2 +0.009 / +0.16 4 P #4 +0.016 / +0 .090 P #5 -0.017 / +0.088	522			A
(10)								02-18-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-18-0			



MQS Inspection, Inc.

5307 West 86th Street
 Indianapolis, IN 46268
 Phone: 317-872-8196
 Fax: 317-872-4798

MQS W.D.# 371-F0004 RADIOGRAPHIC REPORT: Page 1 of 2

DATE: 2/18/04

Customer: Major Tool & Machine
 1458 E. 19th St.
 Indianapolis, IN.

Customer's P.O. No.:

Job Location: Same

Item Description: SE121-001P 2-5-4

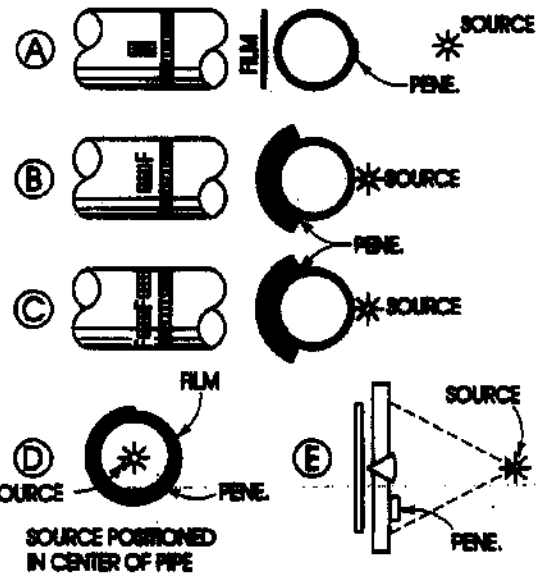
100% Insp. Spot Insp.

SERIAL NO. or PIECE NO.: 64880/1.0/41/180/818

TECHNIQUE DATA

Weld No.	Film No.	ACC.	REJ.	CODE	REMARKS
5-4	0-1B	<input checked="" type="checkbox"/>			
	1-2	<input checked="" type="checkbox"/>			
2-5	0-1	<input checked="" type="checkbox"/>			
	1-2	<input checked="" type="checkbox"/>		P	

Inspection Specification: ASME VIII Div 1 UW-51
 Acceptance Standard: ASME VIII Div 1 UW-51
 RT Procedure No.: 22.A.100
 RT Technique Used Below: F



MATERIAL: 625 Inconel
 PIPE SIZE: N/A WALL THICKNESS: .375"
 WELD PROCESS: SMAW GTAW GMAW
 SOURCE: ISOTOPE: IRM2 CURIE: 26 KV/MA: N/A
 PHYSICAL SIZE: .154"
 EXPOSURE TIME: 1.45 SFD: 15"
 FILM/OBJECT INCHES: contact
 GEOMETRIC UNSHARPNESS: 2.030"
 PENETRATOR: TYPE SIZE: ASTM IB
 MATERIAL: SE PLACEMENT: 3B
 SHIMS: MATERIAL: N/A THICKNESS: N/A
 MARKER/NO BELT: Pb #5
 FILM: BRAND: Kodak TYPE: AA
 SIZE: 4.5" x 17" LOAD: single
 EMULSION(S): N/A
 SCREENS: FRONT: .000" BACK: .000" BACKING: N/A
 VIEWING: SINGLE: DOUBLE:
 DENSITY (PEN.) 2.0-4.0
 DENSITY (WELD) MIN/MAX: 2.0-4.0

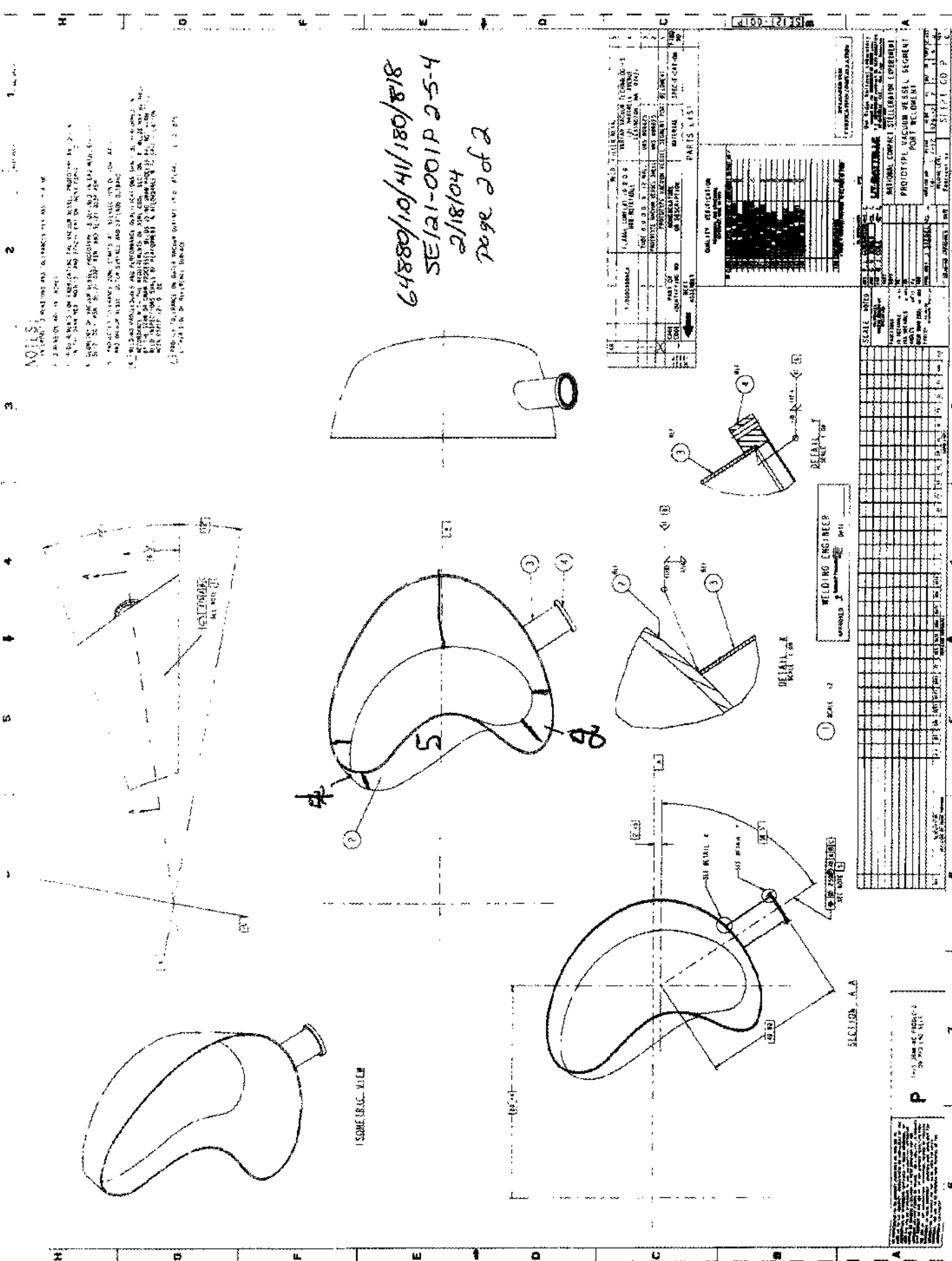
- CODE
- | | | |
|-----------------------------|----------------------|-------------------------|
| P - Porosity | SI - Slag Inclusions | TI - Tungsten Inclusion |
| C - Crack | BT - Burn Through | CV - Root Concavity |
| F - Incomplete Fusion | MT - Melt Through | CX - Root Convexity |
| IP - Incomplete Penetration | UC - Undercut | OX - Oxidation |
| S - Surface | | |

1. Robert Weener 2/18/04 JS
 RADIOGRAPHER
 1. Robert Weener 2/18/04 JS
 INTERPRETER
 Douglas D. Edmund 2/18/04

NOTES:

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- 4. ANY CHANGES TO THIS DRAWING SHALL BE MADE BY A REVISED DRAWING AND APPROVED BY THE DESIGNER AND APPROVED BY THE MANUFACTURER.
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- 8. ANY CHANGES TO THIS DRAWING SHALL BE MADE BY A REVISED DRAWING AND APPROVED BY THE DESIGNER AND APPROVED BY THE MANUFACTURER.

64880/10/41/180/818
SE/21-001P 2-5-4
2/18/04
page 2 of 2



ITEM NO.	DESCRIPTION	QTY.	UNIT	MATERIAL	MANUFACTURE
1	TUB	1	EA	304 SS	
2	FLANGE	1	EA	304 SS	
3	WELD				
4	WELD				

DATE	DESCRIPTION	BY

SCALE: 1:1		WELDING ENGINEER	
DESIGNER		APPROVED	
64880/10/41/180/818			
SE/21-001P 2-5-4			
2/18/04			
PAGE 2 OF 2			

PROPERTY OF THE COMPANY
THIS DRAWING IS THE PROPERTY OF THE COMPANY AND SHALL BE KEPT IN THE OFFICE OF THE COMPANY.

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S-04344-F
Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

SE121-001P TEST

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
88	26	60		Inspection Data Checklist: 8 steps
89	26	70		Inspection Data Checklist: 3 steps
90	26	80		Inspection Data Checklist: 5 steps
91	26	80		Nondestructive Visual Test Certification #7892 - MTM WELD INSPECTION FORM
92	26	90		Inspection Data Checklist: 2 steps
93	26	100		Inspection Data Checklist: 5 steps
94	26	100		Nondestructive Visual Test Certification #7900 - MTM WELD INSPECTION FORM
95	26	110		Inspection Data Checklist: 2 steps
96	26	120		Inspection Data Checklist: 5 steps
97	26	120		Nondestructive Visual Test Certification #7902 - MTM WELD INSPECTION FORM
98	26	130		Inspection Data Checklist: 2 steps
99	26	140		Inspection Data Checklist: 5 steps
100	26	140		Nondestructive Visual Test Certification #7909 - MTM WELD INSPECTION FORM
101	26	150		Inspection Data Checklist: 2 steps
102	26	160		Inspection Data Checklist: 5 steps
103	26	160		Nondestructive Visual Test Certification #7914 - MTM WELD INSPECTION FORM
104	26	170		Inspection Data Checklist: 2 steps
105	26	180		Inspection Data Checklist: 5 steps
106	26	180		Nondestructive Visual Test Certification #7915 - MTM WELD INSPECTION FORM
107	26	190		Inspection Data Checklist: 2 steps
108	26	200		Inspection Data Checklist: 5 steps
109	26	200		Nondestructive Visual Test Certification #7918 - MTM WELD INSPECTION FORM
110	26	210		Inspection Data Checklist: 2 steps
111	26	230		Test Certification: RADIOGRAPHIC CERTIFICATE - mc096219.tif
112	26	230		Map(s): SE121-001P-1MTM - Same as Item #111

SE121-001P - PVVS PRIMARY WELDMENT

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
113	0	10	10	Material Certification: Trace ID: 94881 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - mc095279.pdf / 2653-8-4201 / AB8051 / AV8128
114	0	10	10	Material Certification: Trace ID: 94238 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - mc094944.pdf / 2653-8-4201 / AB8051 / AV8128
115	0	10	10	Material Certification: TRACE ID: 38561 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - MC074409.TIF / 2653-8-4201 / AB8051 / AV8128
116	0	10	30	Material Certification: / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC075552.TIF / CB7996 / CT7519
117	0	10	30	Material Certification: Trace ID: 95570 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - mc095629.pdf / CB7996 / CT7519
118	0	10	30	Material Certification: TRACE ID: 41171 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC075605.TIF / CB7996 / CT7519
119	0	10	40	Material Certification: / INCONEL625_035_GMAW - WELD WIRE/GMAW, .035 DIA - mc068650.tif / VX3417AK
120	40	10		Inspection Data Checklist: 6 steps
121	40	40		Inspection Data Checklist: 8 steps

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 88

Workorder: 64880/1-0 Sub:26 Op:60

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Verify Panel Joint Alignment Weld Seam # 2-5 (.02" Max)		MFG			LESS THAN .020 MISM ATCH	791	933		A
(10)				CWI				01-28-0	01-28-0		
*		Verify Panel / Rest Stop Position Panel #2 (0 - .09" Gap)		MFG			LESS THAN .090	791			A
(20)								01-28-0			
*		Verify Panel / Rest Stop Position Panel #5 (0 - .09" Gap)		MFG			LESS THAN .090	791			A
(30)								01-28-0			
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTABLE TO WPS 90 PPPL REV 0 20 CFH FLOW/ARGON GA	791			A
(40)								01-28-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			HT LOT AV8128 / TRA CE TICKET #94881 6 25 INCO	791			A
(50)								01-28-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			STAINLESS STEEL 300 SERIES CONSTRUCTIO N,STAINLESS STEEL W OOL	791			A
(60)								01-28-0			
*				QA			VERIFED PER WELDE QUALIFICATION CHEC	791			A

INSPECTION DATA CHECKLIST

(70)		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION					SYSTEM			
*				QA			WELDER SET AT 140 M AX AMPERAGE AT TAC WELD OP	791		
(80)		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION						01-28-0		A

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 89

Workorder: 64880/1-0 Sub:26 Op:70

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,188") Upper Half Of Bilateral Tolerance (tack welded vessel) (10) At weld seam only (development panel)		QA		4470	+0.003 / +0.096	522			A
*		Magnetic Permeability 1.01 Max. Record range (high / low) (20) At weld seam only (development panel)		QA		J-1165	LESS THAN 1.01	522			A
*		Material Thickness (30) .375 +.04/-0"		QA		J-770-NDT	0.380-0.389	522			A

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 90

Workorder: 64880/1-0 Sub:26 Op:80

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH@WELDER / 20 FH PURGE ARGON GA	791			A
(10)								01-30-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			INCO 625 HT LOT AV8 128	791			A
(20)								01-30-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES STAINLES S STEEL / S.S. WOO L	791			A
(30)								01-30-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			VERIFIED TO MTM WE D QUALIFICATIONS	791			A
(40)								01-30-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			75 / 175MPS/ .062 FILLER WPS 390 PP REV 0	791			A
(50)								01-30-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 91

Date of Inspection: 01/30/2004

Type of Material: 625 INCONEL

NDT#: 7892

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	--	--	---	--

Part Information: MTM Job Number: 64880/1.0 -Sub:26 -Op:80 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P TEST Part Name: WELD DEVELOPMENT PANEL Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: MTM Spec Number: Acceptance Standard: AWS D1.6, 6.29.1
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Inspection Methods Used: Magnification Used: 10X Light Source Used: AMBIENT WITH FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

Visual inspection of root pass on test joint. Weld acceptable to customer drawing / specification requirements.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 933-D.LEAPLEY


Date: 01/30/2004



Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 92

Workorder: 64880/1-0 Sub:26 Op:90

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 208" Profile Tolerance (+.188 / -.020") (tack welded vessel)		QA		4470	+0.016 - +0.094	522			A
(10)		At weld seam only (development panel)						01-30-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)		At weld seam only (development panel)						01-30-0			

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 93

Workorder: 64880/1-0 Sub:26 Op:100

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH @WELDER / 2 0CFH AT PURGE	791			A
(10)								01-30-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			INCO 625 HT AV8128 .062 DIAM.	791			A
(20)								01-30-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS / S.S .WOOL	791			A
(30)								01-30-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			VERIFIED TO WPS 390 PPPL REV 0 PER MTM QUALIFICATION CHECK	791			A
(40)								01-30-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			75 TO 175 .062 FIL LER	791			A
(50)								01-30-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 94

Date of Inspection:02/02/2004

Type of Material:625 INCONEL

NDT#:7900

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:26 -Op:100 Resource ID: 705-WELD ENGINEERING/ CWI Part ID: SE121-001P TEST Part Name: Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PARA 6.29.1
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Inspection Methods Used: Magnification Used: 8X MAGNIFICATION Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

Root pass of weld test / development panel fabrication operation #3 was inspected. No rejectable indications were noted at the time of inspection

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 223-M.TROSEN


Date: 02/02/2004



Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 95

Workorder: 64880/1-0 Sub:26 Op:110

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 228" Profile Tolerance (+.188/-.040") (tack welded vessel)		QA		4470	+0.012 / +0.093	522			A
(10)		At weld seam only (development panel)						02-02-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)		At weld seam only (development panel)						02-02-0			

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 96

Workorder: 64880/1-0 Sub:26 Op:120

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH @ WELDER / 20 CFH @ PURGE	791			A
(10)									02-02-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			INCO 625 HT LOT AV 8128 .062 DIAM.	791			A
(20)									02-02-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S .S.WOOL INSERT	791			A
(30)									02-02-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTABLE TO MTM QUALIFICATION CHEC PER WPS 390 PPPL R EV O	791			A
(40)									02-02-0		
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			75- 175 AMPS .062 FILLER (ALL PARAME TERS PER WPS)	791			A
(50)									02-02-0		



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 97

Date of Inspection:02/02/2004

Type of Material:625 INCONEL

NDT#:7902

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:26 -Op:120 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P TEST Part Name: Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PARA 6.29.1
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Inspection Methods Used: Magnification Used: 8X MAGNIFICATION Light Source Used: FLASHLIGHT
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Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
INTERMEDIATE FILLER PASS

Notes:

Filler pass of weld test / development panel fabrication operation #4 was inspected. No rejectable indications were noted at the time of inspection

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 581-D.EDWARDS


Date: 02/02/2004

Waylon D. Edwards

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 98

Workorder: 64880/1-0 Sub:26 Op:130

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 248" Profile Tolerance (+.188/-.060") (tack welded vessel)		QA		4470	+0.023 / +0.097	522			A
(10)		At weld seam only (development panel)						02-02-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)		At weld seam only (development panel)						02-02-0			

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 99

Workorder: 64880/1-0 Sub:26 Op:140

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40@ WELDER 20CFH A PURGE	791			A
(10)								02-02-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO. HT LOT CT7519	791			A
(20)								02-02-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			STAINLESS STEELL 30 0 SERIES / S.S. WOO L INSERT	791			A
(30)								02-02-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			CERTIFIED PER MTM Q UALIFICATION SYSTE WPS 390 PPPL REV 0	791			A
(40)								02-02-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			100 - 210 AMPS .093 FILLER ALL PARAMET ERS PER WPS 390PPPL REV 0	791			A
(50)								02-02-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 100

Date of Inspection:02/02/2004

Type of Material:625 INCONEL

NDT#:7909

Inspection Requirements:

Inspector: 581-D.EDWARDS

Date: 02/02/2004

NDT003

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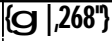
Page: 23

User ID: LONAKER Date: 04/15/04

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 101

Workorder: 64880/1-0 Sub:26 Op:150

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .268" Profile Tolerance (+.188/-.080") (tack welded vessel)		QA		4470	+0.017 / +0.097	522			A
(10)		At weld seam only (development panel)						02-03-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)		At weld seam only (development panel)						02-02-0			

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 102

Workorder: 64880/1-0 Sub:26 Op:160

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			20 CFH PURGE / 40CF H @ WELDER	791			A
(10)								02-03-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 625 INCO HT # 2653-8-4201 .093 625 INCO HT # CT751 9	791			A
(20)								02-03-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S.S.WOOL INSERT	791			A
(30)								02-03-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			QUALIFIED PER MTM ELDER QUALIFICATIO CHECK	791			A
(40)								02-03-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 75 175 AMPS .0 93 100-210 AMPS ALL PARAM. TO WPS 390P PPL REV 0	791			A
(50)								02-03-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 103

Date of Inspection:02/03/2004

Type of Material:625 INCONEL

NDT#:7914

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:26 -Op:160 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P TEST Part Name: Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
---	---

Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PARA 6.29.1
--	--

Inspection Methods Used: Magnification Used: 8X MAGNIFICATION Light Source Used: FLASHLIGHT
--

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
BACKSIDE ROOT PASS

Notes:

Backside root pass of weld test / development panel fabrication operation #6 was inspected. No rejectable indications were noted at the time of inspection

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 581-D.EDWARDS

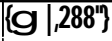
Date: 02/03/2004

Waylon D. Edwards

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 104

Workorder: 64880/1-0 Sub:26 Op:170

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .288" Profile Tolerance (+.188/-.100") (tack welded vessel) (10) At weld seam only (development panel)		QA		4470	+0.007 / +0.076	522			A
								02-03-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low) (20) At weld seam only (development panel)		QA		J-1165	LESS THAN 1.01	522			A
								02-03-0			

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 105

Workorder: 64880/1-0 Sub:26 Op:180

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			20 CFH AT PURGE/ 40 CFH @ WELDER	791			A
(10)								02-03-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 INCO 625 HEAT # CT7519	791			A
(20)								02-03-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S.S. WOOL INSERT	791			A
(30)								02-03-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			VERIFIED PER MTM W ELDER QUALIFICATION CHECK	791			A
(40)								02-03-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			100-210 AMPS ALL PA RAM. PER WPS 390PPP L REV 0	791			A
(50)								02-03-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 106

Date of Inspection:02/03/2004

Type of Material:625 INCONEL

NDT#:7915

Inspection Requirements:

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 581-D.EDWARDS

Date: 02/03/2004

Waylon D. Edwards 

NDT003

n:\mtmapps\mndt\pi.qrp


Page: 25

User ID: LONAKER Date: 04/15/04

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 107

Workorder: 64880/1-0 Sub:26 Op:190

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .308" Profile Tolerance (+.188/-.120") (tack welded vessel)		QA		4470	-0.007 / +0.041	522			A
(10)		At weld seam only (development panel)						02-03-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)		At weld seam only (development panel)						02-03-0			

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 108

Workorder: 64880/1-0 Sub:26 Op:200

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			20CFH @PURGE / 40 CFH @ WELDER	791			A
(10)								02-03-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO HT # CT7519	791			A
(20)								02-03-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S.S. WOOL INSERT	791			A
(30)								02-03-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			PER MTM WELDER QU IFICATION CHECK WP S 390PPPL REV 0	791			A
(40)								02-03-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER 100-210 AMPS PER WPS 390PP PL REV 0	791			A
(50)								02-03-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 109

Date of Inspection:02/03/2004

Type of Material:625 INCONEL

NDT#:7918

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:26 -Op:200 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P TEST Part Name: Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PARA 6.29.1
--	--

Inspection Methods Used: Magnification Used: 8X MAGNIFICATION Light Source Used: FLASHLIGHT
--

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
BACKSIDE COVER PASS

Notes:

Backside cover pass of weld test / development panel fabrication operation #8 was inspected. No rejectable indications were noted at the time of inspection

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 581-D.EDWARDS

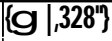
Date: 02/03/2004

Waylon D. Edwards

Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 110

Workorder: 64880/1-0 Sub:26 Op:210

Part: SE121-001P TEST - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-1

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .328" Profile Tolerance (+.188/-.140") (tack welded vessel)		QA		4470	-0.065 / +0.041	522			A
(10)		At weld seam only (development panel)						02-05-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)		At weld seam only (development panel)						02-05-0			



MQS Inspection, Inc.

5307 West 86th Street
 Indianapolis, IN 46268
 Phone: 317-872-8196
 Fax: 317-872-4798

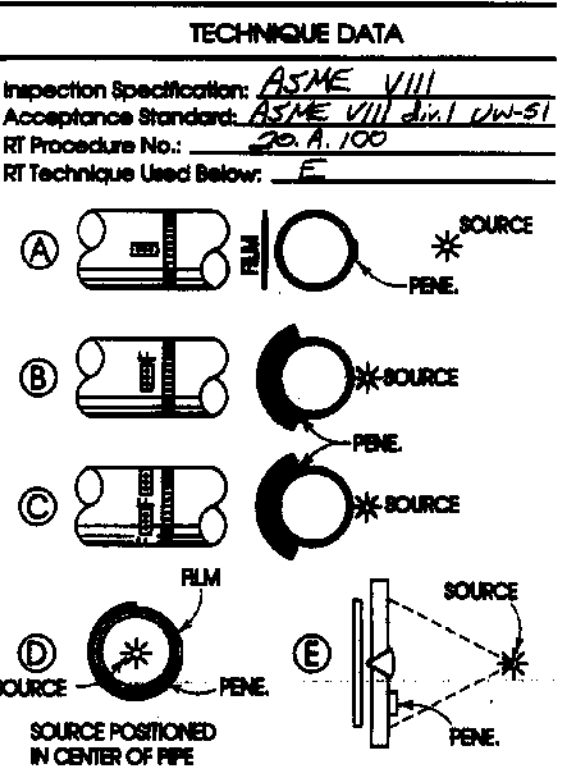
MQS W.D.# 371-F0004 RADIOGRAPHIC REPORT: Page 1 of 2

DATE: 2/9/04
 Customer: Major Tool + Machine
1458 E. 19th St.
Indpls, IN.

Customer's P.O. No.: _____
 Job Location: Same

Item Description: SE/21-001P test
 100% Insp. _____ Spot Insp.

SERIAL NO. or PIECE NO.: <u>6488/1.0/26/230/818</u>				
Weld No.	Film No.	ACC.	REL.	REMARKS
	<u>0-14</u>	<input checked="" type="checkbox"/>		
	<u>14-24</u>	<input checked="" type="checkbox"/>		



MATERIAL: 635 Inconel
 PIPE SIZE: N/A WALL THICKNESS: .375"
 WELD PROCESS: SMAW _____ GTAW _____ GMAW _____
 SOURCE: ISOTOPE: Ir 192 CURIES: 28 KVP/MA: N/A
 PHYSICAL SIZE: .154"
 EXPOSURE TIME: _____ SFD: 18"
 FILM/OBJECT INCHES: CONTACT
 GEOMETRIC UNSHARPNESS: ≤ .020"
 PENETRATOR: TYPE SIZE: ASTM 1B
 MATERIAL: SS PLACEMENT: SS
 SHIMS: MATERIAL: N/A THICKNESS: N/A
 MARKER/NO BELT: Pb 25
 FILM: BRAND: Kodak TYPE: AA
 SIZE: 4.5" x 17" LOAD: single
 EMULSION(S): N/A
 SCREENS: FRONT: 000" BACK: 000" BACKING: N/A
 VIEWING: SINGLE: DOUBLE: _____
 DENSITY (PEN.) _____ 2.0-4.0
 DENSITY (WELD) MIN/MAX: 2.0-4.0

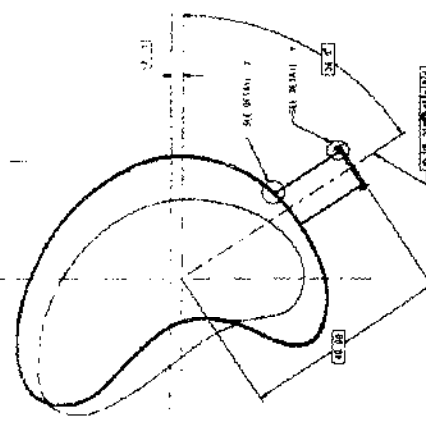
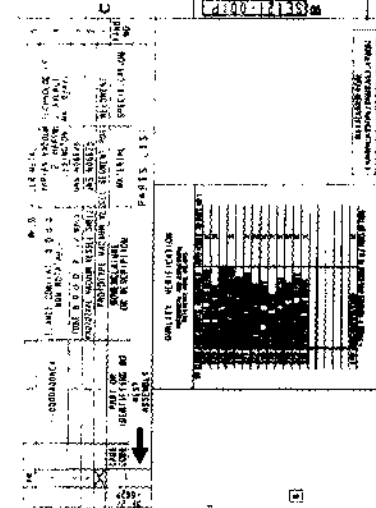
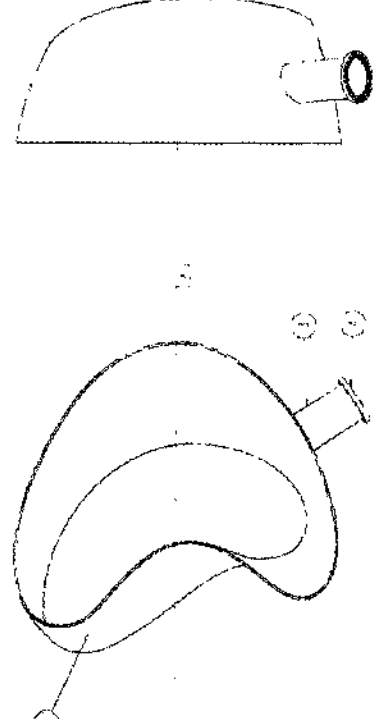
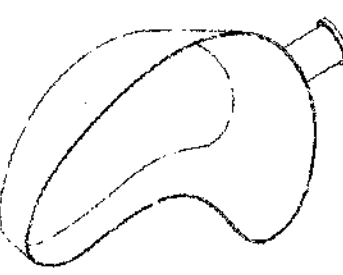
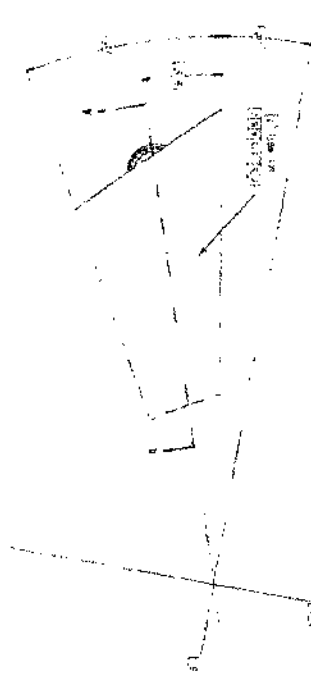
- | CODE | | |
|-----------------------------|----------------------|-------------------------|
| P - Porosity | SI - Slag Inclusions | TI - Tungsten Inclusion |
| C - Crack | BT - Burn Through | CV - Root Concavity |
| IF - Incomplete Fusion | MT - Melt Through | CX - Root Convexity |
| IP - Incomplete Penetration | UC - Undercut | OX - Oxidation |
| S - Surface | | |

1. Robert Weaver 269/5112
 RADIOGRAPHER
 1. Robert Weaver 269/5112
 INTERPRETER D. Edwards 2/9/04

NOTES
 1. GENERAL DIMENSIONS AND FINISHES ARE AS SHOWN.
 2. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.
 3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 4. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.
 5. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 6. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 7. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 8. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 9. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 10. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

64880/10/24/230/88
SE 121-001 P test
2/9/04
page 2 of 2

8
7
6
5
4
3
2



COMPANY GALVESS, INC.	PROJECT 121-001	DRAWING NO. 121-001-P-2	SCALE AS SHOWN
DATE 02/09/04	DESIGNER [Signature]	CHECKED BY [Signature]	DATE 02/09/04

SECTION 1-1

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851



DATE 12/19/03

CERTIFICATION OF TESTS

SOLD TO:
 MAJOR TOOL & MACHINE, INC.
 1458 EAST 19TH STREET
 INDIANAPOLIS, IN 46218

SHIP TO:
 MAJOR TOOL & MACHINE
 1452 EAST 19th Street
 Indianapolis, IN 46218

ARCOS S.O.		CUSTOMER ORDER NO.		CONSIGNEE ORDER NO.		DATE SHIPPED			
79533		P03-05170		N/A		12/19/03			
ITEM	SIZE	GRADE		LOT NO./ALLOY NO.		QUANTITY			
1	1/16 X 36"	ARCOS 625		AV8128		30#			
SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3 ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION. AND ALL PARAS AND ADDENDA THRU 2003.									
CHEMICAL ANALYSIS: WIRE									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.03	0.05	0.08	0.004	0.00	21.8	64.6	9.1		3.77
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.24	0.26	0.01	0.02	0.1		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433.1-1: _____
 Magna Gage: _____
 X-Ray: _____
 Bends: _____
 Hardness: _____

TENSILE As Welded

Yield _____
 Tensile _____
 Elongation _____
 Red. of Area _____

Heat Treated

OTHER INFORMATION:

LOT CLASSIFICATION - S1
 INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

12/23/03

81947
 line 1

M. L. H.

Q.A. MANAGER

QUALITY ASSURANCE DEPARTMENT

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851



DATE 11/26/03

CERTIFICATION OF TESTS

SOLD TO: MAJOR TOOL & MACHINE, INC.
 1458 EAST 19TH STREET
 INDIANAPOLIS, IN 46218

SHIP TO: SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79388	P03-04749	N/A	11/26/03
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.
1	1/16 X 36"	ARCOS 625	AB8051
			QUANTITY
			30#

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3
 ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION.
 AND ALL PARAS AND ADDENDA THRU 2002.

CHEMICAL ANALYSIS:		WIRE							
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.02	0.01	0.06	0.001	0.01	22.2	64.3	9.1		3.56
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.22	0.12	0.03	0.01	0.4		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433,1-1: _____
 Magna Gage: _____
 X-Ray: _____
 Bends: _____
 Hardness: _____

TENSILE As Welded Heat Treated

Yield _____

Tensile _____

Elongation _____

Red. of Area _____

OTHER INFORMATION:

LOT CLASSIFICATION - S1
 INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

Eileen Zerby Q.A. CLERK
 QUALITY ASSURANCE DEPARTMENT

8/505
 Line 1
 A. 7

12/5/03



Boeing North American, Inc.
 Rocketdyne Propulsion & Power
 6633 Canoga Avenue
 PO Box 7922
 Canoga Park, CA 91309-7922

Accommodation Sales Order

DATE: 10-06-99

ASO NO. 08708-00001

CUSTOMER ORDER NO. P9905389 - P9905441

SOLD TO:
 MAJOR TOOL & MACHINE, INC.
 1458 E. 19TH ST.
 INDIANAPOLIS, IN 46218

REFERENCE G. HARRIS
 NEGO. BY CHRISTINE KOZLOWSKI
 TERMS NET 30
 RESALE YES PERMIT NO. N/A
 F.O.B. OUR PLANT CANOGA PARK, CA
 INSPECT. REQ. I & D (80) 001199
 ROCKETDYNE ASSY. NO. R052679A1, R052679A2
 ROCKETDYNE P.O. NO. PR99315316 ITEM: 0001, 0002, 0003, 0011

SHIP TO:
 SAME AS ABOVE

SHIP VIA AIR FRIEGHT "EXPEDITE DELIVERY"

ITEM	QUANTITY	UOM	MATERIAL DESCRIPTION	UNIT PRICE	TOTAL PRICE
1	17	1.24 LBS.	INCO625.062X36" WELD WIRE (.062" Dia. X 36" WELD WIRE RB0170-226 INCO 625) 20 LBS REQUESTED		

TRACEABILITY

Heat Number: 2653-8-4201
 Rocketdyne Traceability number: WC00591
 Material Certification with mill source attached: yes



Verified By: Dan Inez *QE 047* Date: 10-8-99

OCT 21 1999
36699

ISSUE TO: COMPANY870800001	DELIVER TRUCKING, SHIPPING FILLED BY FILLED D/569 MAX/MIN BAX 729 227 873 11OCT99 OCT 9 1999 QTY <u>17 EA. T4806</u> ISS BY <u>[Signature]</u>	NOTE: A COPY OF THIS ASO MUST ACCOMPANY EACH SHIPMENT OF RS-68 02741-71934-41501 02421-72007-11000
LOCATION OF MATERIAL: MACPAC		
RELEASED PURCHASING: D/580		

(1307402) FOLLOWING FOR USE OF SHIPPING AND INSPECTION

TOTAL PKGS. <u>1 CTN.</u>	GR. WT. <u>37</u>	TARE	NET	L	W	H	CU. FT. <u>4.0</u>
CAR NO.	B/ <u>UNLEADED</u>	DATE SHIPPED <u>99OCT11</u>		SEAL NO.			

I/we certify that the items listed herein have been inspected by me/us or under my/our supervision. I/we further certify that to the best of my/our knowledge these materials are as represented in the above description.

ROCKETDYNE INSPECT. STAMP

GOVT. INSPECT. STAMP (when required)

REC'D BY: _____ DATE: _____
 Customer's Signature



Boeing North American, Inc.
 Rocketdyne Propulsion & Power
 6633 Canoga Avenue
 PO Box 7922
 Canoga Park, CA 91309-7922

Accommodation Sales Order

DATE: 10-06-99

ASO NO. 08708-00001

CUSTOMER ORDER NO. P9905389 - P9905441

SOLD TO: MAJOR TOOL & MACHINE, INC. 1458 E. 19TH ST. INDIANAPOLIS, IN 46218	REFERENCE <u>G. HARRIS</u>
	NEGO. BY <u>CHRISTINE KOZLOWSKI</u>
SHIP TO: SAME AS ABOVE	TERMS <u>NET 30</u>
	RESALE <u>YES</u> PERMIT NO. <u>N/A</u>
SHIP VIA AIR FRIEGHT "EXPEDITE DELIVERY"	F.O.B. OUR PLANT <u>CANOGA PARK, CA</u>
	INSPECT. REQ. I & D <u>60</u> <u>OCT 11 99</u>
	ROCKETDYNE ASSY. NO. <u>R052679A1, R052679A2</u>
	ROCKETDYNE P.O. NO. <u>PR99315316</u> ITEM: <u>0001, 0002, 0003, 0011</u>

ITEM	QUANTITY	UOM	MATERIAL DESCRIPTION	UNIT PRICE	TOTAL PRICE
1	17	1.24 LBS.	INCO625.062X36" WELD WIRE (.062" Dia. X 36" WELD WIRE RB0170-226 INCO 625) 20 LBS REQUESTED	XXXXXX	XXXXXX

TRACEABILITY

Heat Number: 2653-8-4201
 Rocketdyne Traceability number: WC00591
 Material Certification with mill source attached: yes



Verified By: Dan Inez DI Date: 10-8-99

ISSUE TO: CMPANY870800001	DELIVER TRUCKING, SHIPPING	NOTE: A COPY OF THIS ASO MUST ACCOMPANY EACH SHIPMENT OF ARTICLES PROGRAM: RS-68 02741-71934-41501 02421-72007-11000
LOCATION OF MATERIAL: MAC/PAC	FILLED BY FILLED D/569 MAX/MIN	
RELEASED PURCHASING: D/580	OCT 9 1999 QTY <u>17 EA. Trucks</u> ISS BY <u>[Signature]</u>	

(1301002) FOLLOWING FOR USE OF SHIPPING AND INSPECTION

TOTAL	GR. WT.	TARE	NET	L	W	H	CU. FT.
PKGS. 1 CTN.	37			13"	13"	41"	4.0
CAR NO.	BAX 728 227 973 110CT89		DATE SHIPPED	99OCT11			

We certify that the items listed herein have been inspected by me/us or under my/our supervision. I/we further certify that to the best of my/our knowledge these materials are as represented in the above description.

