

Purchase Order Number: S-04344-F

Part Number: SE121

Part Name:

NSCX Vacuum Vessel Prototype

MTM Work Order Number: 64880/1.0







# Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 1 Date: 04/15/04 User ID: DURHAM

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 1	B 705 I	MECI	I. TE	ST PIECE
Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
2	33	40		Nondestructive Visual Test Certification #8517 - VISUAL
BASE F	PLATE	E - BA	SE P	LATE
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
DATUN	A TAR	GET	- PVV	VS 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
F10000	000NC	24 - FI	LANG	GE, CONFLAT, NON-ROTATE, 10.00"
Item#	Sub	Op		Document Description / Material Description / File Name / Heat Lot
5	20	10	10	Material Certification: /F10000000NC4 - FLANGE, CONFLAT, NON-ROTATE, 10.00" - mc094399.pdf / OV104&0V105
F10000	800NC	'4 - FI	LANG	GE, 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 / F10000800NC4 - FLANGE, CONFLAT, NON-ROTATE, 10.00" - MC096585.TIF / N / A FROM VENDOR
FB1000	C12S	- BOL	TAN	ND NUT KIT, 12 PT, SILVER PLATED
Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
7	20	10	40	$Material\ Certification:\ TRACE\ ID:\ 93143\ /\ FB1000C12S\ -\ BOLT\ AND\ NUT\ KIT,\ 12\ PT,\ SILVER\ PLATED\ -\ MC094404.PDF\ /\ C\ OF\ C$
FG1000	CI - G	SASK	ет к	IT (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
FG1000	VII - (	GASK	ET. Y	VITON, FOR 10" CFF
				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
GC0275	5S - G	ASKE	T CL	IP KIT (10/PK), FOR 10" CFF
Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
10	20	10	50	$Material\ Certification:\ TRACE\ ID:\ 93144\ /\ GC0275S\ -\ GASKET\ CLIP\ KIT\ (10/PK),\ FOR\ 10"\ CFF\ -\ Same\ as\ Item\ \#7\ /\ C\ OF\ C$
NAMEI	PLATI	Ξ		
Item#	Sub	Op	<u>Pc</u>	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
DIVICA	TABATE	DI 47	110	

PVVS NAMEPLATE



#### CERTIFICATE OF CONFORMANCE

Page: 1 Date: 04/20/04 User ID: DURHAM

TO: PRINCETON PLASMA PHYSICS LAB

DATE: 04/19/2004

**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: Kall Pul

Title: Quality Inspector

Date: 04/20/04

QA001D 12/12/02 n:\mtmapps\mtqapCOC.qrp Original: QA Folder Copy: Customer Data Package



# Nondestructive Test Certification for Visual Inspection Quality Assurance Documentation for Part ID: ASTM B 705 MECH. TEST PIECE - Ite

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

Date of Inspection:0	4/12/2004	Type of Ma	terial:		NI	)T#: <b>85</b> 17
Stage of Inspection: } Incoming Inspection   In-Process Inspection ] After Repair ] Final Inspection	[ ] Bar Stock	it ] Casting ] Plate ] Other	Surface Condition [ ] Machined [ x] Rough [ ] Other	1:	Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	Heat Treated: [ ] Yes [x] No
MTM Job Number: Resource ID:	Information: 64880/1.0 -Sub:33 -Op 805-INPROCESS INSF ASTM B 705 MECH. To S-04344-F	PECTION -   (	Test Results: Quantity Inspected: Quantity Accepted: Quantity Rejected: Run Hours:	1 1 0 0.0		
Customer Inspection Plan: Test Step: Revision: Material Test Number:		(	Customer Specification MTM Spec Number Acceptance Standard	s: ASTM 8705 r:	ection Criteria:	
Inspection Magnification Used: Light Source Used:	n Methods Used:					
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPG Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Callbu	s: [] [] [x] S: [] [] [x] Q: [] [] [x] n: [] [] [x] p: [] [] [x] g: [] [] [x]	Proper Filler M Shielding Ga Welder Confor Interp	terpass Temp: [] Material/Flux: [] s/Back Purge: []	Rej         N/A           []         [x]           []         [x]	Post-Weld Inspection  Welds Properly Completed:  Weld Surfaces:  Weld Dimensions:  Weld Contours:  Post-Weld Cleaning:  Distortion of Part:	[] [] [x] [x] [x] [x] [x] [x] [x] [x] [x
100 % of all access	sible surfaces [ ] Jo	-	ection Requirements:	[]Back Goug	ge [ ] Cover Pass	[ ] Other
otes:		· · · · · · · · · · · · · · · · · · ·		<u> </u>		
his is to certify that the pie hown. Inspector:	coes specified have bee	n inspected in acc	cordance with the spe Date: 04/09/2			
	363-C.MANIFOLD		Date: 04/08/2	004		
Reviewed By Customer:	0/6U-PRINCETO	<u>i Flaskia F</u> F	Page: 1		Lines HDs	DURHAM Date: 04/19

JS 0291 500



500 Green Street

Ship rite ( Mashington, PA 15301 TO 1866 MIST WILLDY LAMSING MI

CERTIFIED MATERIAL TEST REPORT

OUR ORDER NO. YOUR ORDER NO.

MERC-12990 3977907

21/200-00 MODE COST 03 57.12002

MEMO NO. DATE

1.93

SALESMAN NO.

48915

ALPO STOEL CORP ALBO STEEL DIV T 0 BOX 907

JOCKSON MI

49204

AUTHORIZED SIGNATURE

THE ALRO GROUP THE ALRO GROUP ALC 304/304L SYAPRLESS HRAP ASTM 7/240-00 ASME S6-240-01 AMS 55116 (304L) AMS 55136 (304) () RTØ3589889 @RT03589888 CMAIVE CLM) Heat សារាជាជ្រ Lab No. Size Weacht 896914**6** 896914**6** .2500 x 96.0000 x 240.0000 70012 A 107830 1785 From slag 06200 71989 h 102149 -2500 x 96.0000 x 252.0000 1875 From slip 02155 8922010 THE ALRO GROUP 20615 A 107942 .2500 x 96.0000 x 252.0000 1975 From \$1ip 02128 1. -89720±**(ñ** 20625 A 107942 .2500 x 96.0000 x 252.0000 1875 From slip 07128 1 897201 107942 .2500 x 96.0000 > 250.0000 1860 From slip 07128 706**26 A** ł. 827202**6** 3609 From slip 05346 3 RT03589887 108030 .5000 x 96.0000 x 250.0000 20076 A 1. 897202**0** 200**77** A 108030 .5000 x 96.0000 x 256.0000 1. 3696 From slip 06346 20080 A 108030 .5000 x 94-0000 v 252,0000 3638 From Slip 06346 3. 097476 (4) 20092 百 108123 1:0000 x 96:0000 : 242:0000 1, 6891 From slap 0816. Heat 100 0. MN 5  $_{\rm SJ}$ IMCB MO 00 $\{0\}$ N 895914 .019 1.80 .032 .0006 . 34 8.08 18.28 .50 ×17 . 40 × 008 897201 7.020 1.83 .0009 . 40 8,07 18,18 +43 .18 .34 ×097 , A) () 897202 .019 1.92° .03 .0006 .69 8:13 13:59 .62 .13 .073 MRTØ3589886 992426 .025 i.82 .032 .0005 +29 8:11 1C:15 \$ BB . 15 ,39 .085 in. .0

			Yield	Tensile	9	Red. ∪?				Grain
1.03.	Nr. 107830	Gauge ,2590	Strength 42.6 RSI	Strength 82:0 KSI	Elong 60×0	Λοθα 26. <b>0</b>	Hardness 895	Pend OK	Orrosion OK	Sind
	147149	.2500	45.0 KSI	92.0 851	57.0	75.0	<b>B</b> 05	ÚE	Ж	
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	108030	.5000	46.0 KS)	90 5 KC i	57.0	71.0	BIN162	0K	<b>0</b> K	
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Allegheny Ludium

An Allegheny Technologies Company

500 Green Street
Washington, PA 15301
To 1800 WEST DILLOW
LANSING htt

40915

ALCO STEEL CORP ALKO TRUEL BIV P O BOX 927 JACKERS MI

49203

CERTIFIED MATERIAL TEST REPORT

SALESMAN NO.

M. O'Gannor

AUTHORIZED SIGNATURE

MATERIAL WAS NOT WELD REPAIRED

PAGE 2 FINAL PAGE

JS 0291 500

0

Allegheny Ludlum 7 An Allegheny Technologies Company

CERTIFIED MATERIAL **TEST REPORT** 

OUR ORDER NO. YOUR ORDER NO.

LF1640831 3879627

214449-00 DUAL CERT

12/13/2001

DATE SALESMAN NO.

MEMO NO.

582

Washington, PA 15301 Ship ALRO LANSING 2 To 1800 WEST WILLOW LANSING MI

500 Green Street

ALRO STEEL CORP ALRO STEEL DIV P 0 BOX 927 JACKSON MI

49204

AUTHORIZED SIGNATURE

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

48915

Heat 896479 896479 896479 896479 896856 896856	Slip 50100 / 50100 / 50100 l 50103 / 50103 l	ትሉ ሳB BA BB ሳ	.ot No 106072 106072 106072 106072 106029	.3750 × .3750 × .3750 × .3750 × .6250 ×	96.0 96.0 96.0 96.0	0000 × 0000 × 0000 × 0000 ×	242.000 260.000 242.000 260.000 276.000 266.000	0 1 0 1 0 1 0 1	Weight 2660 2858 2660 2858 4935 4756		Rech 67911 MB05/03/02
Heat 896479 896856	0 .022 .022	MN 1.90 1.84		\$ .0011 .0007 Yield		NI 8.12 8.09	CR 18.36 18.26	MO .56 .41 ed. of	CO .14 .22	ĊU •40 •33	N .097 .091

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

MATERIAL WAS NOT WELD REPAIRED



RTØ3526751



0



Washington, PA 15301

Ship ALRO LANSING 2 TO 1800 WEST WILLOW LANSING MI

CERTIFIED MATERIAL TEST REPORT

ALRO STEEL CORP ALRO STEEL DIV P 0 80X 927 JACKSON MI

4920<u>4</u>

OUR ORDER NOMITE 649 400

YOUR ORDER NO. 3949569

216420-00 DUAL CERT MEMO NO. 02/08/2002

DATE

582 SALEBMAN NO.

AUTHORIZED SIGNATURE

AMS 55116 (3041) AMS 55136 (304) ASTM A240-00 ASME SA-240-01 ALC 304/304L STAINLESS (WAIVE CLM)

48915

(WAIVE CL) Heat 895757	Slip 70580 A	Lot No 10392 10530			260.0000 254.0000	Fcs 1 1	Weight 5566 Fr 5438 Fr	rom sli rom sli		Reelalo Parl
896084 Heat 895757	70912 A C .027 .017	<del>-</del>	P	SI NI .47 8.11 .33 8.04	CR 18.22	₩8 ,54 ,49	.15 .11	CU .48 .35	N .077 .088	Peed balor MBOS balor Grain
896084	****	## * * * * * * * * * * * * * * * * * *	Yield	7ensile	Red Elong	d. of Area	Hardness	Bend	Corrosion OK	

Strength Elong DК Strength BHR159 79.0 Gauge 59.0 88.0 KSI Lot No 48.1 KSI .7500 103926 OK. BHN163 . 82.0 0.00 86.0 KSI 38.9 KSI .7500 105302

MATERIAL WAS NOT WELD REPAIRED





PAGE 1 FINAL PAGE

Traveler(s) Heat # Ingot# CERTIFICATE OF TEST 67829 885B Page 1 of 4 Aerodyne Ulbrich Alloys Inc. Duplicate Copy of Original Test Report used to IIII your order.

CUST. MAIN TOOLE Machine CHK BY SS ALLVAC Prof 2 Rev 3 HEAT \_ P.O. Box 5030 Ashcraft Ave SIZE Monroe, NC 28111-5030 P.O. # PU4-00214 INV ACT SA 7034 SIGNATURE About Little Phone (704) 289-4511 Customer Name Purchase Order Size Alloy AERODYNE ULBRICH ALLOYS .4375" Rd. NICKELVAC 625 ACT-2206 PCS Weight 82 549

Date: 12/21/2002

Quality Auditor: Tina Coletti

Amend Date: 03/31/2003

Quality Auditor: Amy Perkins

\* Amy of Erkins

8: 475 0%

SPECIFICATIONS

AMS 2806	В	AMS 5666	E
ASQR-01	3	ASTM B446	2000*1 Grade 1
F-14	02/28/99	F-22	02/28/99
F-23	03/15/02	PW-QA 6078	<b>Y</b>
PWA 300	BG	PWA 310	<b>AY</b>
s-1000	E	S-400	THE CONTRACT OF THE CONTRACT O

SON 67838

						CHE	<b>IISTRY</b>		CR EQ = Chromium Equiv Cb = Nb			lb
	С	ន	Mn	Şi	Cr	CR EQ	Mo	Co	Ti	Al	В	Zr
HEAT AVG	.058	<.0003	.05	.25	21.21	-	8.50	.04	.27	.18	.003	<.01



Ingot# Heat # Traveler(s) ALLVAC P.O. Box 5030 Ashcraft Ave Monroe, NC 28111-5030 Phone (704) 289-4511 Page 2 of 4 67829 885B Cb+Ta Ti+Al Ni+Co Fe Çu Ni P Cb 3.36 .45 61.57 HEAT AVG .06 61.53 .009 <.01 .03 .03 4.47 3.36

#### CHEMISTRY (TRACE)

Bi Pb

HEAT AVG

LADLE AOD <.00001 <.0001

#### CHEMISTRY REMARKS

Chemistry tested at ALLVAC unless otherwise noted.

#### As Shipped Tensile Test

	Heat Treat	Test	Temp	UTS	.2% Yield	.02% Yield	%	EL		Gage L	ength	Tensile	
Operation Ingot	Code	Dir	F	ksi	ksi	ksi	4D	5D	%RA	4D	5D	Diameter	Tested At
	1750CR	£C.	ROOM	134.3	84.9		51.7		59.9	1.0100		0.2510	US INSPECTION SERVICES

Test Dir: L = Longitudinal, T = Transverse, ST = Short Transverse, LT = Long Transverse,

TC = Transverse Center At Size, TM = Transverse Mid-Radius At Size,

PC = Fancake, DB = Drawbar, PD = Paddle, TT = Top Transverse At Size,

BT = Bottom Transverse At Size, LC = Long Center, TX = Top Transverse Mid-Radius At Size,

LM = Longitudinal Mid Radius

Operation: SUPER = Crosshead Sep Rate of .10

#### AS SHIPPED HARDNESS

ingot Heat Treat Hardness Hardness Tested At
Code val Type Tested At

1750CR 27 RC US INSPECTION SERVICES

Traveler(s) Heat # ingot#

67829

ALLVAC P.O. Box 5030 Ashcraft Ave

Monroe, NC 28111-5030 Phone (704) 289-4511

Page 3 of 4

#### TENSILE/STRESS RUPTURE HEAT TREATMENT

нт	Code:	1750CR		Furnace Cool Rate		
	Temp			Per Hrs	Cool	
Location	F	Hours	Mins	(F)	Code	
PLANT 17	50		30	,	wa	

#### METALLOGRAPHY

GRAIN SIZE (As shipped cond.): Avg. ASTM 9

885B

Tested at US Inspection Services

#### CONDITION SHIPPED

SURFACE: Centerless Ground HEAT TREAT: 1750 F., 30 Mins., WQ

#### REMARKS

Material has been produced, sampled, inspected, and tested in accordance with the customer purchase order and referenced specifications and conforms to the requirements unless otherwise noted in this certificate of test.

Any deviations to specification or customer purchase order requirements relative to testing, test values, hot working fixed practices, have been resolved in writing with customer prior to shipment.

The recording of false, fictitious, or fraudulent statements or entries may be punishable as a felony under federal statutes including federal law, TITLE 18 CHAPTER 47.

If customer purchase order does not specifically reference a revision to a specification, ALLVAC will work to the latest revision on file and in effect at time of order placement.

Test methods are per the latest ASTM Standards, currently recognized industry practices; or as agreed upon between Allvac and customer.

Any chemical elements analyzed and found to have values below the actual limits of detection may be reported as < less than or reported at the detection level.

When values are reported to the significant places called for in the specifications, rounding will be done in accordance with ASTM E-29.



Traveler(s)

Heat # ingot#

67829 A

8858

ALLVAC P.O. Box 5030 Ashcraft Ave

Monroe, NC 28111-5030 Phone (704) 289-4511

Page 4 of 4

This is to certify that during manufacturing , handling, testing and inspection this material did not come in direct contact with mercury or any device employing a single boundary of containment.

This Certificate of Test shall not be reproduced except in full, without the written approval of Allvac Quality.

No weld repair has been performed on this material.

Material Safety Data Sheets (MSDS) - View or print from our site: www.allvac.com. Printed copies available on request from the Allvac Sales Department.

#### SPECIAL REMARKS

INGOT SOURCE: Allvac

Melt Method - AOD/ESR

Testing performed to MCL Manual Section F-23.

GEAE S-400 (GT193) supplier codes: US Inspection Services - T7349, Allvac Monroe - 87012,
Allvac Lockport T1226, Conam-Ams - T1007, Westmoreland - T7869

1.26.04

# Producers of Standar Steel. Priodel Olloys and Titanium THORNDALE, PA. 19972

DATE: 10-JAN-2002

THORNDALE PA. 19372 TEST CERTIFICATE GOC: 30005

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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.

 ITEM
 QTY
 PART NO.
 DESCRIPTION

 001
 1
 F10000800NC4
 FLANGE,CF,10.00" X

 8.00",NR,30
 1
 F10000800NC4
 FLANGE,CF,10.00" X

Varian Vacuum Technologies

Michael R. Blanchette

Quality Assurance Engineer

FON 2.4 2X4

83267 Line 1, B.J.

COC28TD.DOC = 07/G1/2002

3-1-04 Kkn on



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>OTY</u>	PART NO.	DESCRIPTION
001		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 Steeel, Nickel Plated, 10/Pk

Varian Vacuum Technologies

Tim Clough

Quality Assurance Engineer

80548 CINLS 2- S

	Facture Date De Commande Reference Client							IE • WERI	SZEUGI	(IS					F	LE COPY	7		
Invoice No No. De Facture Rechnongs Mr 391282001-0	Date : Date De ( Beste	Ratered		Customer R	teference : Client td Maten		Ra Ra Za	port No. ppert No again Nr 10822079		Pages of Page de Anzahl de	Pages r Selton	1 '	HAY]		•	1	Haynes Internati 20 West Park A	venue	
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NDIANA						INDIA						HA	YNES(I	R) 625 .	ALLOY	SHEET	Γ -		
N 46218	USA	<b>.</b>	,			IN 462	18 (	JSA				NA	DCAP (	CERTI		NUME	BER 0089		
							Qu	usority Orde antie Comma Bertellemeng	nie	Quantity Shipped Quantitie Expedies Liefermenge		<b>,-</b> 1	, <u>, , , , , , , , , , , , , , , , , , </u>	10201	5.1.13				
Heat Number									<del>.</del>	_									
Numero Do Caulee	Al	В	С	Co+Ta	T Co	Cr	Cu	Chemical Fe	Analysis •	Analyse Chi:	mique + Chem Ni	<u>ilsehe A</u> n: D	llyse S	Si	Tí				
	0.16	<del>                                     </del>	0.030	3.63	0.23	21.79	<del> </del>	4.71	0.28	8.86		0.008	0.002	0.11	0,26	<del>                                     </del>	<del> </del>		—
2650 3 6874 ertified By • 0	3.580	Ta <0.050	Zr Zr	Bi	Sc	La	Conclus	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co				
Faul	upervisor/	Technician	Yu	مر					08.12753				The property of the control of the c	뷠	○ □ AUG 2	[\V] 7 2003		. 2	
28.0	_		THE DATA COM	TAINED BEREIN WEI	LEOSTAINED FF	THE BANGLES CONSIDE	RED TO BE REPR	BBENTA TIVE OF THE I	PRODUCTS (N THE	Kurecti enimatado	AND ARE BELIEVES	ro der sed ivos			/ '	7 //	II HE (	\$	، اير
	DIR Усисиродию	OTEN AXIABBI BA	LES RENSEICX RSIEREN AUF PRO	EMENTS DONNES (1 HEN DIE AJS REPRES	DESSUS ONT ET	EASTENNIS A PARTIE T EN FUSIK DIS PRODUKT	PENCHANTILLOS E DIE TRESER LIE	NE REMERSENTATIVES FERUNCI ZUGRUNDE I	DES PRODUITS IN	OFFICE BY SONT DO	C FIABLES, NOUS REC	USCHS TOUTE	PERSONAL METHODS IN	REVITE GOYNUL VIII. A l'EGYT TIVERNIL	FFAOM CASE OF THOS TUTTLESATION DECT	CERTIFICATE. CERTIFICAT.		-	•



# Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 2 Date: 04/15/04 User ID: DURHAM

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB Customer P.O.: S-04344-F

**Customer Part ID: SE121 - NSCX Vacuum Vessel Prototype** 

				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	1-3		
Item#	Sub	Ор	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	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

45

50

Inspection Data Checklist: 5 steps

47



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	SPECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Verify Panel Joint Alignment Weld Seam # 1-3		MFG			INSPECTED ALIGNME OF WELD JOINT (ACC EPTED)	791	712		<b>A</b>
(10)	!!	(.02" Max)		CWI	j j			02-06-0	02-06-0		ĺ
*		Verify Panel / Rest Stop Position		MFG			.090 OR LESS	791			A
(20)		Panel #1 (009" Gap)						02-06-0			
* (30)		Verify Panel / Rest Stop Position Panel #3 (009" Gap)		MFG			.090 OR LESS	791     02-06-0			A
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START		QA			PURGE @20CFH WELD @40CFH				<b>A</b>
(40)		AND THROUGH COMPLETION			i i			02-06-0			İ
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START		QA			.062 INCO 625 HT AV 8128 .093 INCO 625 HT CB7996	791			<b>A</b>
(50)		AND THROUGH COMPLETION						02-06-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		QA			300 SERIES S.S. / S.S.WOOL INSERT	791			<b>A</b>   
*		AND THROUGH COMPLETION  CWI / TEAM LEADER  VERIFY WELDER QUALIFICATIONS CO		QA			QUALIFIED TO WPS390 PPPL REV0 MTM QUAL FICATION SYSTEM	!			   <b>A</b> 



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(7	70)	PRIOR TO OPERATION START AND THROUGH COMPLETION			02-06-0		_
	*	CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION	QA	.062 75 - 175 AMPS .093 100-210 AMPS ALL PER WPS 390PP PL REV0	791 02-06-0		A
(c	3U)	AND THROUGH COMPLETION			02-00-0		

64880 PF	PL NCS	PVVS INS	PECTION REC	ORD		Inspection	n Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
			Interpass (a	MAKK)	After struct	ural welding	After w	elding Port	Final Ins	pection	
Part # / P	anel#: S	E121-001P	PANEL #3	Gage/St	d S/N(s): 44	70 / J-1165	/ J-1009-N	DT	Date of Ins	pection: 0	2/06/04
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFi <b>nis</b> h	Initials
1	0.034	0.379	LESS THAN 1.01	N/A	400	44	-0.014	0.382	LESS THAN 1.01	N/A	
2	0.033	0.378	LESS THAN 1.01	N/A	Qs;"	45	-0.011	0.381	LESS THAN 1.01	N/A	(26,74)
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	7	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	<u> </u>	52	E		LESS THAN 1.01	N/A	<u> </u>
10	0.019	0.379	LESS THAN 1.01	N/A		53	Е		LESS THAN 1.01	N/A	
11	0.016	0.378	LESS THAN 1.01	N/A		54	Ē	ļ	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	<b></b>	56	E	ļ	LESS THAN 1.01	N/A	$\perp$
14	0.012	0.378	LESS THAN 1.01	N/A	<b> </b>	57	E		LESS THAN 1.01	N/A	1
15	0.012	0.377	LESS THAN 1.01	N/A	<b> </b>	58	0.059		LESS THAN 1.01	N/A	
16	0.012	0.378	LESS THAN 1.01	N/A	<del>                                      </del>	59	0.099		LESS THAN 1.01	N/A	<del>                                     </del>
17	0.013	0.378	LESS THAN 1.01	N/A	<del></del>	60	0.078		LESS THAN 1.01	N/A	+
18	0.027	0.378	LESS THAN 1.01	N/A	<del>                                     </del>	61	0.079		LESS THAN 1.01	N/A	$+$ $\rightarrow$
19 20	0.027 0.017	0.381	LESS THAN 1.01 LESS THAN 1.01	N/A N/Ä	<del>                                     </del>	62	0.085		LESS THAN 1.01	N/A	<del>                                     </del>
21	0.006	0.380		N/A	<del>  \                                   </del>	63 64	0.085		LESS THAN 1.01	N/A	<del>                                     </del>
22	-0.002	0.381	LESS THAN 1.01 LESS THAN 1.01	N/A	<del>  \                                   </del>	65	0.034 0.065	<del>                                     </del>	LESS THAN 1.01	N/A N/A	<del> /</del>
23	-0.002	0.380	LESS THAN 1.01	N/A	\ \	66	0.079		LESS THAN 1.01	N/A	<del>                                     </del>
24	-0.009	0.380	LESS THAN 1.01	N/A	1	67	0.078		LESS THAN 1.01	N/A	<del></del>
25	-0.008	0.381	LESS THAN 1.01	N/A	<del>                                     </del>	68	0.039		LESS THAN 1.01	N/A	<del>                                     </del>
26	-0.008	0.381	LESS THAN 1.01	N/A	-	69	0.092		LESS THAN 1.01 LESS THAN 1.01		+ \
27	-0.006	0.380	LESS THAN 1.01	N/A	<del>                                     </del>	70	0.071		LESS THAN 1.01	N/A	<del>  \                                   </del>
28	-0.005	0.380	LESS THAN 1.01	N/A	<del>                                     </del>	71	0.051		LESS THAN 1.01		<del>                                     </del>
29	-0.003	0.381	LESS THAN 1.01	N/A	<del>                                     </del>	72	0.013		LESS THAN 1.01		<del>                                     </del>
30	-0.002	0.380	LESS THAN 1.01	N/A		73	0.059	<del>                                     </del>	LESS THAN 1.01		+ /
31	0.001	0.380	LESS THAN 1.01	N/A	<del>                                     </del>	74	0.052	-	LESS THAN 1.01	N/A	+
32	0.002	0.379	LESS THAN 1.01			75	0.007	<u> </u>	LESS THAN 1.01		1 /
33	0.004	0.380	LESS THAN 1.01	<del> </del>	t t	76	0.014	†	LESS THAN 1.01	<del></del>	
34	0.004	0.380	LESS THAN 1.01	4		77	0.062		LESS THAN 1.01		1 (
35	0.006	0.380	LESS THAN 1.01	N/A		78	0.063		LESS THAN 1.01		1
36	0.007	0.381	LESS THAN 1.01			79	0.046		LESS THAN 1.01		1
37	0.009	0.382	LESS THAN 1.01	4		80	0.000		LESS THAN 1.01		1
38	0.007	0.380	LESS THAN 1.01			81	-0.002		LESS THAN 1.01		
39	0.000	0.381	LESS THAN 1.01	N/A		82	-0.013	I	LESS THAN 1.01		1
40	-0.004	0.381	LESS THAN 1.01	N/A	$\Box T$	83	0.020		LESS THAN 1.01		1 7
41	-0.008	0.381	LESS THAN 1.01	N/A		84	0.064		LESS THAN 1.01		•
42	-0.013	0.381	LESS THAN 1.01			85	0.050		LESS THAN 1.01	N/A	
43	-0.014	0.382	LESS THAN 1.01	N/A	<b>(%</b> )	86	-0.006		LESS THAN 1.01	N/A	(45)