ROCKETDYNE INSPECT. STAMP GOVT. INSPECT. STAMP (when required)

REC'D BY: _____ DATE: _____
 Customer's Signature



Astrolite
Alloys Corporation

709 Via Alondra, Camarillo, CA 93010

Telephone: (805) 484-3521

Telex: 658120

Stainless and High Temperature Welding Wire Rods and Spools

ROCKWELL INTL.
ROCKETDYNE DIV.
6633 CANOGA AVE.
CANOGA PARK, CA 91302

OUR ORDER: 31219

YOUR ORDER: R93PUA89291017

ATTENTION:

THIS IS TO CERTIFY THAT THE 1508/121 PKGS. LBS. OF INCO 625 RB0170-226P .062" X 36"
TO SPEC. ABOVE SHIPPED AGAINST YOUR ORDER NO. ABOVE
ON JANUARY 9, 1989 IS IN CONFORMANCE WITH SPECIFICATIONS AND HAS THE
FOLLOWING CHEMICAL AND PHYSICAL PROPERTIES:

C	.02	MICROSTRUCTURE
MM	.38	NO EVIDENCE OF DETRIMENTAL SURFACE CONDITIONS
SI	.10	ACCEPTABLE PER PARA. 4.3.3
P	.012	
S	.002	WELDABILITY:
CR	21.71	ACCEPTABLE PER REQ-170-226 REV. P
NI	64.02	PARA. 4.3.5.1
CO		
MO	9.01	MANUFACTURER (ALTER SIZE/CONFIGURATION):
CE & TA	3.68	ASTROLITE ALLOYS
AL	.17	
E		VISUAL INSPECTION: PASSED PER PARA. 4.3.2
FE	.72	DETAILED INSPECTION: PASSED PER PARA. 4.3.2.2
CU	.01	
ZR		PENETRANT INSPECTION:
SN		PASSED PER RAO 115-116, TYPE IIA
W		(REV K, AMM 51)
TA		
V		
LA		
C ₁		
H ₁		
TOR	.50	
TI	.16	
HEAT NUMBER:	2653-8-4201	

Physical Properties:

Tensile Strength:

Yield:

Elongation:

ASTROLITE ALLOYS CORP.

MILL SOURCE: HAYNES

THIS MATERIAL CONFORMS TO ALL REQUIREMENTS OF RB0170-226 REV. P.

THIS MATERIAL HAS BEEN 100% ALLOY TYPE TESTED BY ACRONAG.

SWORN TO AND SUBSCRIBED BEFORE ME THIS <u>9</u> DAY OF <u>JANUARY</u> 19 <u>89</u> _____ NOTARY PUBLIC	CERTIFICATE OF TEST	THE TEST RESULTS SHOWN IN THIS REPORT ARE CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF. ASTROLITE ALLOYS CORP. CERTIFIED BY <u>[Signature]</u> QUALITY ASSURANCE REPRESENTATIVE
---	--------------------------------	---



Rockwell Division
Rockwell International

**MATERIALS & PROCESSES
TEST REPORT**

TEST DESCRIPTION MATERIAL EVALUATION			
LAB NUMBER 904580	SUBMITTED BY LORRAINE	PART NO. & QTY INCO 625, 0.62" x 36"	
DATE SENT TO LAB 1-27-89	DATE REC'D IN LAB 1-27-89	MATERIAL & SPEC RBO 170-226	
CONT./C.A.	ACCT. 95125	SOURCE HARSCO CORP.	QTY. TO LAB 6.20 #
RELEASE	ACTUAL LAB HRS.	P.N. & HOP. ITEM 9018027	WEIGHT OR LENGTH 0.55-8.4261
		P.O. NUMBER 89291017	

WC00591

LABORATORY TESTS AND RESULTS

CHEMICAL ANALYSIS

ELEMENT	REQ'D	OBTAINED							

TENSILE TESTS

SAMPLE NO.	YIELD STRENGTH KSI	ULTIMATE LOAD LBS.	ULTIMATE STRENGTH KSI	ELONGATION %	REDUCTION OF AREA %	HARDNESS	REMARKS
REQ'D							
OBT'D.							

OTHER TESTS

QUALITY ENG. LAB

Material Conforms to
Specification requirements.

Date 3-7-89

20 ea. Parts Destroyed

BAL Parts Returned

By Greg Baker

REPORTED BY:

SUPERVISOR'S RECOMMENDATION

	SIGNED	DATE
	UNIT	

INSPECTION DISPOSITION

	DATE

SSD

STANDARD STEEL SALES ORDER 5727389 01 SHIP CTR \$1700 SHIPPING LIST 20732 CUSTOMER ORDER # P9904144 1T
 BURNHAM, PA. 17009 FREIGHT CODE 04 FOB PPD DESTINATION

RING DWG: HTCT 303701 MTM REV: A H MAJOR TOOL & MACHINE
 MACHINE TO DWG SIZES I
 SPECIFICATION: ASTM A336-98 GRADE F1, QUENCH AND TEMPER. CHARPY V-NOTCH IMPACTS TESTED AT P 1458 E 19TH ST
 ROOM TEMPERATURE FOR INFORMATION ONLY. ULTRASONIC INSPECTION PER HZLM 603041, TABLE 2B T
 MECHANICAL TESTS TO BE LOCATED ON ONE END FACE AT THE 1/4T PLANE. O INDIANAPOLIS IN 46218

----- THIS SHIPMENT -----
 PIECES ON TOT NET NO. PALLET TOT SHIP LOADED 100599 WANT 101599
 ORDER PCS WT(LBS) PALLETS WT EACH WT(LBS) PROM 101599
 3 3 8250 8250 PSAI N
 PIECES SHIP B/L ---FREIGHT--- \$ FOR \$ FOR
 PREV SHPD DATE NO. \$/CWT ON/LBS STOPOFF PERMIT

TRUCK ORIGINATING-CARRIER DELIVERING-CARRIER SHIP: BEST WAY
 OR CAR CAR-NUMBER CODE DESCRIPTION CODE DESCRIPTION
 T

INS SSD
 S/L 1 CTR
 ENV I TAG
 LOC SELAS AREA
 SIZE 114 X 7

SSD

***-HEAT---SERIAL---WGT---CUST
 LV4309 911340 2750
 LV4309 911341 2750
 LV4309 911342 2750

***-HEAT---SERIAL---WGT---CUST

***-HEAT---SERIAL---WGT---CUST

ARCOS ALLOYS
A Division of Hoskins Mfg.
Mt. Carmel, PA 17851



DATE 01/10/00

CERTIFICATION OF TESTS

SOLD TO: MAJOR TOOL & MACHINE
 1458 EAST 19TH STREET
 INDIANAPOLIS, IN 46216

SHIP TO: SAME

ARCOS S.O.		CUSTOMER ORDER NO.		CONSIGNEE ORDER NO.		DATE SHIPPED	
69824		P0000110		N/A		1/10/00	
ITEM	SIZE	GRADE		LOT NO./ALLOY NO.		QUANTITY	
1	3/32 X 36"	ARCOS 625		CT7519		20#	

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3
 ASME SFA 5.14 ASME SECTION II, PART C, 1998
 EDITION, AND ALL PARAS AND ADDENDA THRU 1999.

CHEMICAL ANALYSIS:		WIRE							
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.0	0.01	0.01	0.002	0.00	22.4	63.9	8.8		3.68
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.35	0.28	0.04	0.05	0.4		<.50		

ADDITIONAL TEST RESULTS	TENSILE	As Welded	Heat Treated
Ferrite - NB2433.1-1: _____	Yield	_____	_____
Magna Gage: _____	Tensile	_____	_____
X-Ray: _____	Elongation	_____	_____
Bends: _____	Red. of Area	_____	_____
Hardness: _____			

OTHER INFORMATION:

LOT CLASSIFICATION - S1
 INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos Alloys or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

1-24-00

Eileen Zerby
 Q.A. CLERK
 QUALITY ASSURANCE DEPARTMENT

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851



DATE 01/13/04

CERTIFICATION OF TESTS

SOLD TO: MAJOR TOOL & MACHINE, INC.
 1458 EAST 19TH STREET
 INDIANAPOLIS, IN 46218

SHIP TO: SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79698	P04-00127	N/A	1/13/04
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.
1	3/32 X 36"	ARCOS 625	CB7998
QUANTITY			
20#			

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3
 ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION,
 AND ALL PARAS AND ADDENDA THRU 2003.

CHEMICAL ANALYSIS:									
WIRE									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.04	0.03	0.08	0.004	0.01	21.9	64.9	8.7		3.64
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.21	0.16	0.02	0.12	0.2		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433.1-1: _____
 Magna Gage: _____
 X-Ray: _____
 Bends: _____
 Hardness: _____

TENSILE As Welded Heat Treated

Yield _____
 Tensile _____
 Elongation _____
 Red. of Area _____

OTHER INFORMATION:

LOT CLASSIFICATION - S1
 INTENSITY OF TESTING - Schedule F

1/13/2004

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

1/29/04

Q.A. MANAGER
QUALITY ASSURANCE DEPARTMENT

ARCOS ALLOYS
 A Division of Hoskins Mfg.
 Mt. Carmel, PA 17851



DATE 01/10/00

CERTIFICATION OF TESTS

SOLD TO: MAJOR TOOL & MACHINE
 1458 EAST 19TH STREET
 INDIANAPOLIS, IN 46216

SHIP TO: SAME

ARCOS S.O.		CUSTOMER ORDER NO.		CONSIGNEE ORDER NO.		DATE SHIPPED			
69824		P0000110		N/A		1/10/00			
ITEM	SIZE	GRADE		LOT NO./ALLOY NO.		QUANTITY			
1	3/32 X 36"	ARCOS 625		CT7519		20#			
SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3 ASME SFA 5.14 ASME SECTION II, PART C, 1998 EDITION, AND ALL PARAS AND ADDENDA THRU 1999.									
CHEMICAL ANALYSIS: WIRE									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.0	0.01	0.01	0.002	0.00	22.4	63.9	8.8		3.68
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.35	0.28	0.04	0.05	0.4		<.50		

ADDITIONAL TEST RESULTS	TENSILE	
	As Welded	Heat Treated
Ferrite - NB2433.1-1: _____	Yield _____	_____
Magna Gage: _____	Tensile _____	_____
X-Ray: _____	Elongation _____	_____
Bends: _____	Red. of Area _____	_____
Hardness: _____		

OTHER INFORMATION: LOT CLASSIFICATION - S1
 INTENSITY OF TESTING - Schedule F

JAN 14 2000
 39771
 BP
 1-18-00

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos Alloys or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

Eileen Zerby Q.A. CLERK
 QUALITY ASSURANCE DEPARTMENT

ARCOS ALLOYS
 A Division of Hoskins Mfg.
 Mt. Carmel, PA 17851



DATE 01/10/00

CERTIFICATION OF TESTS

SOLD TO: MAJOR TOOL & MACHINE
 1458 EAST 19TH STREET
 INDIANAPOLIS, IN 46216

SHIP TO: SAME

ARCOS S.O.		CUSTOMER ORDER NO.		CONSIGNEE ORDER NO.		DATE SHIPPED			
69824		P0000110		N/A		1/10/00			
ITEM	SIZE	GRADE		LOT NO./ALLOY NO.		QUANTITY			
1	3/32 X 36"	ARCOS 625		CT7519		20#			
SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3 ASME SFA 5.14 ASME SECTION II, PART C, 1998 EDITION, AND ALL PARAS AND ADDENDA THRU 1999.									
CHEMICAL ANALYSIS: WIRE									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.0	0.01	0.01	0.002	0.00	22.4	63.9	8.8		3.68
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.35	0.28	0.04	0.05	0.4		<.50		

ADDITIONAL TEST RESULTS	TENSILE	
	As Welded	Heat Treated
Ferrite - NB2433.1-1: _____	Yield _____	_____
Magna Gage: _____	Tensile _____	_____
X-Ray: _____	Elongation _____	_____
Bends: _____	Red. of Area _____	_____
Hardness: _____		

OTHER INFORMATION: LOT CLASSIFICATION - S1
 INTENSITY OF TESTING - Schedule F

JAN 14 2000
 39771
 BP
 1-18-00

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos Alloys or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

Eileen Zerby Q.A. CLERK
 QUALITY ASSURANCE DEPARTMENT

Quality Assurance Documentation for Part ID: SE121-001P - Item: 120

Workorder: 64880/1-0 Sub:40 Op:10

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Verify Panel / Rest Stop Position Panel Sub-Set 2-5-4 (0 - .09" Gap)		MFG			.090 GAP OR LESS	791			A
(30)								02-20-0			
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			SHIELDING 40 CFH AN D PURGE 20 CFH TYP E ARGON GAS	791			A
(50)								02-20-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO FILLE R HT # CB7996	791			A
(60)								02-20-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S. S. WOOL INSERT	791			A
(70)								02-20-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPTABLE PER MT WELDER QUALIFICATI N SYSTEM	791			A
(80)								02-20-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER 100-210 AMPS ALL PARAM. PE R WPS	791			A
(90)								02-20-0			

Quality Assurance Documentation for Part ID: SE121-001P - Item: 121

Workorder: 64880/1-0 Sub:40 Op:40

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Verify Panel Joint Alignment Weld Seam # 1-2 (.02" Max)		CWI		J-1149	ACCEPT .005	712			A
(10)								02-20-0			
*		Verify Panel Joint Alignment Weld Seam # 3-4 (.02" Max)		MFG		J-1149	ACCEPT .005	712			A
(20)								02-20-0			
*		Verify Panel / Rest Stop Position Panel Sub-Set 1-3 (0 - .09" Gap)		MFG		J-1149	MAX- GAP .060	712			A
(30)								02-20-0			
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PURG E 20 SHIELDING 40)	712			A
(50)								02-20-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT .093 DIA. H EAT#CB7996	712			A
(60)								02-20-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES SS MATER IAL W/ SS WOOL	712			A
(70)								02-20-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER # 709	712			A
(80)								02-20-0			

INSPECTION DATA CHECKLIST

* (90)	CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390	712 02-20-0		A
-----------------------	--	--	----	--	--	--------------------	----------------------------	--	---

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S-04344-F
Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

122	40	50	Map(s): SE121-001P-1MTM - mc096356.tif
123	40	50	Map(s): SE121-001P-1MTM - mc096353.tif
124	40	50	Map(s): SE121-001P-1MTM - mc096355.tif
125	40	50	Map(s): SE121-001P-1MTM - mc096354.tif
126	40	50	Map(s): SE121-001P-1MTM - mc096357.tif
127	40	50	Inspection Data Checklist: 2 steps
128	40	70	Inspection Data Checklist: 9 steps
129	40	90	Inspection Data Checklist: 5 steps
130	40	90	Nondestructive Visual Test Certification #8065 - MTM WELD INSPECTION FORM
131	40	110	Inspection Data Checklist: 5 steps
132	40	110	Nondestructive Visual Test Certification #8067 - MTM WELD INSPECTION FORM
133	40	130	Inspection Data Checklist: 5 steps
134	40	130	Nondestructive Visual Test Certification #8068 - MTM WELD INSPECTION FORM
135	40	140	Inspection Data Checklist: 2 steps
136	40	150	Inspection Data Checklist: 5 steps
137	40	150	Nondestructive Visual Test Certification #8071 - MTM WELD INSPECTION FORM
138	40	170	Inspection Data Checklist: 5 steps
139	40	170	Nondestructive Visual Test Certification #8077 - MTM WELD INSPECTION FORM
140	40	180	Inspection Data Checklist: 2 steps
141	40	190	Inspection Data Checklist: 5 steps
142	40	200	Map(s): SE121-001P-1MTM - mc096377.tif
143	40	200	Map(s): SE121-001P-1MTM - mc096381.tif
144	40	200	Map(s): SE121-001P-1MTM - mc096378.tif
145	40	200	Map(s): SE121-001P-1MTM - mc096379.tif
146	40	200	Map(s): SE121-001P-1MTM - mc096380.tif
147	40	200	Inspection Data Checklist: 2 steps
148	40	220	Test Certification: RADIOGRAPHIC CERTIFICATE - mc096763.tif
149	40	220	Map(s): SE121-001P-1MTM - Same as Item #148
150	40	230	Inspection Data Checklist: 5 steps
151	40	240	Inspection Data Checklist: 2 steps
152	40	250	Inspection Data Checklist: 5 steps
153	40	250	Nondestructive Visual Test Certification #8165 - MTM WELD INSPECTION FORM
154	40	260	Inspection Data Checklist: 2 steps
155	40	265	Inspection Data Checklist: 5 steps
156	40	265	Nondestructive Visual Test Certification #8164 - MTM WELD INSPECTION FORM
157	40	270	Inspection Data Checklist: 5 steps
158	40	270	Nondestructive Visual Test Certification #8176 - MTM WELD INSPECTION FORM
159	40	280	Inspection Data Checklist: 4 steps
160	40	330	Furnace charts: FURNACE CHART - MC097536.TIF
161	40	350	Test Certification: VACUUM TEST REPORT - mc097267.tif

SE121-001P-2 PANEL 1 - DIE FORMED PANEL

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
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64860 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #2 Gage/Std S/N(s):4470 / J-770-NDT / J-1165 Date of inspection: 02/20/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.011	0.384	LESS THAN 1.01	N/A	JS	44	0.030	N/A	LESS THAN 1.01	N/A	JS
2	0.021	0.385	LESS THAN 1.01	N/A		45	0.028	N/A	LESS THAN 1.01	N/A	
3	0.027	0.383	LESS THAN 1.01	N/A		46	0.023	N/A	LESS THAN 1.01	N/A	
4	0.035	0.383	LESS THAN 1.01	N/A		47	0.065	N/A	LESS THAN 1.01	N/A	
5	0.046	0.382	LESS THAN 1.01	N/A		48	0.054	N/A	LESS THAN 1.01	N/A	
6	0.054	0.382	LESS THAN 1.01	N/A		49	0.126	N/A	LESS THAN 1.01	N/A	
7	0.060	0.381	LESS THAN 1.01	N/A		50	0.081	N/A	LESS THAN 1.01	N/A	
8	0.064	0.383	LESS THAN 1.01	N/A		51	0.106	N/A	LESS THAN 1.01	N/A	
9	0.070	0.383	LESS THAN 1.01	N/A		52	0.054	N/A	LESS THAN 1.01	N/A	
10	0.077	0.382	LESS THAN 1.01	N/A		53	0.044	N/A	LESS THAN 1.01	N/A	
11	0.075	0.382	LESS THAN 1.01	N/A		54	0.032	N/A	LESS THAN 1.01	N/A	
12	0.088	0.382	LESS THAN 1.01	N/A		55	0.010	N/A	LESS THAN 1.01	N/A	
13	0.058	0.382	LESS THAN 1.01	N/A		56	0.017	N/A	LESS THAN 1.01	N/A	JS
14	0.048	0.383	LESS THAN 1.01	N/A		57					
15	0.034	0.383	LESS THAN 1.01	N/A		58					
16	0.022	0.382	LESS THAN 1.01	N/A		59					
17	0.011	0.381	LESS THAN 1.01	N/A		60					
18	0.005	0.381	LESS THAN 1.01	N/A		61					
19	-0.001	0.381	LESS THAN 1.01	N/A		62					
20	-0.004	0.383	LESS THAN 1.01	N/A		63					
21	-0.004	0.382	LESS THAN 1.01	N/A		64					
22	-0.007	0.381	LESS THAN 1.01	N/A		65					
23	-0.006	0.382	LESS THAN 1.01	N/A		66					
24	-0.004	0.383	LESS THAN 1.01	N/A		67					
25	-0.003	0.381	LESS THAN 1.01	N/A		68					
26	0.031	N/A	LESS THAN 1.01	N/A		69					
27	0.033	N/A	LESS THAN 1.01	N/A		70					
28	0.031	N/A	LESS THAN 1.01	N/A		71					
29	0.018	N/A	LESS THAN 1.01	N/A		72					
30	0.007	N/A	LESS THAN 1.01	N/A		73					
31	0.015	N/A	LESS THAN 1.01	N/A		74					
32	0.027	N/A	LESS THAN 1.01	N/A		75					
33	0.050	N/A	LESS THAN 1.01	N/A		76					
34	0.067	N/A	LESS THAN 1.01	N/A		77					
35	0.066	N/A	LESS THAN 1.01	N/A		78					
36	0.062	N/A	LESS THAN 1.01	N/A		79					
37	0.058	N/A	LESS THAN 1.01	N/A		80					
38	0.054	N/A	LESS THAN 1.01	N/A		81					
39	0.048	N/A	LESS THAN 1.01	N/A		82					
40	0.043	N/A	LESS THAN 1.01	N/A		83					
41	0.040	N/A	LESS THAN 1.01	N/A		84					
42	0.038	N/A	LESS THAN 1.01	N/A	JS	85					
43	0.034	N/A	LESS THAN 1.01	N/A		86					

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) (After structural welding) After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #5 Gage/Std S/N(s):4470 / J-770-NDT / J-1165 Date of Inspection: 02/20/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.045	N/A	LESS THAN 1.01	N/A		44	0.004	N/A	LESS THAN 1.01	N/A	
2	0.032	N/A	LESS THAN 1.01	N/A		45	0.002	N/A	LESS THAN 1.01	N/A	
3	0.037	N/A	LESS THAN 1.01	N/A		46	0.073	N/A	LESS THAN 1.01	N/A	
4	0.046	N/A	LESS THAN 1.01	N/A		47	0.069	N/A	LESS THAN 1.01	N/A	
5	0.044	N/A	LESS THAN 1.01	N/A		48	0.040	N/A	LESS THAN 1.01	N/A	
6	0.031	N/A	LESS THAN 1.01	N/A		49	0.014	N/A	LESS THAN 1.01	N/A	
7	0.014	N/A	LESS THAN 1.01	N/A		50	-0.045	N/A	LESS THAN 1.01	N/A	
8	-0.002	N/A	LESS THAN 1.01	N/A		51	0.014	N/A	LESS THAN 1.01	N/A	
9	-0.011	N/A	LESS THAN 1.01	N/A		52	0.035	N/A	LESS THAN 1.01	N/A	
10	-0.018	N/A	LESS THAN 1.01	N/A		53	0.063	N/A	LESS THAN 1.01	N/A	
11	-0.020	N/A	LESS THAN 1.01	N/A		54	0.042	N/A	LESS THAN 1.01	N/A	
12	-0.021	N/A	LESS THAN 1.01	N/A		55	0.049	N/A	LESS THAN 1.01	N/A	
13	-0.023	N/A	LESS THAN 1.01	N/A		56	-0.015	N/A	LESS THAN 1.01	N/A	
14	-0.020	N/A	LESS THAN 1.01	N/A		57	0.062	N/A	LESS THAN 1.01	N/A	
15	-0.017	N/A	LESS THAN 1.01	N/A		58	0.062	N/A	LESS THAN 1.01	N/A	
16	-0.009	N/A	LESS THAN 1.01	N/A		59	0.047	N/A	LESS THAN 1.01	N/A	
17	0.001	N/A	LESS THAN 1.01	N/A		60	0.047	N/A	LESS THAN 1.01	N/A	
18	0.017	N/A	LESS THAN 1.01	N/A		61	0.058	N/A	LESS THAN 1.01	N/A	
19	0.029	N/A	LESS THAN 1.01	N/A		62	0.065	N/A	LESS THAN 1.01	N/A	
20	0.043	N/A	LESS THAN 1.01	N/A		63					
21	0.063	N/A	LESS THAN 1.01	N/A		64					
22	-0.001	N/A	LESS THAN 1.01	N/A		65					
23	-0.010	N/A	LESS THAN 1.01	N/A		66					
24	-0.017	N/A	LESS THAN 1.01	N/A		67					
25	-0.021	N/A	LESS THAN 1.01	N/A		68					
26	-0.023	N/A	LESS THAN 1.01	N/A		69					
27	-0.025	N/A	LESS THAN 1.01	N/A		70					
28	-0.019	N/A	LESS THAN 1.01	N/A		71					
29	-0.014	N/A	LESS THAN 1.01	N/A		72					
30	-0.012	N/A	LESS THAN 1.01	N/A		73					
31	-0.007	N/A	LESS THAN 1.01	N/A		74					
32	0.004	N/A	LESS THAN 1.01	N/A		75					
33	0.013	N/A	LESS THAN 1.01	N/A		76					
34	0.019	N/A	LESS THAN 1.01	N/A		77					
35	0.029	N/A	LESS THAN 1.01	N/A		78					
36	0.077	N/A	LESS THAN 1.01	N/A		79					
37	0.060	N/A	LESS THAN 1.01	N/A		80					
38	0.057	N/A	LESS THAN 1.01	N/A		81					
39	0.060	N/A	LESS THAN 1.01	N/A		82					
40	0.034	N/A	LESS THAN 1.01	N/A		83					
41	0.010	N/A	LESS THAN 1.01	N/A		84					
42	0.062	N/A	LESS THAN 1.01	N/A		85					
43	0.020	N/A	LESS THAN 1.01	N/A		86					

34550 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#/2) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #4

Gage/Std S/N(s): 4470 / J-770-NDT / J-1165

Date of Inspection: 02/20/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	-0.007	N/A	LESS THAN 1.01	N/A		44					
2	0.002	N/A	LESS THAN 1.01	N/A		45					
3	0.013	N/A	LESS THAN 1.01	N/A		46					
4	0.021	N/A	LESS THAN 1.01	N/A		47					
5	0.020	N/A	LESS THAN 1.01	N/A		48					
6	0.015	N/A	LESS THAN 1.01	N/A		49					
7	0.014	N/A	LESS THAN 1.01	N/A		50					
8	0.012	N/A	LESS THAN 1.01	N/A		51					
9	0.009	N/A	LESS THAN 1.01	N/A		52					
10	0.005	N/A	LESS THAN 1.01	N/A		53					
11	0.003	N/A	LESS THAN 1.01	N/A		54					
12	0.000	N/A	LESS THAN 1.01	N/A		55					
13	0.003	N/A	LESS THAN 1.01	N/A		56					
14	0.011	N/A	LESS THAN 1.01	N/A		57					
15	0.042	0.391	LESS THAN 1.01	N/A		58					
16	0.043	0.391	LESS THAN 1.01	N/A		59					
17	0.044	0.392	LESS THAN 1.01	N/A		60					
18	0.046	0.389	LESS THAN 1.01	N/A		61					
19	0.044	0.391	LESS THAN 1.01	N/A		62					
20	0.045	0.390	LESS THAN 1.01	N/A		63					
21	0.045	0.391	LESS THAN 1.01	N/A		64					
22	0.045	0.391	LESS THAN 1.01	N/A		65					
23	0.046	0.391	LESS THAN 1.01	N/A		66					
24	0.046	0.390	LESS THAN 1.01	N/A		67					
25	0.049	0.390	LESS THAN 1.01	N/A		68					
26	0.052	0.391	LESS THAN 1.01	N/A		69					
27	0.054	0.393	LESS THAN 1.01	N/A		70					
28	0.052	0.391	LESS THAN 1.01	N/A		71					
29	0.051	0.391	LESS THAN 1.01	N/A		72					
30	0.052	0.392	LESS THAN 1.01	N/A		73					
31	0.017	N/A	LESS THAN 1.01	N/A		74					
32	0.046	N/A	LESS THAN 1.01	N/A		75					
33	0.052	N/A	LESS THAN 1.01	N/A		76					
34	0.038	N/A	LESS THAN 1.01	N/A		77					
35	0.043	N/A	LESS THAN 1.01	N/A		78					
36	0.028	N/A	LESS THAN 1.01	N/A		79					
37	0.020	N/A	LESS THAN 1.01	N/A		80					
38	0.016	N/A	LESS THAN 1.01	N/A		81					
39						82					
40						83					
41						84					
42						85					
43						86					

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) (%) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #3 Gage/Std S/N(s): 4470 / J-770-NDT / J-1185 Date of Inspection: 02/20/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.072	0.383	LESS THAN 1.01	N/A	BT	44	-0.025	N/A	LESS THAN 1.01	N/A	BT
2	0.074	0.383	LESS THAN 1.01	N/A		45	-0.022	N/A	LESS THAN 1.01	N/A	
3	0.074	0.383	LESS THAN 1.01	N/A		46	-0.016	N/A	LESS THAN 1.01	N/A	
4	0.075	0.382	LESS THAN 1.01	N/A		47	-0.009	N/A	LESS THAN 1.01	N/A	
5	0.075	0.382	LESS THAN 1.01	N/A		48	-0.001	N/A	LESS THAN 1.01	N/A	
6	0.079	0.383	LESS THAN 1.01	N/A		49	0.010	N/A	LESS THAN 1.01	N/A	
7	0.079	0.382	LESS THAN 1.01	N/A		50	0.026	N/A	LESS THAN 1.01	N/A	
8	0.078	0.382	LESS THAN 1.01	N/A		51	0.072	N/A	LESS THAN 1.01	N/A	
9	0.075	0.383	LESS THAN 1.01	N/A		52	0.042	N/A	LESS THAN 1.01	N/A	
10	0.074	0.382	LESS THAN 1.01	N/A		53	0.041	N/A	LESS THAN 1.01	N/A	
11	0.071	0.381	LESS THAN 1.01	N/A		54	0.035	N/A	LESS THAN 1.01	N/A	
12	0.069	0.381	LESS THAN 1.01	N/A		55	0.027	N/A	LESS THAN 1.01	N/A	
13	0.066	0.381	LESS THAN 1.01	N/A		56	0.072	N/A	LESS THAN 1.01	N/A	
14	0.062	0.381	LESS THAN 1.01	N/A		57	0.019	N/A	LESS THAN 1.01	N/A	
15	0.060	0.382	LESS THAN 1.01	N/A		58	0.057	N/A	LESS THAN 1.01	N/A	
16	0.057	0.380	LESS THAN 1.01	N/A		59	0.086	N/A	LESS THAN 1.01	N/A	
17	0.052	0.380	LESS THAN 1.01	N/A		60	0.076	N/A	LESS THAN 1.01	N/A	
18	0.020	N/A	LESS THAN 1.01	N/A		61	0.083	N/A	LESS THAN 1.01	N/A	
19	0.012	N/A	LESS THAN 1.01	N/A		62	0.091	N/A	LESS THAN 1.01	N/A	
20	0.000	N/A	LESS THAN 1.01	N/A		63	0.079	N/A	LESS THAN 1.01	N/A	
21	-0.012	N/A	LESS THAN 1.01	N/A		64	0.007	N/A	LESS THAN 1.01	N/A	
22	-0.022	N/A	LESS THAN 1.01	N/A		65	0.089	N/A	LESS THAN 1.01	N/A	
23	-0.027	N/A	LESS THAN 1.01	N/A		66	0.082	N/A	LESS THAN 1.01	N/A	
24	-0.027	N/A	LESS THAN 1.01	N/A		67	0.064	N/A	LESS THAN 1.01	N/A	
25	-0.028	N/A	LESS THAN 1.01	N/A		68	0.041	N/A	LESS THAN 1.01	N/A	
26	-0.027	N/A	LESS THAN 1.01	N/A		69	0.092	N/A	LESS THAN 1.01	N/A	
27	-0.024	N/A	LESS THAN 1.01	N/A		70	0.070	N/A	LESS THAN 1.01	N/A	
28	-0.021	N/A	LESS THAN 1.01	N/A		71	0.046	N/A	LESS THAN 1.01	N/A	
29	-0.020	N/A	LESS THAN 1.01	N/A		72	-0.012	N/A	LESS THAN 1.01	N/A	
30	-0.016	N/A	LESS THAN 1.01	N/A		73	0.079	N/A	LESS THAN 1.01	N/A	
31	-0.013	N/A	LESS THAN 1.01	N/A		74	0.059	N/A	LESS THAN 1.01	N/A	
32	-0.010	N/A	LESS THAN 1.01	N/A		75	0.009	N/A	LESS THAN 1.01	N/A	
33	-0.011	N/A	LESS THAN 1.01	N/A		76	0.012	N/A	LESS THAN 1.01	N/A	
34	-0.010	N/A	LESS THAN 1.01	N/A		77	0.057	N/A	LESS THAN 1.01	N/A	
35	-0.006	N/A	LESS THAN 1.01	N/A		78	0.057	N/A	LESS THAN 1.01	N/A	
36	-0.005	N/A	LESS THAN 1.01	N/A		79	0.043	N/A	LESS THAN 1.01	N/A	
37	-0.008	N/A	LESS THAN 1.01	N/A		80	-0.021	N/A	LESS THAN 1.01	N/A	
38	-0.008	N/A	LESS THAN 1.01	N/A		81	0.003	N/A	LESS THAN 1.01	N/A	
39	-0.009	N/A	LESS THAN 1.01	N/A		82	-0.013	N/A	LESS THAN 1.01	N/A	
40	-0.016	N/A	LESS THAN 1.01	N/A		83	0.015	N/A	LESS THAN 1.01	N/A	
41	-0.020	N/A	LESS THAN 1.01	N/A		84	0.055	N/A	LESS THAN 1.01	N/A	
42	-0.022	N/A	LESS THAN 1.01	N/A	BT	85	0.050	N/A	LESS THAN 1.01	N/A	BT
43	-0.023	N/A	LESS THAN 1.01	N/A	BT	86	-0.018	N/A	LESS THAN 1.01	N/A	BT

64050 PPPL NCSX PVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #3

Gage/Std S/N(s): 4470 / J-770-NDT / J-1165

Date of Inspection: 02/20/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	
87	0.170	N/A	LESS THAN 1.01	N/A		126						
88	0.045	N/A	LESS THAN 1.01	N/A		127						
89	-0.007	N/A	LESS THAN 1.01	N/A		128						
90	0.013	N/A	LESS THAN 1.01	N/A		129						
91	0.014	N/A	LESS THAN 1.01	N/A		130						
92	0.018	N/A	LESS THAN 1.01	N/A		131						
93	0.027	N/A	LESS THAN 1.01	N/A		132						
94	0.021	N/A	LESS THAN 1.01	N/A		133						
95	0.008	N/A	LESS THAN 1.01	N/A		134						
96	0.024	N/A	LESS THAN 1.01	N/A		135						
97	0.024	N/A	LESS THAN 1.01	N/A		136						
98						137						
99						138						
100						139						
101					140							
102					141							
103					142							
104					143							
105					144							
106					145							
107					146							
108					147							
109					148							
110					149							
111					150							
112					151							
113					152							
114					153							
115					154							
116					155							
117					156							
118					157							
119					158							
120					159							
121					160							
122					161							
123					162							
124					163							
125					164							

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 08

Inspection type: Formed Panel Interpass (#) N/A After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #1 Gage/Std S/N(s): 4470 / J-770-NDT / J-1185 Date of Inspection: 02/20/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.002	N/A	LESS THAN 1.01	N/A	[Signature]	44	0.070	0.385	LESS THAN 1.01	N/A	[Signature]
2	0.008	N/A	LESS THAN 1.01	N/A		45	0.065	0.385	LESS THAN 1.01	N/A	
3	-0.017	N/A	LESS THAN 1.01	N/A		46	0.054	0.385	LESS THAN 1.01	N/A	
4	-0.025	N/A	LESS THAN 1.01	N/A		47	0.043	0.387	LESS THAN 1.01	N/A	
5	-0.033	N/A	LESS THAN 1.01	N/A		48	0.032	0.386	LESS THAN 1.01	N/A	
6	-0.039	N/A	LESS THAN 1.01	N/A		49	0.023	0.385	LESS THAN 1.01	N/A	
7	-0.044	N/A	LESS THAN 1.01	N/A		50	0.014	0.385	LESS THAN 1.01	N/A	
8	-0.045	N/A	LESS THAN 1.01	N/A		51	0.006	0.385	LESS THAN 1.01	N/A	
9	-0.045	N/A	LESS THAN 1.01	N/A		52	0.000	0.383	LESS THAN 1.01	N/A	
10	-0.043	N/A	LESS THAN 1.01	N/A		53	-0.002	0.383	LESS THAN 1.01	N/A	
11	-0.039	N/A	LESS THAN 1.01	N/A	54	0.003	0.384	LESS THAN 1.01	N/A		
12	-0.032	N/A	LESS THAN 1.01	N/A	55	0.008	0.385	LESS THAN 1.01	N/A		
13	-0.020	N/A	LESS THAN 1.01	N/A	56	0.007	0.386	LESS THAN 1.01	N/A		
14	0.000	N/A	LESS THAN 1.01	N/A	57	0.003	0.385	LESS THAN 1.01	N/A		
15	0.019	N/A	LESS THAN 1.01	N/A	58	-0.002	0.385	LESS THAN 1.01	N/A		
16	0.028	N/A	LESS THAN 1.01	N/A	59	-0.011	0.384	LESS THAN 1.01	N/A		
17	0.030	N/A	LESS THAN 1.01	N/A	60	E	N/A	LESS THAN 1.01	N/A		
18	0.023	N/A	LESS THAN 1.01	N/A	61	E	N/A	LESS THAN 1.01	N/A		
19	0.013	N/A	LESS THAN 1.01	N/A	62	E	N/A	LESS THAN 1.01	N/A		
20	0.008	N/A	LESS THAN 1.01	N/A	63	E	N/A	LESS THAN 1.01	N/A		
21	0.007	N/A	LESS THAN 1.01	N/A	64	0.002	N/A	LESS THAN 1.01	N/A		
22	0.007	N/A	LESS THAN 1.01	N/A	65	0.082	N/A	LESS THAN 1.01	N/A		
23	0.004	N/A	LESS THAN 1.01	N/A	66	0.098	N/A	LESS THAN 1.01	N/A		
24	0.004	N/A	LESS THAN 1.01	N/A	67	0.089	N/A	LESS THAN 1.01	N/A		
25	0.004	N/A	LESS THAN 1.01	N/A	68	-0.008	N/A	LESS THAN 1.01	N/A		
26	0.006	N/A	LESS THAN 1.01	N/A	69	0.097	N/A	LESS THAN 1.01	N/A		
27	0.006	N/A	LESS THAN 1.01	N/A	70	0.079	N/A	LESS THAN 1.01	N/A		
28	0.000	N/A	LESS THAN 1.01	N/A	71	0.082	N/A	LESS THAN 1.01	N/A		
29	-0.011	N/A	LESS THAN 1.01	N/A	72	0.115	N/A	LESS THAN 1.01	N/A		
30	-0.021	N/A	LESS THAN 1.01	N/A	73	0.042	N/A	LESS THAN 1.01	N/A		
31	-0.027	N/A	LESS THAN 1.01	N/A	74	0.087	N/A	LESS THAN 1.01	N/A		
32	-0.020	N/A	LESS THAN 1.01	N/A	75	0.075	N/A	LESS THAN 1.01	N/A		
33	-0.010	N/A	LESS THAN 1.01	N/A	76	0.085	N/A	LESS THAN 1.01	N/A		
34	0.050	0.384	LESS THAN 1.01	N/A	77	0.069	N/A	LESS THAN 1.01	N/A		
35	0.049	0.384	LESS THAN 1.01	N/A	78	0.045	N/A	LESS THAN 1.01	N/A		
36	0.049	0.385	LESS THAN 1.01	N/A	79	0.008	N/A	LESS THAN 1.01	N/A		
37	0.053	0.386	LESS THAN 1.01	N/A	80	0.049	N/A	LESS THAN 1.01	N/A		
38	0.059	0.386	LESS THAN 1.01	N/A	81	0.093	N/A	LESS THAN 1.01	N/A		
39	0.067	0.384	LESS THAN 1.01	N/A	82	0.046	N/A	LESS THAN 1.01	N/A		
40	0.072	0.385	LESS THAN 1.01	N/A	83	0.055	N/A	LESS THAN 1.01	N/A		
41	0.074	0.385	LESS THAN 1.01	N/A	84	0.040	N/A	LESS THAN 1.01	N/A		
42	0.072	0.387	LESS THAN 1.01	N/A	85	0.028	N/A	LESS THAN 1.01	N/A		
43	0.071	0.385	LESS THAN 1.01	N/A	86	0.069	N/A	LESS THAN 1.01	N/A		

64880 PPPL NCSX PV8 INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #1

Gage/Std S/N(s):4470 / J-770-NDT / J-1165

Date of Inspection: 02/20/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	
87	0.023	N/A	LESS THAN 1.01	N/A		128						
88	0.010	N/A	LESS THAN 1.01	N/A		127						
89	0.044	N/A	LESS THAN 1.01	N/A		128						
90	0.023	N/A	LESS THAN 1.01	N/A		129						
91	0.005	N/A	LESS THAN 1.01	N/A		130						
92	0.011	N/A	LESS THAN 1.01	N/A		131						
93	0.019	N/A	LESS THAN 1.01	N/A		132						
94	0.019	N/A	LESS THAN 1.01	N/A		133						
95	0.010	N/A	LESS THAN 1.01	N/A		134						
96						135						
97					136							
98					137							
99					138							
100					139							
101					140							
102					141							
103					142							
104					143							
105					144							
106					145							
107					146							
108					147							
109					148							
110					149							
111					150							
112					151							
113					152							
114					153							
115					154							
116					155							
117					156							
118					157							
119					158							
120					159							
121					160							
122					161							
123					162							
124					163							
125					164							

Quality Assurance Documentation for Part ID: SE121-001P - Item: 127

Workorder: 64880/1-0 Sub:40 Op:50

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,188") Upper Half Of Bilateral Tolerance (tack welded vessel)		QA		4470	P #1 -0.011/0.074, P #2 -0.007/+0.077, P #3 0.052/0.079, P#4 0.042/0.054 [N/ C:15123]	522			R
(10)								02-20-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-20-0			

Quality Assurance Documentation for Part ID: SE121-001P - Item: 128

Workorder: 64880/1-0 Sub:40 Op:70

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Verify Panel Joint Alignment Weld Seam # 1-2 (.02" Max)		CWI		J-1149	.005	712			A
(10)								02-20-0			
*		Verify Panel Joint Alignment Weld Seam # 3-4 (.02" Max)		CWI		J-1149	.005	712			A
(20)								02-20-0			
*		Verify Panel / Rest Stop Position Panel #1 (0 - .09" Gap)		MFG		J-1149	MAX GAP .060	712			A
(30)								02-20-0			
*		Verify Panel / Rest Stop Position Panel #3 (0 - .09" Gap)		MFG		J-1149	MAX. GAP .060	712			A
(40)								02-20-0			
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			GAS SETTINGS (PUR GE 20 SHIELDING 40) ARGON	712			A
(50)								02-20-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 HEAT # CB7996 & .062 HEAT # AV812 8 625 INCONEL	712			A
(60)								02-20-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(70)								02-20-0			

INSPECTION DATA CHECKLIST

* (80)	CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDERS 709 # 683	712			A
* (90)	CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ACCEPT PER WPS 390	712	02-20-0		A

Quality Assurance Documentation for Part ID: SE121-001P - Item: 129

Workorder: 64880/1-0 Sub:40 Op:90

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH SHIELDING / 20 CFH PURGE	791	581		A
(10)				CWI				02-21-0	02-21-0		
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 625 INCO HT AV 8128 .093 625 INC O HT # CB7996	791	581		A
(20)				CWI				02-21-0	02-21-0		
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S .S. WOOL INSERT	791	581		A
(30)				CWI				02-21-0	02-21-0		
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 /709 ACCEPTABLE TO MTM WELDER QU IFICATION CHECK	791	581		A
(40)				CWI				02-21-0	02-21-0		
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 FILLER 75-175 .093 FILLER 100-2 10 ALL PARAM. PER WPS	791	581		A
(50)				CWI				02-21-0	02-21-0		



Major

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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 130

Date of Inspection:02/21/2004

Type of Material:625 INCONEL

NDT#:8065

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:90 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PARA 6.29.1
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Inspection Methods Used: Magnification Used: 8X MAGNIFICATION Light Source Used: FLASHLIGHT S/N FL-2

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
INTERMEDIATE FILLER PASS WELDS

Notes:

Inspect intermediate-pass welds on joining 1-3 to 2-5-4, 100% each weld. No rejectable indications were noted at the time of inspection.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 581-D.EDWARDS

Date: 02/21/2004

Waylon D. Edwards

Quality Assurance Documentation for Part ID: SE121-001P - Item: 131

Workorder: 64880/1-0 Sub:40 Op:110

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH SHIELDING / 20 CFH PURGE	791			A
(10)								02-21-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 625 INCO HT AV 8128 .093 625 INC O HT # CB7996	791			A
(20)								02-21-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S .S. WOOL INSERT	791			A
(30)								02-21-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 /709 ACCEPTABLE TO MTM WELDER QU IFICATION CHECK	791			A
(40)								02-21-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 FILLER 75-175 .093 FILLER 100-2 10 ALL PARAM. PER WPS	791			A
(50)								02-21-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 132

Date of Inspection:02/21/2004

Type of Material:625 INCONEL

NDT#:8067

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:110 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PARA 6.29.1
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Inspection Methods Used: Magnification Used: 8X MAGNIFICATION Light Source Used: FLASHLIGHT S/N FL-2

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
2ND INTERMEDIATE FILLER PASS WELDS


Notes:

Inspect 2nd intermediate-pass welds on joining 1-3 to 2-5-4, 100% each weld. No rejectable indications were noted at the time of inspection.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 581-D.EDWARDS

Date: 02/21/2004

Waylon D. Edwards 

Quality Assurance Documentation for Part ID: SE121-001P - Item: 133

Workorder: 64880/1-0 Sub:40 Op:130

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH SHIELDING / 20 CFH PURGE	791			A
(10)								02-21-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO HT # CB7996	791			A
(20)								02-21-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S .S. WOOL INSERT	791			A
(30)								02-21-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 / 709 ACCEPTABL E TO MTM WELDER Q LIFICATION CHECK	791			A
(40)								02-23-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER 100-210 ALL PARAM. PER WP S	791			A
(50)								02-21-0			



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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 134

Date of Inspection:02/21/2004

Type of Material:625 INCONEL

NDT#:8068

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:130 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PARA 6.29.1
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Inspection Methods Used: Magnification Used: 8X MAGNIFICATION Light Source Used: FLASHLIGHT S/N FL-2

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
FINAL COVERPASS WELDS

Notes:

Inspect final coverpass welds on joining 1-3 to 2-5-4, 100% each weld. No rejectable indications were noted at the time of inspection.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 581-D.EDWARDS

Date: 02/21/2004

Waylon D. Edwards

Quality Assurance Documentation for Part ID: SE121-001P - Item: 135

Workorder: 64880/1-0 Sub:40 Op:140

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,248") Profile Tolerance (+.188/-.060") (tack welded vessel)		QA		4470	P #1 +0.015/+0.085, P #2 +0.008/+0.067 , P #3 +0.022/+0.05 5, P #4 -0.018/+0.0 53	522			A
(10)								02-21-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-21-0			

Quality Assurance Documentation for Part ID: SE121-001P - Item: 136

Workorder: 64880/1-0 Sub:40 Op:150

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH SHIELDING / 20 CFH PURGE	791			A
(10)								02-23-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO HT # CB7996	791			A
(20)								02-23-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S .S. WOOL INSERT	791			A
(30)								02-23-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 /ACCEPTABLE TO MTM WELDER QUALIF ICATION CHECK	791			A
(40)								02-23-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER 100-210 ALL PARAM. PER WP S	791			A
(50)								02-23-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 137

Date of Inspection:02/23/2004

Type of Material:625 INCONEL

NDT#:8071

Stage of Inspection: <input checked="" type="checkbox"/> Incoming Inspection <input type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment [] Casting <input type="checkbox"/> Bar Stock [] Plate <input type="checkbox"/> Forging [] Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input checked="" type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:150 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECT. V, ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6, PARA. 6.29.1
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Inspection Methods Used: Magnification Used: 10X Light Source Used: AMBIENT AND FLASHLIGHT

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces [] Joint Preps [] Root Pass Back Gouge [] Cover Pass [] Other

Notes:

Performed visual inspection to the backgrounding of Seam 1-2 and Seam 3-4. Background joints acceptable to customer drawing / specification requirements.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 933-D.LEAPLEY

Date: 02/23/2004



Quality Assurance Documentation for Part ID: SE121-001P - Item: 138

Workorder: 64880/1-0 Sub:40 Op:170

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH SHIELDING / 20 CFH PURGE	791			A
(10)								02-23-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO HT # CB7996	791			A
(20)								02-23-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S .S. WOOL INSERT	791			A
(30)								02-23-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			709 / ACCEPTABLE TO MTM WELDER QUALI CATION CHECK	791			A
(40)								02-23-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER 100-210 ALL PARAM. PER WP S	791			A
(50)								02-23-0			



Major

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Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 139

Date of Inspection:02/23/2004

Type of Material:625 INCONEL

NDT#:8077

Stage of Inspection: <input checked="" type="checkbox"/> Incoming Inspection <input type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment [] Casting <input type="checkbox"/> Bar Stock [] Plate <input type="checkbox"/> Forging [] Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input checked="" type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:170 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECT. V, ARTICLE 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6, PARA. 6.29.1
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Inspection Methods Used: Magnification Used: 10X Light Source Used: AMBIENT AND FLASHLIGHT

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces [] Joint Preps [] Root Pass [] Back Gouge Cover Pass [] Other

Notes:

Performed visual inspection to the cover pass weld in Seam 1-2 and in Seam 3-4. Welds both acceptable to customer drawing / specification requirements.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 933-D.LEAPLEY

Date: 02/23/2004



Quality Assurance Documentation for Part ID: SE121-001P - Item: 140

Workorder: 64880/1-0 Sub:40 Op:180

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g ,288") Profile Tolerance (+.188/-.100") (tack welded vessel)		QA		4470	P #1 -0.013/+0.060, P #2 -0.040/+0.021 , P #3 -0.006/+0.04 2, P #4 -0.16/+0.04 8	522			A
(10)								02-23-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-23-0			

Quality Assurance Documentation for Part ID: SE121-001P - Item: 141

Workorder: 64880/1-0 Sub:40 Op:190

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH SHIELDING / 20 CFH PURGE	791			A
(10)								02-24-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO HT # CB7996	791			A
(20)								02-24-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. / S .S. WOOL INSERT	791			A
(30)								02-24-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 / ACCEPTABLE TO MTM WELDER QUALI CATION CHECK	791			A
(40)								02-24-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 FILLER 100-210 ALL PARAM. PER WP S	791			A
(50)								02-24-0			

64860 PPPL NC&X PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #4 Gage/Std S/N(s):4470 / J-1165 Date of Inspection: 02/23/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	
1	0.011	N/A	LESS THAN 1.01	N/A		44						
2	0.023	N/A	LESS THAN 1.01	N/A		45						
3	0.032	N/A	LESS THAN 1.01	N/A		46						
4	0.035	N/A	LESS THAN 1.01	N/A		47						
5	0.033	N/A	LESS THAN 1.01	N/A		48						
6	0.030	N/A	LESS THAN 1.01	N/A		49						
7	0.025	N/A	LESS THAN 1.01	N/A		50						
8	0.020	N/A	LESS THAN 1.01	N/A		51						
9	0.013	N/A	LESS THAN 1.01	N/A		52						
10	0.009	N/A	LESS THAN 1.01	N/A		53						
11	0.004	N/A	LESS THAN 1.01	N/A		54						
12	0.000	N/A	LESS THAN 1.01	N/A		55						
13	-0.002	N/A	LESS THAN 1.01	N/A		56						
14	0.005	N/A	LESS THAN 1.01	N/A		57						
15	0.024	N/A	LESS THAN 1.01	N/A		58						
16	0.012	N/A	LESS THAN 1.01	N/A		59						
17	0.004	N/A	LESS THAN 1.01	N/A		60						
18	0.002	N/A	LESS THAN 1.01	N/A		61						
19	0.002	N/A	LESS THAN 1.01	N/A		62						
20	0.008	N/A	LESS THAN 1.01	N/A		63						
21	0.016	N/A	LESS THAN 1.01	N/A		64						
22	0.027	N/A	LESS THAN 1.01	N/A		65						
23	0.036	N/A	LESS THAN 1.01	N/A		66						
24	0.045	N/A	LESS THAN 1.01	N/A		67						
25	0.055	N/A	LESS THAN 1.01	N/A		68						
26	0.062	N/A	LESS THAN 1.01	N/A		69						
27	0.064	N/A	LESS THAN 1.01	N/A		70						
28	0.066	N/A	LESS THAN 1.01	N/A		71						
29	0.070	N/A	LESS THAN 1.01	N/A		72						
30	0.079	N/A	LESS THAN 1.01	N/A		73						
31	0.033	N/A	LESS THAN 1.01	N/A		74						
32	0.044	N/A	LESS THAN 1.01	N/A		75						
33	0.050	N/A	LESS THAN 1.01	N/A		76						
34	0.017	N/A	LESS THAN 1.01	N/A		77						
35	0.046	N/A	LESS THAN 1.01	N/A		78						
36	0.017	N/A	LESS THAN 1.01	N/A		79						
37	0.001	N/A	LESS THAN 1.01	N/A		80						
38	0.011	N/A	LESS THAN 1.01	N/A	81							
39					82							
40					83							
41					84							
42					85							
43					86							

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: **SE121-001P-1MTM Rev: 0B**

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final inspection

Part # / Panel #: **SE121-001P PANEL #1** Gage/Std S/N(s): **4470 / J-1165** Date of inspection: **02/23/04**

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.021	N/A	LESS THAN 1.01	N/A		44	0.060	N/A	LESS THAN 1.01	N/A	
2	0.010	N/A	LESS THAN 1.01	N/A		45	0.058	N/A	LESS THAN 1.01	N/A	
3	0.000	N/A	LESS THAN 1.01	N/A		46	0.052	N/A	LESS THAN 1.01	N/A	
4	-0.007	N/A	LESS THAN 1.01	N/A		47	0.045	N/A	LESS THAN 1.01	N/A	
5	-0.015	N/A	LESS THAN 1.01	N/A		48	0.038	N/A	LESS THAN 1.01	N/A	
6	-0.023	N/A	LESS THAN 1.01	N/A		49	0.034	N/A	LESS THAN 1.01	N/A	
7	-0.028	N/A	LESS THAN 1.01	N/A		50	0.027	N/A	LESS THAN 1.01	N/A	
8	-0.031	N/A	LESS THAN 1.01	N/A		51	0.022	N/A	LESS THAN 1.01	N/A	
9	-0.033	N/A	LESS THAN 1.01	N/A		52	0.019	N/A	LESS THAN 1.01	N/A	
10	-0.034	N/A	LESS THAN 1.01	N/A		53	0.019	N/A	LESS THAN 1.01	N/A	
11	-0.033	N/A	LESS THAN 1.01	N/A		54	0.022	N/A	LESS THAN 1.01	N/A	
12	-0.029	N/A	LESS THAN 1.01	N/A		55	0.030	N/A	LESS THAN 1.01	N/A	
13	-0.020	N/A	LESS THAN 1.01	N/A		56	0.035	N/A	LESS THAN 1.01	N/A	
14	-0.005	N/A	LESS THAN 1.01	N/A		57	0.037	N/A	LESS THAN 1.01	N/A	
15	0.013	N/A	LESS THAN 1.01	N/A		58	0.036	N/A	LESS THAN 1.01	N/A	
16	0.026	N/A	LESS THAN 1.01	N/A		59	0.035	N/A	LESS THAN 1.01	N/A	
17	0.029	N/A	LESS THAN 1.01	N/A		60	0.039	N/A	LESS THAN 1.01	N/A	
18	0.023	N/A	LESS THAN 1.01	N/A		61	0.069	N/A	LESS THAN 1.01	N/A	
19	0.014	N/A	LESS THAN 1.01	N/A		62	0.084	N/A	LESS THAN 1.01	N/A	
20	0.008	N/A	LESS THAN 1.01	N/A		63	0.054	N/A	LESS THAN 1.01	N/A	
21	0.007	N/A	LESS THAN 1.01	N/A		64	0.000	N/A	LESS THAN 1.01	N/A	
22	0.008	N/A	LESS THAN 1.01	N/A		65	0.074	N/A	LESS THAN 1.01	N/A	
23	0.006	N/A	LESS THAN 1.01	N/A		66	0.092	N/A	LESS THAN 1.01	N/A	
24	0.003	N/A	LESS THAN 1.01	N/A		67	0.080	N/A	LESS THAN 1.01	N/A	
25	0.004	N/A	LESS THAN 1.01	N/A		68	-0.007	N/A	LESS THAN 1.01	N/A	
26	0.007	N/A	LESS THAN 1.01	N/A		69	0.095	N/A	LESS THAN 1.01	N/A	
27	0.007	N/A	LESS THAN 1.01	N/A		70	0.078	N/A	LESS THAN 1.01	N/A	
28	0.003	N/A	LESS THAN 1.01	N/A		71	0.083	N/A	LESS THAN 1.01	N/A	
29	-0.006	N/A	LESS THAN 1.01	N/A		72	0.116	N/A	LESS THAN 1.01	N/A	
30	-0.019	N/A	LESS THAN 1.01	N/A		73	0.042	N/A	LESS THAN 1.01	N/A	
31	-0.026	N/A	LESS THAN 1.01	N/A		74	0.087	N/A	LESS THAN 1.01	N/A	
32	-0.023	N/A	LESS THAN 1.01	N/A		75	0.076	N/A	LESS THAN 1.01	N/A	
33	-0.012	N/A	LESS THAN 1.01	N/A		76	0.091	N/A	LESS THAN 1.01	N/A	
34	0.047	N/A	LESS THAN 1.01	N/A		77	0.060	N/A	LESS THAN 1.01	N/A	
35	0.044	N/A	LESS THAN 1.01	N/A		78	0.069	N/A	LESS THAN 1.01	N/A	
36	0.042	N/A	LESS THAN 1.01	N/A		79	0.035	N/A	LESS THAN 1.01	N/A	
37	0.041	N/A	LESS THAN 1.01	N/A		80	0.048	N/A	LESS THAN 1.01	N/A	
38	0.046	N/A	LESS THAN 1.01	N/A		81	0.092	N/A	LESS THAN 1.01	N/A	
39	0.056	N/A	LESS THAN 1.01	N/A		82	0.046	N/A	LESS THAN 1.01	N/A	
40	0.063	N/A	LESS THAN 1.01	N/A		83	0.050	N/A	LESS THAN 1.01	N/A	
41	0.067	N/A	LESS THAN 1.01	N/A		84	0.049	N/A	LESS THAN 1.01	N/A	
42	0.065	N/A	LESS THAN 1.01	N/A		85	0.025	N/A	LESS THAN 1.01	N/A	
43	0.062	N/A	LESS THAN 1.01	N/A		86	0.072	N/A	LESS THAN 1.01	N/A	

64000 PPPL NC&X PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1NTM Rev: 08

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #1

Gage/Std S/N(s):4470 / J-1185

Date of Inspection: 02/23/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
87	0.028	N/A	LESS THAN 1.01	N/A		126					
88	0.013	N/A	LESS THAN 1.01	N/A		127					
89	0.053	N/A	LESS THAN 1.01	N/A		128					
90	0.027	N/A	LESS THAN 1.01	N/A		129					
91	0.009	N/A	LESS THAN 1.01	N/A		130					
92	0.006	N/A	LESS THAN 1.01	N/A		131					
93	0.034	N/A	LESS THAN 1.01	N/A		132					
94	0.053	N/A	LESS THAN 1.01	N/A		133					
95	0.053	N/A	LESS THAN 1.01	N/A		134					
96						135					
97					136						
98					137						
99					138						
100					139						
101					140						
102					141						
103					142						
104					143						
105					144						
106					145						
107					146						
108					147						
109					148						
110					149						
111					150						
112					151						
113					152						
114					153						
115					154						
116					155						
117					156						
118					157						
119					158						
120					159						
121					160						
122					161						
123					162						
124					163						
125					164						

64660 PPPL NC9X PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #3 Gage/Std S/N(s):4470 / J-1165 Date of Inspection: 02/23/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.039	N/A	LESS THAN 1.01	N/A		44	-0.030	N/A	LESS THAN 1.01	N/A	
2	0.029	N/A	LESS THAN 1.01	N/A		45	-0.027	N/A	LESS THAN 1.01	N/A	
3	0.024	N/A	LESS THAN 1.01	N/A		46	-0.020	N/A	LESS THAN 1.01	N/A	
4	0.026	N/A	LESS THAN 1.01	N/A		47	-0.011	N/A	LESS THAN 1.01	N/A	
5	0.034	N/A	LESS THAN 1.01	N/A		48	-0.005	N/A	LESS THAN 1.01	N/A	
6	0.044	N/A	LESS THAN 1.01	N/A		49	0.003	N/A	LESS THAN 1.01	N/A	
7	0.052	N/A	LESS THAN 1.01	N/A		50	0.019	N/A	LESS THAN 1.01	N/A	
8	0.061	N/A	LESS THAN 1.01	N/A		51	0.078	N/A	LESS THAN 1.01	N/A	
9	0.065	N/A	LESS THAN 1.01	N/A		52	0.078	N/A	LESS THAN 1.01	N/A	
10	0.069	N/A	LESS THAN 1.01	N/A		53	0.083	N/A	LESS THAN 1.01	N/A	
11	0.071	N/A	LESS THAN 1.01	N/A		54	0.043	N/A	LESS THAN 1.01	N/A	
12	0.069	N/A	LESS THAN 1.01	N/A		55	0.027	N/A	LESS THAN 1.01	N/A	
13	0.069	N/A	LESS THAN 1.01	N/A		56	0.085	N/A	LESS THAN 1.01	N/A	
14	0.070	N/A	LESS THAN 1.01	N/A		57	0.047	N/A	LESS THAN 1.01	N/A	
15	0.077	N/A	LESS THAN 1.01	N/A		58	0.076	N/A	LESS THAN 1.01	N/A	
16	0.082	N/A	LESS THAN 1.01	N/A		59	0.118	N/A	LESS THAN 1.01	N/A	
17	0.087	N/A	LESS THAN 1.01	N/A		60	0.096	N/A	LESS THAN 1.01	N/A	
18	0.042	N/A	LESS THAN 1.01	N/A		61	0.089	N/A	LESS THAN 1.01	N/A	
19	0.032	N/A	LESS THAN 1.01	N/A		62	0.094	N/A	LESS THAN 1.01	N/A	
20	0.020	N/A	LESS THAN 1.01	N/A		63	0.087	N/A	LESS THAN 1.01	N/A	
21	0.007	N/A	LESS THAN 1.01	N/A		64	0.029	N/A	LESS THAN 1.01	N/A	
22	-0.006	N/A	LESS THAN 1.01	N/A		65	0.010	N/A	LESS THAN 1.01	N/A	
23	-0.013	N/A	LESS THAN 1.01	N/A		66	0.112	N/A	LESS THAN 1.01	N/A	
24	-0.017	N/A	LESS THAN 1.01	N/A		67	0.092	N/A	LESS THAN 1.01	N/A	
25	-0.019	N/A	LESS THAN 1.01	N/A		68	0.060	N/A	LESS THAN 1.01	N/A	
26	-0.019	N/A	LESS THAN 1.01	N/A		69	0.101	N/A	LESS THAN 1.01	N/A	
27	-0.018	N/A	LESS THAN 1.01	N/A		70	0.082	N/A	LESS THAN 1.01	N/A	
28	-0.016	N/A	LESS THAN 1.01	N/A		71	0.063	N/A	LESS THAN 1.01	N/A	
29	-0.016	N/A	LESS THAN 1.01	N/A		72	0.003	N/A	LESS THAN 1.01	N/A	
30	-0.016	N/A	LESS THAN 1.01	N/A		73	0.113	N/A	LESS THAN 1.01	N/A	
31	-0.015	N/A	LESS THAN 1.01	N/A		74	0.092	N/A	LESS THAN 1.01	N/A	
32	-0.011	N/A	LESS THAN 1.01	N/A		75	0.033	N/A	LESS THAN 1.01	N/A	
33	-0.009	N/A	LESS THAN 1.01	N/A		76	0.028	N/A	LESS THAN 1.01	N/A	
34	-0.010	N/A	LESS THAN 1.01	N/A		77	0.073	N/A	LESS THAN 1.01	N/A	
35	-0.006	N/A	LESS THAN 1.01	N/A		78	0.073	N/A	LESS THAN 1.01	N/A	
36	-0.006	N/A	LESS THAN 1.01	N/A		79	0.060	N/A	LESS THAN 1.01	N/A	
37	-0.005	N/A	LESS THAN 1.01	N/A		80	-0.010	N/A	LESS THAN 1.01	N/A	
38	-0.006	N/A	LESS THAN 1.01	N/A		81	0.024	N/A	LESS THAN 1.01	N/A	
39	-0.010	N/A	LESS THAN 1.01	N/A		82	-0.004	N/A	LESS THAN 1.01	N/A	
40	-0.018	N/A	LESS THAN 1.01	N/A		83	0.027	N/A	LESS THAN 1.01	N/A	
41	-0.022	N/A	LESS THAN 1.01	N/A		84	0.072	N/A	LESS THAN 1.01	N/A	
42	-0.024	N/A	LESS THAN 1.01	N/A		85	0.060	N/A	LESS THAN 1.01	N/A	
43	-0.028	N/A	LESS THAN 1.01	N/A		86	0.014	N/A	LESS THAN 1.01	N/A	

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection

Part # / Panel #: SE121-001P PANEL #3

Gage/Std S/N(s):4470 / J-1165

Date of inspection: 02/23/04

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
87	0.037	N/A	LESS THAN 1.01	N/A		126					
88	0.048	N/A	LESS THAN 1.01	N/A		127					
89	0.010	N/A	LESS THAN 1.01	N/A		128					
90	0.051	N/A	LESS THAN 1.01	N/A		129					
91	0.048	N/A	LESS THAN 1.01	N/A		130					
92	0.026	N/A	LESS THAN 1.01	N/A		131					
93	0.037	N/A	LESS THAN 1.01	N/A		132					
94	0.047	N/A	LESS THAN 1.01	N/A		133					
95	0.025	N/A	LESS THAN 1.01	N/A		134					
96	0.020	N/A	LESS THAN 1.01	N/A		135					
97	0.020	N/A	LESS THAN 1.01	N/A		136					
98						137					
99						138					
100						139					
101						140					
102						141					
103						142					
104						143					
105						144					
106						145					
107						146					
108						147					
109						148					
110						149					
111						150					
112						151					
113						152					
114						153					
115						154					
116						155					
117						156					
118						157					
119						158					
120						159					
121						160					
122						161					
123						162					
124						163					
125						164					

64880 PPPL NCSX PVVS INSPECTION RECORD						Inspection Drawing Number: SE121-001P-1MTM Rev: 0B					
Inspection type: Formed Panel		Interpass (#)		After structural welding		After welding Port		Final Inspection			
Part # / Panel #: SE121-001P PANEL #2			Gage/Std S/N(s):4470 / J-1165			Date of Inspection: 02/23/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	-0.003	N/A	LESS THAN 1.01	N/A		44	0.029	N/A	LESS THAN 1.01	N/A	
2	-0.001	N/A	LESS THAN 1.01	N/A		45	0.026	N/A	LESS THAN 1.01	N/A	
3	0.004	N/A	LESS THAN 1.01	N/A		46	0.017	N/A	LESS THAN 1.01	N/A	
4	0.011	N/A	LESS THAN 1.01	N/A		47	0.058	N/A	LESS THAN 1.01	N/A	
5	0.019	N/A	LESS THAN 1.01	N/A		48	0.047	N/A	LESS THAN 1.01	N/A	
6	0.027	N/A	LESS THAN 1.01	N/A		49	0.119	N/A	LESS THAN 1.01	N/A	
7	0.032	N/A	LESS THAN 1.01	N/A		50	0.086	N/A	LESS THAN 1.01	N/A	
8	0.037	N/A	LESS THAN 1.01	N/A		51	0.113	N/A	LESS THAN 1.01	N/A	
9	0.042	N/A	LESS THAN 1.01	N/A		52	0.086	N/A	LESS THAN 1.01	N/A	
10	0.047	N/A	LESS THAN 1.01	N/A		53	0.085	N/A	LESS THAN 1.01	N/A	
11	0.045	N/A	LESS THAN 1.01	N/A		54	0.077	N/A	LESS THAN 1.01	N/A	
12	0.037	N/A	LESS THAN 1.01	N/A		55	0.051	N/A	LESS THAN 1.01	N/A	
13	0.030	N/A	LESS THAN 1.01	N/A		56	0.062	N/A	LESS THAN 1.01	N/A	
14	0.026	N/A	LESS THAN 1.01	N/A		57					
15	0.017	N/A	LESS THAN 1.01	N/A		58					
16	0.010	N/A	LESS THAN 1.01	N/A		59					
17	0.005	N/A	LESS THAN 1.01	N/A		60					
18	0.002	N/A	LESS THAN 1.01	N/A		61					
19	0.000	N/A	LESS THAN 1.01	N/A		62					
20	0.000	N/A	LESS THAN 1.01	N/A		63					
21	0.003	N/A	LESS THAN 1.01	N/A		64					
22	0.006	N/A	LESS THAN 1.01	N/A		65					
23	0.013	N/A	LESS THAN 1.01	N/A		66					
24	0.022	N/A	LESS THAN 1.01	N/A		67					
25	0.037	N/A	LESS THAN 1.01	N/A		68					
26	0.036	N/A	LESS THAN 1.01	N/A		69					
27	0.038	N/A	LESS THAN 1.01	N/A		70					
28	0.043	N/A	LESS THAN 1.01	N/A		71					
29	0.034	N/A	LESS THAN 1.01	N/A		72					
30	0.024	N/A	LESS THAN 1.01	N/A		73					
31	0.027	N/A	LESS THAN 1.01	N/A		74					
32	0.033	N/A	LESS THAN 1.01	N/A		75					
33	0.058	N/A	LESS THAN 1.01	N/A		76					
34	0.081	N/A	LESS THAN 1.01	N/A		77					
35	0.082	N/A	LESS THAN 1.01	N/A		78					
36	0.077	N/A	LESS THAN 1.01	N/A		79					
37	0.072	N/A	LESS THAN 1.01	N/A		80					
38	0.064	N/A	LESS THAN 1.01	N/A		81					
39	0.052	N/A	LESS THAN 1.01	N/A		82					
40	0.044	N/A	LESS THAN 1.01	N/A		83					
41	0.038	N/A	LESS THAN 1.01	N/A		84					
42	0.035	N/A	LESS THAN 1.01	N/A		85					
43	0.031	N/A	LESS THAN 1.01	N/A		86					

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64880 PPPL NCSX PVVS INSPECTION RECORD					Inspection Drawing Number: SE121-001P-1MTM Rev: 0B						
Inspection type: Formed Panel		Interpass (#)		After structural welding		After welding Port		Final Inspection			
Part # / Panel #: SE121-001P PANEL #5				Gage/Std S/N(s):4470 /J-1165			Date of Inspection: 02/23/04				
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.056	N/A	LESS THAN 1.01	N/A	AS	44	0.046	N/A	LESS THAN 1.01	N/A	AS
2	0.042	N/A	LESS THAN 1.01	N/A		45	0.066	N/A	LESS THAN 1.01	N/A	AS
3	0.049	N/A	LESS THAN 1.01	N/A		46	0.138	N/A	LESS THAN 1.01	N/A	
4	0.060	N/A	LESS THAN 1.01	N/A		47	0.111	N/A	LESS THAN 1.01	N/A	
5	0.060	N/A	LESS THAN 1.01	N/A		48	0.052	N/A	LESS THAN 1.01	N/A	
6	0.049	N/A	LESS THAN 1.01	N/A		49	-0.012	N/A	LESS THAN 1.01	N/A	
7	0.036	N/A	LESS THAN 1.01	N/A		50	-0.033	N/A	LESS THAN 1.01	N/A	
8	0.020	N/A	LESS THAN 1.01	N/A		51	0.059	N/A	LESS THAN 1.01	N/A	
9	0.012	N/A	LESS THAN 1.01	N/A		52	0.117	N/A	LESS THAN 1.01	N/A	
10	0.002	N/A	LESS THAN 1.01	N/A		53	0.139	N/A	LESS THAN 1.01	N/A	
11	0.002	N/A	LESS THAN 1.01	N/A		54	0.090	N/A	LESS THAN 1.01	N/A	
12	-0.008	N/A	LESS THAN 1.01	N/A		55	0.071	N/A	LESS THAN 1.01	N/A	
13	-0.013	N/A	LESS THAN 1.01	N/A		56	-0.012	N/A	LESS THAN 1.01	N/A	
14	-0.013	N/A	LESS THAN 1.01	N/A		57	0.079	N/A	LESS THAN 1.01	N/A	
15	-0.009	N/A	LESS THAN 1.01	N/A		58	0.125	N/A	LESS THAN 1.01	N/A	
16	-0.005	N/A	LESS THAN 1.01	N/A		59	0.151	N/A	LESS THAN 1.01	N/A	
17	0.002	N/A	LESS THAN 1.01	N/A		60	0.120	N/A	LESS THAN 1.01	N/A	
18	0.013	N/A	LESS THAN 1.01	N/A		61	0.115	N/A	LESS THAN 1.01	N/A	AS
19	0.023	N/A	LESS THAN 1.01	N/A		62	0.085	N/A	LESS THAN 1.01	N/A	
20	0.032	N/A	LESS THAN 1.01	N/A		63					
21	0.043	N/A	LESS THAN 1.01	N/A		64					
22	0.014	N/A	LESS THAN 1.01	N/A		65					
23	0.008	N/A	LESS THAN 1.01	N/A		66					
24	0.000	N/A	LESS THAN 1.01	N/A		67					
25	-0.003	N/A	LESS THAN 1.01	N/A		68					
26	-0.007	N/A	LESS THAN 1.01	N/A		69					
27	-0.013	N/A	LESS THAN 1.01	N/A		70					
28	-0.013	N/A	LESS THAN 1.01	N/A		71					
29	-0.009	N/A	LESS THAN 1.01	N/A		72					
30	-0.009	N/A	LESS THAN 1.01	N/A		73					
31	-0.006	N/A	LESS THAN 1.01	N/A		74					
32	0.000	N/A	LESS THAN 1.01	N/A		75					
33	0.007	N/A	LESS THAN 1.01	N/A		76					
34	0.016	N/A	LESS THAN 1.01	N/A		77					
35	0.026	N/A	LESS THAN 1.01	N/A		78					
36	0.114	N/A	LESS THAN 1.01	N/A		79					
37	0.098	N/A	LESS THAN 1.01	N/A		80					
38	0.110	N/A	LESS THAN 1.01	N/A		81					
39	0.103	N/A	LESS THAN 1.01	N/A		82					
40	0.048	N/A	LESS THAN 1.01	N/A		83					
41	0.016	N/A	LESS THAN 1.01	N/A		84					
42	0.105	N/A	LESS THAN 1.01	N/A	AS	85					
43	0.062	N/A	LESS THAN 1.01	N/A		86					

Quality Assurance Documentation for Part ID: SE121-001P - Item: 147

Workorder: 64880/1-0 Sub:40 Op:200

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .308" Profile Tolerance (+.188/-.120") (tack welded vessel)		QA		4470	-0.034 / +0.151	522			A
(10)								02-24-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-24-0			



MQS Inspection, Inc.

5307 West 86th Street
 Indianapolis, IN 46268
 Phone: 317-872-8196
 Fax: 317-872-4798

MQS W.O.# 371-F0004 RADIOGRAPHIC REPORT: Page 1 of 2

DATE: 2/24/04
 Customer: Major Tool & Machine
1458 E. 19th St.
Indpls, IN.