64880 PI	PL NCSX	PVVS INS	PECTION REC	ORD		Inspection	n Drawing	Number:	SE121-001	P-1MTM R	lev: 0B
Inspectio	n type: Fo	rmed Panel	Interpass (	¥)	After struct	ural welding	After we	olding Port	Final Ins	pection	
Part # / P	anel#: S	E121-001P	PANEL #3	Gage/St	d S/N(s): 44	70 / J-1165	/ J-1009-NI	DT	Date of Ins		/06/04
Point	Profile	Material	Magnetic		Inspector			Material	Magnetic		Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
87	0.028	(My)	LESS THAN 1.01	N/A		126					
88	0.040		LESS THAN 1.01	N/A		127					
89	-0.010	<b>F</b>	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	Ε		LESS THAN 1.01	N/A	. "	131					
93	Ē	)	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	(ACT)	LESS THAN 1.01	N/A		135					
97	E	28,"	LESS THAN 1.01	N/A		136					
98						137					
99						138					1
100		<u> </u>				139			<u> </u>		
101						140				_	
102	,_,					141					
103						142					
104						143					
105					1	144					<u> </u>
106				ļ		145					
107		1		ļ		146					
108					ļ	147					
109		<u> </u>				148					
110						149					<u>.</u>
111	ļ	ļ				150					
112						151					
113			1	ļ		152					
114		1		<u> </u>	<u> </u>	153	ļ				
115						154					
116	1		<u> </u>			155					
117	<u></u>	1				156					
118						157					
119						158	-		<u> </u>		
120						159					
121						160	<u></u>				
122						161		<u> </u>			
123						162					
124						163			<u> </u>		
125						164					

34880 PI	PPL NCS)	( PVVS INS	PECTION REC	CORD					SE121-001		Rev: 0B
nspectio	n type: Fo	rmed Panel	Interpass (i			ural welding		elding Port	Final Ins		
Part # / F	anel #: S	E121-001P	PANEL #1	Gage/St	d S/N(s): 44	170 / J-1165	/ J-1009-N	DT	Date of Ins	pection: 02	2/06/04
oint	Profile	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
<b>Number</b>	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
1	0.000	0.377	LESS THAN 1.01	N/A		44	0.083	0.384	LESS THAN 1.01	N/A	(4724)
2	-0.005	0.378	LESS THAN 1.01	N/A	(46,47)	45	0.079	0.383	LESS THAN 1.01	N/A	
3	-0.009	0.378	LESS THAN 1.01	N/A	A	46	0.077	0.382	LESS THAN 1.01	N/A	
4	-0.015	0.379	LESS THAN 1.01	ÑΑ		47	0.075	0.381	LESS THAN 1.01	N/A	I (
5	-0.018	0.378	LESS THAN 1.01	N/A		48	0.072	0.382	LESS THAN 1.01	N/A	T.T.
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	
В	-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	1	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	<u> </u>	55	0.060	0.378	LESS THAN 1.01	N/A	T
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	1	57	0.055	0.382	LESS THAN 1.01	N/A	T 1
15	0.026	0,381	LESS THAN 1.01	N/A		58	0.044	0.380	LESS THAN 1.01		
16	0.032	0.380	LESS THAN 1.01	N/A	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	59	0.030	0.382	LESS THAN 1.01		
17	0.025	0.379	LESS THAN 1.01			60	E		LESS THAN 1.01		
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		
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	1	
24	0.006	0.381	LESS THAN 1.01	N/A		67	0.047		LESS THAN 1.01		
25	0.010	0.381	LESS THAN 1.01	N/A	T	68	-0.005		LESS THAN 1.01	N/A	1
26	0.016	0.379	LESS THAN 1.01	N/A		69	0.071		LESS THAN 1.0	N/A	
27	0.018	0.379	LESS THAN 1.01	N/A		70	0.045		LESS THAN 1.0		
28	0.015	0.376	LESS THAN 1.01	<del>-</del>		71	0.050		LESS THAN 1.0		
29	0.003	0.374	LESS THAN 1.01	N/A		72	0.091		LESS THAN 1.0	N/A	
30	-0.009	0.380	LESS THAN 1.01	N/A		73	0.050		LESS THAN 1.0		$\perp$
31	-0.015	0.382	LESS THAN 1.01	N/A		74	0.067		LESS THAN 1.0	The same of the sa	1 7
32	-0.013	0.383	LESS THAN 1.01			75	0.044		LESS THAN 1.0		
33	-0.016	0.382	LESS THAN 1.01	N/A		76	0.062		LESS THAN 1.0	1 N/A	
34	0.020	0.383	LESS THAN 1.01			77	0.055		LESS THAN 1.0	1 N/A	
35	0.024	0.384	LESS THAN 1.01		1 1	78	0.050		LESS THAN 1.0	1 N/A	
36	0.025	0.384	LESS THAN 1.01	ı N/A		79	0.031		LESS THAN 1.0	1 N/A	
37	0.029	0.385	LESS THAN 1.01	N/A		80	0.057		LESS THAN 1.0		
38	0.040	0.384	LESS THAN 1.01	I N/A		81	0.077		LESS THAN 1.0	1 N/A	
39	0.053	0.383	LESS THAN 1.0	I N/A		82	0.023		LESS THAN 1.0	1 N/A	
40	0.064	0.385	LESS THAN 1.0			83	0.041		LESS THAN 1.0	1 N/A	
41	0.072	0.385	LESS THAN 1.0	-		84	0.031		LESS THAN 1.0	1 N/A	₹
42	0.077	0.384	LESS THAN 1.0		(4774)	85	0.025		LESS THAN 1.0	1 N/A	
43	0.080	0.385	LESS THAN 1.0		1	86	0.060		LESS THAN 1.0	41/4	<del>  (47)</del>

64880 PI	PL NCSX	PVVS INS	PECTION REC	ORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: For	med Panel	Interpass (#			ural welding					
Part # / P	anel#: Si	E121-001P	PANEL #1	Gage/St	d S/N(s): 44	70 / J-1165	/ J-1009-N	DT	Date of Ins	pection: 02	2/06/04
Point	Profile	Materiai	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
87	0.012		LESS THAN 1.01	N/A	(m)	126					
88	E		LESS THAN 1.01	N/A		127					
89	ш		LESS THAN 1.01	ÑΆ	7	128			<u> </u>		
90	-0.004		LESS THAN 1.01	N/A		129					
91	Ε		LESS THAN 1.01			130					
92	E		LESS THAN 1.01		<u> </u>	131					
93	0.022		LESS THAN 1.01		<u></u>	132					
94	E		LESS THAN 1.01			133			<u> </u>		
95	E		LESS THAN 1.01	N/A	(46,14)	134					
96		ļ				135				1	
97				<u></u>		136					
98						137					
99						138					<b>_</b>
100					ļ	139					
101						140				<u> </u>	
102						141					<u> </u>
103	<u>-</u>					142	<u></u>	<b></b>			_ <b>_</b>
104	ļ <u>.                                    </u>					143					
105	ļ		<u> </u>			144		<b>ļ</b>	ļ		
106				ļ		145			<u> </u>		
107						146			ļ	<u> </u>	
108			<u> </u>	ļ <u> </u>		147		<u> </u>	<u> </u>		
109		<u> </u>			<b></b>	148			ļ		
110	ļ	<u> </u>			<del>.</del>	149			<u> </u>	ļ	
111				ļ	ļ	150		<u> </u>		<u> </u>	<del>-</del>
112			-	ļ	<u> </u>	151			1	<del> </del>	<del> </del>
113			<b>.</b>	ļ	ļ	152	-	<u> </u>	<u> </u>	1	<del>                                     </del>
114	ļ	ļ		<del>                                     </del>	<del> </del>	153		1		<del> </del>	<del></del>
115				<b> </b>	+	154		1	<del> </del>	1	
116	<del>                                     </del>			<del>                                     </del>	_	155	ļ	<del> </del>	<del>                                     </del>		<del></del>
117	ļ	<u> </u>	<del> </del>	1	<del> </del>	156		<del> </del>	+	<del>                                     </del>	
118	ļ	ļ	1	<del>├</del>		157		1	<del> </del>	<del>                                     </del>	
119				<del>                                     </del>	<del> </del>	158	<del>                                     </del>	<del>                                     </del>	1		<del></del>
120	<u> </u>	1	1		<del>                                     </del>	159	<u> </u>	+	<del>                                     </del>		_
121	<b>_</b>	<del>                                     </del>		<del> </del>	1	160	-			+	+
122	1			<del>                                     </del>	<del>                                     </del>	161	<u> </u>	<del> </del>	<del>                                     </del>	+	+
123	<del>                                     </del>	1		<del> </del>	<del> </del>	162	<del> </del>	1	<del> </del>	<del> </del>	+
124	<b>├</b>	-	-	<del> </del>	1	163	<del>                                     </del>	1	1	<del>- </del>	+
125	<u></u>	1				164	<u> </u>		<u> </u>		



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA		4470	PANEL #1 +0.091 / -	522			R
ĺ	Ì			ĺ			0.023 PANEL #3 +0.0	İ	ĺ		ĺ
ĺ	Ì			ĺ			99 / -0.014 [N/C:15	İ			İ
j	j	Upper Half Of Bilateral Tolerance		j			024]	İ	j		İ
(10)		(tack welded vessel)						02-11-0			
*				QA		J-1165	LESS THAN 1.01	522			A
	Ì	Magnetic Permeability 1.01 Max.		ĺ				İ	ĺ		ĺ
(20)		Record range (high / low)						02-06-0			

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			40 SHIELDING 20 PUR	712			A
		CWI / TEAM LEADER		j			GE GAS SETTINGS		ĺ		ĺ
	!	VERIFY SHIELDING GAS									ļ
	!	AND PURGE GAS COMPLIANCE									
	ļ	PRIOR TO OPERATION START									
(10)		AND THROUGH COMPLETION						02-07-0			_
*				QA			.062 DIA HEAT #AV8	712			A
	!!!	CWI / TEAM LEADER		ļ			128				
	!	VERIFY WELD FILLER MATERIAL COMP							<u> </u>		
(20)		PRIOR TO OPERATION START		 				02.07.0			
(20)		AND THROUGH COMPLETION						02-07-0			┨.
*	ļ .			QA			ACCEPT 300 SERIES	712	 		A
	!!!	CWI / TEAM LEADER		 			SS W/WSS WOOL				
		VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		l i					ļ i		
(30)	<u> </u>	AND THROUGH COMPLETION		İ				02-07-0	ļ 		
(30)		AND THROUGH COMPLETION		0.4			ACCEPT PER WPS 390				┤,
~~ 		CWI / TEAM LEADED		QA			ACCEPT PER WPS 390	712			A
 	! !	CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO		 					 		
 	: :	PRIOR TO OPERATION START		 					 		
(40)	!	AND THROUGH COMPLETION		! 				02-07-0			
*		THE TIMES OF COMMEDITORY		QA			.062 DIA FILLER AM	712			$ _{\mathbf{A}}$
 				Q/1			PERAGE ACCEPTABLE	1	 		12.
 	! !	CWI / TEAM LEADER		<u> </u> 			O WPS		<u> </u> 		1
 	! !	VERIFY PARAMETER COMPLIANCE		 			O WIS				
! 	!	PRIOR TO OPERATION START		 							
(50)	!	AND THROUGH COMPLETION						02-07-0			



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**Inspector:** 712-W.MILLER

# **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 18

<b>Date of Inspection:</b> 0							NCC	NEL		NDT#:7938				
Stage of Inspection:  [x] Incoming Inspection  [ ] In-Process Inspection  [ ] After Repair  [ ] Final Inspection	x] Incoming Inspection ] In-Process Inspection ] After Repair ] Final Inspection  Part Information:  [ ] Castin [ ] Plate [ ] Forging [ ] Other						<b>nditio</b> ned ED	n:		Test Being Run to: [x] Router Instructions [] Drawing [] Test Plan [] Technique Card	[	eat Treat ] Yes ] No	ted:	
Part I MTM Job Number: Resource ID: Part ID: Part Name: Serial Number: Customer P.O.: Customer Unit/Plant:	64880/1. 230-FAB SE121-0 PANEL 1	0 -Sub RICAT 01P 1- 1-3 SUI	ION - W 3		Quantity Quantity Quantity	Accept	ted: ted: ted:	1 1 0 0.0						
Customer Inspection Plan: Test Step: Revision: Material Test Number:				MTM	Spec N	umbe	r: N/A	IE SECT	ection Criteria: TON V ARTICAL 6 AR 6.29.1					
Inspection Magnification Used: Light Source Used:	8X		:											
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	Prehed Proper Fill Shielding Welder Co		Flux: Flux: Furge: WPS: Pass: Pass: Pass:	[x] [x] [x] [x] [x] [i] [i] [i] [i]	Rej [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [] [] [] [x] [x] [x] [x] [x]	Post-Weld Inspection  Welds Properly Complete  Weld Surface  Weld Dimension  Weld Contour  Post-Weld Cleanin  Distortion of Par	s: [x] s: [] s: []	Rej [] [] [] [] [] []	N/A   [x]   []   [x]				
04 6 11					Inspection R	•	nents			/10				
% of all acces				int Preps	[x] Root				ck Goug		[ ] Oth	er 		
Performed inspection of roc  This is to certify that the pieceshown.										he required wps 390 with 1/1	3 filler			

NDT003 User ID: LONAKER Date: 04/15/04  $n:\ \ mtmapps\ \ mtndtlpi.qrp$ Page: 2

Date: 02/07/2004



Page: 5 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS		RESULTS	INS	PECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA		4470	PANEL #1 +0.001 / -	522			R
							0.057 PANEL #3 +0.0				
ĺ							23 / -0.048 [N/C:15				ĺ
İ	İ	Profile Tolerance (+.188 /020")		j	j j		027]	İ	j		İ
(10)		(tack welded vessel)						02-07-0			
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability 1.01 Max.		ĺ				İ	ĺ		ĺ
(20)		Record range (high / low)						02-07-0			

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

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

	Drawing ID: SE121-001P Rev: 0		INSPECTION INS	TRUC	TIONS		RESULTS	INSPECTED		BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS (SHIE	712			A
	İ	CWI / TEAM LEADER		ĺ	İ		LDING 40 PURGE 20)		j		İ
		VERIFY SHIELDING GAS									
		AND PURGE GAS COMPLIANCE									
		PRIOR TO OPERATION START		ļ							ļ
(10)		AND THROUGH COMPLETION						02-07-0			]
*				QA			VERIFIED 1/16 DIA	712			A
		CWI / TEAM LEADER					HEAT# AV8128				
		VERIFY WELD FILLER MATERIAL COMP		ļ					ļ		
	ļ	PRIOR TO OPERATION START		ļ					ļ		ļ
(20)		AND THROUGH COMPLETION						02-07-0			
*				QA			300 SERIES SS W/S	712			A
		CWI / TEAM LEADER		ļ			S WOOL				
	ļ	VERIFY PURGE DAM MATERIAL COMPL		ļ					ļ		ļ
		PRIOR TO OPERATION START		ļ							ļ
(30)		AND THROUGH COMPLETION						02-07-0			1
*				QA			WELDER #683 ACCEPT	712			A
	ļ	CWI / TEAM LEADER		ļ					ļ		
		VERIFY WELDER QUALIFICATIONS CO		ļ							
		PRIOR TO OPERATION START		ļ							
(40)		AND THROUGH COMPLETION						02-07-0			
*				QA			ACCEPTED PER WPS 3	712			A
		CWI / TEAM LEADER					0 REV 1				
		VERIFY PARAMETER COMPLIANCE									
( <b>70</b> )		PRIOR TO OPERATION START						02.05.0			
(50)		AND THROUGH COMPLETION						02-07-0			]



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**Inspector:** 712-W.MILLER

# **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 21

Date of Inspection:02/07/2004 Typ			Type of	Materia	al:625	INCC	DNEL		N	DT#:	7939		
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufa [x] Wel [ ] Bar [ ] For	ldment r Stock	] ]	s: ] Casting ] Plate ] Other	Surface Condition: [ ] Machined [ ] Rough [x] Other AS- WELDED					Test Being Run to:  [x] Router Instructions  [] Drawing  [] Test Plan  [] Technique Card			ted:
MTM Job Number: Resource ID: Part ID: Part Name: Serial Number:	Customer P.O.: S-04344-F Customer Unit/Plant:  Customer Inspection Plan:					Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0  Run Hours: 0.0							
Customer Inspection Plan: Test Step: Revision: Material Test Number:		MT	Inspection Criteria: Customer Specification: ASME SECTION V ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PAR 6.29.1										
Inspection Magnification Used: Light Source Used:	8X		:										
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	s: [x] S: [x] Q: [] n: [] p: [] g: [x]	Rej [] [] [] [] [] [] [] []	N/A	Prehed Proper Fill Shielding Welder Co	g Gas/Back onforming t Ro Fi	s Temp: al/Flux: a Purge: to WPS: ot Pass: ill Pass: er Pass: leaning:	[x] [x] [x] [x] [x] [i] [x] [i] [i] [x] [i]	Rej [] [] [] [] [] [] [] [] [] []	N/A [] [] [] [] [x] [x] [] [x]	Post-Weld Inspection  Welds Properly Complete  Weld Surface  Weld Dimension  Weld Contour  Post-Weld Cleanin  Distortion of Par	s: [x] s: [] s: [] g: []	Rej	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]
% of all acces	sible surf	aces	[ ] Joi	int Preps		Require ot Pass			ck Goug	e [] Cover Pass	[x] Ot	her	
Notes: Performed visual inspection	of weld f	fill pass	#1 to th	ne router inst	ructions. w	elder # 6	83 peri	ormed	welding.	no rejectable indications wa	s found.		
This is to certify that the piece shown.	es specif	fied hav	ve been	inspected in	accordanc	ce with th	e spec	ificatior	ns	Wally Milly &	AMS QC 1 ALTER L. MILLER 97121701	,	

NDT003 User ID: LONAKER Date: 04/15/04  $n:\ \ mtmapps\ \ mtndtlpi.qrp$ Page: 3

Date: 02/07/2004



Page: 7 Date: 04/15/04 User ID: DURHAM

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

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

	Drawing ID: SE121-001P Rev: 0		INSPECTION INS	TRUC	TIONS	I	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		<u>.228"</u>		QA		4470	PANEL #1 +0.033 / -	522			A
							0.022 PANEL #3 +0.0				
İ		Profile Tolerance (+.188/040")			İ		35 / -0.022	İ			İ
(10)		(tack welded vessel)						02-07-0			
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability 1.01 Max.							Ì		
(20)		Record range (high / low)						02-07-0			

Page: 8 Date: 04/15/04 User ID: DURHAM

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

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

	Drawing ID: SE121-001P Rev: 0		INSPECTION INS	TRUC	TIONS	]	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS (SHI	712			A
							ELDING 40 PURGE 20				
	!!!	CWI / TEAM LEADER		ļ							
	!!	VERIFY SHIELDING GAS		ļ							
	!!	AND PURGE GAS COMPLIANCE		ļ							
(10)	!!!	PRIOR TO OPERATION START AND THROUGH COMPLETION						02-07-0	<u> </u>	 	
*		AND THROUGH COMPLETION		QA			.093 INCONEL FILLER	712			$\mathbf{A}$
,		CWI / TEAM LEADER		QA 			HEAT # CB7996	/12	<u>.</u> İ	 	A
	!!!	VERIFY WELD FILLER MATERIAL COMP					IILAT # CD7770		ļ	! 	
	!!!	PRIOR TO OPERATION START							ļ	! 	İ
(20)	İ	AND THROUGH COMPLETION		ĺ				02-07-0	ĺ	İ	İ
*				QA			300 SERIES SS W/ SS	712			A
	!!	CWI / TEAM LEADER					WOOL		ĺ		
	!!!	VERIFY PURGE DAM MATERIAL COMPL		ļ							
(20)	!!	PRIOR TO OPERATION START						02.07.0		 	
(30)		AND THROUGH COMPLETION		0.4			WELDED #602	02-07-0			┨.
*		CWI / TEAM LEADED		QA			WELDER #683	712	ļ		A
		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO							 	 	
		PRIOR TO OPERATION START		<u> </u> 						! 	
(40)		AND THROUGH COMPLETION						02-07-0	ļ	! 	İ
*				QA			ACCEPTED PER WPS 3	712			$\mathbf{A}$
							0- PPPL WITH .093		İ		İ
		CWI / TEAM LEADER		İ			FILLER				İ
		VERIFY PARAMETER COMPLIANCE									
	!!!	PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION						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:0	Material:625	INCC	NEL		NDT#:7940								
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufactur [x] Weldme [ ] Bar Sto [ ] Forging	nt [ ck [	ss:	Surface C [ ] Mach [ ] Roug [x] Other AS-WELD	ined h	1:		Test Being Run to:  [x] Router Instructions [] Drawing [] Test Plan [] Technique Card  [] Test Being Run to:  [] Yes [x] No					
MTM Job Number: Resource ID: Part ID: 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 ARTICAL 6 MTM Spec Number: N/A Acceptance Standard: AWS D1.6 PAR 6.29.1											
Inspection Magnification Used: Light Source Used:													
Base Material Certs:				cess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS:	Acc   [x]	Rej -	N/A  [] [] [] [] [] [] [] [] [] [X] [X] [X]	Post-Weld Inspection  Welds Properly Completed:	Acc [] [] [] [] [] [] [] [] [] [] [] [] []	[x] [y] [x] [x] [x]			
100 % of all access	sible surfaces	[ ] Jo	int Preps	Inspection Require [ ] Root Pass FILL PASS		[]Back	(Gouge	[ ] Cover Pass	[x] Other				
Notes: Performed visual inspection rejectable indication found a			er instruction	s. This applies to 1-	3 panel	assemb	oly. Weld	d operator #683 performed pa	ss. There wa	as no			

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





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

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

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

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

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

	Drawing ID: SE121-001P Rev: 0		INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS (SHI	712			A
	İ	CWI / TEAM LEADER			j j		ELDING 40 PURGE 20)	j			İ
		VERIFY SHIELDING GAS						İ			ĺ
		AND PURGE GAS COMPLIANCE									
		PRIOR TO OPERATION START									
(10)		AND THROUGH COMPLETION						02-07-0			
*				QA			.093 DIA HEAT #	712			A
		CWI / TEAM LEADER					CB7996				
		VERIFY WELD FILLER MATERIAL COMP									
	ļ	PRIOR TO OPERATION START						ļ			
(20)		AND THROUGH COMPLETION						02-07-0			
*				QA			300 SERIES SS W/ SS	712			A
		CWI / TEAM LEADER					WOOL				
	ļ	VERIFY PURGE DAM MATERIAL COMPL						ļ			ļ
		PRIOR TO OPERATION START									
(30)		AND THROUGH COMPLETION						02-07-0			4
*				QA			WELDER # 683	712			A
	ļ	CWI / TEAM LEADER									
		VERIFY WELDER QUALIFICATIONS CO									
		PRIOR TO OPERATION START									
(40)		AND THROUGH COMPLETION						02-07-0			4
*				QA			ACEPT PER WPS 390-P	712			A
		CWI / TEAM LEADER					PPL .093 RANGE				
		VERIFY PARAMETER COMPLIANCE									
( <b>70</b> )		PRIOR TO OPERATION START						0.000			
(50)		AND THROUGH COMPLETION						02-07-0			



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**Inspector:** 712-W.MILLER

# **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 I	NCC	NEL		NI	)T#: <b>7</b>	'943	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufac [x] Weld [ ] Bar [ ] Forg	lment Stock	] [	s: ] Casting ] Plate ] Other	Surface Condition: [ ] Machined [ ] Rough [x] Other AS WELDED					Test Being Run to:  [x] Router Instructions  [] Drawing  [] Test Plan  [] Technique Card  Heat Treat  [] Yes  [x] No			ed:
MTM Job Number: Resource ID: Part ID: Part Name: Serial Number:	Customer P.O.: S-04344-F Customer Unit/Plant:  Customer Inspection Plan: Test Step:						Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0						
-					MTM	I Spec N	umbei	:: N/A	E SECT	ection Criteria: TION V ARTICAL 6 PAR 6.29.1			
Inspection Magnification Used: Light Source Used:	8X												
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	: [] : [x] : [] : [] : []	Rej :	N/A   [x]	Prehea Proper Fill Shielding Welder Co		Femp: /Flux: Purge: WPS: Pass: Pass: Pass:	Acc   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]   []   [	Rej [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [] [] [] [] [] [] [x] [x]	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	[x] [] []	Rej [] [] [] [] []	N/A
100 % of all access	sible surfa	ices	[ ] Joi	nt Preps	Inspection R  [ ] Root I	Pass		[ ] Bad	ck Goug ′ 1-3	e [x] Cover Pass	[] Othe	ər	
Notes: PERFORMED THE VISUAL TASK. THERE WAS NO RE					SS ON THE II	NSED V	VELD	JOINT	OF ASS	SEMBLY 1-3 WELDER #683 P	ERFOR	.MED TI	HIS
This is to certify that the piec shown.	es specifi	ed have	been	inspected in	accordance	with the	spec	ification	ns	Walley Milley Lung	IL L MILLER 121701		

NDT003 User ID: LONAKER Date: 04/15/04  $n:\ \ mtmapps\ \ mtndtlpi.qrp$ Page: 5

Date: 02/07/2004



Page: 11 Date: 04/15/04 User ID: DURHAM

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

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

Drawing ID: SE121-001P Rev: 0			INSPECTION INS	TRUC	TIONS		RESULTS	INSPECTED BY			]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		<u>△</u> .268"		QA		4470	PANEL #1 +0.008 / +	522			A
							0.087 PANEL #3 +0.0				
		Profile Tolerance (+.188/080")					23 / +0.072				ĺ
(10)		(tack welded vessel)						02-07-0			
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability 1.01 Max.									
(20)		Record range (high / low)						02-07-0			

Page: 12 Date: 04/15/04 User ID: DURHAM

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			PURGE SETTINGS (4	712			A
							0 SHIELDING 20 PURG				
	!!!	CWI / TEAM LEADER		ļ			E)				
	!!	VERIFY SHIELDING GAS		ļ							
	!!	AND PURGE GAS COMPLIANCE		ļ					ļ	 	
(10)	!!!	PRIOR TO OPERATION START AND THROUGH COMPLETION						02-09-0	ļ		
(10)		AND THROUGH COMPLETION		0.4			062 DIA HEAT # AVO				-
*	CWI / TEAM LEADER			QA			.062 DIA HEAT # AV8 128	712	ļ i		A
	!!!	VERIFY WELD FILLER MATERIAL COMP					128		<u> </u> 	 	
	!!!	PRIOR TO OPERATION START							]	 	
(20)		AND THROUGH COMPLETION						02-09-0	ļ	! 	
*				QA			300 SERIES MATERIAL	712			$\mathbf{A}$
		CWI / TEAM LEADER					W/ SS- WOOL			 	
İ		VERIFY PURGE DAM MATERIAL COMPL									İ
		PRIOR TO OPERATION START		j					j		ĺ
(30)		AND THROUGH COMPLETION						02-09-0			
*				QA			WELDER #683	712			A
	!!	CWI / TEAM LEADER		ļ							
		VERIFY WELDER QUALIFICATIONS CO		ļ							
(40)	!!!	PRIOR TO OPERATION START						02 00 0		 	
(40)		AND THROUGH COMPLETION		0.1			A COUNTED DED 4/4 CD	02-09-0			١.
*				QA			ACCEPTED PER 1/16 D	[/12			A
		CWW (FFEA) (A FA PER		ļ			IA (BACK GRING PASS				
	!!!	CWI / TEAM LEADER					) WPS390				
	!!	VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START								 	
(50)	!!!	AND THROUGH COMPLETION		 				02-09-0	 	 	
(30)		AND THROUGH COMPLETION					1	02-03-0	ļ		⅃