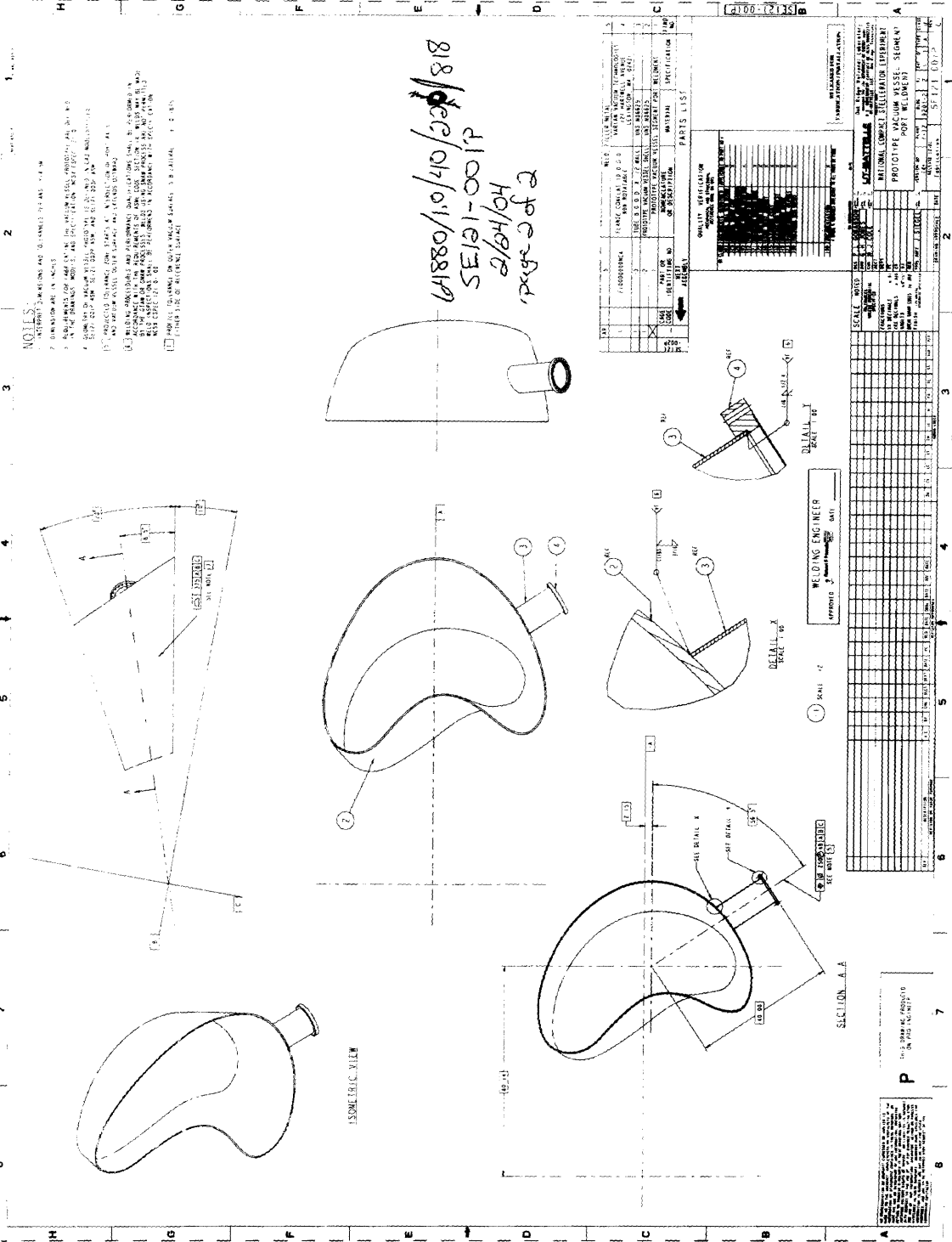
Customer's P.O. No.: _____
 Job Location: Same

Item Description: SPR SE 121-001P
 100% Insp. Spot Insp. _____

SERIAL NO. or PIECE NO.: <u>64880/20/40/220/818</u>						TECHNIQUE DATA
Weld No.	RT No.	ACC.	REJ.	CODE	REMARKS	
Weld 1-2	0-1	✓		P		Inspection Specification: <u>ASME VIII</u> Acceptance Standard: <u>ASME VIII Div. 1, UW-51</u> RT Procedure No.: <u>QA.100</u> RT Technique Used Below: <u>E</u>
	1-2	✓		P		
	2-3	✓				<p>A SOURCE</p> <p>FILM</p> <p>PENE.</p>
Weld 3-4	0-1	✓				
	1-2	✓		P		<p>B SOURCE</p> <p>PENE.</p>
						<p>C SOURCE</p> <p>FILM</p> <p>PENE.</p>
						<p>D SOURCE</p> <p>FILM</p> <p>PENE.</p>
						<p>E SOURCE</p> <p>FILM</p> <p>PENE.</p>
						MATERIAL: <u>625 Inconel</u> PIPE SIZE: <u>N/A</u> WALL THICKNESS: <u>.375"</u> WELD PROCESS: SMAW GTAW GMAW SOURCE ISOTOPE: <u>IR192</u> CURIES: <u>100</u> KVP/MA: <u>N/A</u> PHYSICAL SIZE: <u>.151"</u> EXPOSURE TIME: _____ SFD: <u>18"</u> FILM/OBJECT INCHES: <u>contact</u> GEOMETRIC UNSHARPNESS: <u>≤.000"</u> PENETRATOR: TYPE SIZE: <u>ASTM 1B</u> MATERIAL: <u>SS</u> PLACEMENT: <u>SS</u> SHIMS: MATERIAL: <u>N/A</u> THICKNESS: <u>N/A</u> MARKER/NO BELT: <u>Pb #5</u> FILM: BRAND: <u>Kodak</u> TYPE: <u>AA</u> SIZE: <u>4.5" x 17"</u> LOAD: <u>single</u> EMULSION(S):# <u>N/A</u> SCREENS: FRONT: <u>.002"</u> BACK: <u>.002"</u> BACKING: <u>N/A</u> VIEWING: SINGLE: <input checked="" type="checkbox"/> DOUBLE: _____ DENSITY (PEN.) <u>2.0-4.0</u> DENSITY (WELD) MIN/MAX: <u>2.0-4.0</u>

- | | | |
|-----------------------------|----------------------|-------------------------|
| P - Porosity | SI - Slag Inclusions | TI - Tungsten Inclusion |
| C - Crack | BT - Burn Through | CV - Root Concavity |
| F - Incomplete Fusion | MT - Melt Through | CX - Root Convexity |
| IP - Incomplete Penetration | UC - Undercut | OX - Oxidation |
| S - Surface | | |

1. Robert Weaver 2694/571 II
 RADIOGRAPHER
 1. Robert Weaver 2694/571 II
 INTERPRETER Douglas D. Edwards 2/24/04



NOTES:

1. INTERMEDIATE DIMENSIONS AND QUANTITIES IN PARENT SIZE.
2. DIMENSIONS ARE IN INCHES.
3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
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818/DEC/01/01/08819
 SE101-001P
 HO/HO/2
 e p p e b a x

ITEM NO.	DESCRIPTION	QTY	UNIT	REVISION	DATE	BY	CHKD	APP'D
1	WELDED VACUUM VESSEL	1	EA					
2	FLANGE	1	EA					
3	NECK	1	EA					
4	WELDED VACUUM VESSEL	1	EA					
5	FLANGE	1	EA					
6	NECK	1	EA					

WELDING ENGINEER
 APPROVED: [Signature]

SCALE: AS SHOWN
 REF: [Reference]

P
 10-2000 10-2000/10
 10-2000 10-2000/10

SECTION A-A

Quality Assurance Documentation for Part ID: SE121-001P - Item: 150

Workorder: 64880/1-0 Sub:40 Op:230

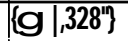
Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			SHIELDING @ 40 CFH / PURGE @ 20 CFH	791			A
(10)								03-01-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 INCO 625 HEAT # AV8128	791			A
(20)								03-01-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			625 INCO	791			A
(30)								03-01-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 ACCEPTED TO MT M WELDER QUALIFICA ION CHECK	791			A
(40)								03-01-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			75-175 AMPS ALL PAR AM. TO WPS	791			A
(50)								03-01-0			

Quality Assurance Documentation for Part ID: SE121-001P - Item: 151

Workorder: 64880/1-0 Sub:40 Op:240

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .328" Profile Tolerance (+.188/-.140") (within approximately 6" of port attachment p t)		QA		4470	+0.050 / +0.100	522			A
(10)								03-01-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								03-01-0			

Quality Assurance Documentation for Part ID: SE121-001P - Item: 152

Workorder: 64880/1-0 Sub:40 Op:250

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			SHIELDING @ 40 CFH PURGE @ 20 CFH ARGON	791			A
(10)								03-02-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 INCO 625 HEAT LOT AV8128	791			A
(20)								03-02-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			625 INCO / 300 SERI ES S.S.	791			A
(30)								03-03-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 / 709 ACCEPTED TO MTM WELDER QU IFICATION CHECKS	791			A
(40)								03-02-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIAM FILLER 7 5-175 AMPS / ALL PARAMETERS PER WP	791			A
(50)								03-02-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 153

Date of Inspection:03/03/2004

Type of Material:625 INCONEL

NDT#:8165

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging <input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other ROOT PASS AS-WELDED.	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input checked="" type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:250 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: N/A Customer P.O.: S-04344-F Customer Unit/Plant: N/A	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
---	---

Customer Inspection Plan: N/A Test Step: N/A Revision: N/A Material Test Number: N/A	Inspection Criteria: Customer Specification: ASME SECTION V, ARTICLE 6 MTM Spec Number: Acceptance Standard: AWS D1.6, 6.29.1.
---	---

Inspection Methods Used: Magnification Used: 10X Light Source Used: AMBIENT / FLASHLIGHT

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

Visual inspection performed on root pass between Find numbers 2 (shell) and 3 (tube). Welds acceptable per customer drawing and specification requirements.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 933-D.LEAPLEY

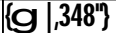
Date: 03/03/2004



Quality Assurance Documentation for Part ID: SE121-001P - Item: 154

Workorder: 64880/1-0 Sub:40 Op:260

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .348" Profile Tolerance (+.188/-.160") (within approximately 6" of port attachment p t)		QA		4470	+0.027 / +0.100	522			A
(10)								03-02-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								03-02-0			

Quality Assurance Documentation for Part ID: SE121-001P - Item: 155

Workorder: 64880/1-0 Sub:40 Op:265

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			SHIELDING @ 40 CFH PURGE @ 20 CFH ARGON	791			A
(10)								03-03-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 INCO 625 HEAT LOT AV8128	791			A
(20)								03-03-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			625 INCO / 300 SERI ES S.S.	791			A
(30)								03-03-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			683 / 709 ACCEPTED TO MTM WELDER QU IFICATION CHECKS	791			A
(40)								03-03-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 DIAM FILLER 7 5-175 AMPS / ALL PARAMETERS PER WP	791			A
(50)								03-03-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 156

Date of Inspection:03/03/2004

Type of Material:625 INCONEL

NDT#:8164

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	--	--	---	--

Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:265 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
---	---

Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 SECTION 6.29.1
--	---

Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
--

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
FILL PASS #1 ASSY 1-3 TO 2-4-5 ASSY

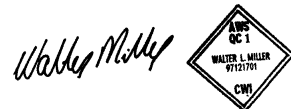
Notes:

PERFORMED THE INSPECTION OF THE fill PASS ON DETAILS 4-5 OPERTATOR 709 PERFORMED THE WELDING OF THIS PASS UNDER WPS 390
NO INDICATIONS FOUND DURING VISUAL INSPECTION.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/16/2004



Quality Assurance Documentation for Part ID: SE121-001P - Item: 157

Workorder: 64880/1-0 Sub:40 Op:270

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			40 CFH SHIELDING AN D 20 CFH PURGE ARG N GAS	791			A
(10)								03-04-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 625 INCO HT #C B7996	791			A
(20)								03-04-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			INCO 625 AND 300 S ERIES S.S	791			A
(30)								03-04-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			709/683 QUALIFIED T O MTM WELDER QUAL ICATION CHECK	791			A
(40)								03-04-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			100-210 AMPS ALL PA RAMETERS TO WPS	791			A
(50)								03-04-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P - Item: 158

Date of Inspection:03/04/2004

Type of Material:625 INCONEL

NDT#:8176

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	--	--	---	--

Part Information: MTM Job Number: 64880/1.0 -Sub:40 -Op:270 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-001P Part Name: PVVS PRIMARY FABRICATION Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
---	---

Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS SECTION 6.29.1
--	--

Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT
--

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welds Properly Completed:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filler Material Certs:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Filler Material/Flux:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shielding Gas/Back Purge:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Dimensions:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld Contours:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other
COVER PASS PORT TUBE ASSY

Notes:

PERFORMED THE VISUAL INSPECTION ON THE FINAL COVER PASS OF THE PORT TUBE TO SUB ASSEMBLY. THERE WAS NO INDICATION FOUND AT THIS INSPECTION POINT.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 712-W.MILLER

Date: 02/13/2004



Quality Assurance Documentation for Part ID: SE121-001P - Item: 159

Workorder: 64880/1-0 Sub:40 Op:280

Part: SE121-001P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		{G .368"} Profile Tolerance (+.188/-.160") (within approximately 6" of port attachment p t)		QA		4470	-0.047 / -0.011	522			A
(10)								03-03-0			
*		Magnetic Permeability 1.01 Max. Record range (high / low)		QA		J-1165	LESS THAN 1.01	522			A
(20)								03-03-0			
*		{# .250 p48"}		QA		4470	0.198	522			A
(30)								03-03-0			
1*		40.0 Basic (untoleranced record actual measurment)		QA		4470	39.991 / 40.015	522			A
(40)								03-03-0			

DATE	DESCRIPTION	AMOUNT	CHECK NO.	ACCOUNT	BALANCE
11/15/08	DEPOSIT	1000.00		1111	1000.00
11/16/08	DEPOSIT	1000.00		1111	2000.00
11/17/08	DEPOSIT	1000.00		1111	3000.00
11/18/08	DEPOSIT	1000.00		1111	4000.00
11/19/08	DEPOSIT	1000.00		1111	5000.00
11/20/08	DEPOSIT	1000.00		1111	6000.00
11/21/08	DEPOSIT	1000.00		1111	7000.00
11/22/08	DEPOSIT	1000.00		1111	8000.00
11/23/08	DEPOSIT	1000.00		1111	9000.00
11/24/08	DEPOSIT	1000.00		1111	10000.00
11/25/08	DEPOSIT	1000.00		1111	11000.00
11/26/08	DEPOSIT	1000.00		1111	12000.00
11/27/08	DEPOSIT	1000.00		1111	13000.00
11/28/08	DEPOSIT	1000.00		1111	14000.00
11/29/08	DEPOSIT	1000.00		1111	15000.00
11/30/08	DEPOSIT	1000.00		1111	16000.00
12/01/08	DEPOSIT	1000.00		1111	17000.00
12/02/08	DEPOSIT	1000.00		1111	18000.00
12/03/08	DEPOSIT	1000.00		1111	19000.00
12/04/08	DEPOSIT	1000.00		1111	20000.00
12/05/08	DEPOSIT	1000.00		1111	21000.00
12/06/08	DEPOSIT	1000.00		1111	22000.00
12/07/08	DEPOSIT	1000.00		1111	23000.00
12/08/08	DEPOSIT	1000.00		1111	24000.00
12/09/08	DEPOSIT	1000.00		1111	25000.00
12/10/08	DEPOSIT	1000.00		1111	26000.00
12/11/08	DEPOSIT	1000.00		1111	27000.00
12/12/08	DEPOSIT	1000.00		1111	28000.00
12/13/08	DEPOSIT	1000.00		1111	29000.00
12/14/08	DEPOSIT	1000.00		1111	30000.00
12/15/08	DEPOSIT	1000.00		1111	31000.00
12/16/08	DEPOSIT	1000.00		1111	32000.00
12/17/08	DEPOSIT	1000.00		1111	33000.00
12/18/08	DEPOSIT	1000.00		1111	34000.00
12/19/08	DEPOSIT	1000.00		1111	35000.00
12/20/08	DEPOSIT	1000.00		1111	36000.00
12/21/08	DEPOSIT	1000.00		1111	37000.00
12/22/08	DEPOSIT	1000.00		1111	38000.00
12/23/08	DEPOSIT	1000.00		1111	39000.00
12/24/08	DEPOSIT	1000.00		1111	40000.00
12/25/08	DEPOSIT	1000.00		1111	41000.00
12/26/08	DEPOSIT	1000.00		1111	42000.00
12/27/08	DEPOSIT	1000.00		1111	43000.00
12/28/08	DEPOSIT	1000.00		1111	44000.00
12/29/08	DEPOSIT	1000.00		1111	45000.00
12/30/08	DEPOSIT	1000.00		1111	46000.00
12/31/08	DEPOSIT	1000.00		1111	47000.00

LOY INSTRUMENT, INC.

8435 E. 30TH STREET
INDPLS, IN 46219
PHONE: (317) 890-0474
FAX: (317) 890-0861

1936 WEST CENTRAL AVE.
TOLEDO, OH 43606
PHONE: (419) 480-0045
FAX: (419) 480-0139

3716 LIMA ROAD
FORT WAYNE, IN 46805
PHONE: (260) 471-2171
FAX: (260) 471-3011

SERVICE ENGINEERING REPORT

CUSTOMER:	Major Tool	PAGE:	1	OF	1
ADDRESS:	Indy, In	DATE:	3/29/2004		
CONTACT:	Doug Mc.	P.O.:	PO4-00861		
PHONE:	634-9420	CIR#:	Duniway 2613		

UNIT: Vacuum Leak Test **ITEM:** (SE 121-001P Rev 0) (Spec 475 rev 7)

PROBLEM: I performed the leak test on the vacuum chamber that was for the Princeton project. They wanted a Helium leak test performed with the chamber at or under 1*10⁻⁷ torr.

The Leak test was done by a Alcatel 142 that was calibrated before the test by a Duniway -8 Calibrated leak.

COMMENTS: The Calibrated leak's Serial Number was 2613 with a calibration date of 12-10-03 with a leak rate of 2.8 * 10⁻⁸ atm-cc/s. I checked all of the welds, and all of the flanges at a vacuum of 1 * 10⁻⁷ torr with the Alcatel 142.

No leaks were found anywhere on the vacuum chamber.

MAR 30 2004

9 Hours 3-26-04
5 hours 3-29-04

4/1/04

84122
Line 1
B.A.

PARTS USED: no

PARTS USED: no

MILES TRAVELED: 20 **LABOR:** 12 reg 1 O/T

WITNESS & ATTESTED (TRAVEL TIME INCLUDED)

SIGNED: X *[Signature]* **SIGNED:** *[Signature]* LOY INSTRUMENT, INC.

DOUG MC-COCCLE 29 MARCH 2004

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S-04344-F
Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

162	14	10	10	Material Certification: / SE121-001P-2 PANEL # 1 - PANEL BLANK .375" THK INCONEL 625 - MC094098.TIF / 2650 3 6877
163	14	10		Inspection Data Checklist: 3 steps
164	14	30		Furnace charts: FURNACE CHART - mc094645.pdf
165	14	30		Certification: H/T CERTIFICATE - Same as Item #164
166	14	31		Inspection Data Checklist: 1 steps
167	14	35		Inspection Data Checklist: 1 steps
168	14	40		Inspection Data Checklist: 1 steps
169	14	70		Test Certification: SE121-001P-10MTM - mc096190.tif
170	14	70		Inspection Data Checklist: 3 steps

SE121-001P-2 PANEL 2 - DIE FORMED PANEL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
171	15	10		Inspection Data Checklist: 3 steps
172	15	10	10	Material Certification: / SE121-001P-2 PANEL # 2 - PANEL BLANK .375" THK INCONEL 625 - mc094096.tif / 2650 3 6877
173	15	30		Furnace charts: FURNACE CHART - mc095044.pdf
174	15	30		Certification: H/T CERTIFICATE - Same as Item #173
175	15	31		Inspection Data Checklist: 1 steps
176	15	35		Inspection Data Checklist: 1 steps
177	15	40		Inspection Data Checklist: 1 steps
178	15	70		Test Certification: SE121-001P-10MTM - mc096188.tif
179	15	70		Inspection Data Checklist: 3 steps

SE121-001P-2 PANEL 3 - DIE FORMED PANEL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
180	16	10		Inspection Data Checklist: 3 steps
181	16	10	10	Material Certification: / SE121-001P-2 PANEL # 3 - PANEL BLANK .375" THK INCONEL 625 - mc094091.tif / 2650 3 6877
182	16	30		Furnace charts: FURNACE CHART - mc094739.pdf
183	16	30		Certification: H/T CERTIFICATE - Same as Item #182
184	16	31		Inspection Data Checklist: 1 steps
185	16	35		Inspection Data Checklist: 1 steps
186	16	40		Inspection Data Checklist: 1 steps
187	16	70		Test Certification: SE121-001P-1MTM - mc096191.tif
188	16	70		Inspection Data Checklist: 3 steps

SE121-001P-2 PANEL 4 - DIE FORMED PANEL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
189	17	10	10	Material Certification: / SE121-001P-2 PANEL # 4 - PANEL BLANK .375" THK INCONEL 625 - mc094093.tif / 2650 3 6876
190	17	10		Inspection Data Checklist: 3 steps
191	17	30		Furnace charts: FURNACE CHART - mc094878.pdf
192	17	30		Certification: H/T CERTIFICATE - Same as Item #191
193	17	31		Inspection Data Checklist: 1 steps
194	17	35		Inspection Data Checklist: 1 steps
195	17	40		Inspection Data Checklist: 1 steps
196	17	70		Test Certification: SE121-001P-1MTM - mc096189.tif

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

FILE COPY 2

HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No. No. de Facture Rechnung Nr. 391396001-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Référence Client Kundenspezifika PU3-03297	Report No. Rapport No. Zenguh Nr. 20030915036	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellempfänger MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Beschriftung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 1 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
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Specification • Spécification • Spezifikation ASTM-B-443 Rev 00c1 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
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Heat Number Numéro de Cuite Charge Nr.	Chemical Analysis • Analyse Chimique • Chemische Analyse																			
	Al	B	C	Ca ²⁺ (Nb-Ti)	Cr	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W			
2650 3 6877	0.18		0.030	3.52	<0.10	21.42		4.46	0.28	8.56	68.11	0.006	0.004	0.17	0.29					
2650 3 6877		Ta	Zr	Bi	Se	La	C-Ni-Cr	Pb	Mg	Y	Ag	N	Co	Al-Ti	Ni-Co					

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03

SEP 19 2003

Paul O. Guest

80007 1.421 B2.



9/29/03

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MC094098.TIF

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 391396001-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915036	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellausschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 1 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
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Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Ele-Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch						
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In EN % Dehnung	%RA	Temp.	Test Essai Versuch	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In EN % Dehnung	%RA	Temp.	Stress Constraint Spannung	Hours Heures Stunden	% Elong In EN % Dehnung	% RA
133000 PSI		67500 PSI	50 %	(1) (A)												

Certified By • Certifie Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03 (1) 2739027801

Paul O. Guest

NTM
RES
7/22/03

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES COINTEGRATED TO THE REPRESENTATIVITY OF THE UNDERLYING ENTIRE LOT(S) AND ARE SUBJECT TO THE FOLLOWING: WE DO NOT ASSUME ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE. LES RENSEIGNEMENTS DONNES ICI SONT OBTENUS A PARTIR D'UN ECHANTILLON REPRESENTATIF DE LA PRODUIT CORRESPONDANT A UN LOT(S) ENTIER(S) ET SONT SENSIBLES AUX ECARTS DE QUALITE A TITRE D'EXEMPLES. LA PRECISION DES RESULTATS EST ASSUREE PAR LE NADCAP CERTIFICATE NUMBER 0089. DIE DATEN BEZUGEN SICH AUF PROBE NADCAP UND SIND ALSO AUF DIE PRODUKTIVITÄT DES UNTERLIEGENDEN GESAMTEN LIEFERMANGELS BEZUGEN. WIR ÜBERNEHMEN KEINE RECHTLICHE VERANTWORTUNG FÜR DEN VERWANDENEN NADCAP ZERTIFIKATIONSNUMMER 0089. THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES COINTEGRATED TO THE REPRESENTATIVITY OF THE UNDERLYING ENTIRE LOT(S) AND ARE SUBJECT TO THE FOLLOWING: WE DO NOT ASSUME ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE. LES RENSEIGNEMENTS DONNES ICI SONT OBTENUS A PARTIR D'UN ECHANTILLON REPRESENTATIF DE LA PRODUIT CORRESPONDANT A UN LOT(S) ENTIER(S) ET SONT SENSIBLES AUX ECARTS DE QUALITE A TITRE D'EXEMPLES. LA PRECISION DES RESULTATS EST ASSUREE PAR LE NADCAP CERTIFICATE NUMBER 0089. DIE DATEN BEZUGEN SICH AUF PROBE NADCAP UND SIND ALSO AUF DIE PRODUKTIVITÄT DES UNTERLIEGENDEN GESAMTEN LIEFERMANGELS BEZUGEN. WIR ÜBERNEHMEN KEINE RECHTLICHE VERANTWORTUNG FÜR DEN VERWANDENEN NADCAP ZERTIFIKATIONSNUMMER 0089.

MC094098.TIF

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 391396001-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915036	Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4
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HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 1 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
---	---	--

Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 PC
---	--	--

Annealed Hardness Durete Recuit Geglueht Haerte	Aged Hardness Durete Vieilli Gealtert Haerte	Grain Size Grossueur De Grain Korngrosse					IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture				
		Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA			Attack Depth	Corrosion		Test Method	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Test Base/ Versuch	Stress Constraint/ Spannung	Hours/ Heures	% Elong In % Allong EN
96 HRB		8/6							MPY											(1)

Certified By • Certifie Par • Bescheinigt Durch: **Paul Guest** 09/15/03
Certification Supervisor/Technician

(1) 2739027801

Paul O. Guest

MTM 023
9/22/03

THIS DATA CONTAINS INFORMATION OBTAINED FROM SAMPLES SUBMITTED BY THE BUYER TO THE SPANISH SUPPLIER AND ARE SUBJECT TO THE SUPPLIER'S QUALITY CONTROL. WE DISCLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE. LE INFORMACION CONTIENE DATOS OBTENIDOS DEL COMPRADOR DE LA EMPRESA ESPAÑOLA DE SUMINISTROS Y SON SUJETO A LOS CONTROLES DE CALIDAD DEL PROVEEDOR. NO ASUMIREMOS RESPONSABILIDAD LEGAL POR EL USO DE ESTE CERTIFICADO. DIESE DATEN SIND ANFANGS VON DEN KUNDEN AN DEN SPANISCHEN LIEFERANTEN ZUR VERFÜGUNG GESTELLT WURDEN UND SIND DER QUALITÄTSPRÜFUNG DES ANBIETERS UNTERLIEGEN. WIR LEISTEN KEINE RECHTLICHE VERANTWORTUNG FÜR DIE VERWENDUNG DIESER ZERTIFIKATION. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATION, HOWEVER, ANY EXCEPTIONS OR NON-CONFORMANCE REQUIREMENTS SHOULD BE REPORTED TO THE SUPPLIER IMMEDIATELY. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATION, HOWEVER, ANY EXCEPTIONS OR NON-CONFORMANCE REQUIREMENTS SHOULD BE REPORTED TO THE SUPPLIER IMMEDIATELY.

MC094098.TIF

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 391396001-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915036	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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HAYNES
International

FILE COPY 2

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestelraneschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestelmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 1 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1		Quantity Ordered Quantite Commandee Bestelmenge 1 PC	Quantity Skipped Quantite Expediee Liefermenge 1 PC	

This material is free of mercury contamination.
Mill Orders Used: 2739027801 (1 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03

Paul O. Guest

MC094098.TIF



9/22/03

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCTION OF THE SUBJECT EQUIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DISCLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES DONNEES CONTENUES ICI ONT ETE OBTENUES A PARTIR D'UNE SÉRIE D'ÉCHANTILLONS REPRÉSENTATIFS DES PRODUITS EN QUESTION. ON CROIT QU'ELLES SONT FIABLES. NOUS NE SOMES PAS RESPONSABLES JURIDIQUEMENT DE L'UTILISATION DE CE CERTIFICAT.
DIE DATEN ENHALTEN AM ANFANG DABER KEIN AUF PROBLEME ALS REPRÉSENTATIV FÜR DIE PRODUKTION DER BEZUGSGERÄTE UND SIND ALS VERZÄSSLICH ANZUSEHEN. WIR ÜBERNEHMEN KEINE RECHTLICHE VERANTWORTUNG FÜR DIE VERWENDUNG DIESER ZERTIFIKATIONEN.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE APPLICABLE NATIONAL STANDARD BY APPLICABLE TESTS OF RELEASE AND/OR SUBSEQUENT
SPECIFICATIONS MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL IDENTIFICATIONS

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 163

Workorder: 64880/1-0 Sub:14 Op:10

Part: SE121-001P-2 PANEL 1 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Magnetic Permeability 1.0 Max. (Panel Blank)		QA			TESTED 15 RANDOM LOCATIONS, MAX. MAG. PERMEABILITY =1.000	581			A
(10)								09-25-0			
*		.375 (+.040/-0) (Panel Blank)		QA		J-160	.412	085			A
(20)								10-02-0			
*		SURFACE FINISH: SMOOTH, CLEAN, NO HEAVY SCRAPES, PITS, OR GOUGES (Panel Blank)		QA		VISUAL	GOOD	085			A
(30)								10-02-0			



CORRECTED

Certificate of Conformance

EXOTIC METAL TREATING INC.

6234 E. Hanna Avenue • Indianapolis, Indiana

Certificate # 46600

Vendor Code # 0013

P.O. # P03-04360

Exotic Metal Treating Inc. hereby certifies that all materials used in the manufacture of parts **CONFORMS** to the material and/or manufacturing specifications indicated in drawings or specifications as called for on purchase order referenced hereon. Test reports are on file with us or with our suppliers for examination and indicate conformance with the applicable requirements. The parts listed below are processed in accordance with the drawings or specifications called for on referenced purchase order that are current on the date on which the order was accepted. Pertinent details of the work performed are on file at this facility under the process heat number listed hereon.

HEAT # 03-2018

DATE SHIPPED 10-23-03

QUANTITY

DESCRIPTION

1 PC #SE121-001P-2 PANEL 1 JOB #64880-14/1

MATERIAL: INCO 625

**SOLUTION ANNEALED PER AMS-2774 DATED JULY 1995
1900°F ± 15°F FOR 45 MINUTES ± 5 MINUTES
RAPID AIR COOLED TO 1000°F & AIR COOLED.**

12/22/03

80729
10/23/03
BZ

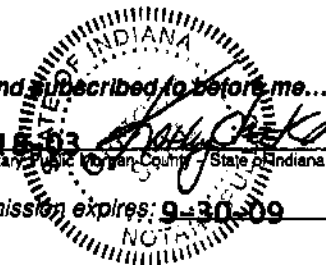
Sworn and subscribed to before me...

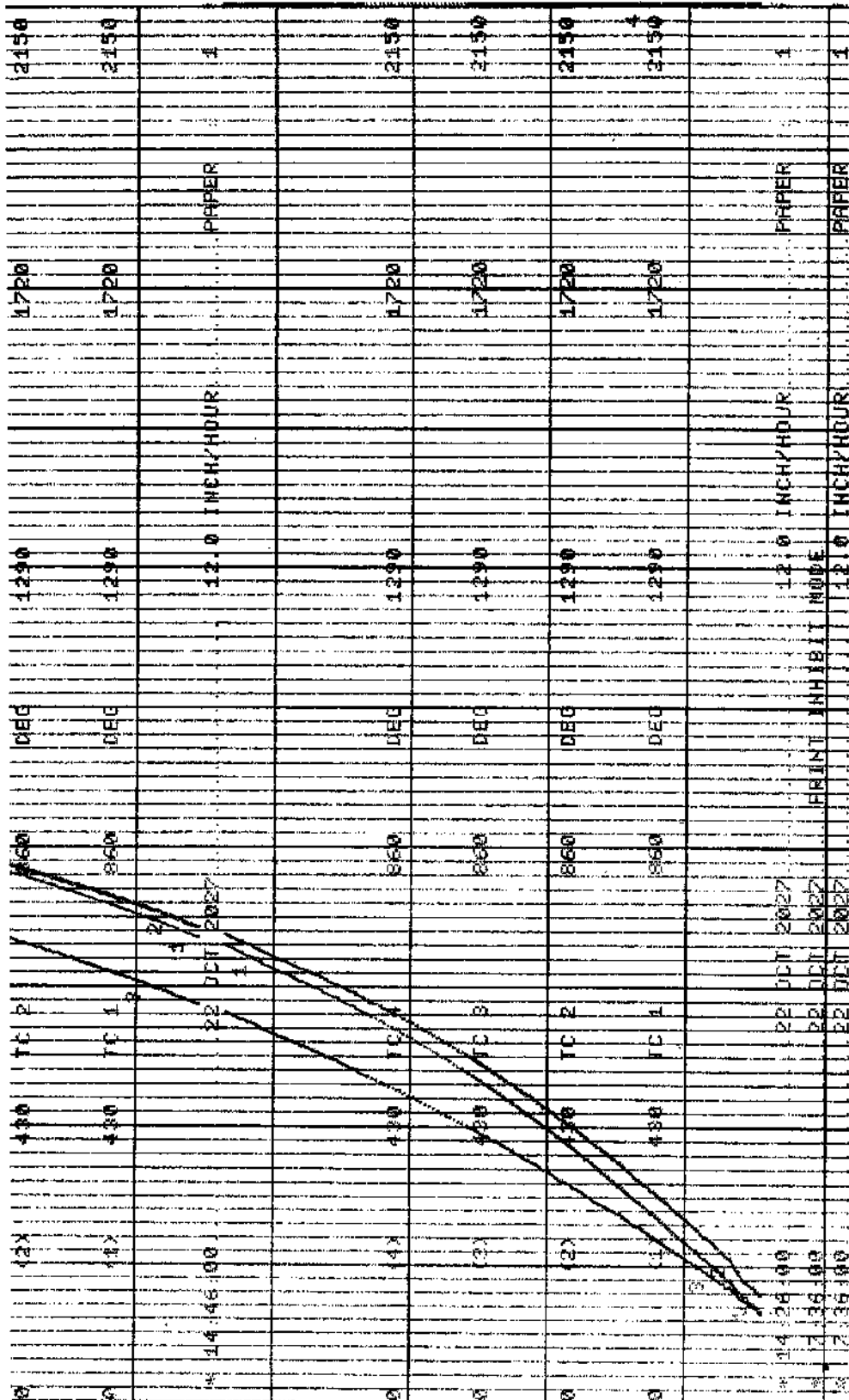
on 12-18-03 [Signature]
Notary Public Morgan County State of Indiana

My commission expires: 9-30-09

[Signature]
(Name)

QA
(Title)

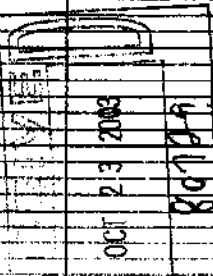




EXOTIC METAL TREATING, INC.
 6234 EAST HANNA AVENUE • INDIANAPOLIS, IN 46203

DATE: 10-22-03 COMPANY: Maplec Trail
 LOAD #: 03-2018 MATERIAL: INCO 625
 QTY: 1 PN: SE121-0011P-2 Load 1
Die Formed Coil 64880-14/1