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: 30

Date of Inspection:02/09/2004 Type					pe of Material:625 INCONEL					NDT#:7952		
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	s: ] Casting ] Plate ] Other	[ ] Machined [ ] Rough [x] Other AS-WELDED				Test Being Run to:  [X] Router Instructions  [] Drawing  [] Test Plan  [] Technique Card	[x]	at Treat   Yes   No	ed:			
MTM Job Number: Resource ID:	230-FABF SE121-00 PANEL 1-	O-Sub:43 RICATION 11P 1-3 -3 SUB-S	N - WE		Test l Quantity Inspe Quantity Acce Quantity Reje Run H	pted: ected:	1 1 0 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 629.1							
Inspection Magnification Used: Light Source Used:	8X											
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibn	:: [] :: [x] :: [] :: [x] :: [x]		\(\frac{\frac}{\frac}}}}}{\frac}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac	Prehea Proper Fill Shielding Welder Co	ess Inspection at/Interpass Temp: er Material/Flux: g Gas/Back Purge: nforming to WPS: Root Pass: Fill Pass: Cover Pass: aterpass Cleaning: Distortion of Part:	[x] [x] [x] [x] [] []	Rej [] [] [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [] [] [X] [X] [X] [X] [X]	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:	[x] [] []	Rej [] [] [] [] []	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]
100 % of all access	sible surfa	ces [	] Joir	nt Preps	Inspection Requir [ ] Root Pass BACK GRIND / RO		[x] Bac	k Goug	e [] Cover Pass	[] Othe	er	
Notes: PERFORMED THE INSPECT PERFORMENT THE WELL									SS 2ND SIDE. WELD OPERATO	OR #683	3	

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





Page: 13
Date: 04/15/04

User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		<u>△</u> .288"		QA		4470	PANEL #1 -0.022 / +	522			A
							0.033 PANEL #3 -0.0				
		Profile Tolerance (+.188/100")					27 / +0.041				
(10)		(tack welded vessel)						02-09-0			
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability 1.01 Max.									
(20)		Record range (high / low)						02-09-0			

Page: 14 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS (PURG	712			A
		CWI / TEAM LEADER					E 20 SHIELDING 40)				
		VERIFY SHIELDING GAS		]							
		AND PURGE GAS COMPLIANCE		ļ							
		PRIOR TO OPERATION START		ļ							
(10)		AND THROUGH COMPLETION						02-09-0			
*				QA			.093 DIA HEAT # CB7	712			A
	CWI / TEAM LEADER			]			996				
		VERIFY WELD FILLER MATERIAL COMP		ļ			[				
		PRIOR TO OPERATION START		ļ			[		ļ		
(20)		AND THROUGH COMPLETION						02-09-0			
*				QA			300 SERIES W/ SS -W	712			A
		CWI / TEAM LEADER		ļ			OOL		ļ		
		VERIFY PURGE DAM MATERIAL COMPL		ļ					ļ		
		PRIOR TO OPERATION START					ļ				
(30)		AND THROUGH COMPLETION						02-09-0			_
*				QA			WELDER #683	712			A
		CWI / TEAM LEADER		ļ					ļ		
		VERIFY WELDER QUALIFICATIONS CO		ļ			[		ļ		
		PRIOR TO OPERATION START									
(40)		AND THROUGH COMPLETION						02-09-0			1
*				QA			ACCEOT PER WPS 390	712			A
		CWI / TEAM LEADER		ļ			W/ 093 DIA WIRE		ļ		
		VERIFY PARAMETER COMPLIANCE		ļ							
		PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION						02-09-0			



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### **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P 1-3 - Item: 33

<b>Date of Inspection:</b> 0	Type of	Material:62	NI	NDT#:7959							
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	ss:  ] Casting ] Plate ] Other	Surface [ ] Mar [ ] Rou [x] Oth AS- WE	ıgh ıer	on:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	uctions [ ] Yes [x] No				
MTM Job Number: Resource ID: Part ID:	230-FABRICA SE121-001P 1 PANEL 1-3 SL	TION - W -3		Quantity Insp Quantity Acc Quantity Re	epted:	1 1 0 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 Magnification Used: Light Source Used:		1:									
Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning	Pre-Weld Inspection Acc Rej N/A In-Pro Base Material Certs: [] [] [x] Preh Filler Material Certs: [] [] [x] Proper Fi PQR/WPS: [x] [] [] Shieldin WPQ: [] [] [x] Welder Co Joint Preparation: [] [] [x] Fit-up: [x] [] [] Pre-Weld Cleaning: [] [] [x] Equip Condition/Calibr: [] [] [x]					Rej [] [] [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [] [x] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:	Acc [] [x] [] []	Rej [] [] [] [] []	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]
100 % of all access	sible surfaces	[ ] Jo	int Preps	Inspection Requi	5	[]Ba	ck Goug DE)	e [x] Cover Pass	[ ] Othe	∍r	
Notes: PERFORMED THE INSPEC W.P.S.390 NO REJECTABL								DR 683 PERFORMED THE WE 3 ASSEMBLY.	LDING	PER	
This is to certify that the niec	es specified h	wa haan	inspected in	accordance with	the sne	rification	ne				

shown.

**Inspector:** 712-W.MILLER Date: 02/09/2004



Page: 15 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		△ .308"		QA		4470	P #1 (W +0.006/-0.0	522			A
							49)( F +0.079/-0.00	İ	İ		ĺ
İ					İ		2)-P#3 (W +0.026/-0	İ	İ		ĺ
İ					j j		.047)(F +0.088/+0.0	İ	İ		ĺ
j		Profile Tolerance (+.188/120")			j j		02)	İ	j		ĺ
(10)		(tack welded vessel)						02-09-0			
*				QA		J-1165	LESS THAN 1.01	522			A
İ		Magnetic Permeability 1.01 Max.						İ			
(20)		Record range (high / low)						02-09-0			

64880 PF	PL NCS	( PVVS INS	PECTION REC	CORD			Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspection	n type: Fo	rmed Panel	Interpass (	#) <b>/</b>	After str	uct	ural welding	After w	elding Port	Final Ins	pection	
Part # / P	anel#: S	E121-001P	PANEL #1				70 / J-1009			Date of Ins		2/10/04
Point	Profile	Material	Magnetic	Surface	Inspecto	or	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials		Number	Deviation		Permeabili		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	(a)	$\vdash$	45	0.074	0.383	LESS THAN 1.01	N/A	<del>(***)</del>
3	0.024	0.378	LESS THAN 1.01	N/A	7		46	0.075	0.382	LESS THAN 1.01	N/A	<b>—</b>
4	0.014	0.379	LESS THAN 1.01	N/A	Π		47	0.073	0.381	LESS THAN 1.01	N/A	<del>  7</del>
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	<b>└</b>		57	0.051	0.382	LESS THAN 1.01	N/A	
15	0.016	0.381	LESS THAN 1.01	N/A	1		58	0.045	0.380	LESS THAN 1.01	N/A	
16	0.031	0.380	LESS THAN 1.01	N/A	$\vdash$		59	0.035	0.382	LESS THAN 1.01	N/A	
17	0.035	0.379	LESS THAN 1.01	N/A	<del>                                     </del>		60	0.059	0.381	LESS THAN 1.01	N/A	
18	0.028	0.380	LESS THAN 1.01	N/A	$\vdash$		61	0.076	0.383	LESS THAN 1.01	N/A	
19	0.017	0.381	LESS THAN 1.01	N/A	$\vdash$		62	0.063	0.384	LESS THAN 1.01	N/A	<del></del>
20 21	0.010	0.382	LESS THAN 1.01	N/A	<del>                                     </del>		63	0.031	0.384	LESS THAN 1.01	N/A	
22	0.006	0.383	LESS THAN 1.01	N/A N/A			64	0.016	0.383	LESS THAN 1.01	N/A	
23	0.005 0.003	0.381	LESS THAN 1.01	N/A N/A	1		65	0.081	0.380	LESS THAN 1.01	N/A	<del></del>
24	-0.002	0.381	LESS THAN 1.01 LESS THAN 1.01	N/A	<del>                                     </del>	_	66 67	0.073	0.382	LESS THAN 1.01	N/A	
25	-0.005	0.381	LESS THAN 1.01	N/A	<del>                                     </del>		68	0.067	0.384	LESS THAN 1.01	N/A	
26	-0.003	0.379	LESS THAN 1.01	N/A	<del> </del>		69	0.005	0.382 0.385	LESS THAN 1.01	N/A	<del></del>
27	-0.002	0.379	LESS THAN 1.01	N/A	<del>                                     </del>		70	0.062	0.385	LESS THAN 1.01	N/A N/A	+
28	-0.002	0.376	LESS THAN 1.01	N/A	<del>                                     </del>	_	71	0.067	0.382	LESS THAN 1.01	N/A	<del>-  </del>
29	-0.014	0.374	LESS THAN 1.01	N/A	<del>                                     </del>		72	0.104	0.381	LESS THAN 1.01 LESS THAN 1.01	N/A	<del></del>
30	-0.027	0.380	LESS THAN 1.01	N/A	<del>                                     </del>		73	0.104	0.384	LESS THAN 1.01	N/A	<del>-  </del> -
31	-0.036	0.382	LESS THAN 1.01	N/A	<del>                                     </del>		74	0.084	0.383	LESS THAN 1.01	N/A	
32	-0.039	0.383	LESS THAN 1.01	N/A	<del>                                     </del>		75	0.067	0.383	LESS THAN 1.01	N/A	<del>                                     </del>
33	-0.027	0.382	LESS THAN 1.01	N/A	<del>                                     </del>		76	0.082	0.383	LESS THAN 1.01		<del></del>
34	0.023	0.383	LESS THAN 1.01	N/A	<del>                                     </del>		77	0.069	0.382	LESS THAN 1.01	<del></del>	<del></del>
35	0.026	0.384	LESS THAN 1.01	N/A	<del>                                     </del>		78	0.059	0.381	LESS THAN 1.01		<del>                                     </del>
36	0.029	0.384	LESS THAN 1.01	N/A	<del>                                     </del>	-	79	0.034	0.379	LESS THAN 1.01		<del>                                     </del>
37	0.029	0.385	LESS THAN 1.01	N/A	<del>  -</del>		80	0.047	0.380	LESS THAN 1.01		<del>-                                     </del>
38	0.029	0.384	LESS THAN 1.01	N/A	<del>                                     </del>		81	0.094	0.382	LESS THAN 1.01		<del>     </del>
39	0.035	0.383	LESS THAN 1.01	N/A	<del>     </del>		82	0.050	0.385	LESS THAN 1.01		<del>-   -  </del>
40	0.048	0.385	LESS THAN 1.01	N/A			83	0.064	0.384	LESS THAN 1.01	N/A	<del>                                      </del>
41	0.056	0.385	LESS THAN 1.01	N/A	Y		84	0.049	0.384	LESS THAN 1.01	N/A	
42	0.063	0.384	LESS THAN 1.01	N/A	(42)	ì.	85	0.026	0.385	LESS THAN 1.01	N/A	
43	0.067	0.385	LESS THAN 1.01	N/A	(4)		86	0.081	0.381	LESS THAN 1.01		

			PECTION REC				on Drawing				Rev: 0B
Inspectio	n type: Foi	med Panel	Interpass (	k (	After struct	ural welding	After w	elding Port	Final Ins	pection	
		E121-001P I	PANEL #1	Gage/St	d S/N(s): 44	70 / J-1008	9-NDT / J-11	165	Date of Ins	pection: 0	2/10/04
	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic		Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili		Initials
87	0.044	0.384	LESS THAN 1.01	N/A	477	126		Ī		<u> </u>	<del></del>
88	0.007	0.383	LESS THAN 1.01	N/A		127			"		<del>                                     </del>
89	0.064	0.378	LESS THAN 1.01	N/A	Ā	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					- T-
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	(4),4	134	<u> </u>				
96						135	ļ				
97						136	<u> </u>				
98				<u> </u>	_	137					
99						138	<u> </u>				
100						139				ļ	<u> </u>
102			<u> </u>	<u> </u>		140	-	<del> </del>			
102						141	<u> </u>				
104						142	<u> </u>				
105			<u> </u>	-	<u> </u>	144	<u> </u>	<del> </del>			<del>                                     </del>
106				-		145	1	<del> </del>			<del></del>
107		<u> </u>		<del>                                     </del>		146	<del> </del>	<u> </u>		<del> </del>	<del>- </del>
108						147		-	_	-	<del></del>
109			· -			148	<del>                                     </del>	<del> </del>			<del></del>
110				-		149	<del> </del>	+	<del></del>		-
111			1			150		<del>                                     </del>	<u>†                                    </u>		<del></del>
112					Ì	151	<del>                                     </del>		<u> </u>	<del>                                     </del>	<del>                                     </del>
113	"					152		<u> </u>	·	<del> </del>	<del>                                     </del>
114		<u> </u>				153		<u> </u>	<del></del>		7
115						154			<del>                                     </del>	<b>1</b>	
116						155				<del></del>	
117						156				†	
118						157	-				1
119						158	1		Î		
120						159			" "		
121						160				<b>1</b>	1
122						161					T
123						162					1
124						163					
125						164					

			PECTION REC				on Drawing		SE121-001	P-1MTM	Rev: 0B
nspectio	n type: Fo	rmed Panel	Interpass (				After we		Final Ins		
art#/F	anei#: S	E121-001P	PANEL #3	Gage/St	d S/N(s): 44	470 / J-1009	-NDT / J-11	65	Date of Ins	pection: 0	2/10/04
oint	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
lumber	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	<b>Thickness</b>	Permeabili	tFinish	Initials
1	0.032	0.379	LESS THAN 1.01	N/A		44	-0.036	0.382	LESS THAN 1.01	N/A	(400)
2	0.031	0.378	LESS THAN 1.01	NA		45	-0.040	0.381	LESS THAN 1.01	NA	
3	0.030	0.380	LESS THAN 1.01	N/A		46	-0.039	0.380	LESS THAN 1.01	N/A	A
4	0.027	0.380	LESS THAN 1.01	N/A	T	47	-0.035	0.380	LE88 THAN 1.01	N/A	7
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	<u> </u>	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	1	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	1	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	$\top$
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	LL	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	Ţ	76	0.045	0.383	LESS THAN 1.01		
34	-0.004	0.380	LESS THAN 1.01			77	0.089	0.379	LESS THAN 1.01		
35	-0.004	0.380	LESS THAN 1.01	+		78	0.085	0.382	LESS THAN 1.01	N/A	
36	-0.003	0.381	LESS THAN 1.01	<del></del>		79	0.059	0.381	LESS THAN 1,01	N/A	
37	-0.002	0.382	LESS THAN 1.01			80	0.013	0.382	LESS THAN 1,01	N/A	
38	-0.004	0.380	LESS THAN 1.01			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	L	83	0.044	0.379	LESS THAN 1.01		
41	-0.018	0.381	LESS THAN 1.01		Y	84	0.075	0.383	LESS THAN 1.01	N/A	
42	-0.026	0.381	LESS THAN 1.01	1	40.	85	0.057	0.385	LESS THAN 1.01	N/A	(42)
43	-0.032	0.382	LESS THAN 1.01	N/A	<del>(45,44)</del>	86	0.018	0.386	LESS THAN 1.01	N/A	<del>  (3;•)</del>

			PECTION REC			Inspect	on Drawing	Number:	<b>SE</b> 121-001	P-1MTM	Rev: 0B
			Interpass (		After struc	tural weldin	After w				
		E121-001P					-NDT / J-1		Date of Ins		2/10/04
	Profile	Material	Magnetic		•	Point	Profile	Material	Magnetic		Inspector
			Permeability		Initials	Number	Deviation	Thickness	Permeabilit	Finish	Initials
87	0.039		LESS THAN 1.01	N/A	9704	126					
88	0.038		LESS THAN 1.01	N/A		127		<u> </u>			
89	-0.022		LESS THAN 1.01	N/A		128					
90	0.076		LESS THAN 1.01	N/A		129					
91	0.055		LESS THAN 1.01	N/A	<u> </u>	130	<u> </u>		ļ		
92	0.071		LESS THAN 1.01	N/A		131			_		
93	0.060		LESS THAN 1.01	N/A		132	ļ				
94	0.059	0.381	LESS THAN 1.01	N/A	<del>                                     </del>	133					
95	0.065	0.383	LESS THAN 1.01	N/A		134	<u> </u>				
96	0.031	0.382	LESS THAN 1.01	N/A	-	135	1		Ļ		<u> </u>
97	0.014	0.379	LESS THAN 1.01	N/A	100	136	<u> </u>	<u> </u>	<del> </del>		
98 99	0.000	0.381	LESS THAN 1.01	N/A	35	137	<del> </del>	<u> </u>			<del></del> '
100				<u> </u>		138					+
100		·	<u> </u>			139	<del>                                     </del>		<del> </del>		+
102		—— <u>—</u>				140 141	<del> </del>	<del> </del>			
103					<del>                                     </del>	142	<del> </del>	1	-		_
103		-		-	<del>                                     </del>	143	<del> </del>		<del> </del>		<del>-</del>
105						144	+		-		+
106					<del>                                     </del>	145	+			<u> </u>	
107		<u></u>	<del></del>			146				<u> </u>	<del></del>
108		<b>i</b>			<del>                                     </del>	147	<del>                                     </del>	1	· · · · · · · · · · · · · · · · · · ·		+
109						148	+	<u> </u>			+
110				<u> </u>		149	<u> </u>				1
111						150					-
112					†	151					
113						152		"	<del>                                     </del>		<del>                                     </del>
114			•			153			İ		<del>                                      </del>
115	<u></u>					154				Î	1
116						155					
117						156				<u> </u>	
118						157					
119						158					
120						159					
121						160					
122						161					
123						162					
124						163					
125						164					

Page: 16 Date: 04/15/04 User ID: DURHAM

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

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

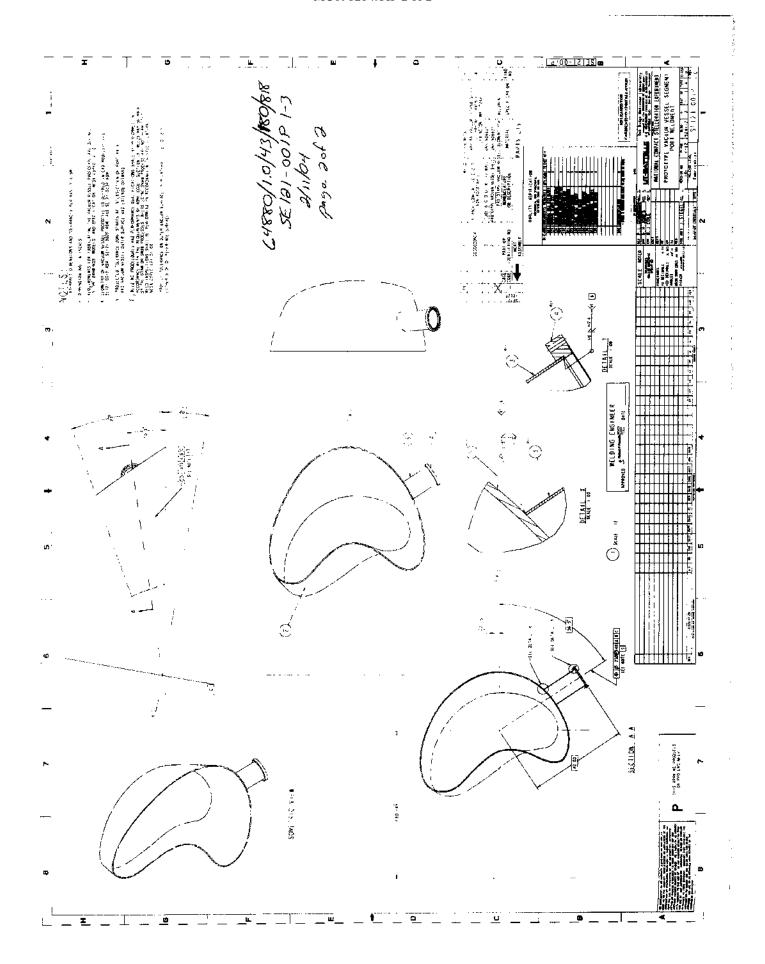
	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		△ .328"		QA		4470	PANEL #1 +0.140 / -	522			A
							0.039 PANEL #3 +0.1		ĺ		ĺ
İ		Profile Tolerance (+.188/120")			j j		17 / -0.040	İ			İ
(10)		(tack welded vessel)						02-11-0			╛
*				QA		J-1165	LESS THAN 1.01	522			A
İ	İ	Magnetic Permeability 1.01 Max.						j	j	İ	
(20)		Record range (high / low)						02-11-0			

					WIC090214.	111 1012	
MG	S			-	MQS W	0, <u># 37/-</u> Custome	DATE: 3/11/04  or: Major 7001 + Machine  1458 E. 1925 St.
	530 Indi Pho	7 We kanar xne: 3	- et 8611 20 <b>83, 1</b> 1	<b>ction</b> , h Street N 46268 2-8196 798	, Inc.	Job Loca	
SESSAL NO. or PIEC	E NO.: /	48	TO/	1.0/4	3/180/818		TECHNIQUE DATA
Weld No.	Tr.	ACC.	REJ.	CODE	REMARKS	,	Inspection Specification: ASME VIII dix 1 cm51
	0-/	V					Acceptance Standard: 15/16 VIII JW. 1 VW-51
	2-3	1	-	·	<del> </del>		RT Procedure No.:20.A.100
<del></del>	<del></del>	· V					RT Technique Used Below:
							A SOURCE PENE.
-							B
							© **SOURCE
							SOURCE E SOURCE
	<del>                                     </del>						SOURCE POSITIONED PENE, IN CENTER OF PIPE
<del></del>				<del>- -</del>			MATERIAL: 625 Inconel
							PIPE SIZE: MALL THICKNESS: .375"
	-						MET IN PROCESSION OF AREA OF AREA
	<del></del> -				-	···	SOURCE: ISOTOPE: 77.79 CIRCLE: 29 KVP/MA: 1/4 PHYSICAL SIZE: 154" EXPOSURE TIME: 1:25 SFD: 12" FILM/OBJECT INCHES: CONTACT
	+-			<u> </u>			PHYSICAL SIZE: ,/54"
	-				<del> </del>		FILM/OR FOT INCHES COOTACT
							GEOMETRIC LINSHARPNERS: \$,020"
							PENETRAMETER: TYPE SIZE: ASTM 18
	1						GEOMETRIC UNSHARPNESS: 200" PENETRAMETER: TYPE SIZE: ASTM 18 MATERIAL: PLACEMENT: 55 SHIMS: MATERIAL: MATE
	+				<u>                                     </u>		SHIMS: MATERIAL:
	+	<u>.</u>	-		<del></del>		MARKER/PK.18911!
							HLM: BRAND: Kodak TYPE: HA SIZE: 4.5" x 17" LOAD: 5704/2
							SIZE: 4.5 "X 17" LOAD: 5/2012.  EMULSION(S)#: N/A  SCREENS: FRONT: 200" BACKING: N/A
							SCREENS: FRONT: 200" BACK: 2008" BACKING: A/A
	+						VIEWING: SINGLE: DOUBLE:
<del></del>			$\dashv$		<u> </u>		DENSITY (PEN.)
· · ·	-		-	<u> </u>			DENSITY (WELD) MIN/MAX: 20-4.0

CODE P - Porcetty SI - Stag Inclusions
C - Crack BT - Burn Through
F - Incomplete Fusion MT - Melt Through
P - Incomplete Penetration
S - Surface

Ti - Tungsten Inclusion CV-- Roof Concavity CX - Roof Convexity OX-- Oxidation

1. Robert wear 201/5715
RADIOGRAPHER
1. Robert wear 15 for 15
NTERPRETER D. Policy 2/1/04



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

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

	D	Drawing ID: SE121-001P Rev: 0	INSPECTION IN	STRUC	TIONS		RESULTS	INS	SPECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	1
*		Verify Panel Joint Alignment Weld Seam # 2-5		MFG		J1149	CONTOUR FIT UP MAX .010	712	712		A
(10)		(.02" Max)		CWI				02-12-0	02-12-0		
*		Verify Panel / Rest Stop Position		MFG		J-1149	MAX GAP OF PANEL 2 .060	712			A
(20)		Panel #2 (009" Gap)						02-12-0			Ĺ
*		Verify Panel / Rest Stop Position		MFG		J-1149	MAX. GAP OF PANEL # 5 .062	712			A
(30)		Panel #5 (009" Gap)						02-12-0			
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START		QA			GAS SETTINGS ( 40 S HIELDING 20 PURGE)	712			A
(40)		AND THROUGH COMPLETION						02-12-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START		QA			.062 DIA HEAT # AV8 128	712			A
(50)		AND THROUGH COMPLETION						02-12-0			Ĺ
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		QA			300 SERIES SS W/ SS WOOL	712			A
(60)		AND THROUGH COMPLETION						02-12-0		 	
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START		QA			WELDER #683 PERFOR ED WELDING				A
(70)		AND THROUGH COMPLETION						02-12-0			4
*				QA			ACCEPT PER WPS 390	712			A



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	•				USCI ID.	DUMIN	141
	CWI / TEAM LEADER						
	VERIFY PARAMETER COMPLIANCE						
	PRIOR TO OPERATION START						
(80)	AND THROUGH COMPLETION			02-12-0			

64680 P	PPL NCS	X PVVS INS	PECTION REC	CORD			Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: Fo	xmed Panel	Interpass (	#78(X.)	After st	tructu	ural welding		elding Port			
		E121-001P						J-1165 / 44		Date of ins		2/12/04
Point	Profile	Material	Magnetic	Surface			Point		Material	Magnetic		Inspector
Number	Deviation	Thickness	Permeability	Finish	initials		Number	Deviation		Permeabili		Initials
1	0.017	0.386	LESS THAN 1.01	N/A	497	2	44	0.024	0.391	LESS THAN 1.01	N/A	
2	0.023	0.387	LESS THAN 1.01	N/A		フ	45	0.019	0.408	LESS THAN 1.01	N/A	(4)
3	0.028	0.386	LESS THAN 1.01	N/A	À		46	0.008	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	7
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	$oldsymbol{ol}oldsymbol{ol}oldsymbol{ol}oldsymbol{ol}}}}}}}}}}}}}}}}}}}$		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	<b>├</b>		53	0.066	0.386	LESS THAN 1.01	N/A	
11	0.072	0.387	LESS THAN 1.01	N/A	$\vdash$		54	0.053	0.384	LESS THAN 1.01	N/A	<b>Y</b>
12	0.067	0.387	LESS THAN 1.01	N/A	$\vdash$		55	0.031	0.385	LESS THAN 1.01	N/A	
13	0.059	0.387	LESS THAN 1.01	N/A	$\longmapsto$		56	0.055	0.389	LESS THAN 1.01	N/A	(26;
14 15	0.053	0.386	LESS THAN 1.01	N/A	<del>                                     </del>	∦	57					$\perp$
16	0.039	0.389	LESS THAN 1.01	N/A	$\vdash$		58	<b></b>				4
17	0.027	0.385 0.386	LESS THAN 1.01	N/A	$\vdash$	∦	59			<u> </u>	ļ	
18	0.017	0.385	LESS THAN 1.01	N/A N/A	<del>                                     </del>	∦	60 61	<del></del>	-			<b></b>
19	0.007	0.383	LESS THAN 1.01 LESS THAN 1.01	N/A N/A	┯╌╌	∦	62				<del>                                     </del>	1
20	0.007	0.385	LESS THAN 1.01	N/A	┼	∦	63				<u> </u>	+
21	0.000	0.386	LESS THAN 1.01	N/A	<del>                                     </del>	┉╢	64			<del></del>		+
22	-0.005	0.384	LESS THAN 1.01	N/A	<del>                                     </del>	┈╢	65	<u> </u>			···-	+
23	-0.006	0.384	LESS THAN 1.01	N/A	<del>                                     </del>	┈╢	66				<u> </u>	<del> </del>
24	-0.005	0.410	LESS THAN 1.01	N/A	<del>   </del>	┯╢	67					+
25	-0.003	0.407	LESS THAN 1.01	N/A	<del>                                     </del>		68					<del>                                     </del>
26	0.032	0.405	LESS THAN 1.01	N/A	<del>   </del>	┉╢	69					+
27	0.035	0.407	LESS THAN 1.01	N/A	<del>                                     </del>	┈	70					+
28	0.043	0.396	LESS THAN 1.01	N/A	<del>                                     </del>		71				<del>                                     </del>	<del>†                                      </del>
29	0.038	0.395	LESS THAN 1.01	N/A	1	1	72					+
30	0.019	0.394	LESS THAN 1.01	N/A	<u> </u>	<b>一悄</b>	73			Ť.	<u> </u>	†
31	0.016	0.396	LESS THAN 1.01	N/A			74	·-		1	T"	<del>                                     </del>
32	0.018	0.396	LESS THAN 1.01				75					
33	0.036	0.394	LESS THAN 1.01				76					T
34	0.058	0.391	LESS THAN 1.01				77					"
35	0.062	0.389	LESS THAN 1.01				78				<u></u>	T
36	0.060	0.389	LESS THAN 1.01	N/A			79				I	
37	0.059	0.388	LESS THAN 1.01				80					
38	0.056	0.387	LESS THAN 1.01			[	81					
39	0.052	0.386	LESS THAN 1.01	N/A	$\sqcup$		82					
40	0.046	0.385	LESS THAN 1.01	N/A	ļ <u>ļ</u>		83					
41	0.040	0.383	LESS THAN 1.01	N/A	<u> </u>		84					
42	0.037	0.397	LESS THAN 1.01		<b>-</b>	lacksquare	85			ļ		
43	0.031	0.398	LESS THAN 1,01	N/A	47		86					