FURNACE: GF-3 ATMOS: Air
 REF. SPEC.: FeO
 RECORDER: PPC-02 TIME START: 2:26pm

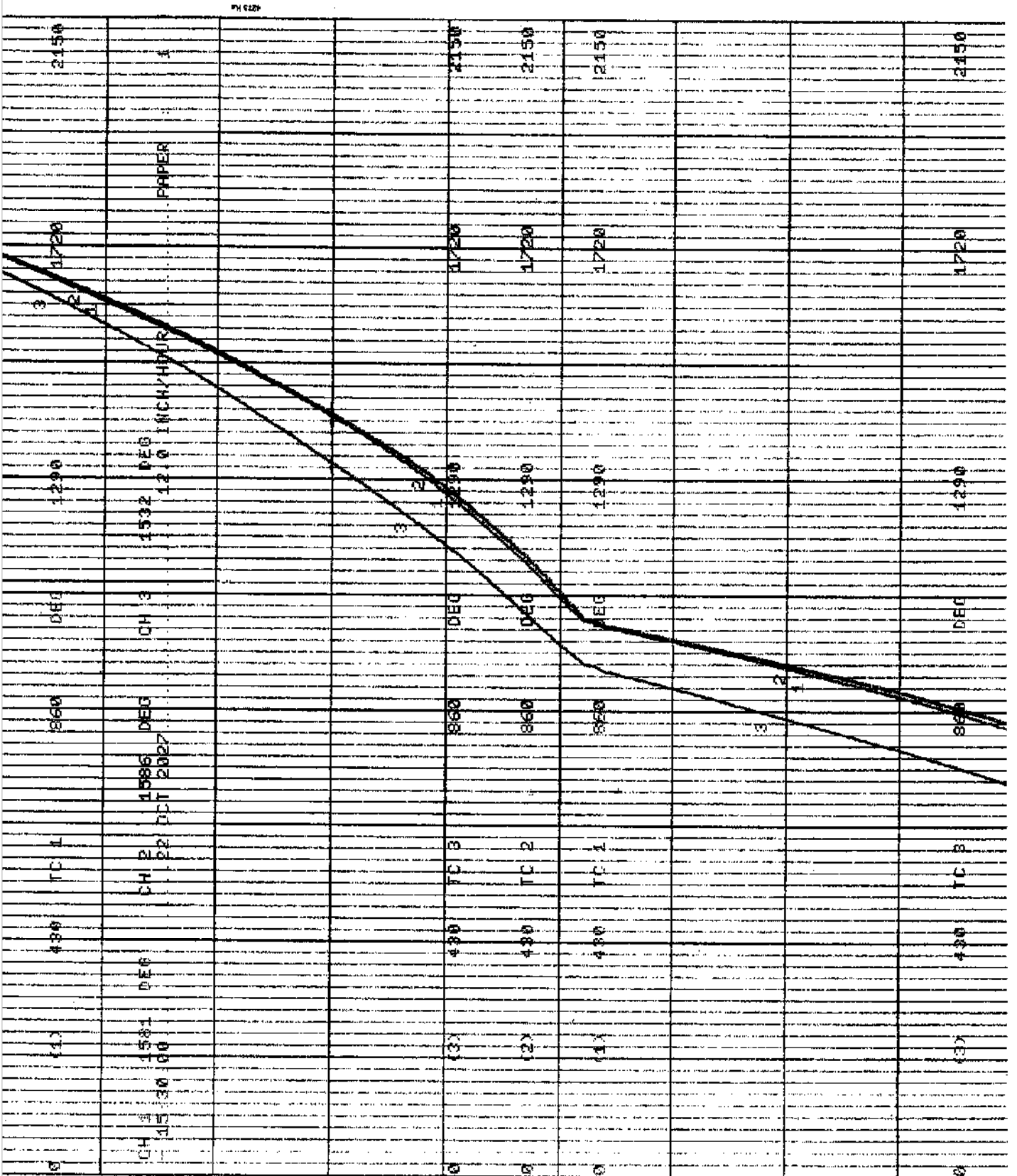


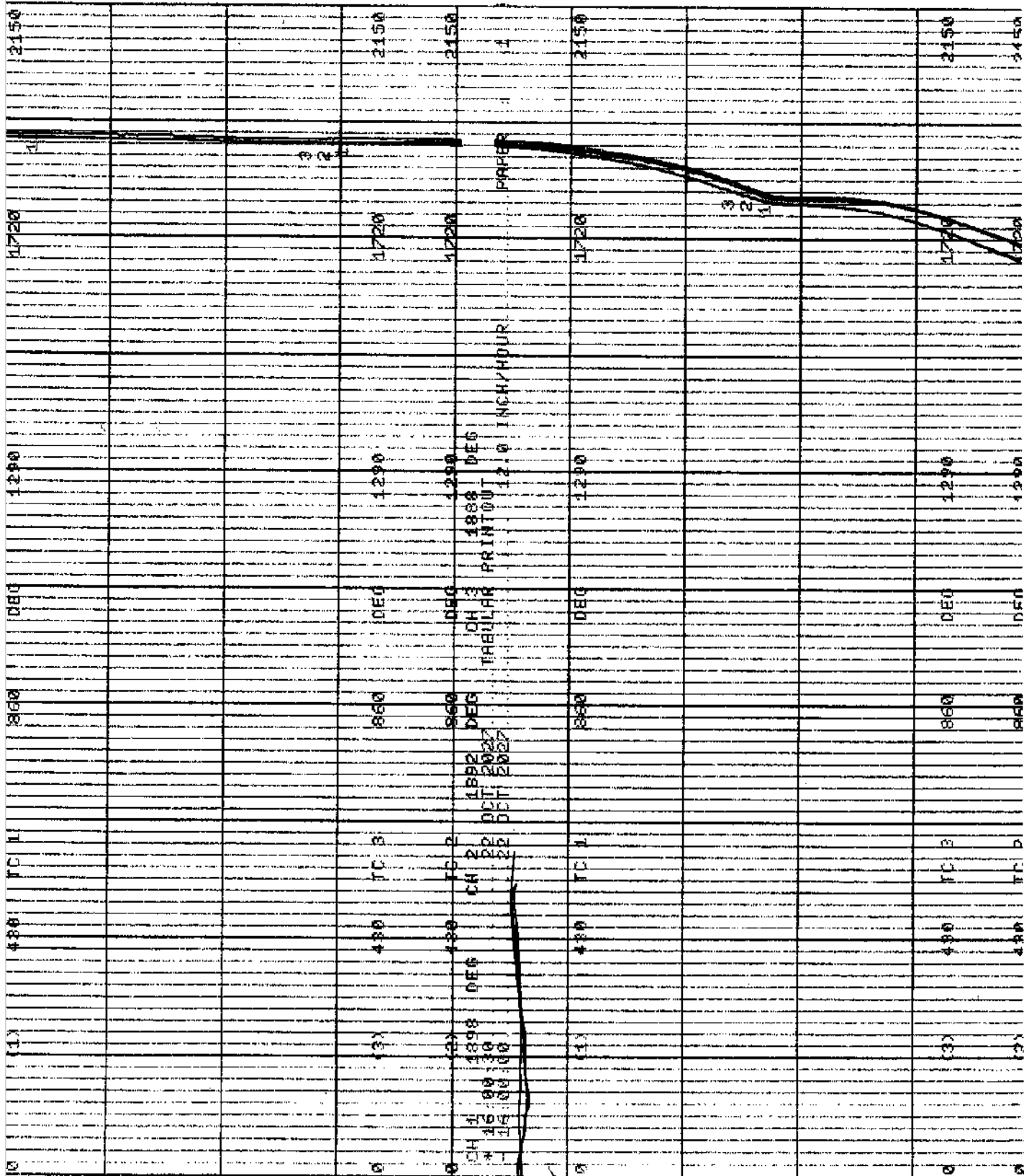
OCT 23 2003
 80779
 6127

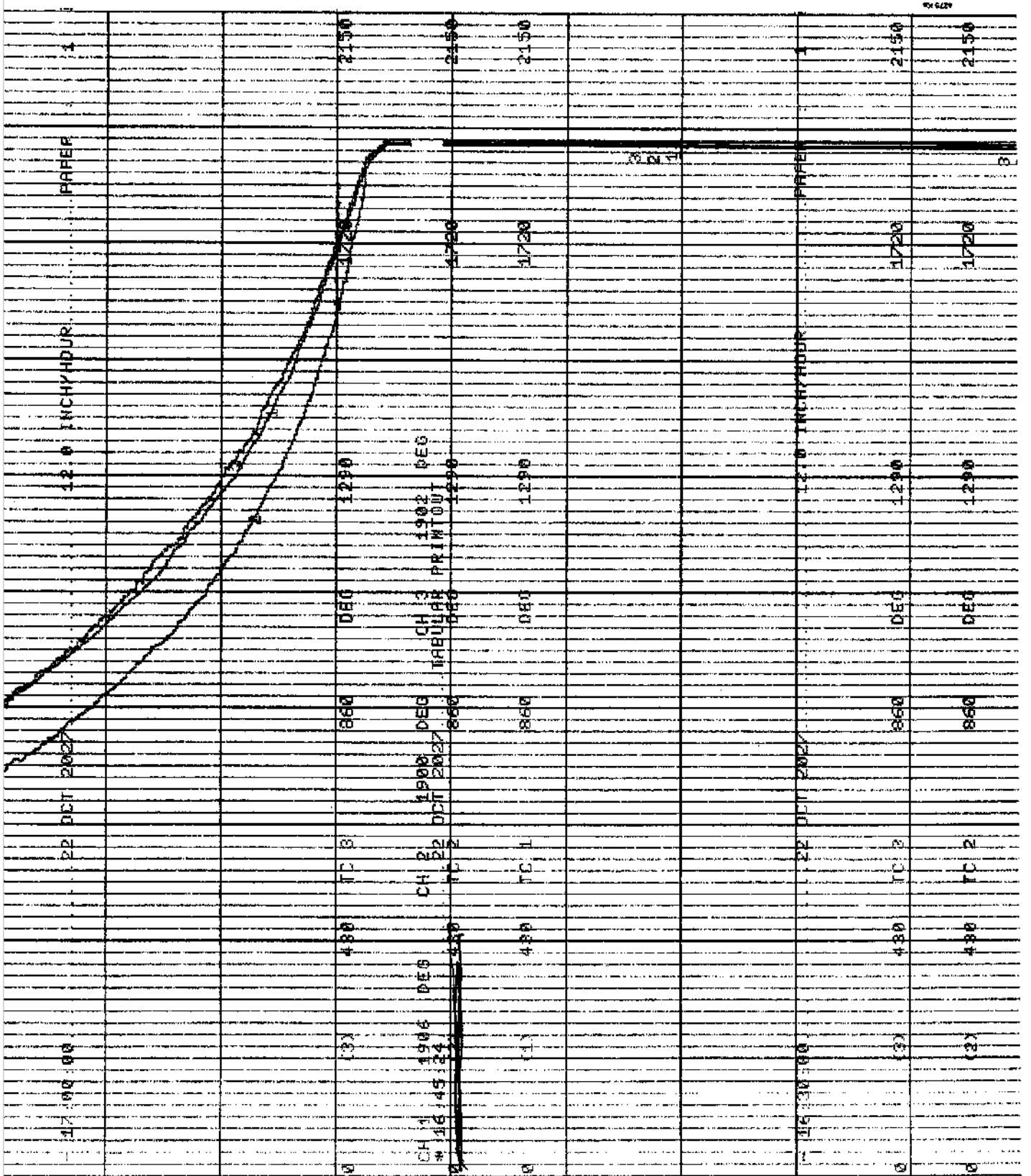
(WV) 193

OCT 23 2003
 21 46:14:00

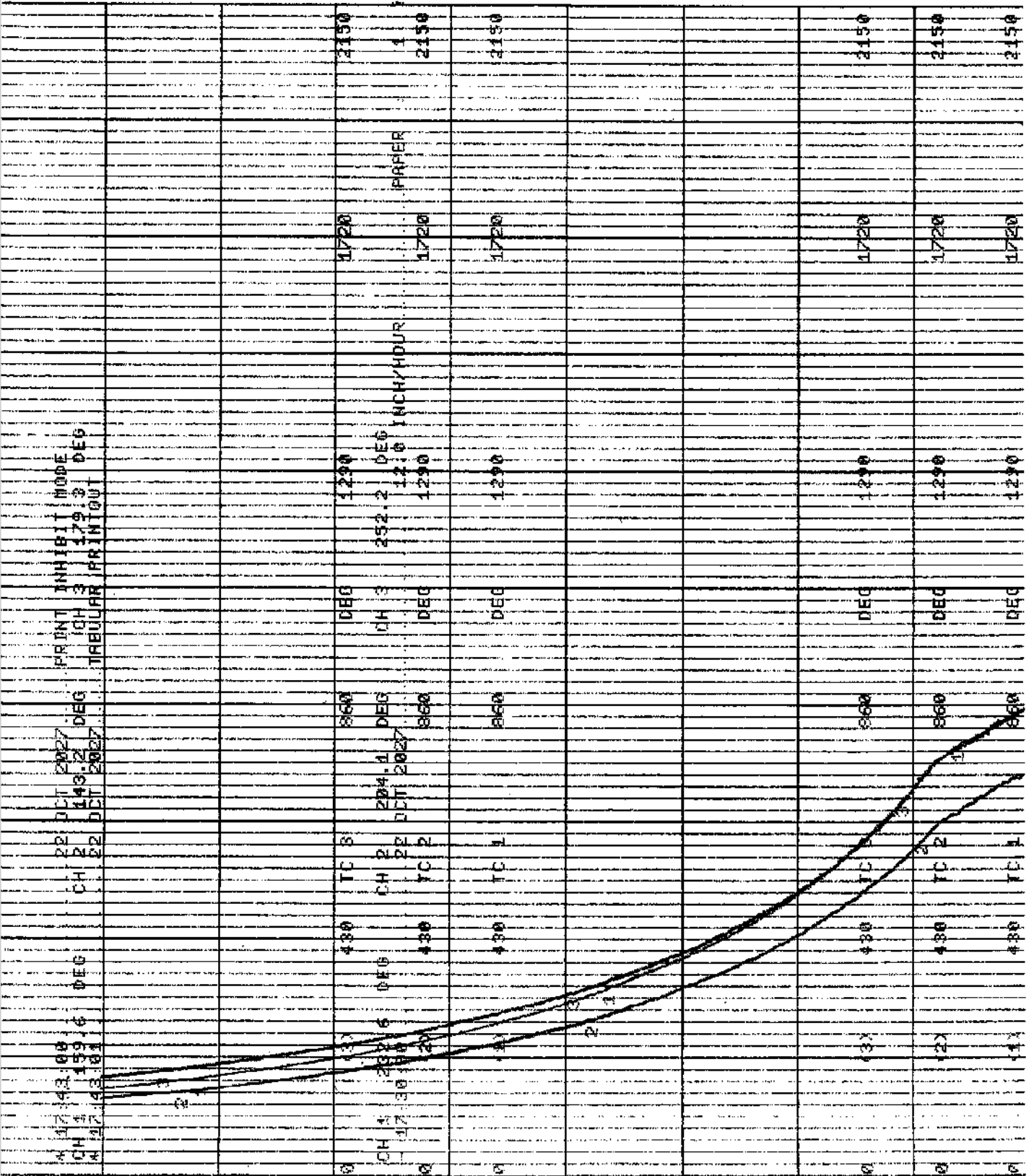
21 46:14:00







4225 KW



Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 166

Workorder: 64880/1-0 Sub:14 Op:31

Part: SE121-001P-2 PANEL 1 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VERIFY HEAT TREAT CERTIFICATION AND FURNACE CHART COMPLY WITH MTM PURCHASE ORDER REQUIREMEN		QA		VISUAL	OK	085		
(10)								01-16-0		

A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 167

Workorder: 64880/1-0 Sub:14 Op:35

Part: SE121-001P-2 PANEL 1 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY OF ANNEAL		QA		J-1165	UNDER 1.01	085		
(10)		1.01 MAX						01-16-0		A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 168

Workorder: 64880/1-0 Sub:14 Op:40

Part: SE121-001P-2 PANEL 1 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: A		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1*		.094" Max Gap (Part Surface To gauge)		MFG		FEELER GAGE	.080 (GOOD)	746	522	A
(10)				QA		FEELER GAGE		10-29-0	10-29-0	

64880 / 1.0 Sub 14


64880 PPPL NCSX PVVS INSPECTION RECORD					Inspection Drawing Number: SE121-001P-1MTM Rev: 0B						
Inspection type: Formed Panel <input type="checkbox"/> Interpass (#) <input type="checkbox"/> After structural welding <input type="checkbox"/> After welding Port <input type="checkbox"/> Final Inspection <input type="checkbox"/>											
Part # / Panel #: SE121-001P PANEL #1			Gage/Std S/N(s): J-1009-NDT / J-1178 / J-1165 / J-1180			Date of inspection: 02/10/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.000	0.377	LESS THAN 1.01	N/A	016	44	0.028	0.379	LESS THAN 1.01	N/A	016
2	0.000	0.377	LESS THAN 1.01	N/A		45	0.037	0.380	LESS THAN 1.01	N/A	
3	0.010	0.376	LESS THAN 1.01	N/A		46	0.040	0.376	LESS THAN 1.01	N/A	
4	0.014	0.377	LESS THAN 1.01	N/A		47	0.045	0.376	LESS THAN 1.01	N/A	
5	0.015	0.379	LESS THAN 1.01	N/A		48	0.055	0.376	LESS THAN 1.01	N/A	
6	0.018	0.381	LESS THAN 1.01	N/A		49	0.055	0.376	LESS THAN 1.01	N/A	
7	0.018	0.381	LESS THAN 1.01	N/A		50	0.045	0.377	LESS THAN 1.01	N/A	
8	0.025	0.380	LESS THAN 1.01	N/A		51	0.036	0.380	LESS THAN 1.01	N/A	
9	0.028	0.381	LESS THAN 1.01	N/A		52	0.022	0.380	LESS THAN 1.01	N/A	
10	0.040	0.381	LESS THAN 1.01	N/A		53	0.015	0.380	LESS THAN 1.01	N/A	
11	0.040	0.379	LESS THAN 1.01	N/A		54	0.015	0.381	LESS THAN 1.01	N/A	
12	0.041	0.380	LESS THAN 1.01	N/A		55	0.015	0.381	LESS THAN 1.01	N/A	
13	0.041	0.380	LESS THAN 1.01	N/A		56	0.015	0.380	LESS THAN 1.01	N/A	
14	0.043	0.380	LESS THAN 1.01	N/A		57	0.015	0.380	LESS THAN 1.01	N/A	
15	0.050	0.380	LESS THAN 1.01	N/A		58	0.018	0.380	LESS THAN 1.01	N/A	
16	0.055	0.381	LESS THAN 1.01	N/A		59	0.020	0.379	LESS THAN 1.01	N/A	
17	0.070	0.381	LESS THAN 1.01	N/A		60	0.030	0.376	LESS THAN 1.01	31.2	
18	0.075	0.379	LESS THAN 1.01	N/A		61	0.030	0.379	LESS THAN 1.01	31.2	
19	0.072	0.379	LESS THAN 1.01	N/A		62	0.025	0.380	LESS THAN 1.01	17.6	
20	0.070	0.379	LESS THAN 1.01	N/A		63	0.055	0.382	LESS THAN 1.01	18.8	
21	0.050	0.381	LESS THAN 1.01	N/A		64	0.055	0.382	LESS THAN 1.01	25.2	
22	0.062	0.381	LESS THAN 1.01	N/A		65	0.055	0.381	LESS THAN 1.01	20	
23	0.070	0.380	LESS THAN 1.01	N/A		66	0.030	0.381	LESS THAN 1.01	22.8	
24	0.050	0.380	LESS THAN 1.01	N/A		67	0.025	0.381	LESS THAN 1.01	18.8	
25	0.045	0.380	LESS THAN 1.01	N/A		68	0.045	0.380	LESS THAN 1.01	20	
26	0.020	0.380	LESS THAN 1.01	N/A		69	0.060	0.380	LESS THAN 1.01	22.2	
27	0.020	0.379	LESS THAN 1.01	N/A		70	0.060	0.379	LESS THAN 1.01	31.2	
28	0.015	0.379	LESS THAN 1.01	N/A		71	0.030	0.379	LESS THAN 1.01	31.2	
29	0.015	0.376	LESS THAN 1.01	N/A		72	0.025	0.379	LESS THAN 1.01	16.4	
30	0.015	0.376	LESS THAN 1.01	N/A		73	0.070	0.380	LESS THAN 1.01	18.8	
31	0.012	0.377	LESS THAN 1.01	N/A		74	0.060	0.380	LESS THAN 1.01	31.2	
32	0.014	0.380	LESS THAN 1.01	N/A		75	0.075	0.381	LESS THAN 1.01	19.4	
33	0.018	0.380	LESS THAN 1.01	N/A		76	0.075	0.380	LESS THAN 1.01	22.4	
34	0.046	0.380	LESS THAN 1.01	N/A		77	0.065	0.378	LESS THAN 1.01	18.6	
35	0.046	0.381	LESS THAN 1.01	N/A		78	0.065	0.378	LESS THAN 1.01	21.6	
36	0.040	0.380	LESS THAN 1.01	N/A		79	0.065	0.376	LESS THAN 1.01	18	
37	0.040	0.377	LESS THAN 1.01	N/A		80	0.060	0.377	LESS THAN 1.01	24.8	
38	0.038	0.377	LESS THAN 1.01	N/A		81	0.060	0.376	LESS THAN 1.01	26.2	
39	0.020	0.377	LESS THAN 1.01	N/A		82	0.070	0.380	LESS THAN 1.01	21	
40	0.020	0.379	LESS THAN 1.01	N/A		83	0.065	0.380	LESS THAN 1.01	22.4	
41	0.020	0.380	LESS THAN 1.01	N/A		84	0.020	0.381	LESS THAN 1.01	19.8	
42	0.018	0.380	LESS THAN 1.01	N/A	016	85	0.030	0.380	LESS THAN 1.01	32.2	016
43	0.022	0.380	LESS THAN 1.01	N/A	016	86	0.045	0.380	LESS THAN 1.01	22.2	016

64880 PPPL NCSX PVVS INSPECTION RECORD					Inspection Drawing Number: SE121-001P-1MTM Rev: 0B						
Inspection type: Formed Panel <input type="checkbox"/> Interpass (#) <input type="checkbox"/> After structural welding <input type="checkbox"/> After welding Port <input type="checkbox"/> Final Inspection <input type="checkbox"/>											
Part # / Panel #: SE121-001P PANEL #1			Gage/Std S/N(s): J-1009-NDT / J-1178 / J-1185 / J-1180			Date of Inspection: 02/10/04					
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
87	0.070	0.378	LESS THAN 1.01	28.8		126					
88	0.025	0.378	LESS THAN 1.01	30.6		127					
89	0.025	0.380	LESS THAN 1.01	18.8		128					
90	0.060	0.380	LESS THAN 1.01	22		129					
91	0.075	0.381	LESS THAN 1.01	24.2		130					
92	0.040	0.381	LESS THAN 1.01	22		131					
93	0.045	0.380	LESS THAN 1.01	18.8		132					
94	0.060	0.380	LESS THAN 1.01	20.8		133					
95	0.075	0.380	LESS THAN 1.01	21.6		134					
96						135					
97						136					
98						137					
99						138					
100						139					
101						140					
102						141					
103						142					
104						143					
105						144					
106						145					
107						146					
108						147					
109						148					
110						149					
111						150					
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115						154					
116						155					
117						156					
118						157					
119						158					
120						159					
121						160					
122						161					
123						162					
124						163					
125						164					

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 170

Workorder: 64880/1-0 Sub:14 Op:70

Part: SE121-001P-2 PANEL 1 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	LESS THAN 1.01	085			A
(10)		Magnetic Permeability 1.01 Max						02-11-0			
*				QA		J-1180	READINGS UP TO 31.2	085			A
(20)		32 MICRO-INCH SURFACE FINISH (INTERIOR (CONCAVE) SIDE)						02-11-0			
*		 .094"		QA		J-1149	.090	085			A
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2903		02-11-0			

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 171

Workorder: 64880/1-0 Sub:15 Op:10

Part: SE121-001P-2 PANEL 2 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Magnetic Permeability 1.0 Max. (Panel Blank)		QA		J-1165	<1.01	363			A
(10)								02-11-0			
*		.375 (+.040/-0) (Panel Blank)		QA		J-160	.405	085			A
(20)								10-02-0			
*		SURFACE FINISH: SMOOTH, CLEAN, NO HEAVY SCRAPES, PITS, OR GOUGES (Panel Blank)		QA		VISUAL	GOOD	085			A
(30)								10-02-0			

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEJÜGNIS

FILE COPY 2

HAYNES
International

Haynes International
1029 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No No. de Facture Rechnungs Nr 391396002-0	Date Entered Date de Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestellnr P03-03297	Report No. Rapport No. Zangula Nr 20030915074	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestelbschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestelbschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
---	---

Product Description • Description Produit • Material Bestelbschrift 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 2 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, FN 10204 3.1.B

Specifications • Spécifications • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
---	--	--

Heat Number Numéro de Cuite Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																			
	Al	B	C	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W				
2650 3 6877	0.18		0.030	3.52	<0.10	21.42		4.44	0.28	8.56	60.11	0.006	0.004	0.17	0.29					
2650 3 6877																				

Certified By • Certifié Par • Bestelbt Durch: Tammy Shepherd
Certification Supervisor/Technician
09/15/03

T Shepherd

SEP 19 2003

80004 line 2
B.2.
9/22/03



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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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Invoice No No. De Facture Rechnungs Nr 391396002-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915074	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Bezeichnung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 2 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
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Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hte. Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In EN % Dehnung	%RA	Test Essai Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In EN % Dehnung	%RA	Test Essai Versuch Temp.	Stress Constatate Spannung	Hours Heures Stunden	% Elong In EN % Dehnung	% RA
133000 PSI		67500 PSI	50 %	(1) (A)											

Certified By • Certifie Par • Bescheinigt Durch: **Tammy Shepherd** 09/15/03 (1) 2739027801
Certification Supervisor/Technician

T. Shepherd


9/22/03

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCT IN THE SUBJECT SHIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DO NOT CLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE. LES DONNEES CONTENUES ICI ONT ETE OBTENUES A PARTIR D'UN ECHANTILLON REPRESENTATIF DE PRODUIT CONSIDERE COMME ETANT REPRESENTATIF DE LA MARCHANDISE ENVOYEE. NOUS NE FAISONS AUCUNE AFFIRMATION JURIDIQUE EN CE QUI CONCERNE L'UTILISATION DE CE CERTIFICAT. DIE DATEN BEZUGNEHEND AUF DIESE VERFAHRUNG WURDEN VON EINE REPRASANTATIVE PROBE ENTWICKELT, DIE ALS VERTRAGSGEGENSTAND BEZUGENDE WERDEN. WIR ERKLAREN NICHT FUR DIE VERWENDUNG DIESE DATEN ALS ANWANDUNGSMARKEN ANFORDERUNGEN. ALLE PROBLEME DIE ALS REPRASANTATIVE FUR DEN PRODUKT BEZUGENDE WERDEN, WIRD EINZELN BEI DER VERWENDUNG DIESE DATEN ALS ANWANDUNGSMARKEN ANFORDERUNGEN. ALLE PROBLEME DIE ALS REPRASANTATIVE FUR DEN PRODUKT BEZUGENDE WERDEN, WIRD EINZELN BEI DER VERWENDUNG DIESE DATEN ALS ANWANDUNGSMARKEN ANFORDERUNGEN. ALLE PROBLEME DIE ALS REPRASANTATIVE FUR DEN PRODUKT BEZUGENDE WERDEN, WIRD EINZELN BEI DER VERWENDUNG DIESE DATEN ALS ANWANDUNGSMARKEN ANFORDERUNGEN.

mc094096.tif 2 of 4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 391396002-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestellnr P03-03297	Report No. Rapport No Zeugnis Nr 20030915074	Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4
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HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinaire • Bestelmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 2 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
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Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantite Commandee Bestelmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 PC
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Annealed Hardness Durete Result Gegewicht Haerte	Aged Hardness Durete Vieilli Gealtert Haerte	Grain Size Grosueur De Grain Korngroesse					IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture					
		Grain Size	Predominant Grain Size	Recry. Grain	Ultrafry. Grain %	ALA			Attack Depth	Corrosion		Test Method	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Test Egat Veresch	Stress Constraint Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong 6i 15 Hrs
96 HRB		86							MPY												(1)

Certified By • Certifie Par • Bescheinigt Durch: **Tammy Shepherd** 09/15/03 (1) 2739027801
 Certification Supervisor/Technician

T. Shepherd

THE DATA IN THIS REPORT WERE OBTAINED FROM SAMPLES CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCTION LOTS OF THE SUPPLIER AND ARE BELIEVED TO BE REPRODUCIBLE. WE DO NOT CLAIM ANY LIABILITY FOR USE OF THE CERTIFIED DATA FOR UNUSUAL OR UNEXPECTED APPLICATIONS. THE USER ASSUMES ALL LIABILITY FOR THE USE OF THIS REPORT. THE USER ASSUMES ALL LIABILITY FOR THE USE OF THIS REPORT. THE USER ASSUMES ALL LIABILITY FOR THE USE OF THIS REPORT. THE USER ASSUMES ALL LIABILITY FOR THE USE OF THIS REPORT.

NADCAP
9/22/03

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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Invoice No No. De Facture Rechnungs Nr 391396002-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestellkaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915074	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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HAYNES
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Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 2 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1		Quantity Ordered Quantité Commandée Bestellemenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC	

This material is free of mercury contamination.
Mill Orders Used: 2739027801 (1 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Beschließt Durch: **Tammy Shepherd** 09/15/03
Certification Supervisor/Technician

T. Shepherd

m094096.tif 4 of 4



9/24/03

THE DATA OBTAINED HEREBY WERE OBTAINED FROM SAMPLES SUBMITTED TO BE REPRESENTATIVE OF THE PRODUCT IN THE SUBJECT SHIPMENT AND ARE HELD TO BE RELIABLE. WE DISCLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES RÉSULTATS DES ÉPREUVES OBTENUS ICI SONT CONSIDÉRÉS COMME ÉTANT REPRÉSENTATIFS DE LA MATIÈRE DANS LE CAS D'UN ÉCHANTILLON SUBSTITUÉ À UN ÉCHANTILLON DE LA MATIÈRE EN QUESTION. NOTRE RESPONSABILITÉ JURIDIQUE EST ÉVALUÉE EN FONCTION DE LA CERTIFICATION.
DIE DATEN SIND NUR ANNAHME BEZÜGLICH DER PROBEWERTUNG UND NICHT BEZÜGLICH DER PRODUKTREPRÄSENTATION. WIR ÜBERNEHMEN KEINE VERANTWORTUNG FÜR DEN GEBRAUCH DIESER ZERTIFIKATION.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, PROVIDED BY ANY LISTED PURCHASER OR ORDER NUMBER.
SPECIFIC REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.



CORRECTED

Certificate of Conformance

EXOTIC METAL TREATING INC.

Certificate # 46797

6234 E. Hanna Avenue • Indianapolis, Indiana

Vendor Code # 0013

P.O. # P03-04902

Exotic Metal Treating Inc. hereby certifies that all materials used in the manufacture of parts CONFORMS to the material and/or manufacturing specifications indicated in drawings or specifications as called for on purchase order referenced hereon. Test reports are on file with us or with our suppliers for examination and indicate conformance with the applicable requirements. The parts listed below are processed in accordance with the drawings or specifications called for on referenced purchase order that are current on the date on which the order was accepted. Pertinent details of the work performed are on file at this facility under the process heat number listed hereon.

HEAT # 03-2248

DATE SHIPPED 12-8-03

QUANTITY

DESCRIPTION

1 PC	#SE121-001P-2 PANEL 2D JOB #64880-2/2
1 PC	#SE121-001P-2 PANEL 2 JOB #64880-15/1

MATERIAL: INCO 625

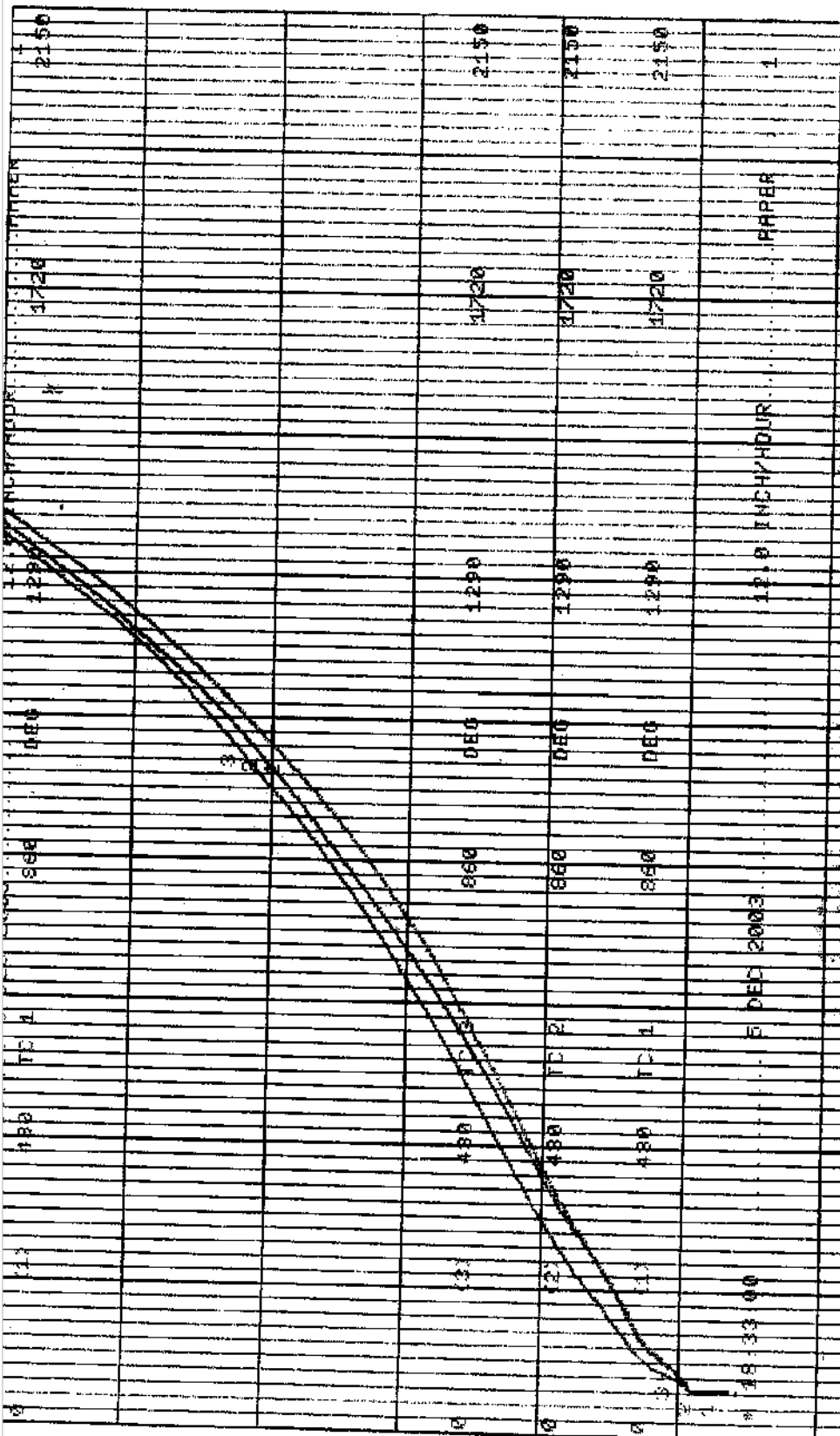
**SOLUTION ANNEALED PER AMS-2774 DATED JULY 1995
1900°F ± 15°F FOR 45 MINUTES ± 5 MINUTES
RAPID AIR COOLED TO 1000°F & AIR COOLED.**

81546
12/8/03
B.I.

MTM
023
12/22/03

Sworn and subscribed to before me...
 on this 12-8-03 day of December 2003
 Notary Public Morgan County - State of Indiana
 My commission expires 9-30-09

[Signature]
 (Name)
QA
 (Title)



EXOTIC METAL TREATING, INC.
 6234 EAST HANNA AVENUE - INDIANAPOLIS, IN 46203

DATE: 12-5-03 COMPANY: MAJORTA
 LOAD #: 03-2248 MATERIAL:
 QTY: 2 P/N: 6E21-001-P-2
PANEL 2, 20

FURNACE: GF1 ATMOS: Air
 REF. SPEC: AMS 2774 Rev. 10.95
 RECORDER: DPA 2 TIME START: 18:33

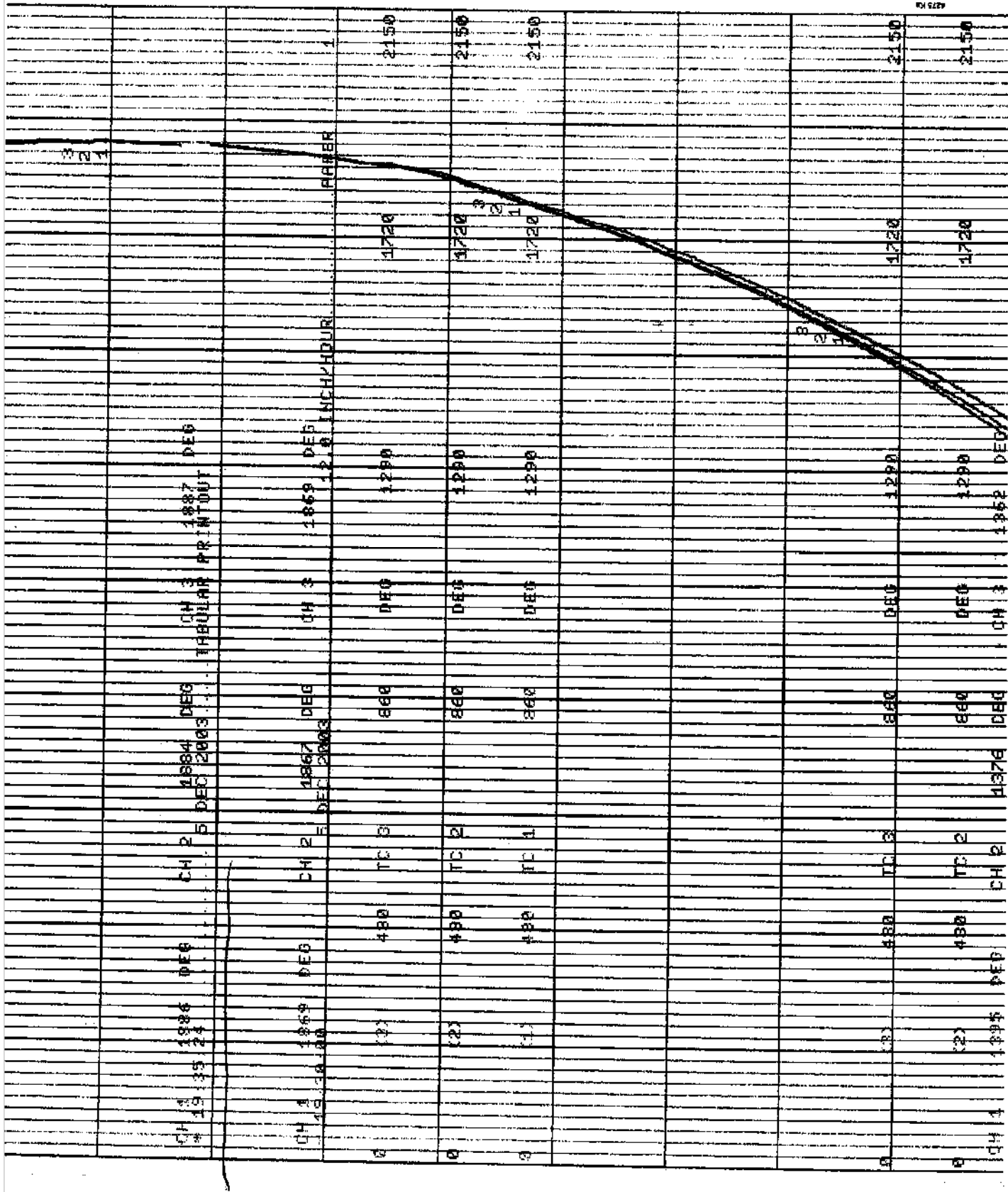
121103

DEC 18 2003

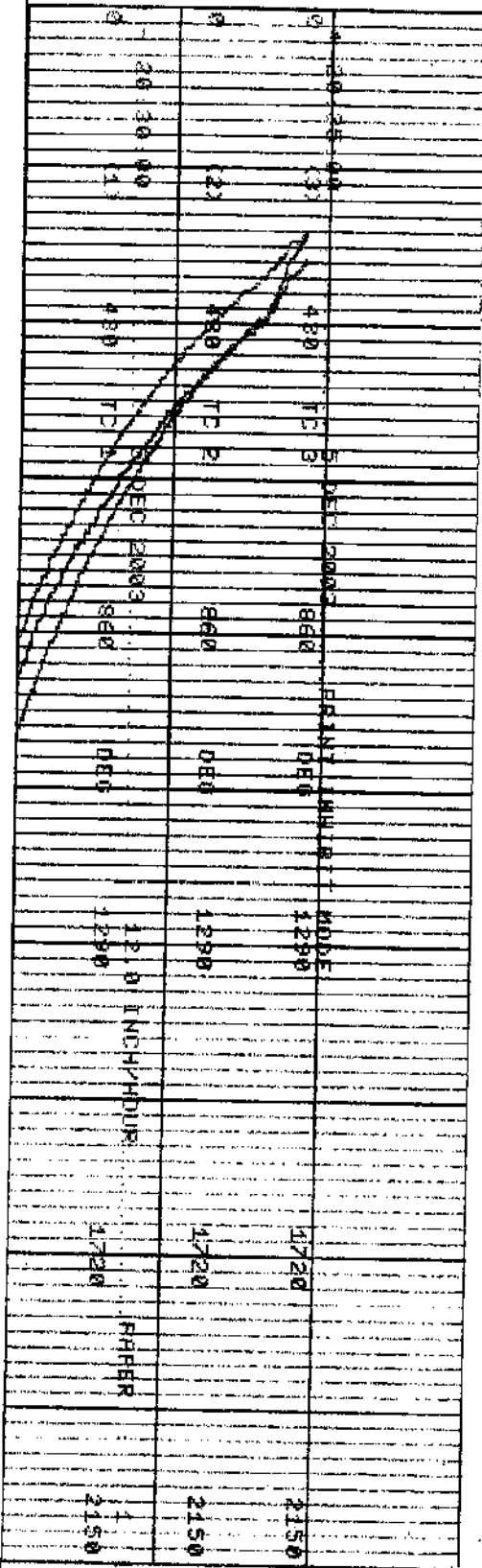
81540

8:21

1750	1720	1700	1680	1660	1640	1620	1600	1580	1560	1540	1520	1500	1480	1460	1440	1420	1400	1380	1360	1340	1320	1300	1280	1260	1240	1220	1200	1180	1160	1140	1120	1100	1080	1060	1040	1020	1000	980	960	940	920	900	880	860	840	820	800	780	760	740	720	700	680	660	640	620	600	580	560	540	520	500	480	460	440	420	400	380	360	340	320	300	280	260	240	220	200	180	160	140	120	100	80	60	40	20	0
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CH 1	1990	DEC	CH 2	1991	DEC	CH 3	1992	DEC
4 20 21 20			5	DEC 2003		REGULAR PRINTOUT		
0	3)	480	TC 3	880	DE0	1290	1720	2150
0	2)	480	TC 2	880	DE0	1290	1720	2150
0	1)	480	TC 1	880	DE0	1290	1720	2150
0	20 00 00		5 DEC 2003			12 0 INCH/HR		
0	3)	480	TC 3	880	DE0	1290	1720	2150
0	2)	480	TC 2	880	DE0	1290	1720	2150
0	1)	480	TC 1	880	DE0	1290	1720	2150



Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 175

Workorder: 64880/1-0 Sub:15 Op:31

Part: SE121-001P-2 PANEL 2 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VERIFY HEAT TREAT CERTIFICATION AND FURNACE CHART COMPLY WITH MTM PURCHASE ORDER REQUIREMEN		QA		VISUAL	GOOD	085		
(10)								01-16-0		A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 176

Workorder: 64880/1-0 Sub:15 Op:35

Part: SE121-001P-2 PANEL 2 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY OF ANNEAL		QA		J-1165	UNDER 1.01	085		
(10)		1.01 MAX						01-16-0		

A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 177

Workorder: 64880/1-0 Sub:15 Op:40

Part: SE121-001P-2 PANEL 2 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		.094" Max Gap (Part Surface To gauge)		MFG QA		J-642	.094" NOGO	407 01-20-0	363 01-20-0	

A

64880 PPPL NCSX PVVS INSPECTION RECORD


Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel		Interpass (#)		After structural welding		After welding Port		Final Inspection			
Part # / Panel #: SE121-00/ #2				Gage/Std S/N(s): J-1009		J-1165		J-1180		Date of Inspection: 02/09/2004	
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.050	0.402	<1.01	31.2	MTM 040	44	0.02	0.380	<1.01	34.3	MTM 040
2	0.045	0.407	<1.01	48.8	MTM 040	45	0.02	0.379	<1.01	55.6	MTM 040
3	0.045	0.412	<1.01	39.2		46	0.03	0.378	<1.01	28.4	
4	0.030	0.412	<1.01	24.8		47					
5	0.025	0.405	<1.01	50.4		48	0.045	0.377	<1.01	38.4	MTM 040
6	0.015	0.399	<1.01	57.6		49	0.035	0.404	<1.01	32	MTM 040
7	0.010	0.399	<1.01	25.6		50	0.045	0.384	<1.01	55.6	
8	0.015	0.395	<1.01	44		51	0.060	0.389	<1.01	24.4	
9	0.020	0.395	<1.01	56		52	0.045	0.380	<1.01	37.6	
10	0.025	0.402	<1.01	52		53	0.040	0.378	<1.01	37.6	
11	0.030	0.397	<1.01	50.4		54	0.020	0.393	<1.01	35.2	MTM 040
12	0.030	0.391	<1.01	48.8		55	0.065	0.393	<1.01	41.2	
13	0.035	0.389	<1.01	50		56					
14	0.040	0.387	<1.01	42.4		57					
15	0.046	0.386	<1.01	38		58					
16	0.050	0.385	<1.01	34.4		59					
17	0.030	0.383	<1.01	48		60					
18	0.020	0.381	<1.01	40.4		61					
19	0.015	0.380	<1.01	35.2		62					
20	0.020	0.378	<1.01	38.8		63					
21	0.015	0.378	<1.01	37.2		64					
22	0.015	0.385	<1.01	60.8		65					
23	0.020	0.386	<1.01	50.4		66					
24	0.030	0.386	<1.01	43.6		67					
25	0.035	0.384	<1.01	41.6		68					
26	0.040	0.384	<1.01	60.4		69					
27	0.050	0.385	<1.01	45.2		70					
28	0.055	0.382	<1.01	47.6		71					
29	0.060	0.382	<1.01	64.8		72					
30	0.060	0.381	<1.01	51.6		73					
31	0.055	0.381	<1.01	43.2		74					
32	0.060	0.381	<1.01	43.6		75					
33	0.070	0.383	<1.01	31.2		76					
34	0.066	0.381	<1.01	49.6		77					
35	0.066	0.381	<1.01	50.8		78					
36	0.040	0.382	<1.01	37.2		79					
37	0.040	0.381	<1.01	51.6		80					
38	0.030	0.381	<1.01	41.6		81					
39	0.020	0.381	<1.01	34		82					
40	0.025	0.382	<1.01	34		83					
41	0.020	0.381	<1.01	33.6		84					
42	0.015	0.380	<1.01	30	MTM 040	85					
43	0.015	0.379	<1.01	28.8		86					

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 179

Workorder: 64880/1-0 Sub:15 Op:70

Part: SE121-001P-2 PANEL 2 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	<1.01	854			A
(10)		Magnetic Permeability 1.01 Max						02-09-0			
*				QA		J-1180	FROM WITHIN TO 65 R	854			R
(20)		32 MICRO-INCH SURFACE FINISH (INTERIOR (CONCAVE) SIDE)					A	02-09-0			
*				QA		J-1149	<.094	854			A
(30)		 .094" .094" Max Gap (Part Surface To gauge)				MTMFX2904		02-09-0			

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 180

Workorder: 64880/1-0 Sub:16 Op:10

Part: SE121-001P-2 PANEL 3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Magnetic Permeability 1.0 Max. (Panel Blank)		QA		J-1165	<1.01	363			A
(10)								02-11-0			
*		.375 (+.040/-0) (Panel Blank)		QA		J-160	.381	085			A
(20)								10-02-0			
*		SURFACE FINISH: SMOOTH, CLEAN, NO HEAVY SCRAPES, PITS, OR GOUGES (Panel Blank)		QA		VISUAL	GOOD	085			A
(30)								10-02-0			

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 391396003-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915037	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellemenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 3 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
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Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantité Commandée Bestellemenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
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Heat Number Numero De Centre Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																
	A)	B	C	Cu+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W
2650 3 6877	0.18		0.030	3.52	<0.10	21.42		4.46	0.28	8.56	60.11	0.006	0.004	0.17	0.29		
	(Pb)	Ta	Zr	Bi	Se	La	(Ni+Cu)	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co		
2650 3 6877																	

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03

Paul O. Guest

SEP 19 2003

90006 Inv 3 B.1.
9/22/03
MTM 023

THE DATA LISTED HEREIN WERE OBTAINED FROM SAMPLES AS SUBMITTED TO US REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT REPORT AND ARE BOUND BY THE SAME. WE DISCLAIM ANY LIABILITY FROM USE OF THIS CERTIFICATE.
LES RÉSULTATS LISTÉS ICI ONT ÉTÉ OBTENUS À PARTIR D'ÉCHANTILLONS REPRÉSENTATIFS DES PRODUITS DÉCRIS DANS LE BREVET D'ANALYSE. NOTRE RESPONSABILITÉ EST LIMITÉE À CE QUI EST DÉCRIT DANS LE BREVET.
DIE VORGESAMMELTEN ANGABEN BAZIEMEN AUF PROBEEN DIE ALS REPRÄSENTATIV ERFOLGEN FÜR DIE PRODUKTE IN DER BERICHTIGTEN ZUSAMMENFASSUNG UND ALS GRENZWERTE ANGEZEIGT WURDEN. WIR ÜBERNEHMEN KEINE VERANTWORTUNG FÜR DIE VERWENDUNG DIESER ZERTIFIKATIONEN.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATION, AND WE DO NOT ASSUME ANY LIABILITY FROM USE OF THIS CERTIFICATE.
SPECIFICALLY, HAYNES DOES NOT REPRESENT OR WARRANT TO THE USER REGARDING MULTIPLE MATERIAL SPECIFICATIONS.

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 391396003-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Référence Client Kundenbestelldaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915037	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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International

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Kokomo, Indiana, 46902

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Specification • Spécification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hie.Temp. Warm Zugversuch					Stress Rapture Temperature • Essai A Charge De Rupture Zetstandversuch						
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Along EN % Dehnung	%RA	Temp:	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Along EN % Dehnung	%RA	Temp:	Test Essai Versuch	Stress Coordinate Spannung	Hours Heures Stunden	% Elong In % Along EN % Dehnung	% RA
133000 PSI		67500 PSI	50 %	(1) (A)												

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03 (1) 2739027801

Paul O. Guest

 9/22/03

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCT IN THE SUBJECT EQUIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DISCLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES DONNÉES CONTIENUES ICI ONT ÉTÉ OBTENUES À PARTIR D'ÉCHANTILLONS REPRÉSENTATIFS DES PIÈCES EN QUESTION. NOUS CROYONS QU'ELLES SONT FIABLES. NOUS REÇUSONS TOUTE RESPONSABILITÉ LÉGALE ET ALIÉNATION DE CÉDÉ CERTIFICATE.
DIE VORGESCHTEN ANGABEN WURDEN AN DER FOLGENDE PROBE ERHALTEN, DIE ALS REPRÄSENTATIV FÜR DIE PRODUKTION ANGESEHEN WERDEN. WIR LEISTEN KEINE RECHTLICHE VERANTWORTUNG FÜR DIE VERWENDETE INFORMATIONEN.
SEMPER VERIFICARE I MATERIALI E I TRATTAMENTI CHE SONO IN USO. PER INFORMAZIONI SULLA NOSTRA PROCEDURA DI CERTIFICAZIONE, VISITATE IL NOSTRO SITO WEB: WWW.HAYNES.COM

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 391396003-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldaten P03-03297	Report No. Rapport No. Zeugnis Nr 20030915037	Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4

Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 3 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
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Specification • Spécification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantité Commandée Bestellemenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
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Annealed Hardness Dureté Recuit Gehtzeit Härte	Aged Hardness Dureté Vieilli Gealtert Härte	Grain Size Grossueur De Grain Korngrösse					IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture				
		Grain Size	Prodominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA			Attack Depth	Corrosion		Test Method	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Test Estat Versuch	Stress Constraine Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung
96 HRB		8/6							MPY											(1)

Certified By • Certifié Par • Bescheinigt Durch: **Paul Guest** 09/15/03 (1) 2739027801
Certification Supervisor/Technician

Paul O. Guest

 9/22/03

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LES RÉSULTATS CONTIENS ICI SONT OBTENUS D'ÉCHANTILLONS CONSIDÉRÉS COMME ÉTANT REPRÉSENTATIFS DES PRODUITS ENVOYÉS EN COLLECTIF. NOUS NE SOMES PAS RESPONSABLES JURIDIQUEMENT DE L'USAGE QUE VOUS FAITES DE CE CERTIFICAT.
DIE WERKSZEUGNIS DATEN WURDEN AN DER PROBE ENTNOMMEN, DIE ALS REPRÉSENTATIV GEBILDET WURDEN. WIR GLAUBEN AN DIE VERLÄSSLICHKEIT DER DATEN. WIR ÜBERNEHMEN KEINE VERANTWORTUNG FÜR DEN EINSATZ DIESER WERKSZEUGNIS DATEN.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE LATEST SPECIFICATION, MODIFIED BY ANY ADDITIONS OR PURCHASE ORDER REQUIREMENTS.
DIE MATERIALIEN ERFÜLLEN DIE ANFORDERUNGEN DER NEUESTEN SPEZIFIKATION, MODIFIZIERT DURCH ZUSÄTZLICHE ANFORDERUNGEN IM KAUFORDERUNGSBELEG.
DIE WERKSZEUGNIS DATEN ERFÜLLEN DIE ANFORDERUNGEN DER NEUESTEN SPEZIFIKATION, MODIFIZIERT DURCH ZUSÄTZLICHE ANFORDERUNGEN IM KAUFORDERUNGSBELEG.

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CERTIFICATION OF TESTS - RAPPORT D'ESSAIS CERTIFIE - WERKSZEUGNIS

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HAYNES
International

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Kokomo, Indiana, 46902

Invoice No. No. De Facture Rechnung Nr. 391396003-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestellnr. P03-03297	Report No. Rapport No Zeugnis Nr. 20030815037	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestelleranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestimmung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 3 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1		Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 PC	
<p>This material is free of mercury contamination. Mill Orders Used: 2739027801 (1 PC) (A) 1750 °F to 1950 °F</p>				

Certified By • Certifie Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician
08/15/03

Paul O. Guest



9/22/03

INDIANAPOLIS, INDIANA: THE HAYNES COMPANY HAS BEEN ADVISED THAT THE ABOVE SUPPLIER AND REPORTING TO THE HAYNES COMPANY ARE THE PROPERTY OF THE HAYNES COMPANY. THE HAYNES COMPANY IS NOT RESPONSIBLE FOR THE ACTIONS OF THE SUPPLIER OR THE REPORTING TO THE HAYNES COMPANY. THE HAYNES COMPANY IS NOT RESPONSIBLE FOR THE ACTIONS OF THE SUPPLIER OR THE REPORTING TO THE HAYNES COMPANY. THE HAYNES COMPANY IS NOT RESPONSIBLE FOR THE ACTIONS OF THE SUPPLIER OR THE REPORTING TO THE HAYNES COMPANY.

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CORRECTED

Certificate of Conformance
EXOTIC METAL TREATING INC.

Certificate # **46687**

6234 E. Hanna Avenue • Indianapolis, Indiana

Vendor Code # **0013**

P.O. # **P03-04564**

Exotic Metal Treating Inc. hereby certifies that all materials used in the manufacture of parts **CONFORMS** to the material and/or manufacturing specifications indicated in drawings or specifications as called for on purchase order referenced hereon. Test reports are on file with us or with our suppliers for examination and indicate conformance with the applicable requirements. The parts listed below are processed in accordance with the drawings or specifications called for on referenced purchase order that are current on the date on which the order was accepted. Pertinent details of the work performed are on file at this facility under the process heat number listed hereon.

HEAT # **03-2122**

DATE SHIPPED **11-10-03**

QUANTITY

DESCRIPTION

1 PC

#SE121-001P-2 PANEL 3 JOB #64880-16/1

MATERIAL: INCO 625

SOLUTION ANNEALED PER AMS-2774 DATED JULY 1995
1900°F ± 15°F FOR 45 MINUTES ± 5 MINUTES
RAPID AIR COOLED TO 1000°F & AIR COOLED.



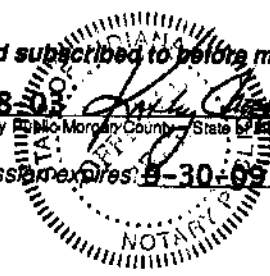
12/22/03

8/1/06
11/10/03
B.A.

Sworn and subscribed to before me...

on **12-18-03** *[Signature]*
Notary Public Morgan County State of Indiana

My commission expires: **9-30-09**

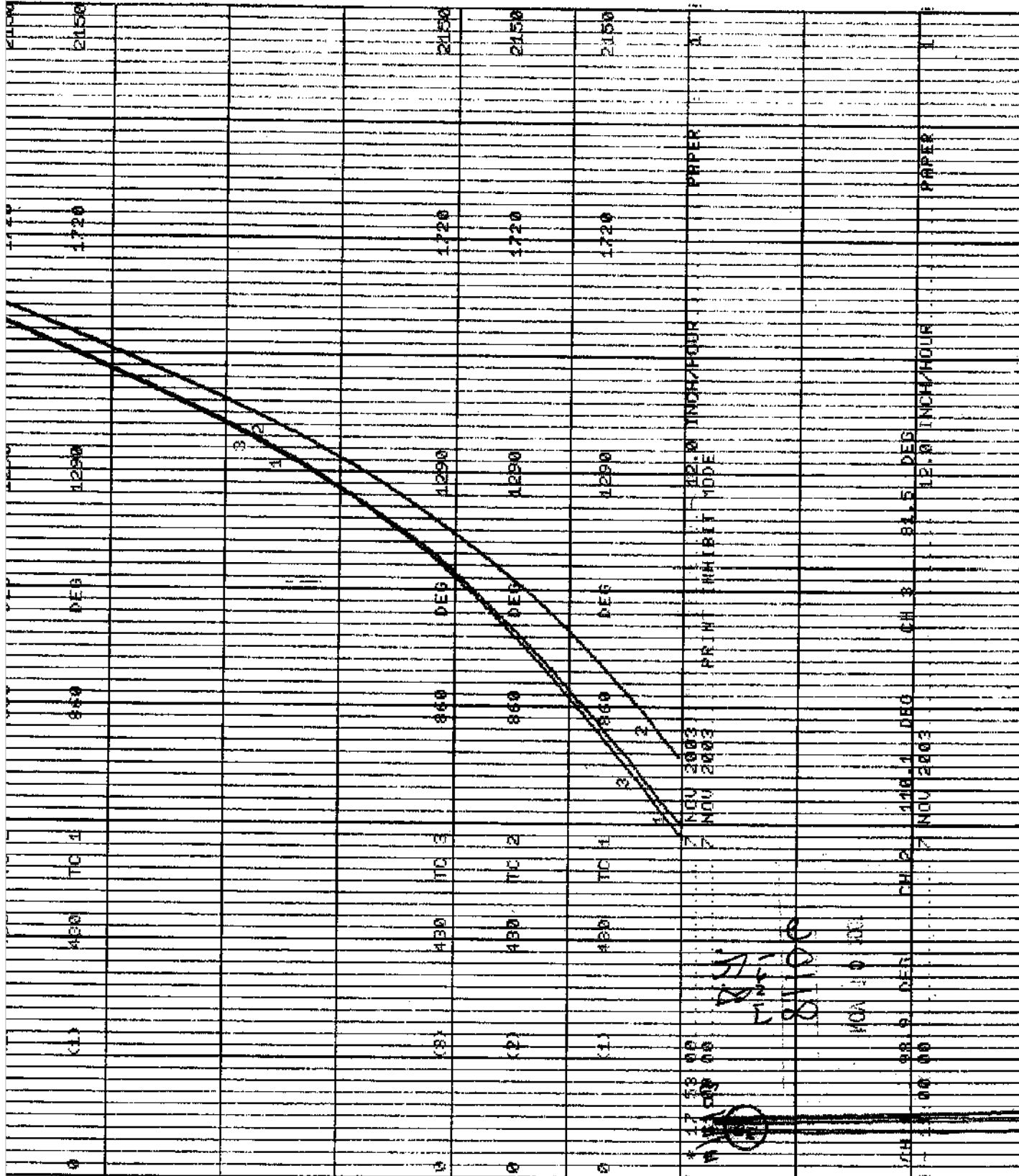


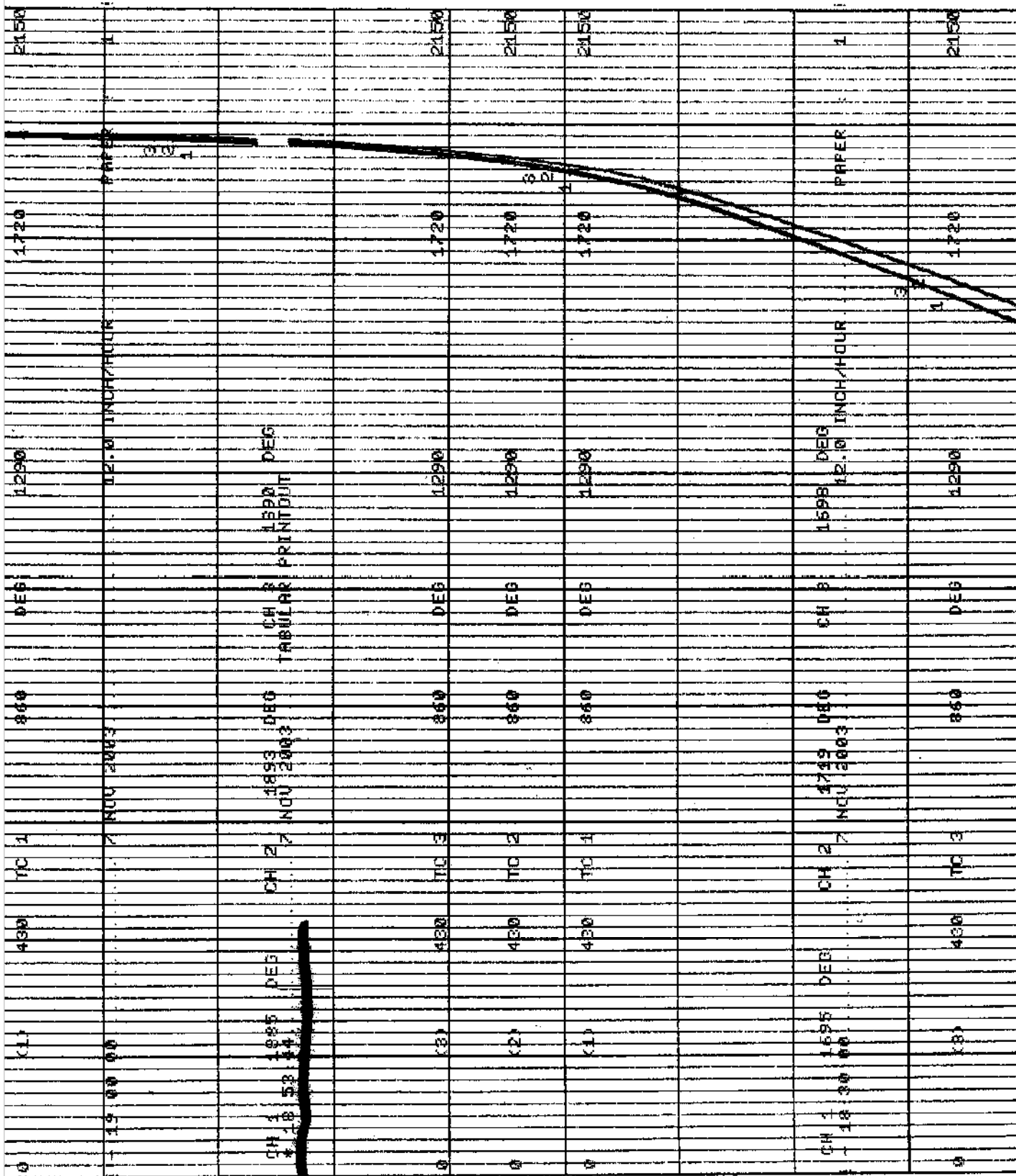
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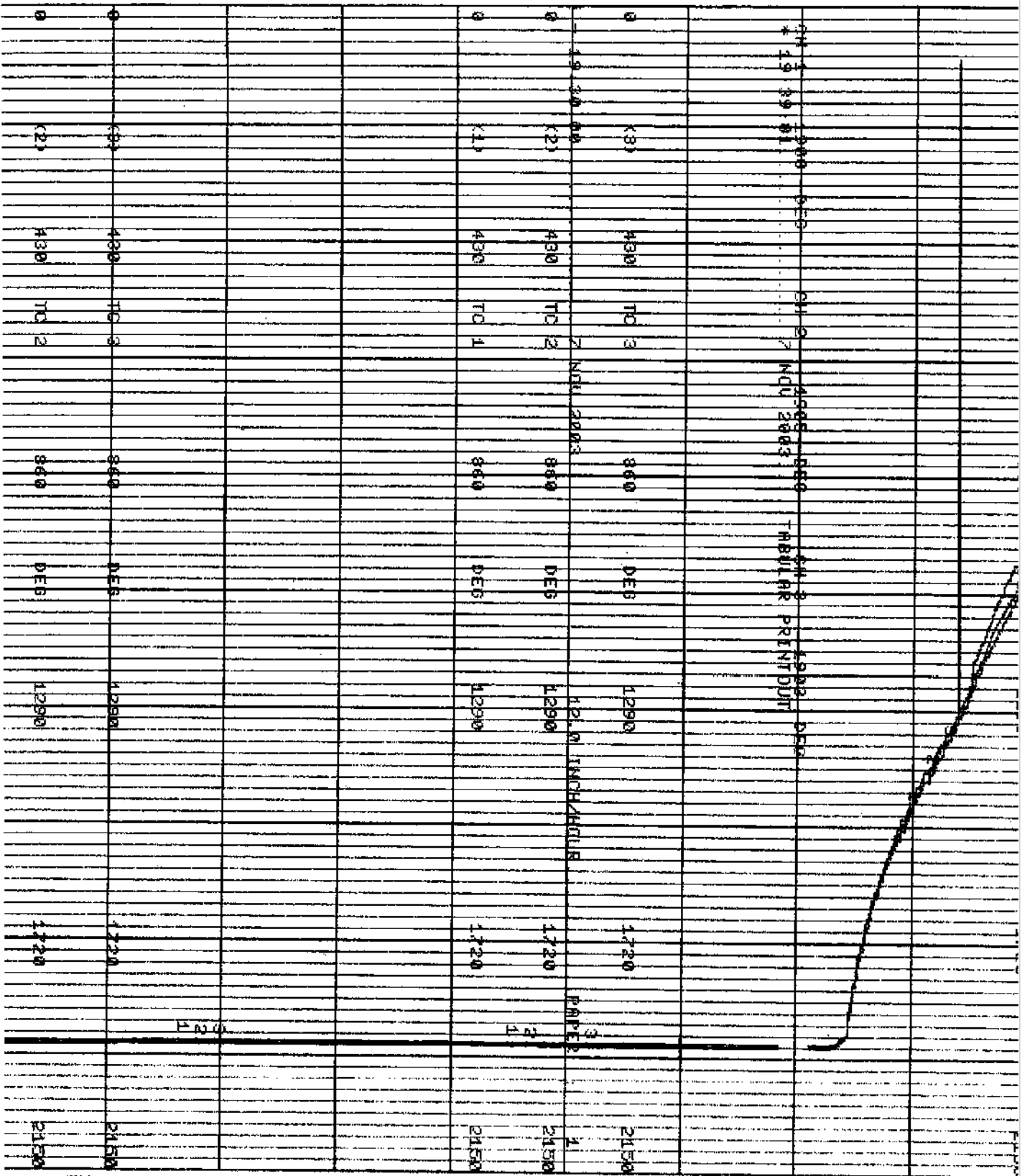
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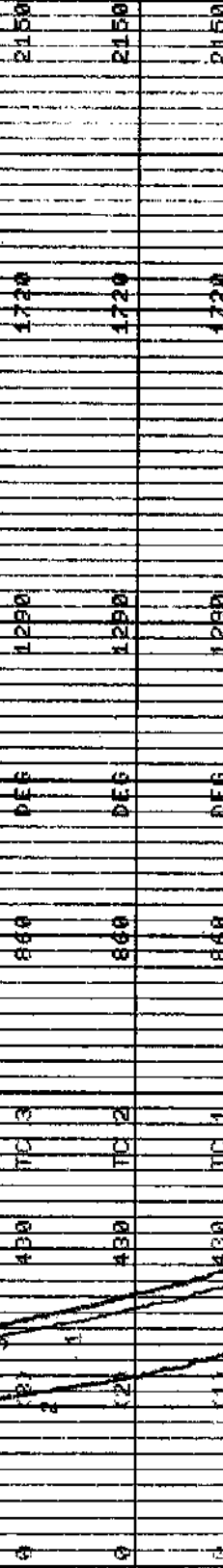


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TC 2 DEG

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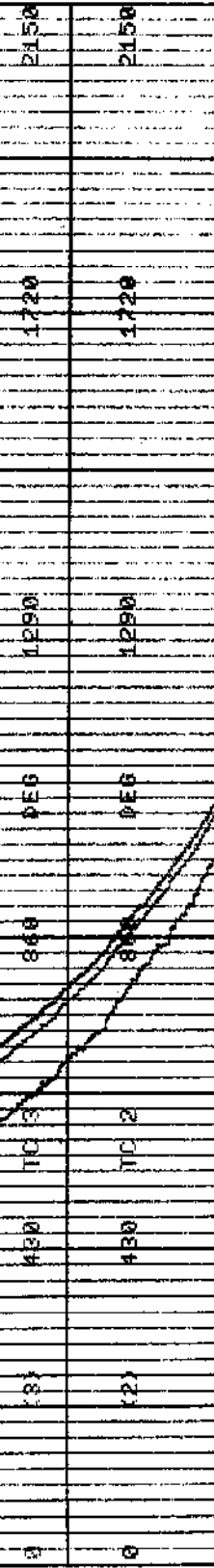
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7 NCU 2003

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TC 3 DEG

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TC 2 DEG

860

TC 1 DEG

860

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 184

Workorder: 64880/1-0 Sub:16 Op:31

Part: SE121-001P-2 PANEL 3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VERIFY HEAT TREAT CERTIFICATION AND FURNACE CHART COMPLY WITH MTM PURCHASE ORDER REQUIREMEN		QA		VISUAL	GOOD	085		
(10)								01-16-0		A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 185

Workorder: 64880/1-0 Sub:16 Op:35

Part: SE121-001P-2 PANEL 3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY OF ANNEAL		QA		J-1165	UNDER 1.01	085		
(10)		1.01 MAX						01-16-0		

A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 186

Workorder: 64880/1-0 Sub:16 Op:40

Part: SE121-001P-2 PANEL 3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		.094" Max Gap (Part Surface To gauge)		MFG QA		J-642	.094" MAX.	407 02-04-0	363 02-04-0	

A

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel			Interpass (#)		After structural welding		After welding Port		Final Inspection		
Part # / Panel #:	SE121-00	PANEL #3	Gage/Std	S/N(s):	J1009	J1178	J1165	Date of Inspection:	02/11/2004		
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.03	0.38	<.101			44	0.02	0.382			
2	0.025	0.38	<.101			45	0.03	0.381			
3	0.015	0.381	<.101			46	0.03	0.381			
4	0.01	0.379	<.101			47	0.03	0.382			
5	<.01	0.381	<.101			48	0.03	0.38			
6	<.01	0.381	<.101			49	0.03	0.38			
7	<.01	0.378	<.101			50	0.03	0.38			
8	<.01	0.378	<.101			51	0.03	0.382			
9	<.01	0.38	<.101			52	0.02	0.382			
10	<.01	0.38	<.101			53	0.02	0.382			
11	<.01	0.381	<.101			54	<.01	0.383			
12	<.01	0.379	<.101			55	0.02	0.382			
13	<.01	0.38	<.101			56	0.03	0.383			
14	<.01	0.382	<.101			57	0.02	0.383			
15	<.01	0.382	<.101			58	0.015	0.383	26.2		
16	<.01	0.38	<.101			59	0.02	0.38	24.6		
17	<.01	0.379	<.101			60	<.01	0.378	19.8		
18	0.06	0.379	<.101			61	<.01	0.378	21.6		
19	0.06	0.378	<.101			62	<.01	0.379	18.4		
20	0.05	0.379	<.101			63	0.02	0.378	19.6		
21	0.04	0.379	<.101			64	0.015	0.379	22		
22	0.04	0.38	<.101			65	0.015	0.378	24.8		
23	0.04	0.381	<.101			66	0.02	0.382	18.2		
24	0.025	0.381	<.101			67	0.03	0.382	20		
25	0.025	0.381	<.101			68	0.02	0.38	23.6		
26	0.025	0.379	<.101			69	<.01	0.379	25.2		
27	0.01	0.38	<.101			70	0.03	0.381	18.8		
28	0.025	0.381	<.101			71	0.02	0.38	16		
29	0.025	0.381	<.101			72	<.01	0.379	19.2		
30	0.02	0.381	<.101			73	0.03	0.381	25.2		
31	0.02	0.381	<.101			74	0.03	0.382	28		
32	0.02	0.38	<.101			75	0.02	0.382	30.4		
33	0.025	0.38	<.101			76	0.045	0.382	30.8		
34	0.02	0.382	<.101			77	0.03	0.384	27.6		
35	0.015	0.38	<.101			78	0.02	0.383	18.8		
36	0.02	0.38	<.101			79	0.02	0.379	19		
37	.020.	0.381	<.101			80	<.01	0.379	23.6		
38	0.015	0.381	<.101			81	0.08	0.379	20.2		

39	<.010	0.38	<.101			82	0.08	0.38	19.2		
40	<.010	0.38	<.101		MTM 031	83	0.06	0.381	26		MTM 031
41	<.010	0.379	<.101			84	0.05	0.38	18.2		
42	<.010	0.38	<.101		MTM 031	85	0.03	0.382	21.6		MTM 031
43	<.010	0.381	<.101			86	0.015	0.383	20.4		

64880 PPPL NCSX PVVS INSPECTION RECORD Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel Interpass (#) After structural welding After welding Port Final Inspection


Part # / Panel #: SE121-00 PANEL #3 Gage/Std S/N(s): Date of Inspection:

Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
87	0.03	0.385	<.101	22		126					
88	0.015	0.384	<.101	21.8	MTM 031	127					
89	0.02	0.382	<.101	24.6		128					
90	0.07	0.382	<.101			129					
91	0.08	0.381	<.101			130					
92	0.08	0.383	<.101			131					
93	0.06	0.382	<.101			132					
94	0.055	0.382	<.101			133					
95	0.055	0.379	<.101			134					
96	0.07	0.38	<.101		MTM 031	135					
97	0.07	0.379	<.101			136					
98						137					
99						138					
100						139					
101						140					
102						141					
103						142					
104						143					
105						144					
106						145					
107						146					
108						147					
109						148					
110						149					
111						150					
112						151					
113						152					
114						153					
115						154					
116						155					
117						156					
118						157					
119						158					
120						159					

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 188

Workorder: 64880/1-0 Sub:16 Op:70

Part: SE121-001P-2 PANEL 3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	<1.01	363			A
(10)		Magnetic Permeability 1.01 Max						02-12-0			
*				QA		J-1009	30.8	363			A
(20)		32 MICRO-INCH SURFACE FINISH (INTERIOR (CONCAVE) SIDE)						02-12-0			
*		 .094"		QA		J-1149	.080	363			A
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2905		02-12-0			

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

FILE COPY 2

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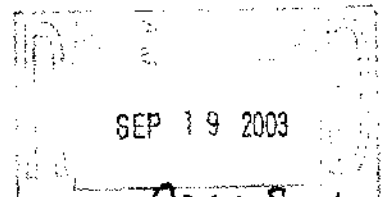
Haynes International
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Invoice No. No. de Facture Rechnungs Nr. 391396004-0	Date Entered Date de Commande Bestelldatum 08/15/03	Customer Reference Référence Client Kundenbestellnummer P03-03297	Report No. Rapport No. Zeugnis Nr. 20030915048	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
Sold To • Client • Bestellauschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestimmung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Bestimmung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 4 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Specification • Spezifikation 4 ASTM-B-443 Rev 00e1 N06625 1		Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC	

Heat Number Numéro de Cuisse Liquage Nr.	Chemical Analysis • Analyse Chimique • Chemische Analyse																
	Al	B	C	Co/Ta (Nb/Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W
2650 3 6876	0.19		0.030	3.55	0.21	21.97		4.62	0.30	8.65	59.46	0.005	0.003	0.19	0.26		
2650 3 6876	Al	Ta	Zr	Bi	Se	La	C+N	Ph	Mg	Y	Ag	N	Ca	Al+Ti	Nb+Co		

Certified By • Certifié Par • Bescheinigt Durch: **Paul Guest**
Certification Supervisor/Technician
09/15/03

Paul O. Guest



80005 Line 4 B.I.

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HTI 9/22/03

mc094093.tif 1 of 4

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FILE COPY 1

HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No. No. De Facture Rechnungs Nr. 391396004-0	Date Entered Date De Commande Reception 08/15/03	Customer Reference Reference Client Kundenbestellnummer P03-03297	Report No. Rapport No. Zeugnis Nr. 20030915048	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
Sold To • Client • Bestandsbeschriftung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 4 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Specification • Spezifikation ASTM-B-443 Rev 00el N06625 1			Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hte. Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch						
Ultimate Zugfestigkeit	% Yield Lim. Elong A 1% % Bruchdehnung	0.2% Yield Lim. Elong A 0.2% 0.2% Bruchdehnung	% Elong in 2" / % Dehnung	RA %	Temp.	Ultimate Zugfestigkeit	% Yield Lim. Elong A 1% % Bruchdehnung	0.2% Yield Lim. Elong A 0.2% 0.2% Bruchdehnung	% Elong in 2" / % Dehnung	RA %	Temp.	Temp.	Stress Constrains Spannung	Rupture Rupture Bruchzeit	% Elong in 2" / % Dehnung	RA %
132000 PSI		63800 PSI	46 %		(1) (A)											

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

Paul O. Guest

09/15/03 (1) 203902770

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NEW 625 9/22/03

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FILE COPY 2

HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No No. de Facture Rechnungs Nr 391396004-0	Date Entered Date de Commande Bestelldatum 08/15/03	Customer Reference Référence Client Kundenbestelldaten P03-03297	Report No Rapport No Zeugnis Nr 20030915048	Pages of Pages Page de Pages Anzahl der Seiten 3 of 4
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Sold To • Client • Beschlaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Beschriftung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 4 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B	
Specification • Spécification • Spezifikation ASTM-B-443 Rev 00b1 N06625 1		Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC

Annealed Hardness Dureté Recuit Geprüft Härte	Aged Hardness Dureté Vieilli Geprüft Härte	Grain Size Grosseur De Grains Korngrösse					IGA	Uniformity	Corrosion Rate		Flexion Rate	Charpy Impact Test				Creep Requirement					
		Grain Size	Maximum Grain Size	Recry Grain	Unrecry Grain %	ALA			Annick Depth	Corrosion		Test Method	Toughness Avg.	Toughness 1	Toughness 2	Toughness 3	Temp	Stress Corrosion Spacing	Hours Soak	% Elong In 1/4 Allong EN % Deform	% Elong In 15 Hrs
96 HRB		8							MPY												(1)

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician
09/15/03
(1) 2039027701

Paul O. Guest

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DES
9/22/03

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

FILE COPY 2

HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No No. De Facture Rechnungs Nr 391396004-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldaten P03-03297	Report No. Rapport No Zeugnis Nr 20030915048	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 4 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Spécification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1			Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
<p>This material is free of mercury contamination. Mill Orders Used: 2039027701 (1 PC) (A) 1750 °F to 1950 °F</p>				

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03

Paul O. Guest

THE DATA OR TESTS HEREIN WERE OBTAINED FROM SAMPLES SUBMITTED TO THE REPRESENTATIVE OF THE PROPERTY IN THE SUBJECT SHIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DO NOT CLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES RÉSULTATS (EN UN SEUL) ICI PRÉSENTÉS ONT ÉTÉ OBTENUS À PARTIR D'UN SEUL ÉCHANTILLON REPRÉSENTATIF DES ÉLÉMENTS EXPÉDIÉS ET SONT CROUSÉS EN FAUTEUR DE LA FIABILITÉ. HAYNES N'ASSUME AUCUNE RESPONSABILITÉ LÉGALE EN CAS D'UTILISATION DE CE CERTIFICAT.
DIE WERTSÄTZE, ANNAHMEN HÄRNEIN SIND AUF PROBEPROBEN AUS DEM BEZUGS GEGENSTAND ERHALTEN UND WERDEN ALS ZUFÖHRERDÄRIGES ERGEBNIS ANGESEHEN. HAYNES ÜBERNIMMT KEINE VERANTWORTUNG FÜR DIE VERWENDEUNG DIESES ZEUGNISSES. ALLE ANFORDERUNGEN AN DIESE MATERIALIEN SIND ZU BEFOLGEN.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE TESTS SPECIFIED ABOVE, UNLESS ANY OTHER FORM OF PURCHASE ORDER SPECIFICATIONS
SOWEIT DIE ANFORDERUNGEN AN DIESE MATERIALIEN SIND ZU BEFOLGEN.