54660) P1	PPL NC8)	( PVVS INS	PECTION REC	CORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: OB
nspectio	n type: Fo	rmed Panel	Interpass (	FTACK)	After struc	tural welding	After we	olding Port	Final Ins	pection	
art # / F	anel#: S	E121-001P				1009-NDT /			Date of ins	pection: 02	2/12/04
oint	Profile	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic		Inspector
Number	Deviation	Thickness	Permeability	Finish	initials	Number	Deviation	Thickness	Permeabili		Initials
1	0.039	0.430	LESS THAN 1.01	N/A	(470)	44	0.014	0.432	LESS THAN 1.01	N/A	(m)
2	0.029	0.431	LESS THAN 1.01	NA		45	0.016	0.433	LESS THAN 1.01	N/A	
3	0.027	0.428	LESS THAN 1.01	N/A	A	46	0.078	0.422	LESS THAN 1.01	N/A	
4	0.040	0.426	LESS THAN 1.01	N/A	7	47	0.073	0.419	LESS THAN 1.01	N/A	
5	0.043	0.424	LESS THAN 1.01	N/A	l	48	0.048	0.419	LESS THAN 1.01	N/A	T
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	1. 1.	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	T T
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	1 1
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	1
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	+ ( *; v )
20	0.025	0.423	LESS THAN 1.01	N/A		63					
21	0.033	0.424	LESS THAN 1.01	N/A		64			1	Î	
22	0.027	0.418	LESS THAN 1.01	N/A		65			1		
23	0.031	0.420	LESS THAN 1.01	N/A		66				Ì	
24	0.033	0.420	LESS THAN 1.01	N/A		67			1	1	
25	0.037	0.422	LESS THAN 1.01	N/A	1 1	68		1		1	1
26	0.041	0.423	LESS THAN 1.01	N/A		69	1	1			
27	0.044	0.422	LESS THAN 1.01	N/A	1 1	70	1	1	1		
28	0.051	0.424	LESS THAN 1.01			71			1	1	
29	0.054	0.423	LESS THAN 1.01			72			1	1	1
30	0.055	0.424	LESS THAN 1.01		<del>                                     </del>	73			1		
31	0.056	0.424	LESS THAN 1.01	<del></del>		74	· · · · · ·	<del>1</del> .	1		
32	0.059	0.421	LESS THAN 1.01		1 1 -	75		1		<del>                                     </del>	
33	0.061	0.422	LESS THAN 1.01		<del>                                     </del>	76			1		1
34	0.059	0.421	LESS THAN 1.01		<del>                                     </del>	77	Ī		1		1
35	0.058	0.422	LESS THAN 1.01	<del> </del>		78	1				1
36	0.064	0.422	LESS THAN 1.01		<del>                                     </del>	79					1
37	0.050	0.426	LESS THAN 1.01	+		80	î .				
38	0.058	0.433	LESS THAN 1.01	<del>1</del>		81	1				1
39	0.069	0.429	LESS THAN 1.01		<b>†</b>	82	†	<u> </u>		1	
40	0.043	0.422	LESS THAN 1.01		1 (	83	1				
41	0.029	0.422	LESS THAN 1.01		<del>  ♥</del>	84		1		1	1
42	0.057	0.417	LESS THAN 1.01	+		85	<b>†</b>	<u> </u>	1	1	1
43	0.022	0.429	LESS THAN 1.01		(40,0)	86	<del>1</del>	<del>                                     </del>	1	1	1



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		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	522			R
							6 P #5 -0.019 / +0.				
		Upper Half Of Bilateral Tolerance					095 [N/C:15054]				ĺ
(10)		(tack welded vessel)						02-12-0			
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability 1.01 Max.									
(20)		Record range (high / low)						02-12-0			

Page: 20 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS ( PURG	712			A
İ	İ	CWI / TEAM LEADER		j	j j		E 20 SHIELDING 40)	j	İ		
	[	VERIFY SHIELDING GAS									
ļ		AND PURGE GAS COMPLIANCE							ļ		
	!!	PRIOR TO OPERATION START							ļ		
(10)		AND THROUGH COMPLETION						02-12-0			_
*				QA			.062 DIA HEAT #AV81	712			A
	!	CWI / TEAM LEADER		ļ			28				
	!	VERIFY WELD FILLER MATERIAL COMP							ļ		
(20)	!!	PRIOR TO OPERATION START		 				02.12.0			
(20)		AND THROUGH COMPLETION						02-12-0			┨.
*				QA			300 SERIES SS W/ SS	712	ļ		A
	! !	CWI/TEAM LEADER		 			WOOL				
	!	VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		 							
(30)	!	AND THROUGH COMPLETION		<u> </u>				02-12-0	 		
*		AND THROUGH COMI LETION		QA			WELDER 683	712			-
		CWI / TEAM LEADER		QA			WELDER 083	112			A
	! !	VERIFY WELDER QUALIFICATIONS CO		<u> </u> 					 		
		PRIOR TO OPERATION START		 							
(40)	!	AND THROUGH COMPLETION		! 				02-12-0	! 		
*				QA			ACCEPT PER WPS 390				$\mathbf{A}$
		CWI / TEAM LEADER		Q/1			WITH .062 FILLER	12			1.1
}		VERIFY PARAMETER COMPLIANCE		! 			WIIII .002 I ILLLIK				
1	!	PRIOR TO OPERATION START									
(50)	!!	AND THROUGH COMPLETION						02-12-0			



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**Inspector:** 712-W.MILLER

# **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 45

<b>Date of Inspection:</b> 0	2/12/20	004		Type of	Material:62	5 INC	ONEL	-	N	)T#:7	982	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	j	ss:  ] Casting ] Plate ] Other	Surface [ ] Mac [ ] Rou [x] Oth	chined gh er	on:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	[	at Treat   Yes   No	ted:		
MTM Job Number: Resource ID:	230-FAB SE121-0 PANEL 2	0 -Sub RICAT 01P 2- 2-5 SUI	ION - W 5		Quantity Insp Quantity Acc Quantity Re	epted:	: 1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MTM Spe	Numbe	er: N/A	/JE SEC	ection Criteria: FION V ARTICAL 6 SECTION 6.29.1			
Inspectio Magnification Used: Light Source Used:	8X		:									
Filler Material Cert: PQR/WP WP( Joint Preparation Fit-uj Pre-Weld Cleaning	Pre-Weld Inspection     Acc     Rej     N/A     In-Pre-Pre-Pre-Pre-Pre-Pre-Pre-Pre-Pre-Pre							N/A   [ ]   [ x ]   [ ]   [ ]   [ x	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Parts	[x] [] []	Rej [] [] [] []	N/A
100 % of all acces	sible surfa	aces	[ ] Jo	int Preps	Inspection Requi	<b>;</b>	[]Ba	ck Gouç	ge [] Cover Pass	[ ] Othe	er	
Notes: PERFORMED THE INSPECTA				ROOT PASS	ON ASSEMBLY	2-5 PAN			DR 683 PERFORMED THE WE	LDING	TO WP	"S 390.

NDT003 User ID: LONAKER Date: 04/15/04  $n:\ \ mtmapps\ \ mtndtlpi.qrp$ Page: 8

Date: 02/12/2004

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	-	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		<u>.208"</u>		QA		4470	P #2 +0.005 / +0.05	522			A
ĺ					İ		4 P #5 -0.018 / +0.		ĺ		
İ		Profile Tolerance (+.188 /020")			İ		039				ĺ
(10)		(tack welded vessel)						02-12-0			
*				QA		J-1165	LESS THAN 1.01	522			A
ĺ		Magnetic Permeability 1.01 Max.		ĺ	İ				İ		ĺ
(20)		Record range (high / low)						02-12-0			

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

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

	D	Drawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS (PURG	712			A
	İ	CWI / TEAM LEADER		ĺ	j j		E 20 SHIELDING 40)				İ
		VERIFY SHIELDING GAS		ĺ							ĺ
		AND PURGE GAS COMPLIANCE		]							
		PRIOR TO OPERATION START		ļ							
(10)		AND THROUGH COMPLETION						02-12-0			
*				QA			.062 DIA HEAT #A	712			A
		CWI / TEAM LEADER					V8128				
		VERIFY WELD FILLER MATERIAL COMP									
		PRIOR TO OPERATION START		ļ							
(20)		AND THROUGH COMPLETION						02-12-0			
*				QA			300 SERIES MATERIAL	712			A
		CWI / TEAM LEADER		]			W/ SS WOOL				
		VERIFY PURGE DAM MATERIAL COMPL		ļ							
	ļ	PRIOR TO OPERATION START		ļ	!!!						ļ
(30)		AND THROUGH COMPLETION						02-12-0			1
*				QA			WELDER #683	712			A
		CWI / TEAM LEADER		ļ							
		VERIFY WELDER QUALIFICATIONS CO		ļ	!!!						
		PRIOR TO OPERATION START		ļ	!!!						
(40)		AND THROUGH COMPLETION						02-12-0			-
*				QA			ACCEPTED PER WPS 3	712			A
		CWI / TEAM LEADER		ļ			0 W/ .093 FILLER				
		VERIFY PARAMETER COMPLIANCE		ļ	!!!						
		PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION						02-12-0			



#### Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 3 Date: 04/15/04 User ID: DURHAM

# 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

-			
Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
41	10		Inspection Data Checklist: 8 steps
41	20		Map(s): SE121-001P-1MTM - mc096252.tif
41	20		Inspection Data Checklist: 2 steps
41	30		Inspection Data Checklist: 5 steps
41	30		Nondestructive Visual Test Certification #8019 - MTM WELD INSPECTION FORM
41	50		Inspection Data Checklist: 5 steps
41	50		Nondestructive Visual Test Certification #8020 - MTM WELD INSPECTION FORM
41	70		Inspection Data Checklist: 5 steps
41	70		Nondestructive Visual Test Certification #8021 - MTM WELD INSPECTION FORM
41	90		Inspection Data Checklist: 5 steps
41	90		Nondestructive Visual Test Certification #8031 - MTM WELD INSPECTION FORM
41	140		Inspection Data Checklist: 2 steps
41	150		Inspection Data Checklist: 5 steps
41	150		Nondestructive Visual Test Certification #8032 - MTM WELD INSPECTION FORM
41	155		Inspection Data Checklist: 5 steps
41	155		Nondestructive Visual Test Certification #8036 - MTM WELD INSPECTION FORM
41	160		Inspection Data Checklist: 2 steps
41	175		Map(s): SE121-001P-1MTM - MC096325.TIF
41	175		Map(s): SE121-001P-1MTM - MC096328.TIF
41	175		Map(s): SE121-001P-1MTM - MC096326.TIF
41	175		Inspection Data Checklist: 2 steps
41	180		Test Certification: RADIOGRAPHIC CERTIFICATE - mc096769.tif
41	180		Map(s): SE121-001P-1MTM - Same as Item #86
	41 41 41 41 41 41 41 41 41 41 41 41 41 4	41 10 41 20 41 20 41 30 41 30 41 50 41 50 41 70 41 70 41 90 41 140 41 150 41 155 41 155 41 175 41 175 41 175 41 175 41 175 41 175	41 10 41 20 41 20 41 30 41 30 41 50 41 50 41 70 41 70 41 90 41 140 41 150 41 150 41 155 41 155 41 175 41 175 41 175 41 175 41 175 41 180



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# **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P 2-5 - Item: 48

<b>Date of Inspection:</b> 0	Type of	Material	l:625 l	NCC	NEL		NDT#:7985						
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufa [x] Wel [ ] Bar [ ] For	] [	s: ] Casting ] Plate ] Other	Surface Condition:  [ ] Machined [ ] Rough [x] Other AS-WELDED					Test Being Run to:  [x] Router Instructions  [] Drawing  [] Test Plan  [] Technique Card			ted:	
Part I MTM Job Number: Resource ID: Part ID: Part Name: Serial Number: Customer P.O.: Customer Unit/Plant:	230-FAB SE121-0 PANEL 2	0 -Sub: RICATI 01P 2-9 2-5 SUE	ON - W 5		Quantit Quantit	Test Re y Inspect ty Accept ty Reject Run Hou	ed: ed: ed:	1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MTM	M Spec N	umber	: N/A	E SECT	ection Criteria: ION V ARTICAL 6 ECTION 6.29.1			
Inspection Magnification Used: Light Source Used:	8X												
Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning	Pre-Weld Inspection         Acc         Rej         N/A         In-Proper Filler Material Certs:           Filler Material Certs:         []         []         [x]         Proper Filler Material Certs:           PQR/WPS:         [x]         []         [x]         Proper Filler Material Certs:           PQR/WPS:         [x]         []         [x]         Shielding Welder Certs:           WPQ:         []         []         [x]         Welder Certs:         Welder Certs:           Joint Preparation:         []         []         [x]         Pre-Welder Certs:         []         []         [x]           Pre-Weld Cleaning:         [x]         []         []         [x]         []           Equip Condition/Calibr:         []         []         [x]         []         [x]							Rej [] [] [] [] [] [] [] [] [] []	N/A [] [] [] [] [] [] [] [] [] [] [] [] []	Post-Weld Inspection  Welds Properly Complet  Weld Surfac  Weld Dimensio  Weld Contou  Post-Weld Cleani  Distortion of Pa	es: [x] ns: [] rs: [] ng: []	[]	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]
100 % of all acces	sible surfa	aces	[ ] Joi	int Preps	Inspection I  [ ] Root  #1 FILL PAS	t Pass			ck Gouge	e [] Cover Pass	[x] C	ther	
Notes: PERFORMED THE INSPEC THIS PASS. THERE WAS N				_	_				SEMBLY	. WELDER #683 PERFORM	1ED WE	LDING C	)F
This is to certify that the piec shown.	es specif	ied hav	e been	inspected in	accordance	e with the	speci	fication	ıs	Washe Mister &	AWS QC 1 WALTER L MILLER 97/2/1701	<u> </u>	

**Inspector:** 712-W.MILLER Date: 02/12/2004





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

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

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

Page: 24 Date: 04/15/04 User ID: DURHAM

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

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

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



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shown.

### Nondestructive Test Certification for Visual Inspection

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

<b>Date of Inspection:</b> 0	2/13/2004		Type of	Material:625	NI	)T#: <b>7</b>	996				
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacturi [x] Weldmer [ ] Bar Stoo [ ] Forging	ss:  Casting Plate Other	Surface C [ ] Mach [ ] Roug [x] Othe AS-WELL	nined Jh r	:	Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card		t Treat Yes No	ed:		
MTM Job Number: Resource ID: Part ID:	230-FABRICA SE121-001P PANEL 2-5 S	TION - W 2-5		Test F Quantity Inspe Quantity Acce Quantity Reje Run He	pted: cted:	1 1 0			·		
Customer Inspection Plan: Test Step: Revision: Material Test Number:				MTM Spec	Number	: ASME S : N/A	SEĈTI	ction Criteria: ON V ARTICAL 6 ECTION 6.29.1			
Inspection Magnification Used: Light Source Used:		d:									
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	Preheder Fill Shielding Welder Co	cess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS:	[x] [x] [x] [x] [] [x]		/A   -	Post-Weld Inspection  Welds Properly Completed:	Acc [] [x] [] [] []	Rej [] [] [] [] []	N/A		
100 % of all acces	sible surfaces	[ ] Jo	int Preps	Inspection Require [ ] Root Pass 2ND FILL PASS	[	] Back (	Gouge	[ ] Cover Pass [	x] Othe	:r	
Notes: PERFORMED THE VISUAL INSPECTION THERE WAS					WELDEF	R #683 PE	ERFO	RMED THE WELDING TO WE	°S390. U	JPON	
This is to certify that the nied	es specified b	ave heen	inspected in	accordance with the	he snecil	ications					

Inspector: 712-W.MILLER Date: 02/13/2004



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Date: 04/15/04 **User ID: DURHAM** 

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

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

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

Page: 26 Date: 04/15/04 User ID: DURHAM

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

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

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



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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:0							INCC	DNEL	-		ND'	Г#:7	997	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	] Incoming Inspection						Rough						t Treat Yes No	ed:
MTM Job Number: Resource ID:	64880/1.0 230-FAB SE121-0 PANEL 2	0 -Sub RICAT 001P 2- 2-5 SUE	ION - W 5		Quanti	Test Roty Inspectity Accepity Rejec	ted: ted: ted:	1 1 0						
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MT	M Spec N	lumbe	r: N/A	1E SECT	ection Criteria: FION V ARTICAL 6 SECTION 29.1.6				
Inspectio Magnification Used: Light Source Used:	:													
Base Material Certs:         [ ]         [ ]         [ x]         Prel           Filler Material Certs:         [ ]         [ ]         [ x]         Proper F           PQR/WPS:         [ ]         [ ]         [ x]         Shieldi					Fil	s Temp: nl/Flux: Purge: o WPS: ot Pass: ll Pass: ear Pass:	[x] [x] [x] [i] [i] [i] [i] [i] [i] [i]	Rej [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [x] [x] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Comple Weld Surfa Weld Dimensi Weld Conto Post-Weld Clean Distortion of F	ted: ces: ons: urs: ing:	Acc [] [x] [] [] []	Rej [] [] [] [] []	N/A [x] [x] [x] [x] [x]
% of all acces	sible surfa	aces	[ ] Joi	int Preps COVER	Inspection [ ] Roo PASS INSI	ot Pass		[]Ba	ck Goug 7 2-5	e [x] Cover Pass	[ ]	] Othe	r	
Notes: PERFROMED THE VISUAL THERE WAS NO REJECTA								2-5) W	ELD OP	ERATOR 683 PERFORME	D THI	S CO\	/ER P/	 ASS.
This is to certify that the piece	es specif	fied hav	ve been	inspected in	accordance	e with the	e spec	ification	ns	ULII. Millel	AME OC 1	antes and a		

**Inspector:** 712-W.MILLER Date: 02/13/2004





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User ID: DURHAM

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

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

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

Page: 28 Date: 04/15/04 User ID: DURHAM

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

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

	D	Drawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS ( PURG	712			A
	İ	CWI / TEAM LEADER			j j		E 20 SHIELDING 40)	j		ĺ	Ì
		VERIFY SHIELDING GAS									
		AND PURGE GAS COMPLIANCE									
		PRIOR TO OPERATION START									
(10)		AND THROUGH COMPLETION						02-13-0			
*				QA			.062 FILLER HEAT #	712			A
		CWI / TEAM LEADER					AV8128				
		VERIFY WELD FILLER MATERIAL COMP									
		PRIOR TO OPERATION START									
(20)		AND THROUGH COMPLETION						02-13-0			
*				QA			300 SERIES SS W/ SS	712			A
		CWI / TEAM LEADER					WOOL				
		VERIFY PURGE DAM MATERIAL COMPL						ļ			
	ļ	PRIOR TO OPERATION START								ļ	
(30)		AND THROUGH COMPLETION						02-13-0			
*				QA			WELDER 683	712			A
		CWI / TEAM LEADER									
		VERIFY WELDER QUALIFICATIONS CO									
		PRIOR TO OPERATION START									
(40)		AND THROUGH COMPLETION						02-13-0			
*				QA			ACCEPT PER WPS 390	712			A
	ļ	CWI / TEAM LEADER					W/ .062 WIRE			ļ	
		VERIFY PARAMETER COMPLIANCE									
/ <b>=</b> 0:		PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION						02-13-0			1



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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 o	f Material:625 INCONEL	NDT#:8007							
Stage of Inspection:  [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection    Manufacturing Process: [x] Weldment [ ] Casting [ ] Bar Stock [ ] Plate [ ] Forging [ ] Other	Surface Condition:  [ ] Machined [ ] Rough [x] Other AS-WELDED	Test Being Run to:  [x] Router Instructions  [] Drawing  [] Test Plan  [] Technique Card							
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								
Customer Inspection Plan: Test Step: Revision: Material Test Number:	Insp Customer Specification: ASME SECT MTM Spec Number: N/A Acceptance Standard: AWSD1.6 Sl								
Inspection Methods Used: Magnification Used: 8X Light Source Used: FLASHLIGHT									
Base Material Certs:	Acc   Rej   N/A	Post-Weld InspectionAccRejN/AWelds Properly Completed:[][][x]Weld Surfaces:[x][][]Weld Dimensions:[][][x]Weld Contours:[][][x]Post-Weld Cleaning:[][][x]Distortion of Part:[][][x]							
Inspection Requirements:  100 % of all accessible surfaces [ ] Joint Preps [ ] Root Pass [x] Back Gouge [ ] Cover Pass [ ] Other ROOT PASS OUTSIDE									
Notes: PERFORMED THE INSPECTION ON THE BACK GOUGE PRICE WELDER # 683 PERFORMED THE WELDING TO WPS 390. T									

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





Page: 29 Date: 04/15/04

**User ID: DURHAM** 

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	F	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		(g  ,288")		QA		4470	P #2 +0.008 / +0.07	522			A
							8 P #5 +0.003 / +0.				
		Profile Tolerance (+.188/100")					067		ĺ		ĺ
(10)		(tack welded vessel)						02-13-0			
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability 1.01 Max.							j		
(20)		Record range (high / low)						02-13-0			

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			GAS SETTINGS (PUR	712			A
		CWI / TEAM LEADER		j			GE 20 SHIELDING 40)				ĺ
	!	VERIFY SHIELDING GAS		ļ							
	!	AND PURGE GAS COMPLIANCE		ļ							
(10)	!!	PRIOR TO OPERATION START		ļ				02.12.0			
(10)		AND THROUGH COMPLETION						02-13-0			┨.
*				QA			.093 DIA HEAT #CB79	712			A
	!	CWI / TEAM LEADER		ļ			96				
	!	VERIFY WELD FILLER MATERIAL COMP									
(20)	!!	PRIOR TO OPERATION START AND THROUGH COMPLETION		}				02-13-0			
(20)		AND THROUGH COMPLETION		0.4			200 GEDIEG GG W/ GG	712			-
"	] 	CWI / TEAM LEADED		QA			300 SERIES SS W/ SS WOOL	/12	<u> </u> 		A
	!!	CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL		<u> </u> 			WOOL				
	!	PRIOR TO OPERATION START									
(30)	!	AND THROUGH COMPLETION						02-13-0			
*				QA			WELDER 683 PERFOR				$\mathbf{A}$
	! 	CWI / TEAM LEADER					D WELDING				
	!!	VERIFY WELDER QUALIFICATIONS CO			i i						
İ	: :	PRIOR TO OPERATION START		ĺ	i i						ĺ
(40)		AND THROUGH COMPLETION		ĺ	İ			02-13-0			ĺ
*				QA			ACCEPT PER WPS 390	712			A
İ	İ	CWI / TEAM LEADER		ĺ	i i		WITH .093 DIA WIRE				ĺ
		VERIFY PARAMETER COMPLIANCE									
	!!	PRIOR TO OPERATION START		ļ							
(50)		AND THROUGH COMPLETION						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

<b>Date of Inspection:</b> 0	2/13/2004		Type of	Material:625	NDT#:8010						
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	] Incoming Inspection [In-Process Inspection							Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card		t Treat Yes No	ed:
MTM Job Number: Resource ID: Part ID:	64880/1.0 -Sul 230-FABRICA SE121-001P 2 PANEL 2-5 SL	ΓΙΟΝ - W -5		Test R Quantity Inspec Quantity Accep Quantity Rejec Run Ho	eted: oted: eted:	1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:				Customer Specil MTM Spec N Acceptance St	Numbe	r: N/A	1E SECT	ection Criteria: TON V ARTICAL 6 ON 6.29.1			
Inspection Magnification Used: Light Source Used:		<b>l</b> :									
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	Prehed Proper Fill Shielding Welder Co	cess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS:	Acc   [x]   [x]   [x]   []   [x]   []   []	Rej [] [] [] [] [] [] [] [] [] []	N/A [] [] [] [x] [x] [x] [x] [x]	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc [] [x] [] [] []	Rej [] [] [] [] []	N/A [x] [x] [x] [x] [x] [x]		
Inspection Requirements:  % of all accessible surfaces [ ] Joint Preps [ ] Root Pass [ ] Back Gouge [x] Cover Pass [ ] Other COVER PASS OUTSIDE WELD											
Notes: PERFORMED THE INSPEC POINT.	TION OF THE	COVER	WELD ON T	HE OUTSIDE OF A	SSEMI	BLY 2-5	5 THERE	E WAS NO INDICATION FOUN	D AT IN	SPEC1	TON
This is to certify that the piec shown.  Inspector:	es specified ha		inspected in	accordance with th				Wally Milly Long	L MILLER 21701		

NDT003 User ID: LONAKER Date: 04/15/04  $n:\ \ mtmapps\ \ mtndtlpi.qrp$ Page: 13



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

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

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

64880 PI	PPL NCSX	PVVS INSI	PECTION REC	ORD	····	Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: For	med Panel	Interpass (#	<del>*)                                 </del>	After struct	ural welding	) After w	elding Port	Final Ins	pection	
Part # / F	anel#: SE	E121-001P I	PANEL #2			70 / J-1165			Date of Ins		2/14/04
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic		Inspector
Number	Deviation	Thickness	Permeability		Initials	Number	Deviation	Thickness	_		Initials
1	0.018	0.390	LESS THAN 1.01	N/A		44	0.034	0.3.83	LESS THAN 1.01	N/A	(47)
2	0.024	0.387	LESS THAN 1.01	N/A	(26,74)	45	0.035	0.385	LESS THAN 1.01	N/A	
3	0.030	0.387	LESS THAN 1.01	N/A	)4	46	0.034	0.387	LESS THAN 1.01	N/A	Ā
4	0.038	0.387	LESS THAN 1.01	N/A	$\Gamma$	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		T.
12	0.090	0.387	LESS THAN 1.01	N/A		55	0.026	0.379	LESS THAN 1.01	N/A	(32)
13	0.084	0.387	LESS THAN 1.01	N/A		56	0.043	0.380	LESS THAN 1.01	N/A	(8)
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	L	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	<u> </u>	65					
23	0.009	0.385	LESS THAN 1.01	N/A		66	ļ		<u></u>		
24	0.007	0.385	LESS THAN 1.01	N/A		67	ļ		<u> </u>		
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	<b></b>	70	ļ				
28	0.027	0.406	LESS THAN 1.01	N/A		71					
29	0.016	0.402	LESS THAN 1.01	N/A	<u> </u>	72					
30	0.005	0.397	LESS THAN 1.01	N/A	igwdow	73					
31	0.013	0.395	LESS THAN 1.01	N/A	<b></b>	74					
32	0.024	0.394	LESS THAN 1.01	N/A	oxdot	75	ļ				
33	0.057	0.395	LESS THAN 1.01			76	<b></b>				ļ.,
34	0.070	0.398	LESS THAN 1.01		$\vdash$	77			ļ		
35	0.066	0.395	LESS THAN 1.01	N/A	<del>                                     </del>	78	<u> </u>	ļ	ļ <u>.</u>		
36	0.065	0.391	LESS THAN 1.01		<b></b>	79				<u> </u>	
37	0.063	0.390	LESS THAN 1.01		<del></del>	80				ļ	
38	0.058	0.390	LESS THAN 1.01		<del>                                     </del>	81	<del>                                     </del>				
39	0.051	0.389	LESS THAN 1.01			82					
40	0.041	0.385	LESS THAN 1.01			83	ļ			<u> </u>	<del> </del> _
41	0.040	0.387	LESS THAN 1.01	N/A		84				<b>L</b>	
42	0.040	0.385	LESS THAN 1.01			85		<b>.</b>		ļ	
43	0.033	0.384	LESS THAN 1.01	N/A	(4)	86	<u> </u>	<u> </u>		<u> </u>	

64880 P	PPL NCS	( PVVS INS	PECTION REC	ORD		Inspecti	on Drawing	Number:	SE121-001	P-1MTM I	Rev: 0B
Inspectio	n type: Fo	rmed Panel	Interpass (	¥ ) (	After struct	ural welding	After w	elding Port	Final Ins		
		E121-001P		Gage/St	d S/N(s): 44	70 / J-1165	/ J-1009-N	DT	Date of Ins		2/14/04
Point	Profile	Material	Magnetic			Point	Profile	Material	Magnetic		Inspector
Number	Deviation	Thickness	_	Finish	Initials	Number		Thickness			Initials
1	0.034	0.428	LESS THAN 1.01	N/A		44	0.012	0.431	LESS THAN 1.01	N/A	(50)
2	0.022	0.430	LESS THAN 1.01	N/A	(45,77)	45	0.032	0.420	LESS THAN 1.01	N/A	(4,7)
3	0.031	0.426	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	† <i>†</i>
5	0.040	0.423	LESS THAN 1.01	N/A		48	0.054	0.420	LESS THAN 1.01	N/A	1 1
6	0.027	0.423	LESS THAN 1.01	N/A	<u> </u>	49	0.010	0.426	LESS THAN 1.01	N/A	1
7	0.009	0.424	LESS THAN 1.01	N/A	<u> </u>	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	
9	-0.010	0.423	LESS THAN 1.01	N/A		52	0.072	0.408	LESS THAN 1.01	N/A	L
10	-0.014	0.425	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	
12	-0.021	0.428	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	<u> </u>	56	0.015	0.422	LESS THAN 1.01	N/A	1
14	-0.017	0.424	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	
16	-0.009	0.426	LESS THAN 1.01	N/A		59	0.092	0.407	LESS THAN 1.01		
17	0.002	0.422	LESS THAN 1.01	N/A		60	0.060	0.414	LESS THAN 1.01	N/A	<u> </u>
18	0.017	0.423	LESS THAN 1.01	N/A	L	61	0.082	0.420	LESS THAN 1.01	N/A	( Agg )
19	0.028	0.425	LESS THAN 1.01	N/A		62	0.069	0.422	LESS THAN 1.01	N/A	(49,7
20	0.041	0.424	LESS THAN 1.01	N/A	<b>.</b>	63					
21	0.057	0.422	LESS THAN 1.01	N/A	ļ <u>ļ</u>	64					
22	0.021	0.421	LESS THAN 1.01	N/A	<del>                                     </del>	65					
23 24	0.022	0.420	LESS THAN 1.01	N/A		66					ļ <u></u>
25	0.023	0.423	LESS THAN 1.01	N/A		67		ļ			
	0.025	0.424	LESS THAN 1.01	N/A	<b>-</b>	68					
26	0.027	0.424	LESS THAN 1.01	N/A	ļ <u>.</u>	69					
27 28	0.028 0.033	0.420	LESS THAN 1.01	N/A		70		<u> </u>		ļ	
29	0.036	0.422	LESS THAN 1.01	N/A	<del>                                     </del>	71	<u> </u>		ļ		<u> </u>
30	0.039	0.426 0.424	LESS THAN 1.01	N/A	<del>                                     </del>	72	ļ	<u> </u>			<del> </del>
31	0.039	0.424	LESS THAN 1.01	N/A N/A		73 74			<del> </del>		<del> </del>
32	0.042	0.422	LESS THAN 1.01 LESS THAN 1.01	N/A N/A	<del>   </del>	75	<u> </u>	<u> </u>	<del> </del>		<del> </del>
33	0.041	0.420	LESS THAN 1.01			75 76		ļ	<del> </del>	<del>                                     </del>	
34	0.040	0.420		N/A N/A	<del>                                     </del>	77	<del>                                     </del>			-	<del> </del> -
35	0.037	0.422	LESS THAN 1.01		<del>                                     </del>			<u>.</u>		<b></b>	<del>                                     </del>
36	0.082	0.427	LESS THAN 1.01	N/A N/A		78 79					<del> </del>
37	0.066	0.434	LESS THAN 1.01	N/A	<del>                                     </del>	80	<del> </del>				<del> </del>
38	0.087	0.428	LESS THAN 1.01	N/A		81					+
39	0.089	0.422	LESS THAN 1.01	N/A		82		<del></del>	<del> </del>		<u> </u>
40	0.052	0.420	LESS THAN 1.01	N/A		83	<del> </del>	<del>                                     </del>	<del></del>		<del> </del>
41	0.028	0.421	LESS THAN 1.01	N/A		84	<u> </u>			<del> </del>	<del> </del>
42	0.074	0.426	LESS THAN 1.01	N/A	(10)	85				<del>                                     </del>	<del> </del>
43	0.042	0.430	LESS THAN 1.01	N/A	<del>(37)</del>	86				ļ	+
	V.V.12	9,700		. 11/1			<u> </u>		<u> </u>		



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Date: 04/15/04 User ID: DURHAM

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

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

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

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INST	RUC	TIONS	]	RESULTS	INS	PECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		Verify Panel Joint Alignment Weld Seam # 4-5	]	MFG			ACCEPT	712	712		A
(10)		(.02" Max)		CWI				02-16-0	02-16-0		İ
*		Verify Panel / Rest Stop Position	]	MFG			.020	712			A
(20)		Panel #4 (009" Gap)						02-16-0			Ĺ
*		Verify Panel / Rest Stop Position		MFG			.080	712			A
(30)		Panel Sub-Set #2-5 (009" Gap)						02-16-0			
*				QA			GAS SETTINGS (PUR GE 20 SHHIELDING 40	712			A
(40)		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION						02-16-0			
* (50)		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			.093 DIA HEAT #CB7 996	712			A
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		QA			300 SERIES MATERIAL W/ SS WOOL	712			A
(60)		AND THROUGH COMPLETION		0.4			WELDED #602	02-16-0			┥.
(70)		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			WELDER #683	712			<b>A</b>



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

•			PECTION REC					on Drawing		SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: Fo	rmed Panel	Interpass (#	FTACK)	After str	uct	tural welding	After we	Iding Port	Final Ins	pection	
Part # / P	anel#: S	E121-001P I	PANEL #4	Gage/St	d S/N(s)	: 44	170 / J-770-i	NDT / J-116	5	Date of Ins	pection: 02	2/14/04
Point	Profile	Material	Magnetic	Surface				Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials		Number	Deviation	Thickness	Permeabili	tFinish	Initials
1	0.013	0.399	LESS THAN 1.01	N/A	(47)	$\mathbf{Z}$	44				Ī	
2	0.031	0.398	LESS THAN 1.01	N/A	9	丆	45					1
3	0.045	0.396	LESS THAN 1.01	N/A	4		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	<u> </u>		50					
8	0.049	0.398	LESS THAN 1.01	N/A	<u> </u>		51					
9	0.045	0.394	LESS THAN 1.01	N/A			52					
10	0.038	0.393	LESS THAN 1.01	N/A	$\vdash \vdash$		53					
11	0.034	0.393	LESS THAN 1.01	N/A	$\longmapsto$		54				ļ	
12	0.028	0.393	LESS THAN 1.01	N/A	<u> </u>		55		ļ	ļ	<u>]</u>	<u>.</u>
13	0.027	0.394	LESS THAN 1.01	N/A	<b>├</b>		56					+
14	0.025	0.393	LESS THAN 1.01	N/A	<del></del>		57	<u></u>	ļ	ļ	<u> </u>	ļ
15	0.034	0.394	LESS THAN 1.01	N/A	<del>  - </del>		58		<u> </u>		<u> </u>	1
16	0.037	0.394	LESS THAN 1.01	N/A	1		59 60	<del>-</del> -	<u></u>	<u> </u>	<del>                                     </del>	+
17 18	0.038 0.038	0.397 0.397	LESS THAN 1.01	N/A N/A	<del>                                     </del>		61			-	<u> </u>	+
19	0.038	0.391	LESS THAN 1.01	N/A	<del>  </del>		62			<del> </del>	1	<del></del>
20	0.040	0.391	LESS THAN 1.01 LESS THAN 1.01	N/A	<del>                                     </del>		63	-		<b> </b>		+
21	0.042	0.395	LESS THAN 1.01	N/A	<del>                                     </del>		64	<del></del>			<del>                                     </del>	+
22	0.043	0.394	LESS THAN 1.01	N/A	<del>                                     </del>		65	<b>-</b>	<del> </del>		1	
23	0.042	0.391	LESS THAN 1.01		<del>                                     </del>		66	<del> </del>	-	1		
24	0.046	0.391	LESS THAN 1.01	N/A	<del>                                     </del>		67			Ì	+	<del></del> -
25	0.049	0.394	LESS THAN 1.01				68			!	<del>                                     </del>	
26	0.052	0.393	LESS THAN 1.01		<del>                                     </del>		69	<del> </del>		<del>                                     </del>		
27	0.055	0.392	LESS THAN 1.01		<del>                                     </del>		70		<b>-</b>	<del> </del>		+
28	0.057	0.393	LESS THAN 1.01		<del>                                     </del>		71				<del>                                     </del>	<del>                                     </del>
29	0.054	0.392	LESS THAN 1.01		<del>                                     </del>		72			1	†	<del>- </del>
30	0.049	0.400	LESS THAN 1.01		1 1		73		<u> </u>	T	1	· • · · · · · · · · · · · · · · · · · ·
31	0.030	0.396	LESS THAN 1.01		1 1		74	<del> </del>	<u> </u>		1	
32	0.039	0.397	LESS THAN 1.01		1 1		75				1	1
33	0.044	0.396	LESS THAN 1.01				76				1	
34	0.033	0.393	LESS THAN 1.01		1		77	Ī	<u> </u>		Î	
35	0.061	0.394	LESS THAN 1.01				78	]				
36	0.014	0.389	LESS THAN 1.01	N/A	_ •		79			<u> </u>		
37	0.002	0.394	LESS THAN 1.01	N/A		$\mathbf{Z}$	80					
38	0.012	0.392	LESS THAN 1.01	N/A		1	81					
39				Ĭ			82			1		
40							83					
41				<u> </u>			84					
42		1		1			85			<u> </u>		
43	1						86					



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

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

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

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

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

	D	Drawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	CTIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			GAS SETTINGS (PURGE	712			A
	İ	CWI / TEAM LEADER		ĺ	j j		20 SHIELDING 40)		j	İ	İ
		VERIFY SHIELDING GAS									
		AND PURGE GAS COMPLIANCE		]							
		PRIOR TO OPERATION START		ļ							
(10)		AND THROUGH COMPLETION						02-16-0			
*				QA			WIRE .062 DIA HEAT	712			A
		CWI / TEAM LEADER					# AV8128				
		VERIFY WELD FILLER MATERIAL COMP		ļ							
		PRIOR TO OPERATION START									
(20)		AND THROUGH COMPLETION						02-16-0			_
*				QA			300 SERIES MATERIAL	712	ļ		A
	ļ	CWI / TEAM LEADER		ļ			W/ SS WOOL		ļ	ļ	
		VERIFY PURGE DAM MATERIAL COMPL		ļ							ļ
(20)		PRIOR TO OPERATION START						02.16.0			
(30)		AND THROUGH COMPLETION						02-16-0			4
*	ļ			QA			WELDER 709	712	ļ	ļ	A
		CWI / TEAM LEADER		ļ							
		VERIFY WELDER QUALIFICATIONS CO									
(40)		PRIOR TO OPERATION START						02.16.0		 	
(40)		AND THROUGH COMPLETION						02-16-0			┨.
*				QA			ACCEPTED PER WPS 3	712			A
		CWI / TEAM LEADER		ļ			0 W/ .062 FILLER		ļ		
		VERIFY PARAMETER COMPLIANCE									
(50)		PRIOR TO OPERATION START						02.16.0			
(50)		AND THROUGH COMPLETION						02-16-0	1		



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 2-5-4 - Item: 69

Date of Inspection:0	Type of	Materia	al:625	NCC	NEL		NDT#:8019						
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	] Incoming Inspection							n:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	[ ]	at Treat Yes No	ed:
Part I MTM Job Number: Resource ID: Part ID: Part Name: Serial Number: Customer P.O.: Customer Unit/Plant:	230-FAE SE121-0 PANEL 2	0 -Sub RICAT 001P 2- 2-5-4 S	ION - W 5-4	/EIDNER	Quant	Test Ro ity Inspec ity Accep tity Rejec Run Ho	ted: ted: ted:	1 1 0 0.0			·		
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MT	M Spec N	lumbe	r: N/A	1E SEĈT	ection Criteria: TON V ARTICAL 6 SECTION 6.29.1			
Inspectio Magnification Used: Light Source Used:	8X		:										
Pre-Weld Inspection  Base Material Cert Filler Material Cert PQR/WP WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calib	Preheder Fill Shielding Welder Co	g Gas/Back onforming t Ro Fi	s Temp: al/Flux: a Purge: to WPS: ot Pass: ill Pass: er Pass: leaning:	[x] [x] [x] [x] [i] [i] [i] [i] [i]	Rej [] [] [] [] [] [] [] [] [] []	N/A [] [] [x] [x] [x] [x] [x] [x] [x]	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc [] [x] [] []	Rej [] [] [] [] []	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]			
100 % of all acces	sible surf	aces	[ ] Jo	int Preps RO	Inspection [x] Ro	ot Pass		[]Ba	ck Goug	e [] Cover Pass [	] Othe	er	
Notes: PERFORMED THE INSPEC 390. THERE WAS NO INDI						OPERTA	TOR 7	09 PEF	RFORME	ED THE WELDING OF THIS PA	SS UNI	DER W	 PS
This is to certify that the piec shown.	ces speci	fied hav	ve been	inspected in	accordanc	ce with the	e spec	ificatior	ns	1/hlde Milly & Miller	L MILLER		

**Inspector:** 712-W.MILLER Date: 02/16/2004



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

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

	D	Drawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			GAS SETTINGS (PUR	712			A
	İ	CWI / TEAM LEADER		ĺ			GE 20 SHIELDING40 )		j		İ
		VERIFY SHIELDING GAS									
		AND PURGE GAS COMPLIANCE		]							
		PRIOR TO OPERATION START		ļ					ļ		
(10)		AND THROUGH COMPLETION						02-16-0			
*				QA			.062 DIA HEAT # AV	712			A
		CWI / TEAM LEADER					8128				
		VERIFY WELD FILLER MATERIAL COMP									
		PRIOR TO OPERATION START		ļ							
(20)		AND THROUGH COMPLETION						02-16-0			╛
*				QA			300 SERIES MATERIAL	712			A
		CWI / TEAM LEADER		]			W/SS WOOL				
		VERIFY PURGE DAM MATERIAL COMPL		ļ					ļ		
	ļ	PRIOR TO OPERATION START		ļ				ļ	ļ		
(30)		AND THROUGH COMPLETION						02-16-0			1
*				QA			WELDER 709	712			A
		CWI / TEAM LEADER		ļ							ļ
		VERIFY WELDER QUALIFICATIONS CO		ļ					ļ		
		PRIOR TO OPERATION START		ļ							
(40)		AND THROUGH COMPLETION						02-16-0			4
*				QA			ACCEPT PER WPS 390	712	ļ		A
		CWI / TEAM LEADER					WITH .062 DIA WIRE				
		VERIFY PARAMETER COMPLIANCE									
( <b>=</b> 0)		PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION						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

<b>Date of Inspection:</b> 0	2/16/200	)4	Type of	Material:62	5 INC	ONEL	-	NDT#:8020				
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacti [x] Weldn [ ] Bar S [ ] Forgir	tock	ss: [ ] Casting [ ] Plate [ ] Other	Surface [ ] Mac [ ] Rou [x] Oth AS-WEL	hined gh er	on:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	[]	t Treat Yes No	ed:	
MTM Job Number: Resource ID:	230-FABRI SE121-001 PANEL 2-5	Sub:41 -Op CATION - V P 2-5-4	VEIDNER	Quantity Insp Quantity Acc Quantity Rej	epted:	1 1 0 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 Magnification Used: Light Source Used:												
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	Prehe Proper Fil Shieldin Welder Co	cess Inspection at/Interpass Temp ler Material/Flux g Gas/Back Purge onforming to WPS Root Pass Fill Pass Cover Pass nterpass Cleaning Distortion of Part	: [x] : [x] : [] : [] : [x] : []	Rej [] [] [] [] [] [] [] [] [] []	N/A	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc   [ ]   [ ]   [ ]   [ ]   [ ]   [ ]	Rej [] [] [] []	N/A   [x]			
100 % of all access	sible surfac	es []Jo	oint Preps FILL	Inspection Requi	<b>;</b>	[]Ba	ck Goug	e []Cover Pass [	] Othe	r		
Notes: PERFORMED THE INSPEC w/ .062 FILLER THERE WA						PERFO	RMED T	HE WELDING OF THIS PASS I	JNDER	WPS:	<del></del> 390.	
This is to certify that the piec	es specified	d have beer	n inspected in	accordance with	the spec	cification	ns	NAILE				

shown.

**Inspector:** 712-W.MILLER Date: 02/16/2004



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			GAS SETTINGS (PURGE	712			A
Ì		CWI / TEAM LEADER		j			20 SHIELDING 40)	İ	İ		ĺ
ļ	!	VERIFY SHIELDING GAS		ļ				ļ	ļ		
	!	AND PURGE GAS COMPLIANCE		ļ							
(10)	!!!	PRIOR TO OPERATION START		ļ				02.16.0			
(10)		AND THROUGH COMPLETION						02-16-0			┨.
*	ļ,			QA			.093 FILLER HEAT #	712	ļ		A
	!	CWI / TEAM LEADER		ļ			CB7996	ļ	ļ		
	!	VERIFY WELD FILLER MATERIAL COMP									
(20)	! !	PRIOR TO OPERATION START AND THROUGH COMPLETION		ļ				02.16.0	 		
(20)		AND THROUGH COMPLETION		0.4			200 GEDIEG MATERIAL	02-16-0			١.
*		CWI / TEAM LEADED		QA			300 SERIES MATERIAL	/12	<u> </u>		A
	! !	CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL					W/ SS WOOL	 	 		
	!!!	PRIOR TO OPERATION START		ł				}			
(30)	!	AND THROUGH COMPLETION						02-16-0			
*		THE THROUGH COM ELITOR		QA			WELDER #709	712			$\mathbf{A}$
	] [	CWI / TEAM LEADER		QЛ			WELDER #709	112	ļ 		🔼
	! !	VERIFY WELDER QUALIFICATIONS CO		İ					ļ 		
	: :	PRIOR TO OPERATION START		İ							
(40)	!!!	AND THROUGH COMPLETION		ĺ	j i			02-16-0	İ		İ
*				QA			ACCEPTER PER WPS 3	712			$\mathbf{A}$
	İ	CWI / TEAM LEADER		`			0 W/ .093 FILLER		İ		
İ		VERIFY PARAMETER COMPLIANCE		İ	İ						İ
İ	j	PRIOR TO OPERATION START		j				İ	İ		ĺ
(50)		AND THROUGH COMPLETION		<u> </u>	<u> </u>			02-16-0			



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 2-5-4 - Item: 73

<b>Date of Inspection:</b> 0	2/16/2	004		Type of	Materia	al:625	INCC	DNEL			NDT	<b>#:80</b>	21	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection		ldment r Stock	] ]	ss:  ] Casting ] Plate ] Other		urface Co [ ] Machi [ ] Rough [x] Other AS-WELD	ined n	n:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card		Heat ' [ ] Y [x] N	'es	ed:
Part I MTM Job Number: Resource ID: Part ID: Part Name: Serial Number: Customer P.O.: Customer Unit/Plant:	230-FAB SE121-0 PANEL 2	.0 -Sub BRICAT 001P 2- 2-5-4 S	ION - W 5-4	/EIDNER	Quant	Test R ity Inspec ity Accep tity Rejec Run Ho	eted: oted: eted:	1 1 0						
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MT	M Spec N	Numbe	r: N/A	IE SECT	ection Criteria: FION V ARTICAL 6 SECTION 6.29.1				
Inspection Magnification Used: Light Source Used:	8X		:											
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	s: [] S: [x] Q: [] n: [] p: []	Rej [] [] [] [] [] [] [] []	N/A   [x]	Prehe Proper Fil Shieldin Welder Co	g Gas/Back onforming t Ro Fi	s Temp: al/Flux: & Purge: to WPS: oot Pass: ill Pass: eer Pass: leaning:	[x] [x] [x] [i] [i] [i] [i] [i]	Rej [] [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [x] [x] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Complet Weld Surfa Weld Dimensio Weld Conto Weld Conto Post-Weld Cleani Distortion of Pa	ed: es: [ ns: ers: ng:	[] [x] [] []	Rej	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]
100 % of all acces	sible surf	faces	[ ] Jo	int Preps FILL	Inspection [ ] Roo PASS #2 \$	ot Pass		[]Ba	ck Goug	e []Cover Pass	[x]	Other		
Notes: PERFORMED THE INSPEC 390. THERE WAS NO INDI						PERTAT	OR 70	9 PERF	ORMED	) THE WELDING OF THIS F	·ASS (	JNDEF	─── R WP\$	<del></del>
This is to certify that the piece	es speci	fied ha	ve been	inspected in	accordance	ce with th	e spec	cification	าร	ULILA Millel A	AME OCT			

Inspector: 712-W.MILLER Date: 02/16/2004



Page: 39 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTING ( PURGE	712			A
Ì		CWI / TEAM LEADER		j			20 SHIELDING 40)		ĺ		
	!	VERIFY SHIELDING GAS		ļ							ļ
	!	AND PURGE GAS COMPLIANCE		ļ							
(10)	!!!	PRIOR TO OPERATION START		ļ				02.45.0			
(10)		AND THROUGH COMPLETION						02-17-0			┨.
*	ļ			QA			.093 DIA HEAT # CB7	712			A
	!	CWI / TEAM LEADER					996				
	!	VERIFY WELD FILLER MATERIAL COMP							<u> </u>		
(20)	! !	PRIOR TO OPERATION START AND THROUGH COMPLETION						02-17-0			
(20)		AND THROUGH COMPLETION		0.4			200 CEDIEC MATERIAL				-
"	 	CWI / TEAM LEADED		QA			300 SERIES MATERIAL	/12	] 		A
	! !	CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL					W/ SS WOOL		 		1
	!!!	PRIOR TO OPERATION START									1
(30)	!	AND THROUGH COMPLETION						02-17-0			
*				QA			WELDER # 709	712			A
	İ	CWI / TEAM LEADER		Q.1				12			
	! !	VERIFY WELDER QUALIFICATIONS CO			i i						İ
	: :	PRIOR TO OPERATION START		İ							İ
(40)	j	AND THROUGH COMPLETION		İ	j j			02-17-0	j		İ
*				QA			ACCEPT PER WPS 390	712			A
İ	Ì	CWI / TEAM LEADER			j j		USINF .093 FILLER				ĺ
İ	İ	VERIFY PARAMETER COMPLIANCE		ĺ							ĺ
	!!!	PRIOR TO OPERATION START		]							
(50)		AND THROUGH COMPLETION						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	2/17/2	004		Type of	Material:6	25 INC	ONEL	-	NI	)T#:80	031	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection		ldment r Stock	]	s:   Casting   Plate   Other	[ ] M [ ] R [x] C		on:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	Heat		ed:
Part Is MTM Job Number: Resource ID: Part ID: Part Name: Serial Number: Customer P.O.: Customer Unit/Plant:	230-FAB SE121-0 PANEL 2	.0 -Sub BRICAT 001P 2- 2-5-4 S	ION - W 5-4	'EIDNER	Quantity In Quantity A Quantity I	ccepted:	1 1 0 0.0	)		·		
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MTM S	ec Numb	er: N/A	ME SECT	ection Criteria: TION V ARTICAL 6 SECTION 6.29.1			
Inspection Magnification Used: Light Source Used:	8X		:									
Pre-Weld Inspection	Acc	Rej	N/A	In-Proc	ess Inspection	Acc	Rej	N/A	Post-Weld Inspection	Acc	Rej	N/A
Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	: [] : [x] : [] : [] : []		[x] [x] [x] [x] [x] [x] [x] [x] [x]	Prehed Proper Fill Shielding Welder Co	at/Interpass Tenter Material/Fl g Gas/Back Pur onforming to W Root Pa Fill Pa Cover Pa nterpass Cleani Distortion of Pa	np: [x] nx: [x] ge: [x] eS: [x] ss: [] ss: [] ng: []		[] [] [] [] [x] [x] [x] [x]	Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:	[] [x] [] []		[x] [x] [x] [x] [x] [x]
					Inspection Rec	uirement	s:					
100 % of all access	sible surf	faces	[ ] Joi	int Preps	[x] Root Pa	SS	[ ] Ba	ick Goug	ge [ ] Cover Pass	[ ] Other	r	
Notes: PERFORMED THE INSPEC UNDER WPS 390. THERE \( \)							RTATO	R 709 PI	ERFORMED THE WELDING O	THIS F	PASS	
This is to certify that the piece	es speci	fied ha	ve been	inspected in	accordance wi	h the spe	ecificatio	ins	uu Mille P	me c		

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





Page: 40 Date: 04/15/04 User ID: DURHAM

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	ŀ	RESULTS	INS	PECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		(g  ,268")		QA		4470	P #5 +0.003 / +0.03	522			A
							5 P #4 +0.004 / +0.				
İ		Profile Tolerance (+.188/080")			j j		057	j	j		
(10)		(tack welded vessel)						02-17-0			
*				QA		J-1165	LESS THAN 1.01	522			A
ĺ		Magnetic Permeability 1.01 Max.						Ì	j		
(20)		Record range (high / low)						02-17-0			