9/22/03

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 190

Workorder: 64880/1-0 Sub:17 Op:10

Part: SE121-001P-2 PANEL 4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Magnetic Permeability 1.0 Max. (Panel Blank)		QA		J-1165	<1.01	363			A
(10)								02-11-0			
*		.375 (+.040/-0) (Panel Blank)		QA		J-160	.396	085			A
(20)								10-02-0			
*		SURFACE FINISH: SMOOTH, CLEAN, NO HEAVY SCRAPES, PITS, OR GOUGES (Panel Blank)		QA		VISUAL	GOOD	085			A
(30)								10-02-0			



CORRECTED

Certificate of Conformance

EXOTIC METAL TREATING INC.

6234 E. Hanna Avenue • Indianapolis, Indiana

Certificate # 46762
Vendor Code # 0013

P.O. # P03-04770

Exotic Metal Treating Inc. hereby certifies that all materials used in the manufacture of parts **CONFORMS** to the material and/or manufacturing specifications indicated in drawings or specifications as called for on purchase order referenced hereon. Test reports are on file with us or with our suppliers for examination and indicate conformance with the applicable requirements. The parts listed below are processed in accordance with the drawings or specifications called for on referenced purchase order that are current on the date on which the order was accepted. Pertinent details of the work performed are on file at this facility under the process heat number listed hereon.

HEAT # 03-2210

DATE SHIPPED 11-26-03

QUANTITY

DESCRIPTION

1 PC	#SE121-001P-2 PANEL 4	JOB #64880-17/1
1 PC	#SE121-001P-2 PANEL 4D	JOB #64880-4/2

MATERIAL: INCO 625

**SOLUTION ANNEALED PER AMS-2774 DATED JULY 1995
1900°F ± 15°F FOR 45 MINUTES ± 5 MINUTES
RAPID AIR COOLED TO 1000°F & AIR COOLED.**



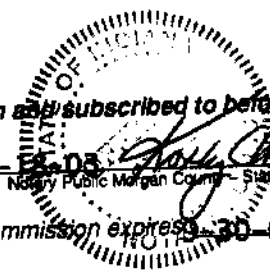
12/22/03

81387
1,2
11/26/03

Sworn and subscribed to before me...

on 12-22-03 at Indianapolis State of Indiana

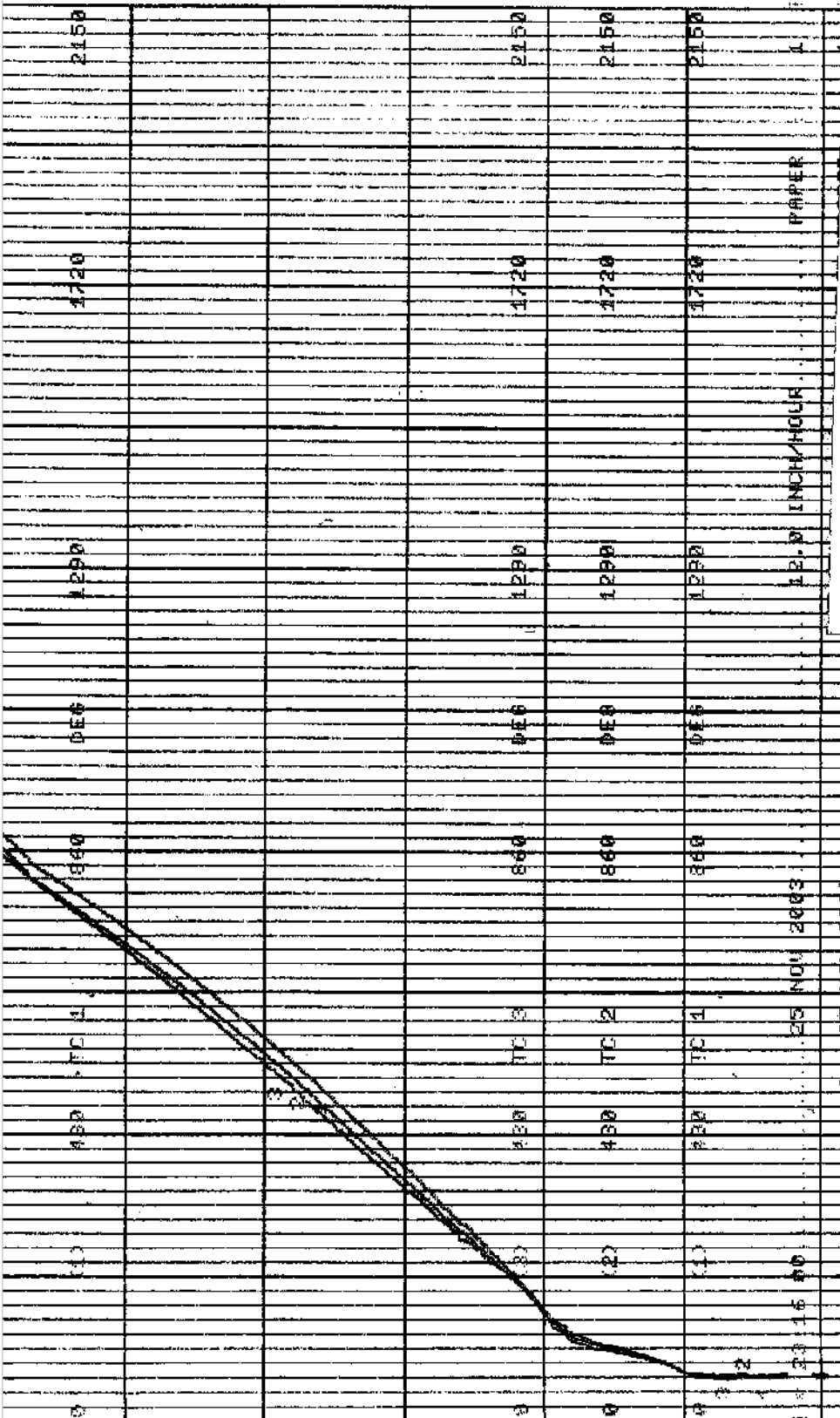
My commission expires 03-30-09



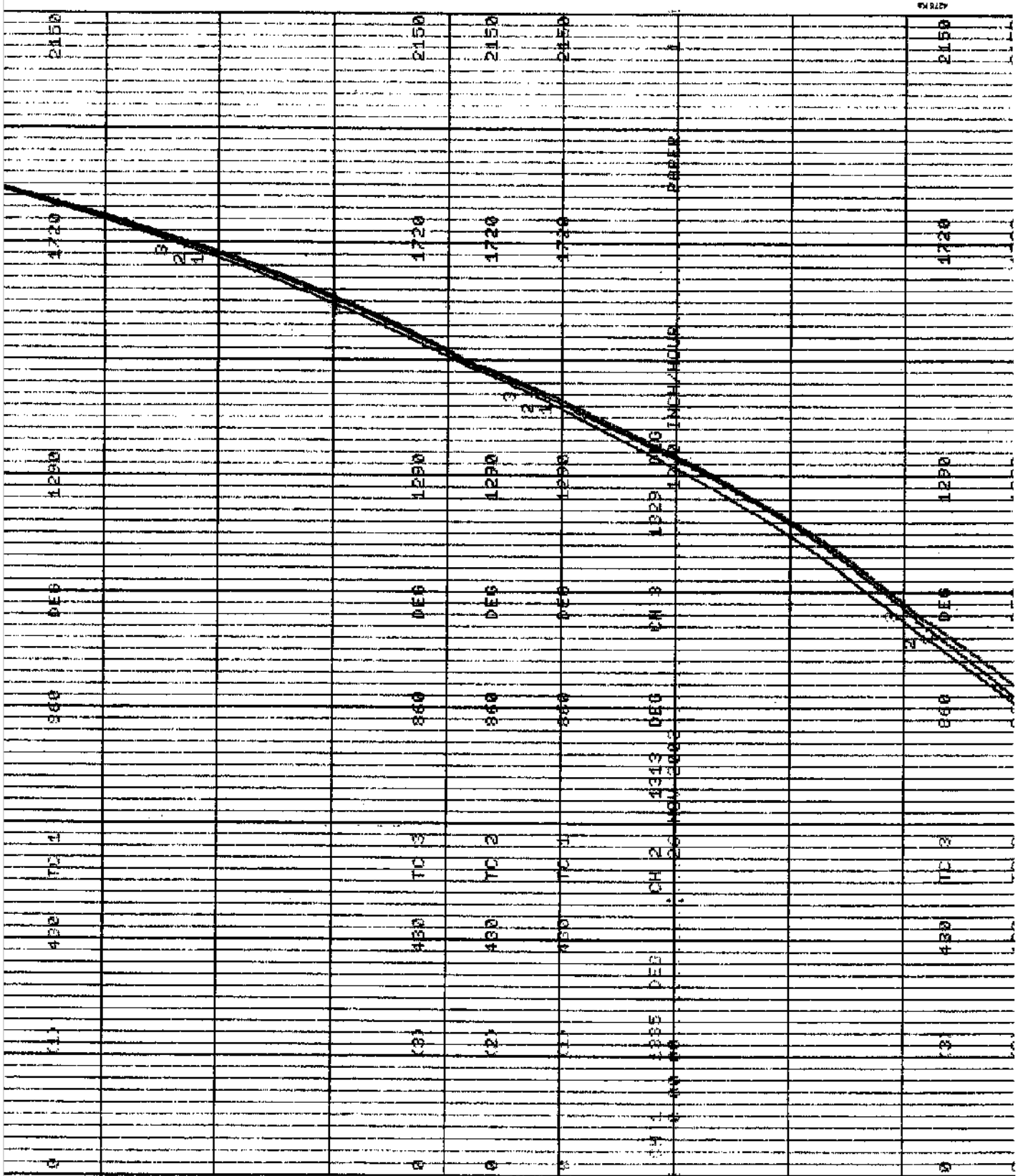
Kurt Shuber
(Name)
QA
(Title)

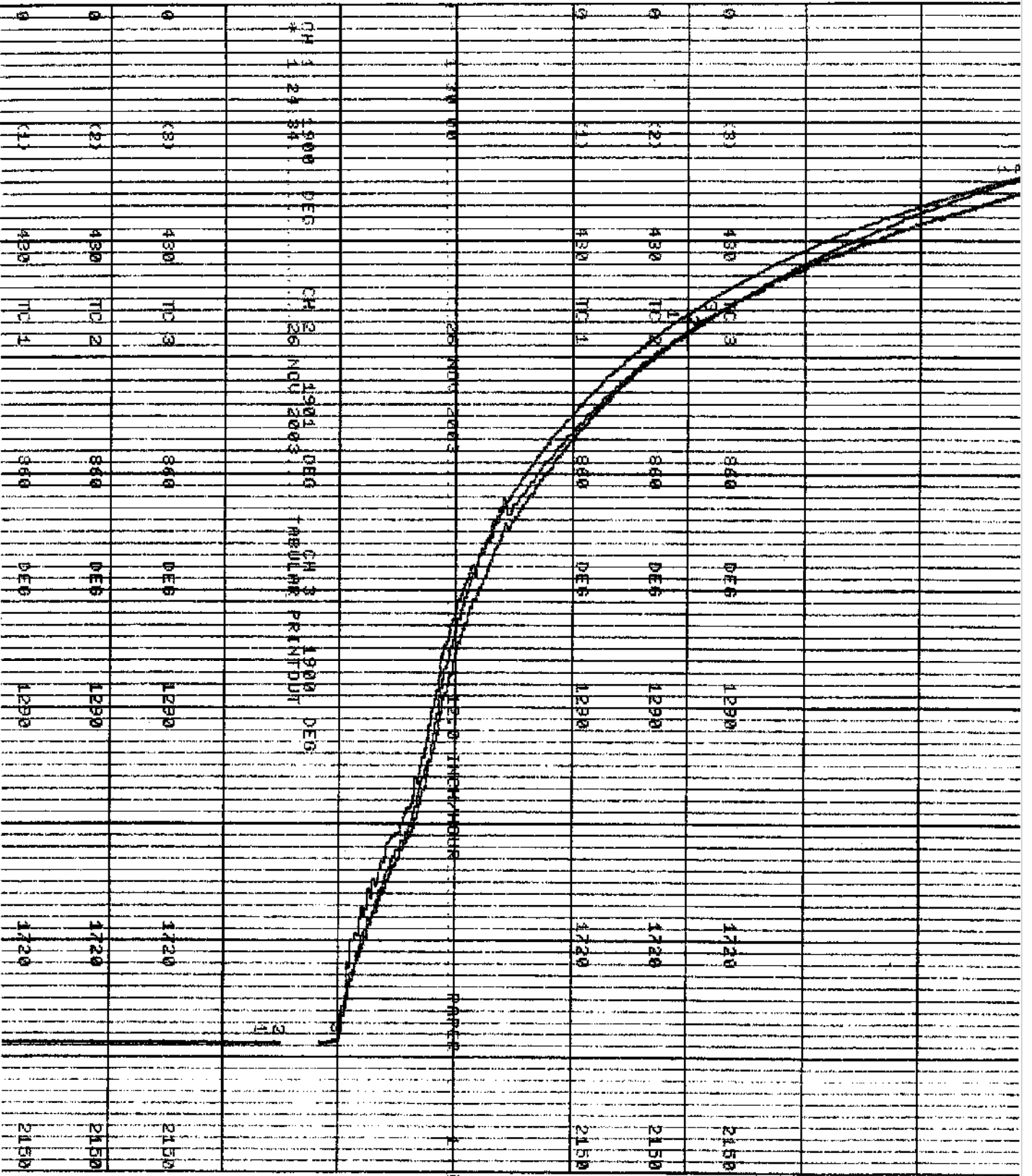
EXOTIC METAL TREATING, INC.
 6234 EAST HANNA AVENUE • INDIANAPOLIS, IN 46203

DATE: 11-26-03 COMPANY: MARCOE
 LOAD #: 03-2210 MATERIAL: _____
 QTY: 2 # 4 40 P/N: SE 121-001 P-2
 FURNACE: GF 1 # 4480-4/2 ATMOS: AIR
 REF SPEC: PD
 RECORDER: DPR-02 TIME START: 11:59AM



NOV 26 2003
 8:38 AM 110 R2
 12/1/03





4876 Kb

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 193

Workorder: 64880/1-0 Sub:17 Op:31

Part: SE121-001P-2 PANEL 4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VERIFY HEAT TREAT CERTIFICATION AND FURNACE CHART COMPLY WITH MTM PURCHASE ORDER REQUIREMEN		QA		VISUAL	GOOD	085		
(10)								01-16-0		A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 194

Workorder: 64880/1-0 Sub:17 Op:35

Part: SE121-001P-2 PANEL 4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY OF ANNEAL		QA		J-1165	UNDER 1.01	085		
(10)		1.01 MAX						01-16-0		

A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 195

Workorder: 64880/1-0 Sub:17 Op:40

Part: SE121-001P-2 PANEL 4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		.094" Max Gap (Part Surface To gauge)		MFG QA		J-642	.094" NOGO	407 01-20-0	363 01-20-0	

A

64880 PPPL NCSX PVVS INSPECTION RECORD

Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel		Interpass (#)		After structural welding		After welding Port		Final Inspection			
Part # / Panel #: SE121-00/ #4				Gage/Std S/N(s): J-1009		J-1165		J-1180		Date of Inspection: 02/09/2004	
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.000	0.390	<1.01	38		44					
2	0.000	0.391	<1.01	33		45					
3	0.005	0.392	<1.01	31		46					
4	0.005	0.390	<1.01	29		47					
5	0.007	0.390	<1.01	30		48					
6	0.010	0.390	<1.01	41		49					
7	0.012	0.390	<1.01	50		50					
8	0.020	0.390	<1.01	37		51					
9	0.030	0.389	<1.01	30		52					
10	0.030	0.390	<1.01	36		53					
11	0.035	0.390	<1.01	42		54					
12	0.025	0.389	<1.01	40		55					
13	0.015	0.389	<1.01	39		56					
14	0.010	0.389	<1.01	34		57					
15	0.000	0.390	<1.01	34		58					
16	0.000	0.391	<1.01	39		59					
17	0.030	0.392	<1.01	35		60					
18	0.030	0.394	<1.01	29		61					
19	0.030	0.394	<1.01	18		62					
20	0.040	0.396	<1.01	21		63					
21	0.035	0.396	<1.01	24		64					
22	0.035	0.396	<1.01	26		65					
23	0.035	0.396	<1.01	28		66					
24	0.030	0.397	<1.01	30		67					
25	0.040	0.396	<1.01	25		68					
26	0.030	0.395	<1.01	28		69					
27	0.030	0.395	<1.01	31		70					
28	0.025	0.395	<1.01	29		71					
29	0.020	0.395	<1.01	26		72					
30	0.020	0.395	<1.01	31		73					
31	0.005	0.398	<1.01	45		74					
32	0.005	0.395	<1.01	47		75					
33	0.010	0.392	<1.01	33		76					
34	0.035	0.393	<1.01	42		77					
35											
36											
37											
38											
39											
40											
41											
42											
43											

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S-04344-F
Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

197 17 70 Inspection Data Checklist: 3 steps

SE121-001P-2 PANEL 5 - DIE FORMED PANEL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
198	18	10	10	Material Certification: / SE121-001P-2 PANEL # 5 - PANEL BLANK .375" THK INCONEL 625 - mc094089.tif / 2650 2 6877
199	18	10		Inspection Data Checklist: 3 steps
200	18	30		Furnace charts: FURNACE CHART - mc095443.pdf
201	18	30		Certification: H/T CERTIFICATE - Same as Item #200
202	18	31		Inspection Data Checklist: 1 steps
203	18	35		Inspection Data Checklist: 1 steps
204	18	40		Inspection Data Checklist: 1 steps
205	18	70		Test Certification: SE121-001P-1MTM - mc096173.tif
206	18	70		Inspection Data Checklist: 3 steps

SE121-001P-3

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
207	29	10		Inspection Data Checklist: 1 steps
208	29	20	10	Material Certification: / INCONEL 625_660 - SHEET,NICKEL ALLOY .125" THK - Same as Item #11 / 2650 3 6874
209	29	30		Inspection Data Checklist: 1 steps
210	29	40		Inspection Data Checklist: 5 steps
211	29	50		Inspection Data Checklist: 5 steps
212	29	50		Nondestructive Visual Test Certification #7951 - MTM WELD INSPECTION FORM
213	29	70		Inspection Data Checklist: 3 steps

SE121-003P - NCSX PVVS COMPLETE Qty: 1

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
214	0	20		MTM NDT Cert: CLEANLINESS CERTIFICATION -
215	39	10		Inspection Data Checklist: 5 steps
216	39	10		Nondestructive Visual Test Certification #8489 - MTM WELD INSPECTION FORM
217	39	30		Inspection Data Checklist: 5 steps
218	39	40		Map(s): SE121-001P-1MTM -
219	39	40		Map(s): SE121-001P-1MTM -
220	39	40		Map(s): SE121-001P-1MTM -
221	39	40		Map(s): SE121-001P-1MTM -
222	39	40		Map(s): SE121-001P-1MTM -
223	39	40		Map(s): SE121-001P-1MTM -
224	39	40		Inspection Data Checklist: 5 steps


SE121-003P-4 - WELD BACKING RING

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
225	25	10	10	Material Certification: / INCONEL 625_660 - SHEET,NICKEL ALLOY .125" THK - mc093762.tif / 2650 3 6874
226	25	20		Inspection Data Checklist: 5 steps
227	25	20		Nondestructive Visual Test Certification #8545
228	25	40		Inspection Data Checklist: 2 steps

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 197

Workorder: 64880/1-0 Sub:17 Op:70

Part: SE121-001P-2 PANEL 4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	< 1.01	854			A
(10)		Magnetic Permeability 1.01 Max						02-09-0			
*				QA		J-1180	CHECKS TO 47	854			R
(20)		32 MICRO-INCH SURFACE FINISH (INTERIOR (CONCAVE) SIDE)						02-09-0			
*		 .094"		QA		J-1149	< .094	854			A
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2906		02-09-0			

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 198

Workorder: 64880/1-0 Sub:18 Op:10

Part: SE121-001P-2 PANEL 5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Magnetic Permeability 1.0 Max. (Panel Blank)		QA		J-1165	<1.01	363			A
(10)								02-11-0			
*		.375 (+.040/-0) (Panel Blank)		QA		J-160	.415	085			A
(20)								10-02-0			
*		SURFACE FINISH: SMOOTH, CLEAN, NO HEAVY SCRAPES, PITS, OR GOUGES (Panel Blank)		QA		VISUAL	GOOD	085			A
(30)								10-02-0			

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International

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1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No. No. De Facture Rechnungs Nr. 391396005-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestelldatum P03-03297	Report No. Rapport No. Zeugnis Nr. 20030915051	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestelleranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 5 HAYNES(R) 625 ALLOY PLATE - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
---	---	---

Specification • Spécification • Spezifikation ASTM-B-443 Rev D0e1 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
---	--	--

Heat Number Numero de Charge Charge Nr.	Chemical Analysis • Analyse Chimique • Chemische Analyse																
	Al	B	C	Cr (Nb-Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W
2650 3 6877	0.18		0.030	3.52	<0.10	21.42		4.46	0.28	8.56	60.11	0.006	0.004	0.17	0.29		
		Ta	Zr	Bi	Sc	La	Other	Pb	Mg	Y	Ag	N	Ca	Al/Ti	Ni/Cu		
2650 3 6877																	

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03

Paul O. Guest

SEP 19 2003

80008 ⁴⁴⁵ 8.7.

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES SUBMITTED BY THE CUSTOMER AND ARE SUBJECT TO THE LIMITS OF THE ANALYTICAL METHODS EMPLOYED. HAYNES INTERNATIONAL ASSUMES NO LIABILITY FOR THE ACCURACY OF THE DATA CONTAINED HEREIN. HAYNES INTERNATIONAL ASSUMES NO LIABILITY FOR THE ACCURACY OF THE DATA CONTAINED HEREIN. HAYNES INTERNATIONAL ASSUMES NO LIABILITY FOR THE ACCURACY OF THE DATA CONTAINED HEREIN.

9/24/03

mc094089.tif 1 of 4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

CUSTOMER COPY

Invoice No No. De Facture Rechnungs Nr 391396005-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Kundenbestellnummer P03-03297	Report No. Rapport No Zeugnis Nr 20030913051	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellemege MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 5 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
--	--	---

Specification • Spécification • Spezifikation ASTM-B-443 Rev 00c1 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
---	--	--

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hic.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeitsandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% (% Streckgrenze)	0.2% Yield Lim. Elast. A 0.2% (% Streckgrenze)	% Elong In EN % Dehnung	%RA		Test Essai Versuch Temp	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% (% Streckgrenze)	0.2% Yield Lim. Elast. A 0.2% (% Streckgrenze)	% Elong In % Allong EN % Dehnung	%RA		Temp	Stress Constrained Spannung	Hours Mins/Sec	% Elong In % Allong EN % Dehnung	%RA
131000 PSI		65500 PSI	47 %		(1) (A)												

Certified By • Certific Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03 (1) 2039028001

Paul O. Guest

THE DATA STAINED HEREON WERE OBTAINED FROM SAMPLES SUBMITTED BY THE PURCHASER OR THEIR REPRESENTATIVE OF THE PRODUCTS IN THESE SUBJECT EQUIPMENT AND ARE DEPENDENT UPON THE RELIABLE WE DO NOT ASSUME ANY LEGAL LIABILITY FROM THE USE OF THIS INFORMATION.
LES DONNEES MARQUEES ICI ONT ETE OBTENUES A PARTIR D'ECHANTILLONS FOURNIS PAR LE CLIENT OU SON REPRESENTANT DES PRODUITS EN QUESTION ET NE SONT PAS GARANTIS POUR ETRE REPRODUCIBLES EN TOUTES CIRCONSTANCES. LE CLIENT ASSUME LA RESPONSABILITE JURIDIQUE DE L'UTILISATION DE CES DONNEES.
DIE WURDEANZEIGEN AN DIESEN BEREICH SIND NUR FUR DIE ALERKUNDENREPRASANTATIVEN DER ZUGERHABENDE PRODUKTEN ERHALTEN WURDEN UND SIND ABHANGIG VON DER VERLASSLICHKEIT DER ANGEBOHRENEN WERKE. WIR NEHMEN KEINE VERANTWORTUNG FUR DIE VERWENDUNG DER ERHALTENEN DATEN IN JEDEM FALLE AN.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE RELATED SPECIFICATIONS, MANAGED BY ANY ENTITY OTHER THAN HAYNES INTERNATIONAL.
SPECIFICATIONS MANAGED BY OTHERS MAY BE VARY FROM OURS REGARDING THE MATERIAL SPECIFICATIONS.

9/22/03

mc094089.tif 2 of 4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

CUSTOMER COPY

**HAYNES
International**

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No. No. De Facture Rechnungs Nr. 391396005-0	Date Entered Date De Commande Bestelldatum 08/15/03	Customer Reference Reference Client Klidentifizierung P03-03297	Report No. Rapport No. Zangabe Nr. 20030915051	Pages of Pages Page de Pages Anzahl der Seiten 3 of 4
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Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestelldung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
---	--

Product Description • Description Produit • Material Beschreibung
**0.375 x 0/0 x 0/0
SE121-001P-2 PANEL 5
HAYNES(R) 625 ALLOY PLATE -
NADCAP CERTIFICATE NUMBER 0089
S400E,S1000E, EN 10204 3.1.B**

Specification • Specification • Spezifikation ASTM-B-443 Rev 00e1 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
--	---	---

Annealed Hardness Dureté Recuit Gezeichnete Härte	Aged Hardness Dureté Vieilli Gezeichnete Härte	Grain Size Grossueur De Grain Korngrösse				IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture				
		Grain Size	Preferential Grain Size	Free Grain	Charpy Grain %			ALA	Attack Depth		Corrosion	Yield Modulus	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Free Vial Versuch Temp	Creep Constant Spannung	Hours Heures Stunden
98 HRB		R						MPA											(1)

Certified By • Certifié Par • Bescheinigt Durch: **Paul Guest** 09/15/03

(1) 2039028001

Paul O. Guest

THE INFORMATION CONTAINED HEREIN WAS OBTAINED FROM THE MANUFACTURER'S REPORT AND IS NOT TO BE USED AS A BASIS FOR ANY WARRANTY OR LIABILITY. THE INFORMATION CONTAINED HEREIN IS NOT TO BE USED AS A BASIS FOR ANY WARRANTY OR LIABILITY. THE INFORMATION CONTAINED HEREIN IS NOT TO BE USED AS A BASIS FOR ANY WARRANTY OR LIABILITY. THE INFORMATION CONTAINED HEREIN IS NOT TO BE USED AS A BASIS FOR ANY WARRANTY OR LIABILITY.

9/24/03

m094089.tif 3 of 4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 391396005-0	Date Entered Date De Commande Reception 08/15/03	Customer Reference Reference Client Kundenbestellnr P03-03297	Report No. Rapport No Zeugnis Nr 20030913051	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4

HAYNES
International

CUSTOMER COPY

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellanwschrift	Ship To • Destination • Bestimmung	Product Description • Description Produit • Material Beschreibung
MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 5 HAYNES(R) 625 ALLOY PLATE NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Specification • Spezifikation	Quantity Ordered Quantite Commandee Bestellmenge	Quantity Shipped Quantite Expeditee Liefermenge
ASTM-B-443 Rev 00e1 N06625 1	1 PC	1 PC

This material is free of mercury contamination.
Mill Orders Used: 2039028001 (1 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician

09/15/03

Paul O. Guest

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES PROVIDED BY THE REPRESENTATIVE OF THE PRODUCT. THE BUYER'S AGREEMENT AND OBLIGATION TO PERFORM THEREON INCLUDES ANY TESTS, STANDARDS, PROCEDURES, SPECIFICATIONS, AND REQUIREMENTS OF THE BUYER'S CONTRACT. THE BUYER'S CONTRACT SHALL BE THE FINAL AUTHORITY IN ALL MATTERS. THE BUYER'S CONTRACT SHALL BE THE FINAL AUTHORITY IN ALL MATTERS. THE BUYER'S CONTRACT SHALL BE THE FINAL AUTHORITY IN ALL MATTERS. THE BUYER'S CONTRACT SHALL BE THE FINAL AUTHORITY IN ALL MATTERS.



9/22/03

mc094089.tif 4 of 4



Certificate of Conformance

EXOTIC METAL TREATING INC.

6234 E. Hanna Avenue • Indianapolis, Indiana

Certificate # 46917

Vendor Code # 0013

P.O. # P04-00028

Exotic Metal Treating Inc. hereby certifies that all materials used in the manufacture of parts CONFORMS to the material and/or manufacturing specifications indicated in drawings or specifications as called for on purchase order referenced hereon. Test reports are on file with us or with our suppliers for examination and indicate conformance with the applicable requirements. The parts listed below are processed in accordance with the drawings or specifications called for on referenced purchase order that are current on the date on which the order was accepted. Pertinent details of the work performed are on file at this facility under the process heat number listed hereon.

HEAT # 04-14

DATE SHIPPED 1-7-04

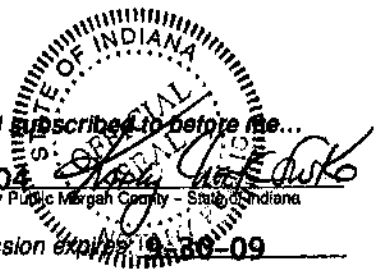
QUANTITY	DESCRIPTION
1 PC	#SE121-001P-2 PANEL 5D JOB #64880-5/2
1 PC	#SE121-001P-2 PANEL 5 JOB #64880-18/1

MATERIAL: INCO 625

SOLUTION ANNEALED PER AMS-2774 DATED JULY 1995
1900°F ± 15°F FOR 45 MINUTES ± 5 MINUTES
RAPID AIR COOLED TO 1000°F & AIR COOLED.

MTR 023
1/8/04

JAN 7 2004
82092
1,2



Sworn and subscribed to before me...

on 1-7-04
Notary Public Morgan County - State of Indiana

My commission expires 09-30-09

Kurt Shank
(Name)

QA
(Title)


63	480	TC 6	860	DEB	1290	1720	2150
64	480	TC 5	860	DEB	1290	1720	2150
65	480	TC 4	860	DEB	1290	1720	2150
66	480	TC 3	860	DEB	1290	1720	2150
67	480	TC 2	860	DEB	1290	1720	2150
68	480	TC 1	860	DEB	1290	1720	2150
69	480	TC 1	860	DEB	1290	1720	2150
70	480	TC 1	860	DEB	1290	1720	2150
71	480	TC 1	860	DEB	1290	1720	2150
72	480	TC 1	860	DEB	1290	1720	2150
73	480	TC 1	860	DEB	1290	1720	2150
74	480	TC 1	860	DEB	1290	1720	2150
75	480	TC 1	860	DEB	1290	1720	2150
76	480	TC 1	860	DEB	1290	1720	2150
77	480	TC 1	860	DEB	1290	1720	2150
78	480	TC 1	860	DEB	1290	1720	2150
79	480	TC 1	860	DEB	1290	1720	2150
80	480	TC 1	860	DEB	1290	1720	2150
81	480	TC 1	860	DEB	1290	1720	2150
82	480	TC 1	860	DEB	1290	1720	2150
83	480	TC 1	860	DEB	1290	1720	2150
84	480	TC 1	860	DEB	1290	1720	2150
85	480	TC 1	860	DEB	1290	1720	2150
86	480	TC 1	860	DEB	1290	1720	2150
87	480	TC 1	860	DEB	1290	1720	2150
88	480	TC 1	860	DEB	1290	1720	2150
89	480	TC 1	860	DEB	1290	1720	2150
90	480	TC 1	860	DEB	1290	1720	2150
91	480	TC 1	860	DEB	1290	1720	2150
92	480	TC 1	860	DEB	1290	1720	2150
93	480	TC 1	860	DEB	1290	1720	2150
94	480	TC 1	860	DEB	1290	1720	2150
95	480	TC 1	860	DEB	1290	1720	2150
96	480	TC 1	860	DEB	1290	1720	2150
97	480	TC 1	860	DEB	1290	1720	2150
98	480	TC 1	860	DEB	1290	1720	2150
99	480	TC 1	860	DEB	1290	1720	2150
100	480	TC 1	860	DEB	1290	1720	2150

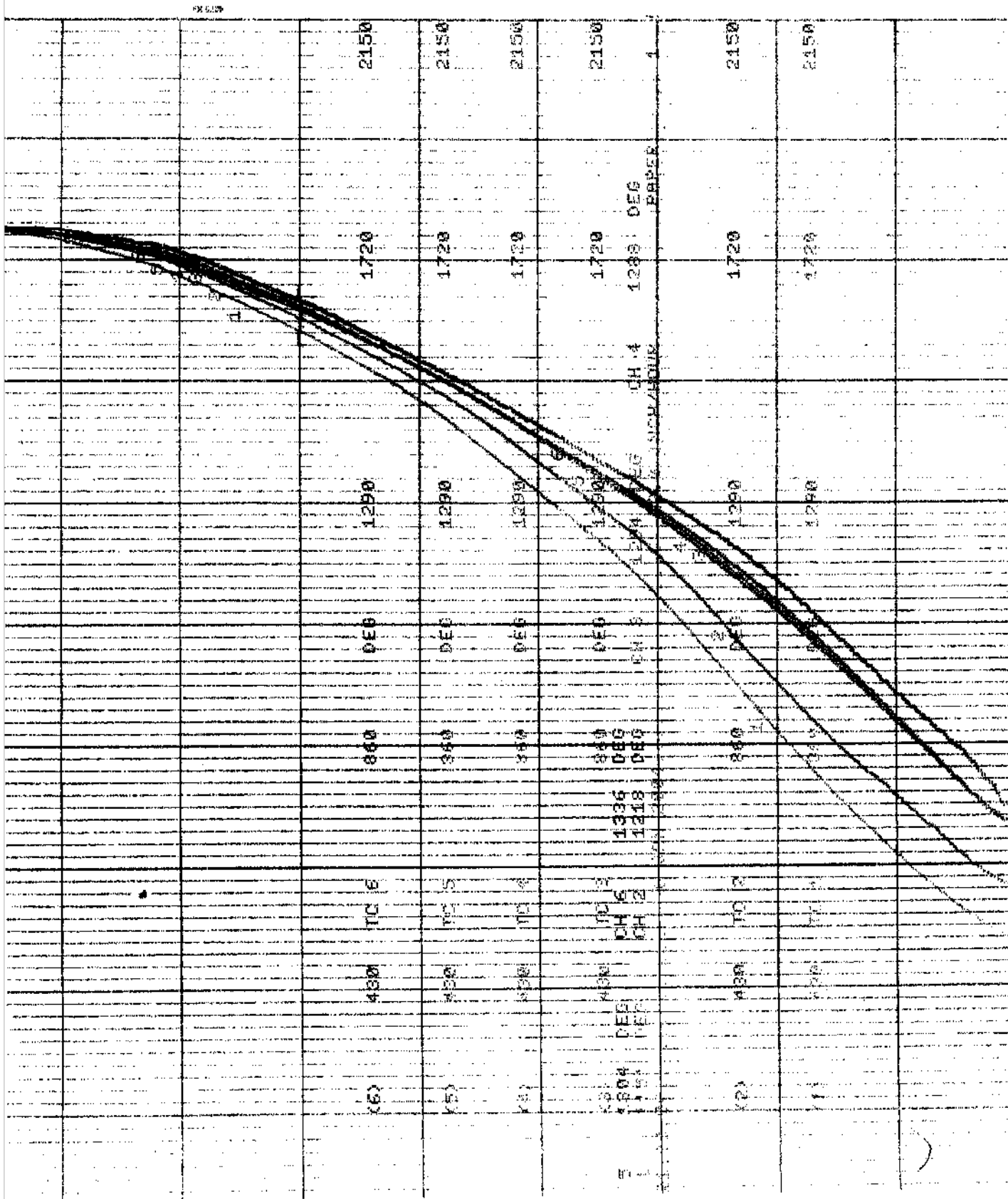
R Y

EXOTIC METAL TREATING, INC.
 6234 EAST HANNA AVENUE • INDIANAPOLIS, IN 46203

DATE: 1-6-04 COMPANY: Major Tool
 LOAD #: 04-14 MATERIAL: _____
 QTY: 2 PIN: SE 121-001P-2
Panel SD + Panels
64880-5/2 & 64880-18/1

FURNACE: GF 1 ATMOS.: Air
 REF. SPEC.: PO + AMS 2774
 RECORDER: DPP-02 TIME START: 20:19

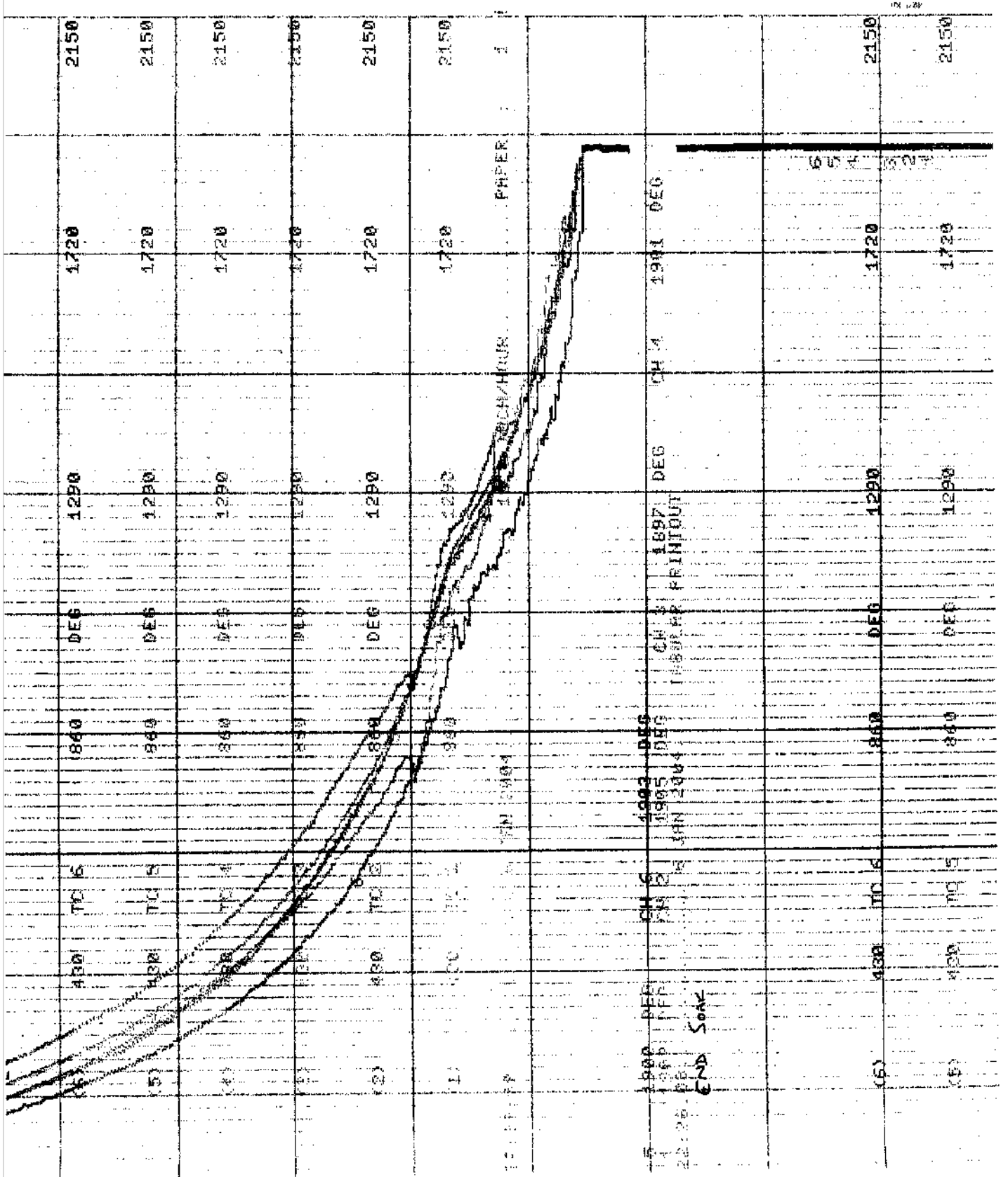

 1/7/04
 JAN 7 2004
 82092
 62
 B.J.



NO	DESCRIPTION	UNIT	QTY	PRICE	TOTAL	REMARKS
1	1891 DEG	CH 6	1898	DEG	1898	
2	1892 DEG	CH 6	1892	DEG	1892	
3	1893 DEG	CH 6	1893	DEG	1893	
4	1894 DEG	CH 6	1894	DEG	1894	
5	1895 DEG	CH 6	1895	DEG	1895	
6	1896 DEG	CH 6	1896	DEG	1896	
7	1897 DEG	CH 6	1897	DEG	1897	
8	1898 DEG	CH 6	1898	DEG	1898	
9	1899 DEG	CH 6	1899	DEG	1899	
10	1900 DEG	CH 6	1900	DEG	1900	
11	1901 DEG	CH 6	1901	DEG	1901	
12	1902 DEG	CH 6	1902	DEG	1902	
13	1903 DEG	CH 6	1903	DEG	1903	
14	1904 DEG	CH 6	1904	DEG	1904	
15	1905 DEG	CH 6	1905	DEG	1905	
16	1906 DEG	CH 6	1906	DEG	1906	
17	1907 DEG	CH 6	1907	DEG	1907	
18	1908 DEG	CH 6	1908	DEG	1908	
19	1909 DEG	CH 6	1909	DEG	1909	
20	1910 DEG	CH 6	1910	DEG	1910	
21	1911 DEG	CH 6	1911	DEG	1911	
22	1912 DEG	CH 6	1912	DEG	1912	
23	1913 DEG	CH 6	1913	DEG	1913	
24	1914 DEG	CH 6	1914	DEG	1914	
25	1915 DEG	CH 6	1915	DEG	1915	
26	1916 DEG	CH 6	1916	DEG	1916	
27	1917 DEG	CH 6	1917	DEG	1917	
28	1918 DEG	CH 6	1918	DEG	1918	
29	1919 DEG	CH 6	1919	DEG	1919	
30	1920 DEG	CH 6	1920	DEG	1920	
31	1921 DEG	CH 6	1921	DEG	1921	
32	1922 DEG	CH 6	1922	DEG	1922	
33	1923 DEG	CH 6	1923	DEG	1923	
34	1924 DEG	CH 6	1924	DEG	1924	
35	1925 DEG	CH 6	1925	DEG	1925	
36	1926 DEG	CH 6	1926	DEG	1926	
37	1927 DEG	CH 6	1927	DEG	1927	
38	1928 DEG	CH 6	1928	DEG	1928	
39	1929 DEG	CH 6	1929	DEG	1929	
40	1930 DEG	CH 6	1930	DEG	1930	
41	1931 DEG	CH 6	1931	DEG	1931	
42	1932 DEG	CH 6	1932	DEG	1932	
43	1933 DEG	CH 6	1933	DEG	1933	
44	1934 DEG	CH 6	1934	DEG	1934	
45	1935 DEG	CH 6	1935	DEG	1935	
46	1936 DEG	CH 6	1936	DEG	1936	
47	1937 DEG	CH 6	1937	DEG	1937	
48	1938 DEG	CH 6	1938	DEG	1938	
49	1939 DEG	CH 6	1939	DEG	1939	
50	1940 DEG	CH 6	1940	DEG	1940	
51	1941 DEG	CH 6	1941	DEG	1941	
52	1942 DEG	CH 6	1942	DEG	1942	
53	1943 DEG	CH 6	1943	DEG	1943	
54	1944 DEG	CH 6	1944	DEG	1944	
55	1945 DEG	CH 6	1945	DEG	1945	
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58	1948 DEG	CH 6	1948	DEG	1948	
59	1949 DEG	CH 6	1949	DEG	1949	
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61	1951 DEG	CH 6	1951	DEG	1951	
62	1952 DEG	CH 6	1952	DEG	1952	
63	1953 DEG	CH 6	1953	DEG	1953	
64	1954 DEG	CH 6	1954	DEG	1954	
65	1955 DEG	CH 6	1955	DEG	1955	
66	1956 DEG	CH 6	1956	DEG	1956	
67	1957 DEG	CH 6	1957	DEG	1957	
68	1958 DEG	CH 6	1958	DEG	1958	
69	1959 DEG	CH 6	1959	DEG	1959	
70	1960 DEG	CH 6	1960	DEG	1960	
71	1961 DEG	CH 6	1961	DEG	1961	
72	1962 DEG	CH 6	1962	DEG	1962	
73	1963 DEG	CH 6	1963	DEG	1963	
74	1964 DEG	CH 6	1964	DEG	1964	
75	1965 DEG	CH 6	1965	DEG	1965	
76	1966 DEG	CH 6	1966	DEG	1966	
77	1967 DEG	CH 6	1967	DEG	1967	
78	1968 DEG	CH 6	1968	DEG	1968	
79	1969 DEG	CH 6	1969	DEG	1969	
80	1970 DEG	CH 6	1970	DEG	1970	
81	1971 DEG	CH 6	1971	DEG	1971	
82	1972 DEG	CH 6	1972	DEG	1972	
83	1973 DEG	CH 6	1973	DEG	1973	
84	1974 DEG	CH 6	1974	DEG	1974	
85	1975 DEG	CH 6	1975	DEG	1975	
86	1976 DEG	CH 6	1976	DEG	1976	
87	1977 DEG	CH 6	1977	DEG	1977	
88	1978 DEG	CH 6	1978	DEG	1978	
89	1979 DEG	CH 6	1979	DEG	1979	
90	1980 DEG	CH 6	1980	DEG	1980	
91	1981 DEG	CH 6	1981	DEG	1981	
92	1982 DEG	CH 6	1982	DEG	1982	
93	1983 DEG	CH 6	1983	DEG	1983	
94	1984 DEG	CH 6	1984	DEG	1984	
95	1985 DEG	CH 6	1985	DEG	1985	
96	1986 DEG	CH 6	1986	DEG	1986	
97	1987 DEG	CH 6	1987	DEG	1987	
98	1988 DEG	CH 6	1988	DEG	1988	
99	1989 DEG	CH 6	1989	DEG	1989	
100	1990 DEG	CH 6	1990	DEG	1990	

START SOAK





Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 202

Workorder: 64880/1-0 Sub:18 Op:31

Part: SE121-001P-2 PANEL 5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VERIFY HEAT TREAT CERTIFICATION AND FURNACE CHART COMPLY WITH MTM PURCHASE ORDER REQUIREMEN		QA			VISUAL	825		
(10)								01-07-0		A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 203

Workorder: 64880/1-0 Sub:18 Op:35

Part: SE121-001P-2 PANEL 5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY OF ANNEAL		QA		J-1165	UNDER 1.01	085		
(10)		1.01 MAX						01-16-0		

A

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 204

Workorder: 64880/1-0 Sub:18 Op:40

Part: SE121-001P-2 PANEL 5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		.094" Max Gap (Part Surface To gauge)		MFG QA		J-642	.094" NOGO	407 01-20-0	363 01-20-0	

A

04890 PPPL NC9X PVVS INSPECTION RECORD


Inspection Drawing Number: SE121-001P-1MTM Rev: 0B

Inspection type: Formed Panel		Interpass (#)		After structural welding		After welding Port		Final Inspection			
Part # / Panel #:	SE121-00/ #5	Gage/Std	S/N(s):	J-1009	J-1165	J-1180	Date of Inspection:	02/10/2004			
Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials	Point Number	Profile Deviation	Material Thickness	Magnetic Permeability	Surface Finish	Inspector Initials
1	0.038	0.424	<1.01	27		44	0.02	0.415	<1.01	18	
2	0.038	0.424	<1.01	25		45	0.062	0.415	<1.01	16	
3	0.039	0.425	<1.01	19		46	0.03	0.415	<1.01	21	
4	0.020	0.421	<1.01	20		47	<0.10	0.410	<1.01	23	
5	<0.10	0.419	<1.01	21		48	0.02	0.415	<1.01	19	
6	<0.10	0.420	<1.01	18		49	0.078	0.424	<1.01	18	
7	<0.10	0.422	<1.01	24		50	0.045	0.404	<1.01	27	
8	0.015	0.422	<1.01	21		51	0.078	0.419	<1.01	29	
9	0.030	0.420	<1.01	20		52	0.015	0.419	<1.01	19	
10	0.040	0.420	<1.01	19		53	<0.10	0.411	<1.01	28	
11	0.040	0.422	<1.01	18		54	0.03	0.403	<1.01	35	*
12	0.045	0.422	<1.01	18		55	0.063	0.415	<1.01	32	
13	0.055	0.423	<1.01	26		56	0.045	0.418	<1.01	28	
14	0.062	0.423	<1.01	21		57	0.012	0.418	<1.01	27	
15	0.062	0.420	<1.01	27		58					
16	0.062	0.420	<1.01	31		59					
17	0.062	0.419	<1.01	30		60					
18	0.062	0.418	<1.01	24		61					
19	0.062	0.419	<1.01	19		62					
20	0.062	0.417	<1.01	21		63					
21	0.030	0.413	<1.01	20		64					
22	0.040	0.414	<1.01	21		65					
23	0.025	0.414	<1.01	18		66					
24	0.020	0.416	<1.01	19		67					
25	<0.10	0.416	<1.01	19		68					
26	<0.10	0.417	<1.01	18		69					
27	<0.10	0.419	<1.01	20		70					
28	<0.10	0.418	<1.01	21		71					
29	<0.10	0.417	<1.01	37	*	72					
30	<0.10	0.416	<1.01	24		73					
31	<0.10	0.417	<1.01	21		74					
32	<0.10	0.414	<1.01	28		75					
33	<0.10	0.422	<1.01	25		76					
34	0.020	0.425	<1.01	32		77					
35	<0.10	0.423	<1.01	32		78					
36	<0.10	0.419	<1.01	22		79					
37	<0.10	0.413	<1.01	20		80					
38	0.040	0.413	<1.01	19		81					
39	0.060	0.414	<1.01	23		82					
40	0.016	0.426	<1.01	19		83					
41	0.040	0.424	<1.01	22		84					
42	0.020	0.419	<1.01	26		85					
43	<0.10	0.412	<1.01	14		86					

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 206

Workorder: 64880/1-0 Sub:18 Op:70

Part: SE121-001P-2 PANEL 5 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CS

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	<1.01	854			A
(10)		Magnetic Permeability 1.01 Max						02-09-0			
*				QA		J-1180	CHECKS FROM WITHI TO 37 RA	854			R
(20)		32 MICRO-INCH SURFACE FINISH (INTERIOR (CONCAVE) SIDE)						02-09-0			
*		 .094"		QA		J-1149	.078	363			R
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2907		02-10-0			

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 207

Workorder: 64880/1-0 Sub:29 Op:10

Part: SE121-001P-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-002P Rev: --			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				QA		J-1143	MAX. RECORDING OF ERM. OF PLATE 1.002 , 12 PLCS. RANDOMLY CHECKED.	581		
(10)		MAGNETIC PERMEABILITY 1.01 MAX						09-17-0		

A

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 209

Workorder: 64880/1-0 Sub:29 Op:30

Part: SE121-001P-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-002P Rev: --			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY 1.01 MAX (AFTER ROLLING / PRIOR TO WELDING)		QA		J-1165	<1.01	363		
(10)								02-11-0		

A

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 210

Workorder: 64880/1-0 Sub:29 Op:40

Part: SE121-001P-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-003P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA				791			A
(10)								09-24-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA				791			A
(20)								09-24-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA				791			A
(30)								09-24-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA				791			A
(40)								09-24-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA				791			A
(50)								09-24-0			

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 211

Workorder: 64880/1-0 Sub:29 Op:50

Part: SE121-001P-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START		QA			ACCPET	712			A
(10)								02-06-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START		QA			INSPECTED WIRE TYP TO WPS	712			A
(20)								02-06-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		QA			MATERIAL TYPE MAT ES	712			A
(30)								02-06-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START		QA			ACCEPT	712			A
(40)								02-06-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START		QA			ACCEPT PER WPS	712			A
(50)								02-06-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 212

Date of Inspection:02/09/2004

Type of Material:625 INCONEL

NDT#:7951

Inspection Requirements:

Inspector: 712-W.MILLER

Date: 02/09/2004

NDT003

n:\mtmapps\mtndt\pi.qrp

Page: 35

User ID: LONAKER Date: 04/15/04

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 213

Workorder: 64880/1-0 Sub:29 Op:70

Part: SE121-001P-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		32 MICRO-INCH RA SURFACE FINISH (PORT EXTENSION TUBE)		QA		J-1152	20-32	522			A
(10)								02-24-0			
*		MAGNETIC PERMEABILITY 1.01 MAX (PORT EXTENSION TUBE)		QA		J-1165	LESS THAN 1.01	522			A
(20)								02-24-0			
1*		8.0" Diameter +3/32" / -0 (per ASTM B444)		QA		J-801	8.000 / 8.092	522			A
(30)								02-24-0			

Quality Assurance Documentation for Part ID: SE121-003P - Item: 215

Workorder: 64880/1-0 Sub:39 Op:10

Part: SE121-003P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-002P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			20 CFH ARGON PURGE GAS AND WELDER 40 FH ARGON, PURGE GA USED AT TACK WELD ONLY	791			A
(10)		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION						04-06-0			
*				QA			.062 625 INCO HEAT LOT AV8128 .093 HE AT LOT CB 7996	791			A
(20)		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION						04-06-0			
*				QA			300 SERIES S.S. S. S. WOOL INSERT	791			A
(30)		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION						03-31-0			
*				QA			709 / 683 QUALIFIED TO WPS PER MTM WELDER QUALIFICATION CHECK SYSTEM	791			A
(40)		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS COMPLETE PRIOR TO OPERATION START AND THROUGH COMPLETION						04-06-0			
*				QA			ALL PARAMETERS WITHIN WPS REQUIREMENTS	791			A
		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START									



INSPECTION DATA CHECKLIST

(50)	AND THROUGH COMPLETION							04-06-0	
------	------------------------	--	--	--	--	--	--	---------	--



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-003P - Item: 216

Date of Inspection:04/06/2004

Type of Material:625 INCONEL

NDT#:8489

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input checked="" type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	--	--	--	--

Part Information: MTM Job Number: 64880/1.0 -Sub:39 -Op:10 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-003P Part Name: NCSX PVVS COMPLETE Serial Number: N/A Customer P.O.: S-04344-F Customer Unit/Plant: N/A	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
--	---

Customer Inspection Plan: N/A Test Step: N/A Revision: N/A Material Test Number: N/A	Inspection Criteria: Customer Specification: ASME SECT. V, ARTICLE 6 MTM Spec Number: Acceptance Standard: AWS D1.6, PARA. 6.29.1
---	--

Inspection Methods Used: Magnification Used: 10X Light Source Used: AMBIENT AND FLASHLIGHT

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

Visual inspection performed on root pass and cover pass welds joining find no. 3 (Port Extension Tube) to itself and to find no. 4 (Weld Backing Ring). Welds acceptable to customer drawing / specification requirements.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 933-D.LEAPLEY

Date: 04/06/2004



Quality Assurance Documentation for Part ID: SE121-003P - Item: 217

Workorder: 64880/1-0 Sub:39 Op:30

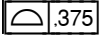

Part: SE121-003P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-003P Rev: 0		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			20 CFH ARGON GAS AND D WELDER 40 CFH ARGON	791			A
(10)								04-06-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 INCO 625 HEAT LOT # AV8128	791			A
(20)								04-06-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. S.S. WOOL INSERT	791			A
(30)								04-06-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			709 QUALIFIED TO MT M WELDER QUALIFICATIONS SYSTEM	791			A
(40)								04-06-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			ALL PARAMETERS WITHIN WPS GUIDELINES	791			A
(50)								04-06-0			

Quality Assurance Documentation for Part ID: SE121-003P - Item: 224

Workorder: 64880/1-0 Sub:39 Op:40

Part: SE121-003P - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-

Drawing ID: SE121-003P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Magnetic Permeability of all Inconel 625 Material And Weld Zones (1.01 Max)		QA		J-1165	LESS THAN 1.01	522			A
(10)								04-08-0			
*		Magnetic Permeability of Conflat Flange (1.02 Max)		QA		J-1165	LESS THAN 1.02	522			A
(20)								04-08-0			
*		Magnetic Permeability of Weld / Heat Affecte ne (Flange to Tube) (1.2 Max)		QA		J-1165	LESS THAN 1.2	522			A
(30)								04-08-0			
*		 .375 Finished part profile		QA							
(40)											
*		 Port Extension position (after re-attachment)		QA							
(50)											

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No. No. De Facture Rechnungs Nr. 391282001-0	Date Entered Date De Commande Bestelldatum 08/14/03	Customer Reference Référence Client Kundenbest.Nr. P03-03302	Report No. Rapport No. Zeugnis Nr. 20030822079	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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HAYNES
International

FILE COPY 2
Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellausschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellempfänger MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
---	--

Product Description • Description Produit • Material Bezeichnung
0.125 (0.12/0.13) x 36 x 120
HAYNES(R) 625 ALLOY SHEET -
NADCAP CERTIFICATE NUMBER 0089
S400E,S1000E, EN 10204 3.1.B

Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
---	---

Specification • Spécification • Spezifikation
AMS 5599 Rev F ASTM-B-443 Rev 99 N06625 1

Heat Number Numero de Cuiée Charge Nr.	Chemical Analysis • Analyse Chimique • Chemische Analyse																			
	Al	B	C	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W				
2650 3 6874	0.16		0.030	3.63	0.23	21.79		4.71	0.28	8.86	58.96	0.008	0.002	0.11	0.26					
2650 3 6874	3.580	<0.050																		

Certified By • Certifié Par • Bescheinigt Durch: **Paul Guest** 08/22/03
Certification Supervisor/Technician

Paul O. Guest

MTM
016
8-28-03

RECEIVED
AUG 27 2003
79491 line 1 B.2.

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DISCLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES RÉSULTATS DONNÉS CI-DESSUS ONT ÉTÉ OBTENUS À PARTIR D'ÉCHANTILLONS REPRÉSENTATIFS DES PRODUITS EXPÉDIÉS ET SONT CONSIDÉRÉS COMME ÉTANT FIABLES. NOUS REÇUSONS TOUTE RESPONSABILITÉ LIÉE À L'UTILISATION DE CE CERTIFICAT.
DIE VORGEDRUCKTEN ANGABEN BASIEREN AUF PROBEN DIE ALS REPRÄSENTATIV GELTEN FÜR DIE PRODUKTE DIE ÜBER DIE BEZUGNE LIEFERUNG UND ALS QUALITÄTSGEWÄHR UND ZUFÜHRUNG AMORBIERT WERDEN. WIR LEHNEJEN JEDE RECHTLICHE VERANTWORTLICHKEIT FÜR DIE VERWENDUNG DIESER ZEICHENUNG AB.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, APPROVED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc093762.tif 1 of 4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 391282001-0	Date Entered Date De Commande Bestelldatum 08/14/03	Customer Reference Reference Client Kundenbestelldaten P03-03302	Report No. Rapport No Zeugnis Nr 20030822079	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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HAYNES
International

FILE COPY 2

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestelleranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
--	--

Product Description • Description Produit • Material Beschreibung
0.125 (0.12/0.13) x 36 x 120
HAYNES(R) 625 ALLOY SHEET
NADCAP CERTIFICATE NUMBER 0089
S400E,S1000E, EN 10204 3.1.B

Specification • Specification • Spezifikation AMS 5599 Rev F ASTM-B-443 Rev 99 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
--	--	--

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hie.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeitslandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp.	Stress Constrained Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
134000 PSI		72000 PSI	46 %		(1) (A)												

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technician
08/22/03 (1) 3438301501

Paul O. Guest

MTM
016
9.23.03

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DISCLAIM ANY FEDERAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES RÉSULTATS CONTIENS DONNÉS CI-DESSUS ONT ÉTÉ OBTENUS À PARTIR D'ÉCHANTILLONS REPRÉSENTATIFS DES PRODUITS EXPÉDIÉS ET SONT CROUS PENSÉS ÊTRE FIABLES. NOUS RÉSOLONS TOUTE RESPONSABILITÉ FÉDÉRALE EN QUANT À L'UTILISATION DE CE CERTIFICAT.
DIE VORGENANNTEN ANGABEN WURDEN AUF PROBEN DIE ALS REPRÉSENTATIV GELTEN FÜR DIE PRODUKTE DER DESSER LIEFERUNG ZUGELASSENE LIEGEN UND ALS VERLÄSSLICH UND ZUFÜHRBAR ANGESEHEN WERDEN. WIR LEHNEN JEDE RECHTLICHE VERANTWORTLICHKEIT FÜR DIE VERWENDUNG DIESER ZERTIFIKATION AB.
THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc093762.tif 2 of 4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

FILE COPY 2

**HAYNES
International**

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Invoice No No. De Facture Rechnungs Nr 391282001-0	Date Entered Date De Commande Bestelldatum 08/14/03	Customer Reference Référence Client Kundenbestellnummer P03-03302	Report No. Rapport No. Zeugnis Nr. 20030822079	Pages of Pages Page de Page Anzahl der Seiten 3 Of 4
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Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
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Product Description • Description Produit • Material Beschreibung 0.125 (0.12/0.13) x 36 x 120 HAYNES(R) 625 ALLOY SHEET - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
--

Specification • Specification • Spezifikation AMS 5599 Rev F ASTM-B-443 Rev 99 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
--	--	--

Annealed Hardness Dureté Recuit Geglüht Härte	Aged Hardness Dureté Vieilli Gealtert Härte	Grain Size Grossier De Grains Korngrösse					IGA	Uniformity	Corrosion Rate	Oxidation Rate	Charpy Impact Test				Creep Rupture					
		Grain Size	Proportion Grain Size	Rockwell Grain	Micro Grain %	ALA					Attack Depth	Corrosion	Test Method	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Test Elong Versuch Temp	Stress Constrains Spannung	Hours Hours Stunden
98 HRB		8						0.0001 In												(1)

Certified By • Certifié Par • Bescheinigt Durch: **Paul Guest** 08/22/03 (1) 3438301501
Certification Supervisor/Technician

Paul O. Guest

MTM
016
5-29-03

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLER CONSIDERED TO BE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT AND ARE BELIEVED TO BE RELIABLE. WE DISCLAIM ANY LEGAL LIABILITY FROM USE OF THIS CERTIFICATE.
LES RÉSULTATS CONTENUS ICI ONT ÉTÉ OBTENUS À PARTIR D'ÉCHANTILLONS REPRÉSENTATIFS DES PRODUITS ENVOYÉS ET SONT CRÉDÉS À NOTRE RESPONSABILITÉ LÉGALE QUANT À L'UTILISATION DE CE CERTIFICAT.
DIE VORGENOMMENEN ANGABEN BERUHEN AUF PROBEN DIE ALS REPRÄSENTATIV GELTEN FÜR DIE PRODUKTE DES DIESER LIEFERUNG ZUGEHÖRIGEN LIEFERUNG UND ALS GÜTEBEWERTUNG UND ZUFÜHRUNG ANGESEHEN WERDEN. WIR ÜBERNEHMEN KEINE RECHTLICHE VERANTWORTLICHKEIT FÜR DIE VERWENDUNG DIESER ZEUGNISSE ALS
THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc093762.tif 3 of 4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs-Nr 391282001-0	Date Entered Date De Commande Anmeldedatum 08/14/03	Customer Reference Reference Client Kundenspezifisches P03-01302	Report No. Rapport No Zertifikat-Nr 20030822079	Page of Page Page de Page Anzahl der Seiten 4 Of 4
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HAYNES
International

Haynes International
1020 West Park Avenue
PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestelldatumsnehmer MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestelldatumsnehmer MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.12/0.13) x 36 x 120 HAYNES(R) 625 ALLOY SHEET - NADCAP CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B
Specification • Specification • Spezifikation AMS 5599 Rev F ASTM-B-443 Rev 99 N06625 1	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC

This material is free of mercury contamination.
This material has passed the bend test as specified in 'AMS 5599'
This material has been annealed and cooled in a protective atmosphere.
Mill Orders Used: 3438301501 (1 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Bescheinigt Durch: Paul Guest
Certification Supervisor/Technicien

08/22/03

Paul O. Guest

MM
016

8.28.03

THE DATA CONTAINED HEREIN WERE OBTAINED FROM SAMPLES CONSIDERED BY THE REPRESENTATIVE OF THE PRODUCTS BY THIS SUBJECT AGREEMENT AND ARE HEREBY TO BE RELIABLE. WE DISCLAIM ANY LEGAL LIABILITY FROM THE USE OF THIS CERTIFICATE.
LES RÉSULTATS PRÉSENTÉS ICI ONT ÉTÉ OBTENUS À PARTIR D'ÉCHANTILLONS CONSIDÉRÉS PAR LE REPRÉSENTANT DES PRODUITS PAR CE SUJET D'ACCORD ET SONT PAR conséquent À ÊTRE CONSIDÉRÉS COMME ÉTANT FIABLES. NOUS DÉCLINONS TOUTE RESPONSABILITÉ JURIDIQUE EN DÉCOULANT DE L'UTILISATION DE CE CERTIFICAT.
DIE WERKSZEUGNIS DATEN WURDEN ANHANDLER VON PROBEEN ERHALTEN, DIE VON DER REPRÄSENTATION DER PRODUKTE DURCH DIESE ÜBEREINKOMMEN UND SIND DIESBEI BEZÜGLICHEN ALS VERLÄSSLICH ANZUSEHEN. WIR LEHNE JEDEN RECHTLICHEN VERANTWORTUNG FÜR DEN VERWENDUNG DIESER ZERTIFIKATION AB.
THE MATERIAL METS THE REQUIREMENTS OF THIS LISTED SPECIFICATION, UNLESS BY ANY EXCEPTIONS OR PURCHASE ORDER SPECIFICATIONS.
SPECIFICATION MARQUE DE RESPONSABILITÉ NE PEUT ÊTRE OBTENUE EN ORDRE REQUIRANT MULTIPLE MATÉRIEL SPÉCIFIQUEMENT.



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE121-003P-4 - Item: 227

Date of Inspection:03/31/2004

Type of Material:625 INCONEL

NDT#:8545

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Casting <input type="checkbox"/> Bar Stock <input type="checkbox"/> Plate <input type="checkbox"/> Forging <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input checked="" type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 64880/1.0 -Sub:25 -Op:20 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE121-003P-4 Part Name: PORT EXTENSION WELD BACKI Serial Number: N/A Customer P.O.: S-04344-F Customer Unit/Plant: N/A	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
---	---

Customer Inspection Plan: N/A Test Step: N/A Revision: N/A Material Test Number: N/A	Inspection Criteria: Customer Specification: ASME SECT. V, ARTICLE 6 MTM Spec Number: Acceptance Standard: AWS D1.6, PARA. 6.29.1
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Inspection Methods Used: Magnification Used: 10X Light Source Used: AMBIENT AND FLASHLIGHT

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

Visual inspection performed on the cover pass weld joining find no. 4 (Weld Backing Ring) to itself. Weld acceptable to customer drawing / specification requirements.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 933-D.LEAPLEY

Date: 04/15/2004



Quality Assurance Documentation for Part ID: SE121-003P-4 - Item: 227

Workorder: 64880/1-0 Sub:25 Op:20

Part: SE121-003P-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-003P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			PURGE @ 20 CFH ARGON GAS AND WELDER@ 0 CFH ARGON GAS	791			A
(10)								03-31-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 625 INCO HEAT LOT AV8128	791			A
(20)								03-31-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S. S. S. WOOL INSERT	791			A
(30)								03-31-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			709 QUALIFIED TO WPS PER MTM WELDER QUALIFICATION CHECK SYSTEM	791			A
(40)								03-31-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			75-175 AMPS .062 FILLER , ALL PARAMETERS WITHIN WPS REQUIREMENTS	791			A
(50)								03-31-0			

Quality Assurance Documentation for Part ID: SE121-003P-4 - Item: 228

Workorder: 64880/1-0 Sub:25 Op:40

Part: SE121-003P-4 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-003P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.01 MAX		QA		J-1165	LESS THAN 1.01	085			A
(10)								03-05-0			
*		CLEANLINESS PER PP475		QA		VISUAL	OK	085			A
(20)								03-05-0			

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
 Customer P.O.: S-04344-F
 Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype

SE212-003P-3 - PORT EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
229	19	10		Inspection Data Checklist: 5 steps
230	19	10		Nondestructive Visual Test Certification #8102
231	19	20		Inspection Data Checklist: 2 steps

THREADED LIFTING BOSS - THREADED LIFTING BOSS

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
232	58	10	10	Material Certification: TRACE ID: 69597 / 316_100 - BAR, ROUND, 316SST, .75 DIA. - MC086258.TIF / 13207

Quality Assurance Documentation for Part ID: SE212-003P-3 - Item: 229

Workorder: 64880/1-0 Sub:19 Op:10

Part: SE212-003P-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-002P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			SHIELDING 40 / PUR GE @ 20 CFH	791			A
(10)								02-25-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 625 INCO FILLE R HEAT # AV 8128	791			A
(20)								02-25-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES S.S.	791			A
(30)								02-25-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			709 / 728 ACCEPTA BLE TO MTM QUALIFI ATIONS CHECK SYSTE	791			A
(40)								02-25-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.062 70-170 AMPS AL L PARAMETERS WITHI WPS RANGE	791			A
(50)								02-25-0			



Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Visual Inspection

Quality Assurance Documentation for Part ID: SE212-003P-3 - Item: 230

Date of Inspection: 02/25/2004

Type of Material: 304L SST AND 625 INCONEL

NDT#: 8102

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input checked="" type="checkbox"/> In-Process Inspection <input type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input type="checkbox"/> Machined <input type="checkbox"/> Rough <input checked="" type="checkbox"/> Other AS-WELDED / BLENDED	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input checked="" type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---	--	--	--	--

Part Information: MTM Job Number: 64880/1.0 -Sub:19 -Op:10 Resource ID: 230-FABRICATION - WEIDNER Part ID: SE212-003P-3 Part Name: PORT EXTENSION Serial Number: N/A Customer P.O.: S-04344-F Customer Unit/Plant: N/A	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0
--	---

Customer Inspection Plan: N/A Test Step: N/A Revision: N/A Material Test Number: N/A	Inspection Criteria: Customer Specification: ASME CODE ARTICLE 6, SECTION V MTM Spec Number: Acceptance Standard: AWS D1.6, SECT. 6.29.1
---	---

Inspection Methods Used: Magnification Used: 10X Light Source Used: AMBIENT / FLASHLIGHT

Pre-Weld Inspection	Acc	Rej	N/A	In-Process Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preheat/Interpass Temp:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welds Properly Completed:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filler Material Certs:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proper Filler Material/Flux:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Surfaces:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PQR/WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shielding Gas/Back Purge:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Dimensions:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WPQ:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Welder Conforming to WPS:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Weld Contours:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint Preparation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Root Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Post-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fit-up:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fill Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pre-Weld Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cover Pass:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Equip Condition/Calibr:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interpass Cleaning:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
				Distortion of Part:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

Visual inspection performed on the welds between Find no. 5 (Port extension tube) to Find no.6 (Conflat flange) weld. Welds acceptable per customer drawing and specification requirements.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 933-D.LEAPLEY

Date: 02/25/2004



Quality Assurance Documentation for Part ID: SE212-003P-3 - Item: 231

Workorder: 64880/1-0 Sub:19 Op:20

Part: SE212-003P-3 - - NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-0

Drawing ID: SE121-002P Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		32 Micro Surface Finish (Interior)		QA		J-1152	20-30	522			A
(10)								02-25-0			
*		1.2 Max Magnetic Permeability (Flange To Tube)		QA		J-1165	LESS THAN 1.2	522			A
(20)								02-25-0			

VJRB0065

T.C.I. Corp.

Print on: 11/01/2001

E:\MTR\VJRB\VJRB0065.BMP Page: 1

Heat#:13207

Coll#:BO8501008

VIRAJ IMPOEXPO LTD.
10, IMPERIAL CHAMBERS, 1 ST FLOOR,
WILSON ROAD, BALLARD ESTATE,
MUMBAI, 400 058. (INDIA)

808501006208-109

VJRB 0065

TEST CERTIFICATE

CUSTOMER

FIDELITY STAINLESS LTD.
7078 PINE TREE DRIVE, MISSISSAUGA,
ONTARIO, L5S 1S7, CANADA.

ORDER NO.
P00248

PACKING LIST NO.
IMP10143A

INSPECTION NO. DATED
IMP10143/3 08/08/2001

BUNDLE NO.
42423, 42832, 43037, 43039.

GRADE:
316/316L

DESCRIPTION

STAINLESS STEEL BRIGHT BARS

62962 RB

COLD DRAWN GROUND AND POLISHED

SIZE (INCHES)	SHAPE	TOLERANCE	LENGTH	PIECES	WEIGHT (LBS)
3/4	ROUND	ASTM A484	12' RL	321	6489

CHEMICAL ANALYSIS

HEAT NO. 13207

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N	Co	As
0.028	1.330	0.400	0.020	0.038	10.220	16.870	2.060	0.480	0.066	0.200	

TEST RESULT

YIELD POINT PROOF STRESS (KSI)	TENSILE STRENGTH (KSI)	ELONGATION %	REDUCTION OF AREA %	HARDNESS BHN
80	96	41	71	194

Specification :

MATERIAL CONFIRMS TO ASTM A276-21A, ASTM A479-27A, ASTM A484-98, ASTM A262-95A PRACTICE E, FMS 50, ASTM A193-97A, BSM CL1, ASTM A388-85, ASTM A193-98, AMS 58481, AMS 8893E, ASME SA193-98ED, ASME SA479-98ED, QQ-S-785F, MIL-S-7720A AM2, NACE MR-01-75-05 UNS# S31600/S31603, GRAIN SIZE .5 AS PER ASTM E112-88.



1.9.02

Remarks :

MATERIAL IS FREE FROM MERCURY CONTAMINATION. MICROSTRUCTURE : FREE FROM CONTINUOUS CARBIDE NETWORK. MACROSTRUCTURE : GOOD MINIMUM SOLUTION ANNEALING TEMPERATURE 1060C WATER QUENCHED. FREE FROM WELD OR WELD REPAIR.

We hereby certify that the material described above has been tested and complies with the terms of order/contract.

M.T.F.
ORDER DATE 9/18/01
PO# P.O. 4104912
OUR REF. 466055

RECEIVED
NOV 02 2001
By



Report
WORKS INSPECTOR

THE ALRO GROUP
RT03515644