Page: 41 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	CTIONS	I	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			GAS SETTINGS ( PURG	712			A
Ì		CWI / TEAM LEADER		j			E 20 SHIELDING 40)		İ		
ļ	!	VERIFY SHIELDING GAS		ļ					ļ		
	!	AND PURGE GAS COMPLIANCE		ļ							
(10)	!!!	PRIOR TO OPERATION START						02 15 0			
(10)		AND THROUGH COMPLETION						02-17-0			┨.
*	ļ,			QA			.062 DIA HEAT # AV	712	ļ		A
	!	CWI / TEAM LEADER					8128		ļ		ļ
	!	VERIFY WELD FILLER MATERIAL COMP		 							-
(20)	! !	PRIOR TO OPERATION START AND THROUGH COMPLETION		 				02 17 0	 		1
(20)		AND THROUGH COMPLETION		0.4			200 GEDIEG MATERIAL	02-17-0			┨.
*		CWI / TEAM LEADED		QA			300 SERIES MATERIAL	/12	<u> </u>		A
	! !	CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL		 			W/ SS WOOL		 		1
	!!!	PRIOR TO OPERATION START		 					 		
(30)	!	AND THROUGH COMPLETION		! 				02-17-0			
*		THE THROUGH COM ELITOR		QA			WELDER # 709	712			A
	] [	CWI / TEAM LEADER		l QA			WELDER # 709	112	ļ 		A
	! !	VERIFY WELDER QUALIFICATIONS CO		! 					ļ 		
	: :	PRIOR TO OPERATION START		! 							
(40)	!!!	AND THROUGH COMPLETION						02-17-0	İ		İ
*				QA			ACCEPT PER WPS 390	712			A
İ	İ	CWI / TEAM LEADER			i i		W/ .062 FILLER		İ		İ
İ	İ	VERIFY PARAMETER COMPLIANCE		İ						•	ĺ
İ	j	PRIOR TO OPERATION START		İ	j j				Ì		ĺ
(50)		AND THROUGH COMPLETION			<u> </u>			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	2/17/2	2004		Type of	Material:62	25 INC	ONE	_	NI	)#:8	032	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	[x] We	eldment ir Stock	: [	ss: [ ] Casting [ ] Plate [ ] Other	!	her	ion:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	[ ]	at Trea   Yes   No	ted:
Part In MTM Job Number: Resource ID: Part ID: Part Name: Serial Number: Customer P.O.: Customer Unit/Plant:	230-FAE SE121-( PANEL	.0 -Sub BRICAT 001P 2- 2-5-4 S	ION - W -5-4	VEIDNER	Quantity Ins Quantity Ac Quantity R	cepted:	s: 1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MTM Sp	ec Numb	er: N/A	ME SEC	pection Criteria: TION V ARTICAL 6 SECTION 6.29.1			
Inspection Magnification Used: Light Source Used:	8X		:									
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	: [] : [x] : [] : [] : []	Rej	N/A   [x]	Prehe Proper Fil Shieldin Welder Co	cess Inspection at/Interpass Ten ler Material/Flu g Gas/Back Pur; onforming to WF Root Pa Fill Pa: Cover Pa nterpass Cleanin		Rej	N/A [] [] [] [] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:	[x] [] []	Rej [] [] [] [] []	N/A   [x]
100 % of all access	sible sur	faces	[ ] Jo	oint Preps	Inspection Required [x] Root Pa	SS	[x] Ba	ack Gouç	ge [ ] Cover Pass	[]Othe	er	
Notes: PERFORMED THE INSPEC PERFORMED THE WELDIN										ATOR 7	09	

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



Page: 42 Date: 04/15/04 User ID: DURHAM

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	CTIONS	I	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			GAS SETTINGS (PURG	712			A
Ì		CWI / TEAM LEADER		j			E 20 SHIELDING 40)		İ		ĺ
	!	VERIFY SHIELDING GAS									
	!	AND PURGE GAS COMPLIANCE		ļ							
(10)	!!!	PRIOR TO OPERATION START						02 15 0			
(10)		AND THROUGH COMPLETION						02-17-0			┨.
*	ļ,			QA			.093 DIA / HEAT #CB	712	ļ		A
	!	CWI / TEAM LEADER					7996		ļ		
	!	VERIFY WELD FILLER MATERIAL COMP		 							
(20)	! !	PRIOR TO OPERATION START AND THROUGH COMPLETION		 				02 17 0	 		
(20)		AND THROUGH COMPLETION		0.4			200 GEDIEG MATERIAL	02-17-0			1
*		CWII / INF A M I E A DED		QA			300 SERIES MATERIAL	/12	<u> </u>		A
	! !	CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL		 			W/ SS WOOL		 		
	!!!	PRIOR TO OPERATION START		<u>.</u>							
(30)	!	AND THROUGH COMPLETION		! 				02-17-0			
*		THE THROUGH COM LETTOR		QA			WELDER # 709	712			$\mathbf{A}$
	] [	CWI / TEAM LEADER		l QA			WELDEK # 709 	112	ļ 		🔼
	! !	VERIFY WELDER QUALIFICATIONS CO		! 					ļ 		
	: :	PRIOR TO OPERATION START		! 							
(40)	!!!	AND THROUGH COMPLETION						02-17-0	İ		İ
*				QA			ACCEPTED PER WPS 3	712			$\mathbf{A}$
	İ	CWI / TEAM LEADER					0 W/ .093 FILLER		İ		
İ	İ	VERIFY PARAMETER COMPLIANCE									İ
İ	j	PRIOR TO OPERATION START		İ	j j				Ì		ĺ
(50)		AND THROUGH COMPLETION						02-17-0			



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**Inspector:** 712-W.MILLER

## Nondestructive Test Certification for Visual Inspection

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

<b>Date of Inspection:</b> 0	2/17/20	004		Type of	'Material	<b>1:</b> 625 l	NCC	NEL		N	DT#:8	3036	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufa [x] Wel [ ] Bar [ ] For	dment Stock	] [	ss:  ] Casting ] Plate ] Other	]     [x	rface Co ] Machir ] Rough d] Other S-WELDI	ned	n:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	[	at Treat ] Yes ] No	ted:
MTM Job Number: Resource ID:	230-FAB SE121-0 PANEL 2	0 -Sub RICAT 01P 2- 2-5-4 S	ION - W 5-4	/EIDNER	Quantit Quanti	Test Re y Inspect ty Accept ty Reject Run Hou	ed: ed: ed:	1 1 0 0.0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MTN	M Spec N	umbe	r: N/A	IE SEĈT	ection Criteria: FION V ARTICAL 6 SECTION 6.29.1			
Inspectio Magnification Used: Light Source Used:	8X		:										
Pre-Weld Inspection  Base Material Cert Filler Material Cert PQR/WP WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calib	s: [] S: [x] Q: [] n: [] p: []	Rej [] [] [] [] [] [] [] []	N/A   [x]	Preheder Fill Shielding Welder Co	Fil	Temp: l/Flux: Purge: o WPS: ot Pass: l Pass: r Pass: eaning:	[x] [x] [x] [i] [i] [i] [i] [i] [i] [i]	Rej [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [x] [x] [x] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Completed Weld Surfaces Weld Dimensions Weld Contours Post-Weld Cleaning Distortion of Part	: [x] : [] : []	Rej [] [] [] [] []	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]
100 % of all acces	sible surfa	aces	[ ] Jo	int Preps	Inspection I	t Pass		[]Ba	ck Goug E	e []Cover Pass	[x] Oth	ier	
Notes: PERFORMED THE INSPEC 390. THERE WAS NO INDI						OPERT	ATOR	709 PE	ERFORM	MED THE WELDING OF THIS	PASS L	JNDER '	WPS
This is to certify that the pieceshown.	ces specif	ied hav	/e been	inspected in	accordance	e with the	spec	ificatior	ns	Worked Mittel Lun	QC 1		

NDT003 n:\mtmapps\mtmdtlpi.qrp Page: 19 User ID: LONAKER Date: 04/15/04

Date: 02/16/2004

Page: 43 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	F	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		(g  ,328")		QA		4470	P #4 -0.016 / +0.02	522			A
							4 P #5 -0.019 / +0.				
İ	İ	Profile Tolerance (+.188/140")					018		j	İ	ĺ
(10)		(tack welded vessel)						02-17-0			
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability 1.01 Max.							Ì		
(20)		Record range (high / low)						02-17-0			

84880 PI	PPL NCS	K PVVS INS	PECTION REC	ORD		Inspecti	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: Fo	rmed Panel	interpass (	<b>*</b> } (	After struc	tural welding	After w	elding Port	Final Ins	pection	
		E121-001P				470 / J-770-			Date of Ins	pection: 02	2/17/04
	Profile	Meterial	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
1	0.053	0.385	LESS THAN 1.01	N/A	400	44	0.041	0.381	LESS THAN 1.01	N/A	
2	0.060	0.387	LESS THAN 1.01	N/A		45	0.046	0.361	LESS THAN 1.01	N/A	(87)
3	0.067	0.385	LESS THAN 1.01	N/A	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				4
12	0.114	0.386	LESS THAN 1.01	N/A		55	0.034				(4774)
13	0.106	0.387	LESS THAN 1.01	N/A		56	0.058				4,
14	0.099	0.383	LESS THAN 1.01	N/A		57					
15	0.087	0.383	LESS THAN 1.01	N/A		58	l		1		
16	0.070	0.388	LESS THAN 1.01	N/A		59					
17	0.057	0.385	LESS THAN 1.01	N/A	1	60		•			Ţ
18	0.047	0.388	LESS THAN 1.01	N/A		61	.i				
19	0.040	0.383	LESS THAN 1.01	N/A		62	Ī				
20	0.033	0.380	LESS THAN 1.01	N/A		63		E			
21	0.025	0.385	LESS THAN 1.01	N/A	1.	64	1			1	
22	0.019	0.382	LESS THAN 1.01	N/A		65	I		1		
23	0.013	0.381	LESS THAN 1.01	N/A		66	<u></u>				
24	0.012	0.381	LESS THAN 1.01	N/A		67				ŀ	
25	0.009	0.383	LESS THAN 1.01	N/A		68		Ţ			
26	0.030	0.404	LESS THAN 1.01	N/A		69		1			
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			75					
33	0.055	0.394	LESS THAN 1.01	N/A	<u> </u>	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			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	(472)	85					
43	0.043	0.382	LESS THAN 1.01	N/A	(4)	86					

84880 P	PL NC8X	PVVS INS	PECTION REC					Number:			Rev: 08
		med Panel	interpass (			tural weldin					
Part # / P	enel#: S	E121-001P	PANEL # 5	Gage/St	d S/N(s): 4	470 / J-770-	NDT / J-110	85	Date of Ins		
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
1	0.038	0.428	LESS THAN 1.01	N/A		44	-0.003		1		
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			<u> </u>	<u> </u>
6	0.035	0.420	LESS THAN 1.01	N/A		49	-0.003	1	[		
7	0.020	0.423	LESS THAN 1.01	N/A		50	0.042		_		1 1 1
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	ļ		ļ	+
11	-0.011	0.422	LESS THAN 1.01	N/A	$oxed{oxed}$	54	0.050	ļ			
12	-0.015	0.422	LESS THAN 1.01	N/A		55	0.058	<u> </u>			
13	-0.017	0.424	LESS THAN 1.01	N/A	<b> </b>	56	-0.002		<u> </u>		<del>                                     </del>
14	-0.015	0.423	LESS THAN 1.01	N/A	<del>                                     </del>	57	0.054		<u> </u>		+
15	-0.009	0.426	LESS THAN 1.01	N/A	$\vdash$	58	0.063	<u> </u>	ļ	<u> </u>	<del>                                     </del>
16	-0.002	0.424	LESS THAN 1.01	N/A		59	0.069	-	<del>                                     </del>	<u> </u>	<del></del>
17	0.007	0.420	LESS THAN 1.01	N/A		60	0.048	1	<del> </del>		+
18	0.018	0.421	LESS THAN 1.01	N/A		61	0.079		<del>                                     </del>		(474)
19	0.031	0.423	LESS THAN 1.01	N/A N/A	<del>                                     </del>	62 63	0.069		<del> </del>		<del>  ~~</del>
20	0.044	0.423	LESS THAN 1.01	N/A N/A	<del>                                     </del>	64	+	+	<del>                                     </del>	<del>]</del>	
21 22	0.063	0.422	LESS THAN 1.01 LESS THAN 1.01	N/A N/A	+ +	65	+	+	+	<u> </u>	+
23	0.031 0.028	0.416 0.417	LESS THAN 1.01	N/A	+ +	66		i	1		<del>-  </del>
23	0.028	0.417	LESS THAN 1.01	N/A	+ +	67	+	-	+		
25	0.010	0.417	LESS THAN 1.01	N/A	<del> </del>	68	1	<del> </del>	<del>                                     </del>		-
26	0.003	0.418	LESS THAN 1.01		<del>                                     </del>	69		1	<u> </u>	<del></del>	
27	0.004	0.417	LESS THAN 1.01		+ +	70	<del></del>	<del></del>	<del>†</del>		
28	0.005	0.417	LESS THAN 1.01	<del> </del>	<del>                                     </del>	71	1	<del> </del>			-
29	0.007	0.417	LESS THAN 1.01	-	<del>  " </del>	72	1	1	1	†"	
30	0.009	0.421	LESS THAN 1.01		+ +	73	1	1	1	1	
31	0.013	0.417	LESS THAN 1.01		<del>†</del>	74	1	1	<b>†</b> "		1
32	0.019	0.419	LESS THAN 1.01	-	1	75			1		
33	0.027	0.419	LESS THAN 1.01			76		T .		İ	
34	0.035	0.419	LESS THAN 1.01			77					
35	0.041	0.415	LESS THAN 1.01			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			1		
42	0.058					85			1		
43	0.039				(2)	86		<u> </u>	<u> </u>		

64880 PF	34880 PPPL NCSX PVVS INSPECTION RECORD Inspection Drawing Number: SE121-001P-1MTM Rev: 0B										
Inspectio	n type: Fo	rmed Panel	Interpass (a	¥ ) (	After struct	ural welding	. After w	elding Port	Final Ins	pection	··
		E121-001P	PANEL #4		d S/N(8): 44	70 / J-770-l	NDT / J-110	35	Date of Ins		/17/04
	Profil <del>e</del>	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initia <u>ls</u>	Number	Deviation	Thickness	Permeabili	tFinish	Initials
1	0.034	0.395	LESS THAN 1.01	N/A	4m	44	1	<u> </u>		l	
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	<u> </u>	49					
7	0.042	0.395	LESS THAN 1.01	N/A		50		<u> </u>			
8	0.037	0.396	LESS THAN 1.01	N/A	<u> </u>	51					
9	0.032	0.394	LESS THAN 1.01	N/A	<u> </u>	52					<b>.</b>
10	0.027	0.394	LESS THAN 1.01	N/A		53		ļ			
11	0.022	0.394	LESS THAN 1.01	N/A	<u> </u>	54				<u> </u>	<u>                                      </u>
12	0.016	0.391	LESS THAN 1.01	N/A		55		ļ	ļ		<u> </u>
13	0.017	0.392	LESS THAN 1.01	N/A		56	<u>.</u>				
14	0.023	0.393	LESS THAN 1.01	N/A	$\vdash$	57	ļ	<del> </del>		<u> </u>	
15 16	0.052	0.398	LESS THAN 1.01	N/A		58		<del> </del>			<b>_</b>
17	0.055	0.397	LESS THAN 1.01	N/A N/A	<del>                                     </del>	59 60				<del> </del> -	<del> </del>
18	0.059 0.062	0.396 0.398	LESS THAN 1.01 LESS THAN 1.01	N/A N/A	<del></del>	61		-			ļ
19	0.064	0.396	LESS THAN 1.01	N/A	<del>  </del>	62	<u> </u>	<del> </del>		<del></del>	<del>                                     </del>
20	0.068	0.399	LESS THAN 1.01	N/A	<del> </del>	63			ł	<del> </del>	<del> </del>
21	0.069	0.395	LESS THAN 1.01	N/A	<del>                                     </del>	64		<del></del>	<del> </del>		<del> </del>
22	0.071	0.397	LESS THAN 1.01	N/A	<del>! !                                  </del>	65			-	<del> </del>	<del>                                     </del>
23	0.076	0.393	LESS THAN 1.01	N/A	<del>                                      </del>	66	-			<del>                                     </del>	╂
24	0.077	0.396	LESS THAN 1.01	N/A	<del>†                                    </del>	67					<del>                                     </del>
25	0.083	0.394	LESS THAN 1.01	N/A	<del>                                     </del>	68					<del> </del>
26	0.086	0.395	LESS THAN 1.01	N/A	<del>                                     </del>	69	<del>                                     </del>		<u> </u>		<del>                                     </del>
27	0.090	0.396	LESS THAN 1.01	N/A	<del>                                     </del>	70	<del> </del>		<del> </del>		<del>                                     </del>
28	0.088	0.396	LESS THAN 1.01	N/A	<del>                                     </del>	71	<del> </del>	<del>                                     </del>	<u> </u>		<del> </del>
29	0.084	0.398	LESS THAN 1.01	N/A		72			<del>                                     </del>		<del>                                     </del>
30	0.079	0.396	LESS THAN 1.01	N/A		73	· · · · · ·		·	1	<del> </del>
31	0.056	1				74					<del>                                     </del>
32	0.071				<b>\</b>	75	1				<del>                                     </del>
33	0.077	1	1		1	76					<del>                                     </del>
34	0.053	1	j			77		Ť	<u> </u>		<del>-</del>
35	0.069					78					
36	0.041					79					
37	0.021					80					
38	0.023					81					
39						82		_			
40	<u> </u>		<u> </u>			83					
41						84					
42						85			L		
43			<u> </u>			86		1			



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g  ,288")		QA		4470	P #2 +0.009 / +0.16	522			A
							4 P #4 +0.016 / +0			1	
							.090 P #5 -0.017 /			1	
Ì	İ	Profile Tolerance (+.188/140")			j j		+0.088	j	j	ĺ	ĺ
(10)		(tack welded vessel)						02-18-0			
*				QA		J-1165	LESS THAN 1.01	522			A
	İ	Magnetic Permeability 1.01 Max.							ĺ		Ì
(20)		Record range (high / low)						02-18-0			

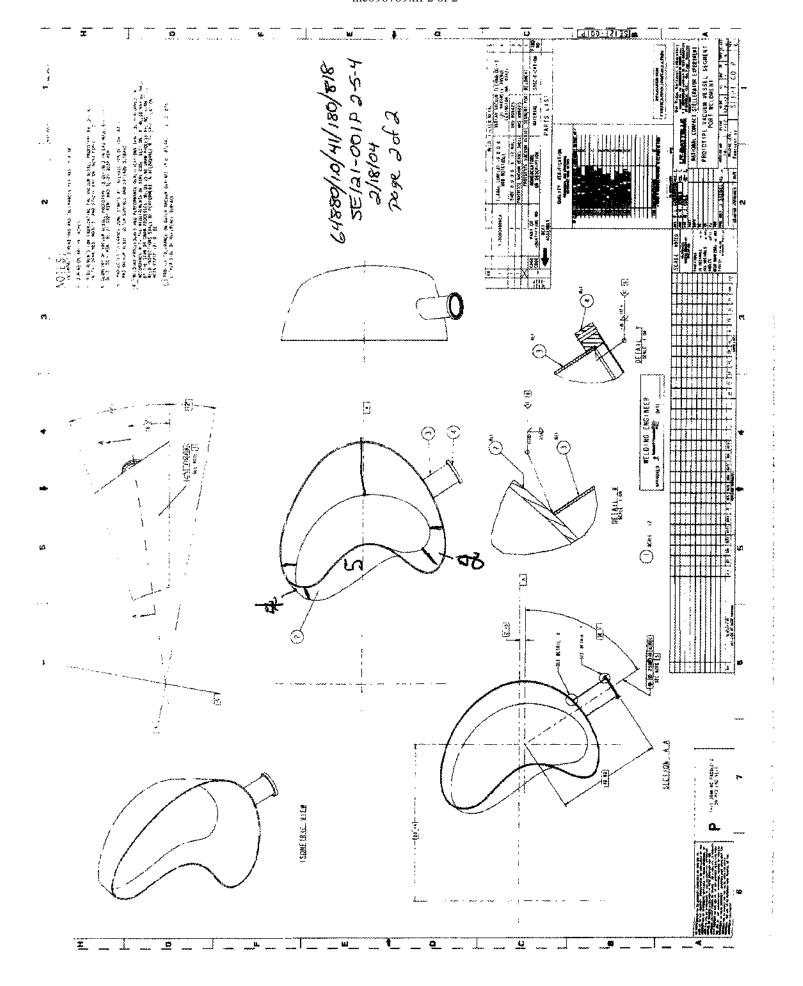
-		
	 <b>1-3</b> )	

# MQS Inspection, inc. 5307 West 86th Street Indianapolis, IN 46268

Phone: 317-872-8196

MOSW.0.4.371-FO	DOUG BARNA	GRAPHIC RE	DOM: Dans	الحال
Med Mink a 11	DATE:	2/18		C 01
Customer: _	Major		Machine	
Customer: _	1458 E.			<del>-</del>
<del>-</del>	Indole, I		•	<del></del>
Customer's P				
	1: Same			
				<b></b>
Hem Descrip	tion: <u>SE/</u> é	11-001P	2-5-4	
100% Insp	<u></u>	Spoi	INID	

			872-4		<i>1.</i> .		nepSpot Inep
RIAL NO. or PIEC	ENO.: 6	488	30/	1.0	141	/180/818	TECHNIQUE DATA
feld No.	Nog	ACC.	REJ.		CODE	REWARKS	Impection Specification: ASME VIII Div. I UW-
5-4	0-1	X		<del> </del>		<u> </u>	Acceptance Standard: ASME VIII Div. 1 UW-51
2-5	0-1	<del></del>		<del> </del>			RT Procedure No.:
<u>a.J</u>	/-a	<b>*</b>			P		
							<b>⊗ □ □ ⊗ ⊗ SOUR</b>
					ļ		╗╒╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬╬
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	-		╁─	<del> </del>			
							FLM 5
				<u> </u>			
<u></u>						·	
· · · · · · · · · · · · · · · · · · ·	-			-			SOURCE PENE.
·—·	+	-					SOURCE POSITIONED PENE.
				<u> </u>	•		IN CENTER OF PIPE
			ļ				MATERIAL: 625 Thoral
<del> </del>							PIPE SIZE: NA WALL THICKNESS: .375"
	+			<del> </del> -	-	·····	WELD PROCESS: SMAWGTAWGMAW SOURCE: ISOTOPE: #28/A32 CLIRER: #26_ KVP/MA: A
-	_			-			DINSICAL SIZE ./54"
							EXPOSURE TIME: 1:45 SFD: /5"
							FLM/OBJECT INCHES: CONTACT
	+			-			GEOMETRIC UNIHARPHESS: \$.000"  PENETRAMETER: TYPE SIZE: ASTM 18
<del></del>	+	-					PENETRAMETER: TYPE SIZE: ASTM /8  MATERIAL: FINANCIAL PLACEMENT: 25
							SHIMS: MATERIAL: NA THICKNESS: NA
							MARKERINO BELT: Pb #5
	-		<u> </u>	-	<del>-</del>		FILM: BRAND: Kodak TYPE: AR SIZE: 4.5" x /7" LOAD: STAYLE EMULSION(S)#: N/A
<u> </u>			$\vdash$		-		SITE: 4.5" x /7" LOAD: Sityle  EMULSION(S)#: N/A
			<del> </del>	<del>                                     </del>			SCREENS: FRONT: ACCO BACK: ACCO BACKING: A
							VIEWING: SINGLE: DOUBLE:
							DENSITY (PEN.)
	4				<u> </u>		DENSITY (WELD) MIN/MAX:
******				ODE			20 4
- Porosity		5	31 - 3	Slag ir	nclusio	ns - Ti — Tungstjen Inclusio	n 1. Kobert Wearen 694371 II
- Crack	Samber	ı	8 <b>7</b> – 18	Burn T	prova	h CV - Roof Concavity	RADIOGRAPHER
- Incomplete i - Incomplete i	rusion Panainoi	tan I	MI — I UC	vivii i Unde	hrouğ Ivori	n CX — Moor Convenilly OX — Oxidiation	1. Roboto Wenner Step 371 56 MIERPREIER Deut D. Edward 2/18/
- Surface						,	A





**SE121-001P TEST** 

#### Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 4 Date: 04/15/04 User ID: DURHAM

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
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

Nondestructive Visual Test Certification #7915 - MTM WELD INSPECTION FORM

Nondestructive Visual Test Certification #7918 - MTM WELD INSPECTION FORM

Test Certification: RADIOGRAPHIC CERTIFICATE - mc096219.tif

Map(s): SE121-001P-1MTM - Same as Item #111

#### SE121-001P - PVVS PRIMARY WELDMENT

Inspection Data Checklist: 5 steps

Inspection Data Checklist: 2 steps

Inspection Data Checklist: 5 steps

Inspection Data Checklist: 2 steps

180

180

190

200

200

210

230

230

26

26

26

26

26

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26

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105

106

107

108

109

110

111

112

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
113	0	10	10	$Material\ Certification:\ Trace\ ID:\ 94881\ /\ INCONEL 625\_062\_GTAW\ -\ WELD\ WIRE/GTAW,\ .062\ DIA\ -\ mc095279.pdf\ /\ 2653-8-4201\ /\ AB8051\ /\ AV8128$
114	0	10	10	$Material\ Certification:\ Trace\ ID:\ 94238\ /\ INCONEL 625\_062\_GTAW\ -\ WELD\ WIRE/GTAW,\ .062\ DIA\ -\ mc094944.pdf\ /\ 2653-8-4201\ /\ AB8051\ /\ AV8128$
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

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

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

	D	Drawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	SPECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	1
*		Verify Panel Joint Alignment Weld Seam # 2-5		MFG			LESS THAN .020 MISM ATCH	791	933		A
(10)		(.02" Max)		CWI				01-28-0	01-28-0	! 	
*		Verify Panel / Rest Stop Position		MFG			LESS THAN .090	791			A
(20)		Panel #2 (009" Gap)			İ			01-28-0			İ
*		Verify Panel / Rest Stop Position		MFG			LESS THAN .090	791			A
(30)		Panel #5 (009" Gap)		İ				01-28-0			İ
*		CWI / TEAM LEADER VERIFY SHIELDING GAS		QA			ACCEPTABLE TO WPS 90 PPPL REV 0 20 CFH FLOW/ARGON GA	İ			A
(40)	!	AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION						01-28-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START		QA			HT LOT AV8128 / TRA CE TICKET #94881 6 25 INCO	791			<b>A</b>
(50)		AND THROUGH COMPLETION						01-28-0			Ĺ
*		CWI / TEAM LEADER		QA			STAINLESS STEEL 300 SERIES CONSTRUCTIO N,STAINLESS STEEL W OOL	!			A
(60)		VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION						01-28-0			
*				QA			VERIFED PER WELDE QUALIFICATION CHEC	!			A



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



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		(g  ,188")		QA		4470	+0.003 / +0.096	522			A
İ		Upper Half Of Bilateral Tolerance		j	j j			j			ĺ
		(tack welded vessel)									
(10)		At weld seam only (development panel)						01-27-0			
*				QA		J-1165	LESS THAN 1.01	522			A
İ	İ	Magnetic Permeability 1.01 Max.		j	İ			j			İ
		Record range (high / low)									
(20)		At weld seam only (development panel)						01-27-0			
*				QA		J-770-NDT	0.380-0.389	522			A
İ	İ	Material Thickness		j	İ		İ	İ			İ
(30)		.375 +.04/-0"						01-27-0			

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	]	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			40 CFH@WELDER / 20	791			A
	!!!	CWI / TEAM LEADER					FH PURGE ARGON GA				
	!	VERIFY SHIELDING GAS									
	!	AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START							<u> </u> 		
(10)	!!	AND THROUGH COMPLETION						01-30-0	ļ 		
*				QA			INCO 625 HT LOT AV8	791			$\mathbf{A}$
	İ	CWI / TEAM LEADER			j j		128				İ
	!	VERIFY WELD FILLER MATERIAL COMP		ļ					ĺ		ĺ
(20)	!!	PRIOR TO OPERATION START						01.20.0	ļ i		
(20)		AND THROUGH COMPLETION		0.4			200 GEDVEG GELLDY FG	01-30-0			┤.
*	<u> </u>			QA			300 SERIES STAINLES	791			A
	 	CWI / TEAM LEADED					S STEEL / S.S. WOO		 		
		CWI / TEAM LEADER  VERIFY PURGE DAM MATERIAL COMPL					L 				
	!	PRIOR TO OPERATION START		Ì					!		
(30)		AND THROUGH COMPLETION						01-30-0			j
*				QA			VERIFIED TO MTM WE	791			$\mathbf{A}$
	!!	CWI / TEAM LEADER					D QUALIFICATIONS				
}		VERIFY WELDER QUALIFICATIONS CO									
(40)	 	PRIOR TO OPERATION START AND THROUGH COMPLETION						01-30-0	<u> </u> 		
*		AND TIROUGH COMI LETION		QA			75 / 175MPS/ .062	791			$\mathbf{A}$
				QA			FILLER WPS 390 PP	//1	! 		
}	<u> </u>	CWI / TEAM LEADER					REV 0		<u> </u> 		
İ		VERIFY PARAMETER COMPLIANCE			i i				İ		İ
Ì	!!	PRIOR TO OPERATION START		İ					į		İ
(50)		AND THROUGH COMPLETION						01-30-0			



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# **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 91

<b>Date of Inspection:</b> 0	1/30/2004		Type of	Material:625	INC	ONEL	-	NDT#:7892			
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacturin; [x] Weldment [ ] Bar Stock [ ] Forging	. ] . ]	: ] Casting ] Plate ] Other	Surface ( [ ] Mac [ ] Rou [x] Othe AS-WEL	hined gh er	on:		Test Being Run to:  [x] Router Instructions [] Drawing [] Test Plan [] Technique Card  [] Test Being Run to:  [] Yeat Tr [] Yes [] No		S	
MTM Job Number: Resource ID: Part ID:	230-FABRICAT SE121-001P TE WELD DEVELC	ION - WE ST	EIDNER	Quantity Inspo Quantity Acco Quantity Rejo	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: MTM Spec Number: Acceptance Standard: AWS D1.6, 6.29.1							
Inspection Magnification Used: Light Source Used:			.IGHT								
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	Prehez Proper Fill Shielding Welder Co II	ess Inspection at/Interpass Temper Material/Flux; Gas/Back Purge; Informing to WPS; Root Pass; Fill Pass; Cover Pass; Interpass Cleaning; Distortion of Part;	[] [] [x] [] []	Rej [] [] [] [] [] [] [] [] [] [] [] []	N/A   [x]	Post-Weld Inspection  Welds Properly Completed:	Acc [] [] [] [] [] [] [] [] [] [] [] [] []	[x] [x] [x] [x] [x] [x] [x] [x]			
		<u>'</u>		Inspection Requir	ements	:	<u>'</u>				
100 % of all access	sible surfaces	[ ] Join	t Preps	[x] Root Pass		[ ] Bad	ck Gouge	e [] Cover Pass [	] Other		
Notes: Visual inspection of root pas	s on test joint. \	Weld acc	eptable to c	ustomer drawing /	specific	ation re	equireme	nts.			
This is to certify that the piec shown.  Inspector:	es specified hav		nspected in	accordance with t			าร	AWS 1 SME I SME IS SOUTH			



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Date: 04/15/04 User ID: DURHAM

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

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

Drawing ID: SE121-001P Rev: 0			INSPECTION INSTRUCTIONS			F	INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*		(g  ,208")		QA		4470	+0.016 - +0.094	522			A
		Profile Tolerance (+.188 /020")									ĺ
		(tack welded vessel)									
(10)		At weld seam only (development panel)						01-30-0			
*				QA		J-1165	LESS THAN 1.01	522			A
İ		Magnetic Permeability 1.01 Max.						İ		İ	İ
		Record range (high / low)									
(20)		At weld seam only (development panel)						01-30-0		1	

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

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

Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			]	INSPECTED BY			l		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	ł
*				QA			40 CFH @WELDER / 2	791			A
	[	CWI / TEAM LEADER		]			0CFH AT PURGE				l
	ļ	VERIFY SHIELDING GAS						ļ			1
		AND PURGE GAS COMPLIANCE									l
(10)		PRIOR TO OPERATION START AND THROUGH COMPLETION						01-30-0		 	i
*	<u> </u>	AND THROUGH COMPLETION		QA			INCO 625 HT AV8128	791			A
	 	CWI / TEAM LEADER		QA			.062 DIAM.	/71		 	A
	İ	VERIFY WELD FILLER MATERIAL COMP					.002 DIAW.	<u> </u>		! 	l
İ	İ	PRIOR TO OPERATION START									l
(20)	İ	AND THROUGH COMPLETION		ĺ				01-30-0			l
*				QA			300 SERIES SS / S.S	791			A
	[	CWI / TEAM LEADER		ļ			.WOOL	]			ļ
		VERIFY PURGE DAM MATERIAL COMPL						ļ			
(20)	ļ	PRIOR TO OPERATION START						01 20 0			l
(30)		AND THROUGH COMPLETION		0.4			VERIFIED TO WPS 390	01-30-0			
"				QA			PPPL REV 0 PER MTM	/91 		 	A
	 						QUALIFICATION CHEC	 		 	i
	 	CWI / TEAM LEADER					K	1 		 	i
1	i	VERIFY WELDER QUALIFICATIONS CO								! 	l
İ	İ	PRIOR TO OPERATION START		ĺ				İ			ĺ
(40)		AND THROUGH COMPLETION						01-30-0			l
*				QA			75 TO 175 .062 FIL	791			A
	ļ	CWI / TEAM LEADER					LER	ļ			
		VERIFY PARAMETER COMPLIANCE									ł
		PRIOR TO OPERATION START						01 20 0			i
(50)		AND THROUGH COMPLETION						01-30-0			ı



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### Nondestructive Test Certification for Visual Inspection

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

-				Material:625	INC	ONEL	NI	)T#: <b>79</b>	00		
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	] Incoming Inspection   [x] Weldment   ] Cas   [x] In-Process Inspection   [ ] Bar Stock   [ ] Plate   [ ] Forging   [ ] Other   [ ] Final Inspection   Part Information:    MTM Job Number: 64880/1.0 -Sub:26 -Op:100					on:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	Heat		ed:
MTM Job Number: Resource ID:	64880/1.0 -St 705-WELD EI SE121-001P	NGINEEF		Test Quantity Insp Quantity Acce Quantity Rej Run H	epted: ected:	: 1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:		Customer Spec MTM Spec Acceptance	Numbe	er: N/A	/IE SEC	pection Criteria: TION V ARTICLE 6 PARA 6.29.1					
Inspection Magnification Used: Light Source Used:											
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		N/A   [x]	Prehe Proper Fil Shieldin Welder Co	cess Inspection at/Interpass Temp. ler Material/Flux. g Gas/Back Purge. pnforming to WPS.	: [] : [] : [x] : [] : []	Rej [] [] [] [] [] [] [] [] [] [] []	N/A	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:		Rej [] [] [] []	N/A [x] [x] [x] [x] [x] [x]
% of all access	sible surfaces	[ ] [0	oint Preps	Inspection Requir			ck Goug	ge []Cover Pass	[] Other		
70 Of all access.	Sible Sulfaces	[ ] 30	ли г терз ————	[x] 1100011 833		[ ] Da		e [] Cover i ass			
Notes: Root pass of weld test / dev	elopment pan	el fabricat	ion operation	#3 was inspected	. No re	jectable	indication	ons were noted at the time of in	spection		
This is to certify that the piec shown.  Inspector:	es specified h		ı inspected in	accordance with t			ns	Michael Trosm	ROSEN		

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

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

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

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

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

	Drawing ID: SE121-001P Rev: 0  ZONE CHARACTERISTIC		INSPECTION INS	STRUC	TIONS	I	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			40 CFH @WELDER / 20	791			A
	!!	CWI / TEAM LEADER					CFH @ PURGE				
	!!!	VERIFY SHIELDING GAS									
	!!	AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START						}			
(10)	!!	AND THROUGH COMPLETION						02-02-0			
*		THE THREE CIT COM ELITERY		QA			INCO 625 HT LOT AV	791			A
Ì		CWI / TEAM LEADER					8128 .062 DIAM.				
j j	!!	VERIFY WELD FILLER MATERIAL COMP		İ				İ		İ	
	!!	PRIOR TO OPERATION START									
(20)		AND THROUGH COMPLETION						02-02-0			
*		CWI / TEAM LEADED		QA			300 SERIES S.S. / S	791			A
		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL					S.WOOL INSERT	}			
		PRIOR TO OPERATION START						! 	<u> </u>		
(30)	!!	AND THROUGH COMPLETION						02-02-0			ĺ
*				QA			ACCEPTABLE TO MTM	791			A
				ĺ			QUALIFICATION CHEC	İ			
							PER WPS 390 PPPL R				
	!!	CWI / TEAM LEADER					EV O				
		VERIFY WELDER QUALIFICATIONS CO						}			
(40)	!!	PRIOR TO OPERATION START AND THROUGH COMPLETION						02-02-0		 	
*		THOUGH COMILLION		QA			75- 175 AMPS .062	791			A
				Q 1			FILLER (ALL PARAME		<u> </u>		1.1
		CWI / TEAM LEADER					TERS PER WPS)	<u> </u>			
	!!!	VERIFY PARAMETER COMPLIANCE						İ	İ		
	!!	PRIOR TO OPERATION START						]			
(50)		AND THROUGH COMPLETION						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	pe of Ma	aterial:625	INCON	EL	NDT#:7902			
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	sting te er	Surface Co [ ] Machi [ ] Rough [x] Other AS-WELD	ned 1		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	Heat Treated: [ ] Yes [x] No		
MTM Job Number: Resource ID: Part ID: Part Name: Serial Number:	Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:  Customer Inspection Plan: Test Step: Revision:				esults: .ted: .ted: .ted: .ted: urs:	1 1 0 0.0		
	(	Customer Specif MTM Spec N Acceptance St	Number: N	NSME SEC <sup>.</sup> NA	pection Criteria: TION V ARTICLE 6 PARA 6.29.1			
Inspection Magnification Used: Light Source Used:								
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		[x]   Proj [x]   Sh	oer Filler M ielding Ga der Confor Interp	Inspection terpass Temp: Material/Flux: s/Back Purge: ming to WPS: Root Pass: Fill Pass: Cover Pass: pass Cleaning: ortion of Part:	Acc   Re	[x] [x] [x] [x] [x] [x] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:	[] [] [x] [] [x] [] [x] [] [] [x] [] [x] [] [x] [x
			Insp	ection Require	ments:			
% of all access	sible surfaces	[ ] Joint Pre		[ ] Root Pass RMEDIATE FILI		Back Goug	ge [] Cover Pass	[x] Other
Notes: Filler pass of weld test / dev	elopment panel	fabrication op	eration #4 v	was inspected.	No rejecta	able indicati	ons were noted at the time of in	spection
This is to certify that the piec shown.  Inspector:	es specified hav		cted in acc		e specifica		Daylor D. Edwards	

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Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	RESULTS		INSPECTED		BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g  ,248")		QA		4470	+0.023 / +0.097	522			A
	Ì	Profile Tolerance (+.188/060")			j j					1	ĺ
		(tack welded vessel)								1	
(10)		At weld seam only (development panel)						02-02-0		1	
*				QA		J-1165	LESS THAN 1.01	522			A
İ	j	Magnetic Permeability 1.01 Max.		İ	İ					Ï	ĺ
		Record range (high / low)			ĺ					ĺ	ĺ
(20)		At weld seam only (development panel)						02-02-0			

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION IN	STRUC	TIONS	]	RESULTS	INS	PECTEL	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			40@ WELDER 20CFH A	791			A
		CWI / TEAM LEADER					PURGE				
	!	VERIFY SHIELDING GAS						ļ	ļ		
	!	AND PURGE GAS COMPLIANCE									
(10)		PRIOR TO OPERATION START						00.00.0			
(10)		AND THROUGH COMPLETION						02-02-0			
*				QA			.093 625 INCO. HT	791		-	A
		CWI / TEAM LEADER					LOT CT7519				
		VERIFY WELD FILLER MATERIAL COMP						ļ	ļ		
(20)		PRIOR TO OPERATION START AND THROUGH COMPLETION						02-02-0		 	
(20)		AND THROUGH COMPLETION		0.4			CTAINI ECC CTEELL 20				
, ~				QA			STAINLESS STEELL 30	/91 	 	-	A
							0 SERIES / S.S. WOO		ļ		
		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL					L INSERT			 	
	!	PRIOR TO OPERATION START							 		
(30)		AND THROUGH COMPLETION						02-02-0			
*		Involutional Editory		QA			CERTIFIED PER MTM Q				A
				Q11			UALIFICATION SYSTE				
							WPS 390 PPPL REV			 	
		CWI / TEAM LEADER					0			 	
		VERIFY WELDER QUALIFICATIONS CO							ļ 		
i		PRIOR TO OPERATION START						İ	İ	i i	
(40)		AND THROUGH COMPLETION		İ				02-02-0		İ	
*				QA			100 - 210 AMPS .093	791			A
İ							FILLER ALL PARAMET	İ		İ	
İ					i i		ERS PER WPS 390PPPL		ļ	j j	
j i		CWI / TEAM LEADER					REV 0	İ	İ	j i	
į i		VERIFY PARAMETER COMPLIANCE		İ				İ	İ	j i	
		PRIOR TO OPERATION START		Ì	j j			Ì	Ì	j j	
(50)		AND THROUGH COMPLETION						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:0	ype of	Material:625	INCOI	NEL	NDT#:7909					
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	] Incoming Inspection					•	Test Being Run to:  [X] Router Instruction  [] Drawing  [] Test Plan  [] Technique Card	ns [	eat Treat ] Yes (] No	ed:
MTM Job Number: Resource ID: Part ID: Part Name: Serial Number:	MTM Job Number: 64880/1.0 -Sub:26 -Op:140 Resource ID: 230-FABRICATION - WEIDNE Part ID: SE121-001P TEST Part Name: Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:  Customer Inspection Plan: Test Step: Revision:					1 1 0				
	Test Step: Revision:					ASME S N/A	nspection Criteria: ECTION V ARTICLE 6 6 PARA 6.29.1			
Inspection Magnification Used: Light Source Used:										
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	: [] [] : [] [] : [] [] : [] [] : [] []	[x]   Pro [x]   Si	Prehea oper Fillo Shielding elder Con	ess Inspection t/Interpass Temp: er Material/Flux: Gas/Back Purge: nforming to WPS: Root Pass: Fill Pass: Cover Pass: terpass Cleaning: Distortion of Part:	[] [] [] [x] [x] [x] []	Rej         N/           []         [x           []         [x           []         [x           []         [x           []         [x           []         [x           []         [x           []         [x	Welds Properly Com Weld St Weld Dime Weld Co Post-Weld Cl Distortion o	ppleted: [] urfaces: [] nsions: [] ntours: [] eaning: []	Rej [] [] [] [] [] []	N/A
		- '	]	Inspection Require	ments:		'			
% of all access	sible surfaces	[] Joint Pr	reps	[ ] Root Pass COVER PAS		] Back G	ouge [ ] Cover Pass	[x] Ot	her	
Notes: Cover pass of weld test / de	velopment pane	el fabrication o	operatior	n #5 was inspected.	No reje	ectable inc	dications were noted at the t	ime of inspec	tion	
This is to certify that the piece shown.  Inspector:	es specified ha		ected in	accordance with th			Daylor D. Edu	ado (1)		

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Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	RESULTS		INSPECTED BY			]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g  ,268")		QA		4470	+0.017 / +0.097	522			A
	Ì	Profile Tolerance (+.188/080")						İ	İ	1	ĺ
		(tack welded vessel)								1	
(10)		At weld seam only (development panel)						02-03-0		1	
*				QA		J-1165	LESS THAN 1.01	522			A
İ	Ì	Magnetic Permeability 1.01 Max.		İ	j j			j	İ	ĺ	İ
		Record range (high / low)						İ	Ì	ĺ	ĺ
(20)		At weld seam only (development panel)						02-02-0			

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

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

D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	]
ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
			QA			20 CFH PURGE / 40CF	791			A
	CWI / TEAM LEADER					H @ WELDER		ļ	ļ	
	!									
	!								 	
	!			 			02.02.0	 	 	
	AND THROUGH COMPLETION		0.4			062 625 INCO HT #				┤,
			QA				/91		 	A
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	CWII (TEANALEADED					625 INCO HT # CT/51			 	
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							02-03-0	ļ	! 	
			OA			300 SERIES S.S. /				$\mathbf{A}$
	CWI / TEAM LEADER					ļ.		İ		
	VERIFY PURGE DAM MATERIAL COMPL		Ì	İ				ĺ		İ
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	AND THROUGH COMPLETION						02-03-0			╛
			QA			QUALIFIED PER MTM	791			A
						ELDER QUALIFICATIO				
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·	l l						02.02.0			
	AND THROUGH COMPLETION		0.1			0.62 55 455 43 500 0				┥.
			QA			!	791		l I	A
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	!					PPL REV 0				
	!								 	
	AND THROUGH COMPLETION		1				02-03-0		 	
	ZONE	CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START	CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START	CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START	CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START	CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START	ZONE   CHARACTERISTIC   GAGE/EQUIP   BY   SAMPL   SER#   DATA/REMARKS	CWI / TEAM LEADER   VERIFY SHIELDING GAS   AND PURGE GAS COMPLIANCE   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   QA   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   QA   QA   QUALIFIED PER MTM   PRIOR TO OPERATION START   QA   QA   QA   QA   QA   QA   QA   Q	CWI / TEAM LEADER   VERIFY SHIELDING GAS   AND PURGE GAS COMPLIANCE   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   CWI / TEAM LEADER   VERIFY BY SHIELDING GAS   QA   CWI / TEAM LEADER   VERIFY BY SHIELDING GAS   QA   COMPLIANCE   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   QA   COMPLETION   QA   QA   QA   QA   QA   QA   QA   Q	CHARACTERISTIC   GAGE/EQUIP   BY   SAMPL   SER#   DATA/REMARKS   INSP   VERFD   AUDIT



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: 103

Date of Inspection:02	Type of	Material:625	INCONE	:L	NDT#:7914				
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	[x] Incoming Inspection [x] Weldment [] Castin [] Incoming Inspection [] Bar Stock [] Plate [] Final Inspection [] Final Inspection [] Fart Information:				ondition: ned n		Test Being Run to: [x] Router Instructions [ ] Drawing [ ] Test Plan [ ] Technique Card	Heat Treated [ ] Yes [x] No	:
MTM Job Number: Resource ID: Part ID: Part Name: Serial Number:	MTM Job Number: 64880/1.0 -Sub:26 -Op:160 Resource ID: 230-FABRICATION - WEIDNE Part ID: SE121-001P TEST Part Name: Serial Number: Customer P.O.: S-04344-F Customer Unit/Plant:  Customer Inspection Plan: Test Step: Revision:					.0			
		Customer Specil MTM Spec N Acceptance St	Number: N/	SME SECT A	ection Criteria: ION V ARTICLE 6 ARA 6.29.1				
Inspectior Magnification Used: Light Source Used:									
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	: [] [] : [] [] : [] [] : [] [] : [] []	N/A	Prehea Proper Fill Shielding Welder Co	tess Inspection at/Interpass Temp: ter Material/Flux: ty Gas/Back Purge: nforming to WPS: Root Pass: Fill Pass: Cover Pass: nterpass Cleaning: Distortion of Part:	Acc Rej []	N/A	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:		N/A [x] [x] [x] [x] [x] [x]
				Inspection Require	ments:				
% of all access	sible surfaces	[ ] Joir	nt Preps	[ ] Root Pass BACKSIDE ROOT		Back Goug	e [] Cover Pass [	] Other	
Notes: Backside root pass of weld to	est / developm	ent panel	fabrication (	operation #6 was ins	spected. No	o rejectable	indications were noted at the ti	me of inspection	
This is to certify that the piec shown.  Inspector:	es specified ha		nspected in		e specification		Daylor D. Edwards		

NDT003 n:\mtmapps\mtmdtlpi.qrp Page: 24 User ID: LONAKER Date: 04/15/04



Page: 57 Date: 04/15/04 User ID: DURHAM

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

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

	Γ	Drawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g  ,288")		QA		4470	+0.007 / +0.076	522			A
		Profile Tolerance (+.188/100")		j					İ		ĺ
		(tack welded vessel)								1	
(10)		At weld seam only (development panel)						02-03-0		1	
*				QA		J-1165	LESS THAN 1.01	522			A
İ	İ	Magnetic Permeability 1.01 Max.			İ					Ï	ĺ
		Record range (high / low)									
(20)		At weld seam only (development panel)						02-03-0		1	

Page: 58 Date: 04/15/04 User ID: DURHAM

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

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

	Drawing ID: SE121-001P Rev: 0 ZONE CHARACTERISTIC		INSPECTION INS	STRUC	TIONS	I	RESULTS	INS	PECTED	) BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			20 CFH AT PURGE/ 40	791			A
	!!	CWI / TEAM LEADER		j	j j		CFH @ WELDER		į	]	ĺ
		VERIFY SHIELDING GAS		ļ					ļ	ļ .	
		AND PURGE GAS COMPLIANCE									
(10)		PRIOR TO OPERATION START						02.02.0			
(10)		AND THROUGH COMPLETION						02-03-0			١.
*				QA			.093 INCO 625 HEAT	791	ļ		A
		CWI / TEAM LEADER					# CT7519		ļ i		
		VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START							ļ	 	
(20)		AND THROUGH COMPLETION		] ]				02-03-0	 	] 	
*		AND THROUGH COMPLETION		QA			300 SERIES S.S. /	791			A
		CWI/TEAM LEADER		Į QA	 		S.S. WOOL INSERT		 	] 	A
	!!!	VERIFY PURGE DAM MATERIAL COMPL			i i		S.S. WOOL INSERT		! 	İ	İ
		PRIOR TO OPERATION START		İ	i i				İ	j j	İ
(30)		AND THROUGH COMPLETION			j j			02-03-0		İ	
*				QA			VERIFIED PER MTM W	791			A
j j					j j		LDER QUALIFICATION			j j	ĺ
		CWI / TEAM LEADER			j j		CHECK			İ	
		VERIFY WELDER QUALIFICATIONS CO			j j				ĺ	ĺ	İ
	!!!	PRIOR TO OPERATION START		ļ					ļ		ļ
(40)		AND THROUGH COMPLETION						02-03-0			
*				QA	]		100-210 AMPS ALL PA	791			A
					[ ]		RAM. PER WPS 390PPP				ļ
		CWI / TEAM LEADER			[ ]		L REV 0				
	: :	VERIFY PARAMETER COMPLIANCE									
(50)	!!!	PRIOR TO OPERATION START						02.02.0			
(50)		AND THROUGH COMPLETION						02-03-0			



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:0	2/03/2004	Тур	of Material:625 INCONEL	NDT#:7915
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacturing [x] Weldment [ ] Bar Stock [ ] Forging	[ ] Casti	ng [ ] Machined [x] Rou	,
MTM Job Number: Resource ID:	230-FABRICAT SE121-001P TE	ION - WEIDNER	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 Crit Customer Specification: ASME SECTION V ART MTM Spec Number: N/A Acceptance Standard: AWSD1.6 PARA 6.29.1	TICLE 6
Inspection Magnification Used: Light Source Used:				
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	: [] [] : [] [] : [] [] : [] []	[x] Prope [x] Shie	reheat/Interpass Temp: [] [] [x] Welds Profiler Material/Flux: [] [] [x]   ding Gas/Back Purge: [] [] [x]   r Conforming to WPS: [] [] [x]	Weld Inspection         Acc         Rej         N/A           roperly Completed:         []         []         [x]           Weld Surfaces:         []         []         [x]           Weld Dimensions:         []         []         [x]           Weld Contours:         []         []         [x]           ost-Weld Cleaning:         []         []         [x]           Distortion of Part:         []         []         [x]
		<u> </u>	Inspection Requirements:	
% of all access	sible surfaces	[ ] Joint Prep	BACKSIDE FILL PASS	Cover Pass [x] Other
Notes: Backside fill pass of weld te	st / developmen	t panel fabricatio	n operation #7 was inspected. No rejectable indications	were noted at the time of inspection
shown.	es specified hav		ed in accordance with the specifications  Date: 02/03/2004	refor D. Edwards

NDT003 User ID: LONAKER Date: 04/15/04  $n:\ \ mtmapps\ \ mtndtlpi.qrp$ Page: 25



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Date: 04/15/04 User ID: DURHAM

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

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

	Γ	Drawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g  ,308")		QA		4470	-0.007 / +0.041	522			A
		Profile Tolerance (+.188/120")		j				j	İ		
		(tack welded vessel)								1	
(10)		At weld seam only (development panel)						02-03-0		1	
*				QA		J-1165	LESS THAN 1.01	522			A
İ	İ	Magnetic Permeability 1.01 Max.			İ			İ		Ï	İ
		Record range (high / low)									
(20)		At weld seam only (development panel)						02-03-0		1	

Page: 60 Date: 04/15/04 User ID: DURHAM

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	]	RESULTS	INS	PECTE	BY	l
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	l
*				QA			20CFH @PURGE / 40	791			A
	! !	CWI / TEAM LEADER		j	j j		CFH @ WELDER				ŀ
		VERIFY SHIELDING GAS		ļ							
		AND PURGE GAS COMPLIANCE									
(10)		PRIOR TO OPERATION START						02.02.0			i
(10)		AND THROUGH COMPLETION						02-03-0			١.
*		CWW (FFEA) (A FA PER		QA			.093 625 INCO HT #	791			A
		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP					CT7519				i
		PRIOR TO OPERATION START								 	i
(20)		AND THROUGH COMPLETION						02-03-0		 	ĺ
*		THIS THROUGH COM LETTON		QA			300 SERIES S.S. /	791			A
		CWI / TEAM LEADER		Q 1			S.S. WOOL INSERT			 	1
	ļ ļ	VERIFY PURGE DAM MATERIAL COMPL			i i		S.B. WOOD IN (BERT)				1
j j		PRIOR TO OPERATION START		İ	j j					j j	1
(30)		AND THROUGH COMPLETION			j j			02-03-0		l l	1
*				QA			PER MTM WELDER QU	791			A
							IFICATION CHECK WP				1
	j	CWI / TEAM LEADER			j j		S 390PPPL REV 0				1
		VERIFY WELDER QUALIFICATIONS CO		ļ	[ [						
		PRIOR TO OPERATION START									
(40)		AND THROUGH COMPLETION						02-03-0			
*				QA			.093 FILLER 100-210	791			A
				ļ			AMPS PER WPS 390PP				
		CWI/TEAM LEADER					PL REV 0				ł
	!	VERIFY PARAMETER COMPLIANCE									l
(50)		PRIOR TO OPERATION START						02 03 0			i
(50)		AND THROUGH COMPLETION						02-03-0			ı



**Nondestructive Test** Certification for Visual Inspection
Quality Assurance Documentation for Part ID: SE121-001P TEST - Item: 109

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

Date of Inspection:02	2/03/200	4	Type of	Material:625	INCC	DNEL	-	NI	)T#: <b>7</b> 9	918	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufactu [x] Weldm [ ] Bar St [ ] Forgin	ent [ ock [	ss:  Casting Plate Other	Surface ( [ ] Mach [ ] Roug [x] Othe AS-WELI	nined Ih r	n:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	Heat		ed:
MTM Job Number: Resource ID:	230-FABRIC SE121-001F	Sub:26 -Op CATION - W		Test I Quantity Inspe Quantity Acce Quantity Reje Run H	pted: cted:	1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:				Customer Spec MTM Spec Acceptance S	Numbe	r: N/A	1E SEĈT	ection Criteria: FION V ARTICLE 6 ARA 6.29.1			
Inspection Magnification Used: Light Source Used:		ICATION									
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		N/A	Prehed Proper Fill Shielding Welder Co	cess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS: Root Pass: Fill Pass: Cover Pass: nterpass Cleaning: Distortion of Part:	Acc	Rej [] [] [] [] [] [] [] [] [] [] [] []	N/A	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc [] [] [] [] [] []	Rej [] [] [] [] []	N/A     [x]     [x]       [x]
% of all access	sible surface	es []Jo	int Preps	Inspection Requir [ ] Root Pass BACKSIDE COVE		[]Ba	ck Goug	e [x] Cover Pass	[ ] Other	-	
Notes: Backside cover pass of weld	l test / deve	lopment pai	nel fabrication	n operation #8 was	inspect	ed. No	rejectal	ole indications were noted at the	e time of	inspec	ztion
This is to certify that the piec shown.	·		·	accordance with the			าร	Daylor D. Edwards			



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

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

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

MG	MQS 530 Indi	7 We kanar xne: 3	st öct oolls, i	h Street N 46268 '2-8196			Customer: Major 7001 + Machine  HSR E. 19th St.  This John TN.  Customer's P.O. No.:  Job Location: Same  Item Description: SE/21-00/Ptest  100% insp.  Spot insp.
SERIAL NO. or PR	CE NO.:	488	9/10	0/24	230/8	18	TECHNIQUE DATA
Weld No.	Film   No.   O   H	лос. V	<del>/</del>			REMARKS	Inspection Specification: ASME VIII Acceptance Standard: ASME VIII Jun 1 UW-51 RT Procedure No.: 20. A. 100 RT Technique Used Below: E  **SOURCE**  **BOURCE**  **
							SOURCE POSITIONED PENE.  SOURCE POSITIONED PENE.  NO CENTER OF PIPE  MATERIAL: 625 Incored

							MATERIAL: 605 Tricond
							PIPE SIZE: NA WALL THICKNESS: 225"
•							WELD PROCESS: SMAW GTAW GMAW
	}						SOURCE: ISOTOPE: ZR #2 CURIER: 28 KVP/MA: N/A
							PHYSICAL SIZE: 154"
							EXPOSURE TIME: SFD: 18"
							I DE ANOR ECT INCLES: CCC/174CT*
			 $\Box$		• •		GEOMETRIC UNSHARPNESS:
						· · · · · · · · · · · · · · · · · · ·	DENETDANETED TYPE OFF ASTM 18
							MATERIAL: PLACEMENT: 35
			 				SUBJECT LASTEDIAL N/A TURNALED N/A
	<b></b>						SHIMS: MATERIAL: NA THICKNESS: NA MARKER/NO BELT: P6#4
и	· · · · · · · · · · · · · · · · · · ·						THAT PRAND KE JOE THE MA
	<del>                                     </del>		-				FILM: BRAND: Kodak TYPE: All SZE: 4.5" x 17" LOAD: 5/19/2
	<del> </del>		 $\vdash$	_			EMUSION(S)A: N/A
			 <del></del>			•	SCREENS: FRONT: 2002" BACK: 2003" BACKING: ALIA
	<del> </del>		 <del></del>	—			
	$\vdash$		┝				VIEWING: SINGLE:
·						<del></del>	DENSITY (PEN.)
	├	_	┝╼┿		<u> </u>		DENSITY (WELD) MIN/MAX:

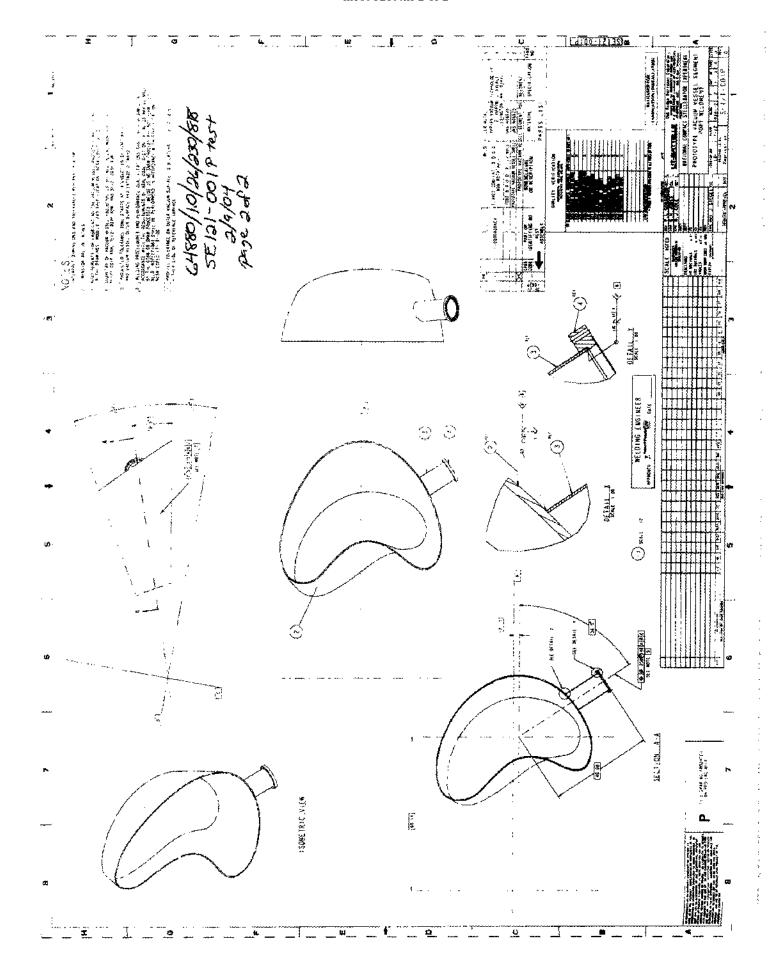
P -- Porcetty SI -- Stag Inclusions
C -- Crack BT -- Burn Through
IF -- Incomplete Fusion IP -- Incomplete Penetration
S -- Surface

CODE

TI — Tungsten Inclusion CV— Roof Concavity CX— Roof Convexity OX— Oxidation

Robert Wearen BENT

RADIOGRAPHER



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



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

79533         P03-05170         N/A         12/19/03           ITEM         SIZE         GRADE         LOT NO./ALLOY NO.         QUANTITY	ARCOS	s.o. T	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
ITEM SIZE GRADE LOT NO /ALLOY NO. QUANTITY			P03-05170	N/A	12/19/03
20#		·	GRADE	LOT NO /ALLOY NO.	QUANTITY
1/18 X 30 ARGOO 020	1	1/16 X 3	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.

CHEMICA	L ANALYSIS:		WIRE				<u> </u>		
C	Mn	Si	S	P	Cr	Nì	Mo	Cb	Cb + Ta
0.03	0.05	0.08	0.004	0.00	21.8	64.6	9.1		3.77
Та	Ti	Al	Co	Cu	Fe	V	Total Others		<u> </u>
	0.24	0.26	0.01	0.02	C.1		<.50		

ADDITIONAL TEST RES	ULTS	TENSILE	As Welded	Heat Treater
Ferrite - NB2433.1-1:		Yield	***	
Magna Gage:		Tensile		
X-Ray:		Elongatio	n	
Bends:		Red.of Area		
Hardness:				
OTHER INFORMATION:	LOT CLASSIFICATION - INTENSITY OF TESTING -	S1 Schedule F		
THIS MATERIAL	IS FREE FROM MERCURY, R	ADIUM OR ALPHA PAR	TICLE CONTAM	INATION.

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 Ined 1 MA TE DEPARTME

P.04

Dec 04 2003 8:18 AM FR ARCOS INDUSTRIES LL0333 5206 TO 13176349420

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



DATE

11/26/03

### **CERTIFICATION OF TESTS**

SOLD TO:

SHIP TO:

SAME

MAJOR TOOL & MACHINE, INC. 1458 EAST 19TH STREET

1458 EAST 19TH STREET INDIANAPOLIS, IN 46218

ARCO	OS S.O.	CUSTO	MER ORD	ER NO.	CONSI	SNEE ORD	ER NO.	DATE	SHIPPED
	388		P03-04749		ļ <u> </u>	N/A			26/03
ITEM T	SIZE		GRA		LOT	NO./ALLO	(NO.	QUA	NTITY
1	1/16 X	36"	ARCOS	625		AB8051	<u> </u>		30#
SPECIFIC	ATION:	ASME SF	14/A5.14M A 5.14 AS PARAS AI	ME SEC	TION II, PA	ERNICTM ART C, 200 U 2002.		<b>l.</b>	
CHEMICAL	ANALYSIS:	<del></del> -	WIRE						
С	Mn	Si	S	Р	Cr	Ni Ni	Mo	СР	Cb + Ta
0.02	0.01	90.0	0,001	0.01	22.2	64.3	9.1		3.56
Ta	Τι	Al	Co	Cu	Fe	V	Total Others		
_	0.22	0.12	0.03	0. <u>01</u>	0.4		<.50		
ADDITION Ferrite - NE Magna Gaş		ULTS			•	TENSILE Yield Tensile	As Welded		Heat Treate
X-Ray:						Elongation	ļ	,	· ·
Bends:			····	-		Red,of Area		•	<del></del>
Hardness:									
OTHER IN	FORMATION:		SSIFICATIO Y OF TEST		S1 Schedul	e F			
TH	IIS MATERIAL	IS FREE F	ROM MERC	CURY, RA	DIUM OR A	LPHA PAR	TICLE CON	TAMINAT	ΓΙΦΝ.

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

QUALITY ASSURANCE DEPARTMENT

8/505 Line 1

12/5/03

\*\* TOTAL PAGE.04 \*\*



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

# Accommodation Sales Order

		Canoga Park, CA 9150	J9-1922		
DATE: 10-00	6-99		ASO	NO. 087 <u>08-</u> 0	20001
CUSTOMER OR	OER NO P9	905389 - P9905441			_
SOLD TO:			REFERENCE G. HARRIS		
MAJOR TOOL &	MACUNIC DIO		NEGO. BY CHRISTINE KOZ	TOUGHT	
	MACHINE, INC	•	TERMS NET 30	ADD MOKI	<del></del>
1458 E. 19TH ST. INDIANAPOLIS, IN 46218				DEDLET NO M	
INDIANAPOLIS,	114 40219		RESALE YES	PERMIT NO. N	[A
SHIP TO:		<del></del>	F.O.B. OUR PLANT CANOGA:	rakk, ca Citin	<del></del>
SHIP TO:			MONECH, NEG, 1 & D (0)		
CANCELO ADOU	F		ROCKETDYNE ASSY, NO. R052	2079A1, RUS2079	PA2
SAME AS ABOVE	E		DAGUE DA 112 DOGG	15016 MMDD) 4 04	
			ROCKETDYNE P.O. NO. PR993	15316 ITEM: 00	001, 0002,
CHOLES ATT TO	Dave seiben	ETTS TOTAL STREET AND	0003, 0011		
SHIP VIA AIR FRI	leghi "exped	TIE DELIVERY"			
ITEM QUANTIT	Y UOM	MATERI	AL DESCRIPTION	UNIT PRICE	TOTAL PRICE
1 17	1.24 LBS.	INCO625.062X36" WELD	WIRE		3
	1	(.062" Dia. X 36" WELD V	WIRE RB0170-226 INCO 625)		
		`	,		
j	1	20 LBS REQUESTED		. 1	
		_	•		
	<u> </u>	TRAC	EABILITY		
Rocketdyne Tracea Material Certificati Verified By: Dan I	on with mill sour		E and the second	1CT 2 1 1999 56655	
ISSUE TO:		DELIVER TE	RUCKING, SHIPPING	NOTE: A COP	Y OF THIS ASO
CMPANY8708000	001	FILLED BY		MUST ACCOM	RPANY
	-	FILL	ED D/569 MAX/MIN #AX 729 2	EACH SHIPME	
LOCATION OF MA	TERIAL:		749 2	27 873 1100 rs	
MAC/PAC		n	CT 9 199.9	PRUGRAM	as <u>——</u>
RELEASED PURC	HASING:	U	or a soul	RS-68	
D/580		QiY	17 EA. TUBOS		
	ŀ	•	777	02741-71934	-41501
	]	ISS	ы ——	02421-72007	
(1907402)		OU OWING FOR USE OF	SHIPPING AND INSPECTION		
		RE NET	L W	н	CU.
PKGS. 1 CIN.	37		13" 13"	41"	FT. 4.0
CAR NO.	_	MITTADED	DATE SHIPPED	SEAL NO.	
<sup> </sup> BAX GLOBAL€	O/N . P	BAX 729 227 973 110C1	<sup>rea</sup> 990CT11 oy me/us or under my/our supers		andifications
I/we certify that th	e items listed he	erein nave been inspected	by me/us or under my/our superv	rision. Ilwe turti	ter certily that
to the pest of my/d	our knowledge t	nese matenais are as repri	esented in the above description.		
		<del></del>	<del></del>	<del></del>	
ROCKETDYNE IN:	SPECT. ATTA	. 1	GOVT. INSPECT.		
STAMP		0CT1199		ı	
O I WINE	(6)	00117 54	STAMP		
SIMME	697	0011.4.54	STAMP (when required)		
31 VIIII	9				
21 Unit	R	EC'D BY;		DATE: _	



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	<u></u>		ASO N	O. 087 <u>08-0</u>	00001
CUSTOMER ORDER NO. P9	 905389 - P9905441				
SOLD TO:		REFERENCE G. HARRIS NEGO. BY CHRISTIN		WONI	
MAJOR TOOL & MACHINE, INC	•	NEGO. BY CHRISTIN TERMS NET 30	E KOZLO	WOVI	
1458 E. 19TH ST. INDIANAPOLIS, IN 46218		RESALE YES	P	ERMIT NO. N	/A
INDIANA ODIO, IN 40210	F.O.B. OUR PLANT CAN INSPECT, REQ. I & D	IQGA PAI	RK, CA		
SHIP TO:	<u> </u>	INSPECT, REQ. I & D	50	· 71	
ALL OF A DATE		ROCKETDYNE ASSY. NO	o. R05267	9A1, KU52675	9A2
SAME AS ABOVE		ROCKETDYNE P.O. NO. I	PR993153	16 ITEM: 00	001, 0002,
		0003, 0011			
SHIP VIA AIR FRIEGHT "EXPER	OTTE DELIVERY"				
ITEM QUANTITY UOM		L DESCRIPTION		UNIT PRICE	TOTAL PRICE
1 17 1.24 LBS.	INCO625.062X36" WELD	WIRE			
	(.062" Dia. X 36" WELD W	TRE RB0170-226 INCO 62	:5)		1
	20 LBS REQUESTED				
	TRACE	ABILITY			
Rocketdyne Traceability number: V Material Certification with mill sou Verified By: Dan Inez Verified By: Dan Inez CMPANY870800001	rce attached: yes	UCKING, SHIPPING		MUST ACCO	Y OF THIS ASO
_	FILLE	D D/569 MAX/MIN		EACH SHIPM ARTICLES	ENT OF
LOCATION OF MATERIAL:	1	CT 9 199.7		PROGRAM:	
MAC/PAC	ป	in ca tieds	l	RS-68	
D/580	QIY.	17 50. 140.4		02741-7193	4 41 501
	ISS	17 EA. TUBOK BY		02/41-7193 <sup>0</sup> 1 02421-7200	
(1307402)	FOLLOWING FOR USE OF	SHIPPING AND INSPEC	TION		CU.
TOTAL GR. WT.	TARE NET	_ ~~~	13"	41"	FT. 4.0
PKGS. 1 CTN. 37	N MINTOCO	DATE SHIPPED		EAL NO.	
BAY GLOBAL O/N  I'we certify that the items listed to the best of my/our knowledge	BAX 728 227 973 11001 herein nave been inspecied these materials are as repre	ov melus ör under mylout	r supervis cription.	ion. I/we fur	ther certify that
	<del></del>	f		<del></del> -	
ROCKETDYNE INSPECT.	ac111 49	GOVT. INSPECT. STAMP (when required)			
		*		DATE	
	REC'D BY:	stomer's Signature		DATE:	
Form R 43-0 REV, 4-97		orginaturo		<u></u>	

Alloys Corporation
Alloys Corporation
Alloys Corporation
Alloys Corporation
Alloys Corporation
Taleshone: (805) 494-3521
Taleshone: (805) 494-3521
Taleshone: (805) 494-3521
Taleshone: (805) 494-3521

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

OUR ORDER: 31219

YOUR ORDER: R93PUA89291017

ATTENTI	ON	ŀ
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TO SPEC. <u>ABOVE</u> On. <u>Januar</u>		GAINST YOUR ORDER NO. ABOVE IFORMANCE WITH SECURICATIONS AND HAS THE
FOLLOWING CHE	MICAL AND PHYSICAL PR	IOPERTIES:
<u>C</u>	02	MICECETHICTORY
MM	.38	NO EVIDENCE OF DETRIMENTAL SURFACE CONDITIONS
SI .	.10	ACCEPTABLE PER PARA, 4.3.3
P .	.012	
5	.002	WEIDABILITY:
CR	21.71	ACCEPTABLE PER REQ-170-226 REV. P
AH.	64.02	PARA, 4,3,5.1
CO		1
MO	9.01	MANUFACTURER ( STORE STORE CONFIGURATION):
CS & TA	3-68	ASTROLITE ALLOYS
A.L	.17	
<u> </u>		MISUAL INSPECTION: PASSED PER PARA. 4.3.2
FĘ <sup>ii</sup> .	,72	DETAILED INSPECTION: PASSED PER PARA. 4.3.2.2
cบ	,01	
ZA (		PENETRANT INSPECTION:
\$N		PASSED FER RAD  115-116, TYPE IIA
VY •	•	KREV K, AMME SI
TA	'	
V		
LA		
С,		
H.		
TOR	.50	
TI	.16	
HEARMUN TABH	2653-8-4201	
Physical Properties: Tensile Strenoth:		ASTROLITE ALLOYS CORP.

MILL SCURCE: HAYNES

Yield:

THIS MATERIAL CONTORMS TO ALL REQUIREMENTS OF REOL 10-226 REV. P.

Elongation:

THIS MATERIAL HAS BEEN 1000 ALLOY TYPE TESTED BY ACROMAG.

SWOAN TO AND SUESCIESS SEAGLE MA	CERTIFICATE	THE TEST RESULTS SHOWN IN THIS REPORT ARE CORRECT TO THE SEST OF OUR KNOWLEDGE AND SELIEF.
THIS 9 DAY OF JANUARY 1889	OF TEST	AREO EYOJIA STIJDRĪZA
NGTARY FUELIC	<u> </u>	CUALITY ASSURANCE REPRESENTATIVE

18185867141 TO:8185864624

PAGE: 06

		ne Division						
	Fichial		THE DEED	CHIPTION		N. C.		
MAJE	RIALS & P TEST REP	HOCESSES ORT		-1-10 JA	J			
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TUE!		ORRALL	EWATA	D. A	25,	962 X	36	A CONTRACT OF THE CONTRACT OF
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CLE APE	AC	TUAL LAB HIRE	THE RESERVE	SCD C	No. 2. 1 King	- 7	<b>WANTED</b>	.53-8-42 <u>61</u>
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OBTD.	<u> </u>	<del> </del>	ļ.———	¥***	•			
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PECTION	N DISPOSIT	'ion			10.00		<u>. 1</u> 5	A STATE OF THE STA
PECTIO	N DISPOSIT	TON			10 100	<u> </u>	<u> </u>	DATE
PECTIO	N DISPOSIT	'ION			<u> </u>	<u>**                                   </u>	<u>. 3</u> 8	

SSÒ

CUSTOMER ORDER # P9904144 --11 SALES ORDER 5727389 01 SHIP CTR 51700 SHIPPING LIST 20732 STANDARD STEEL FREIGHT CODE 04 FOB PPD DESIGNATION BURNHAM, PA. 17009 H MAJOR TOOL & MACHINE DWG: HTCT 303701 MTM REV: A MACHINE TO DWG SIZES SPECIFICATION: ASTM A336-98 GRADE F1, QUENCH AND TEMPER. CHARPY V-NOTCH IMPACTS TESTED AT ROOM TEMPERATURE FOR INFORMATION ONLY. ULTRASONIC INSPECTION PER HZLM 603041, TABLE 2B P 1458 E 19TH ST 46218 O INDIANAPOLIS 1 N MECHANICAL TESTS TO BE LOCATED ON ONE END FACE AT THE 1/4T PLANE. TOT NET NO. PALLET TOT SHI TOT SHIP LOADED 100599 WANT 101599 PIECES ON PROM 101599 WI(LBS) PCS WT(LBS) PALLETS WT EACH ORDER 5250 PSAI N 3 8250 3

PIECES SHIP B/L ---FREIGHT---- \$ FOR \$ FOR PREV SHPD DATE NO. \$/CWT ON/LBS STOPOFF PERMIT

TRUCK ORIGINATING-CARRIER DELIVERING-CARRIER
OR CAR CAR-NUMBER CODE DESCRIPTION CODE DESCRIPTION

SHIP: BEST WAY

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

550

\*\*--HEAT----SERÎAL----HGT--CUST LV4309 911340 2750 \*\*--HEAT----SER (AL----WGT--CUST

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

LV4309 911340 2750 LV4309 911341 2750 LV4309 911342 2750 ARCOS ALLOYS
A Division of Hoskins Mfg.
Mt. Carmel, PA 17851



DATE	01/10/00

### **CERTIFICATION OF TESTS**

SHIP TO:

MAJOR TOOL & MACHINE 1458 EAST 19TH STREET INDIANAPOLIS, IN 46216 SAME

ARCOS	S.O	CUSTOMER ORD	ER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
6982	24	P0000110		N/A	1/10/00
ITEM	SIZE	GRA	DE _	LOT NO./ALLOY NO.	QUANTITY
1	3/32 X 3	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.

CHEMICA	L ANALYSIS:		WIRE						
C	Mn	Si	S	Р	Çr	Ni	Mo	Cb	Cb + Ta
0.0	0.01	0.01	0.002	0.00	22.4	63.9	8,8	_	3. <u>6</u> 8
Та	Ti	A1	Co	Cu	Fe	V	Total Others		
	0.35	0,28	0.04	0.05	0.4	ļ	<.50		

ADDITIONAL TEST RES	ULTS	TENSILE As Weld	led Heat Treated
Ferrite - NB2433.1-1:		Yield	<u> </u>
Magna Gage:		Tensile	
X-Ray:		Elongation	
Bends:		Red.of Area	<u> </u>
Hardness:			
OTHER INFORMATION:	LOT CLASSIFICATION - INTENSITY OF TESTING -	S1 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** 



Eileen Zerly Q.A. CLERK

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



01/13/04

### **CERTIFICATION OF TESTS**

SOLD TO:

SHIP TO:

SAME

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

ARCOS S.O.		CUSTO	MER ORDE	R NO.	CONSIGNEE ORDER NO.	DATE SHIPPED		
79698		F	04-00127		N/A	1/13/04		
ITEM	SIZE		GRADE		LOT NO./ALLOY NO	QUANTITY		
1 3/32 X 36"		36"	ARCOS	625	CB7996	20#		
			444 - 444		01 400 =================================			

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.

CHEMICA	HEMICAL ANALYSIS: WIRE								
С	Mn	Si	S	Р	Cr	Ni	Mio	Cb	Cb + Ta
0.04	0.03	80.0	0.004	0.01	21.9	64.9	8.7		3.64
Та	Ti	Al	Ço	Cu	Fe	V	Total Others		
	0.21	0.16	0.02	0.12	0.2		<.50		

ADDITIONAL TEST RES	BULTS	TENSILE	As Welded	, Heat Treated
Ferrite - NB2433.1-1:		Yleld		
Magna Gage:		Tensile		
X-Ray:		Elongation	1 <u> </u>	
Bends:		Red of Area		
Hardness;				

#### OTHER INFORMATION:

LOT CLASSIFICATION -INTENSITY OF TESTING - **S1** 

Schedule F

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

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**ARCOS** 



Q.A. MANAGER

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



		_	_	_	
_		-	_	_	
1	ю.			_	

01/10/00

### **CERTIFICATION OF TESTS**

SOLD TO:

SHIP TO:

SAME

MAJOR TOOL & MACHINE 1458 EAST 19TH STREET INDIANAPOLIS, IN 48216

		1340 AE 4418E 1484 07	CLASS ERNICIMO-3	
1	3/32 X 3	86" ARCOS 625	CT7519	20#
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
6982	4	P0000110	N/A	1/10/00
ARCOS	S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED

SPECIFICATION:

AWS A5.14/A5.14M-97.

CLASS ERNICIMO-3

ASME SFA 5.14 ASME SECTION II, PART C, 1998

EDITION, AND ALL PARAS AND ADDENDA THRU 1999.

CHEMICA	L ANALYSIS:		WIRE						
C	Mn	Si	S	P	Cr	Ni	Mo_	СЬ	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	<u> </u>	<u> </u>
	0.35	0.28	0.04	0.05	0.4		<.50		<u> </u>

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

### OTHER INFORMATION:

LOT CLASSIFICATION - INTENSITY OF TESTING -

୍ଷୀ Schedule F JAN 1421 3977/

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** 

CHALITY ASSURANCE DEPARTMENT

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



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01/10/00

### **CERTIFICATION OF TESTS**

SOLD TO:

SHIP TO:

SAME

MAJOR TOOL & MACHINE 1458 EAST 19TH STREET INDIANAPOLIS, IN 48216

		1340 AE 4418E 1484 07	CLASS ERNICIMO-3	
1	3/32 X 3	86" ARCOS 625	CT7519	20#
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
6982	4	P0000110	N/A	1/10/00
ARCOS	S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED

SPECIFICATION:

AWS A5.14/A5.14M-97.

CLASS ERNICIMO-3

ASME SFA 5.14 ASME SECTION II, PART C, 1998

EDITION, AND ALL PARAS AND ADDENDA THRU 1999.

CHEMICA	L ANALYSIS:		WIRE						
C	Mn	Si	S	P	Cr	Ni	Mo_	СЬ	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	<u> </u>	<u> </u>
	0.35	0.28	0.04	0.05	0.4		<.50		<u> </u>

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

### OTHER INFORMATION:

LOT CLASSIFICATION - INTENSITY OF TESTING -

୍ଷୀ Schedule F JAN 1421 3977/

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** 

CHALITY ASSURANCE DEPARTMENT



Page: 62 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION IN	STRUC	TIONS		RESULTS	INS	PECTEL	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				MFG			.090 GAP OR LESS	791			A
		Verify Panel / Rest Stop Position							İ		ĺ
(30)		Panel Sub-Set 2-5-4 (009" Gap)						02-20-0			]
*				QA			SHIELDING 40 CFH AN	791			A
							D PURGE 20 CFH TYP				
ļ		CWI / TEAM LEADER					E ARGON GAS		ļ	ļ	ļ
	! !	VERIFY SHIELDING GAS							ļ		
		AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START									-
(50)		AND THROUGH COMPLETION						02-20-0		 	
*		AND THROUGH COMPLETION		QA			.093 625 INCO FILLE	791			┥,
1		CWI / TEAM LEADER		QA			R HT # CB7996	191	}	 	A
	! !	VERIFY WELD FILLER MATERIAL COMP					K 111 # CD/330			 	
		PRIOR TO OPERATION START									
(60)	Ì	AND THROUGH COMPLETION			İ			02-20-0			İ
*				QA			300 SERIES S.S. /	791			A
İ	İ	CWI / TEAM LEADER			j j		S. S. WOOL INSERT		İ		ĺ
		VERIFY PURGE DAM MATERIAL COMPL							]		
	ļ	PRIOR TO OPERATION START									
(70)		AND THROUGH COMPLETION						02-20-0			↓
*				QA			ACCEPTABLE PER MT	1	ļ	ļ	A
	ļ .						WELDER QUALIFICATI				
	•	CWI / TEAM LEADER					N SYSTEM				
		VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START							 	 	
(80)		AND THROUGH COMPLETION						02-20-0		 	
*		AND TIMOCOTI COMI LETION		QA			.093 FILLER 100-210	791			$ _{\mathbf{A}}$
		1		QA			AMPS ALL PARAM. PE	1	 	 	
		CWI / TEAM LEADER					R WPS		]	 	
	! !	VERIFY PARAMETER COMPLIANCE					IX 111 D				1
	1	PRIOR TO OPERATION START									
(90)	j j	AND THROUGH COMPLETION			j j			02-20-0	İ	İ	İ

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

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

	D	Drawing ID: SE121-001P Rev: 0	INSPECTION IN	STRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	1
*				CWI		J-1149	ACCEPT .005	712			A
		Verify Panel Joint Alignment			j j				į		ĺ
		Weld Seam # 1-2		ļ	ļ ļ				ļ		ļ
(10)		(.02" Max)						02-20-0			_
*				MFG	[ [	J-1149	ACCEPT .005	712	ļ		A
		Verify Panel Joint Alignment									
(20)		Weld Seam # 3-4						00.00			
(20)		(.02" Max)						02-20-0			┨.
*				MFG		J-1149	MAX- GAP .060	712			A
(20)		Verify Panel / Rest Stop Position									
(30)		Panel Sub-Set 1-3 (009" Gap)		<u> </u>				02-20-0			┨.
*				QA			GAS SETTINGS ( PURG	712			A
		CWI / TEAM LEADER					E 20 SHIELDING 40)		ļ		
 		VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE							ļ		
 		PRIOR TO OPERATION START							 		
(50)		AND THROUGH COMPLETION		1	i i			02-20-0	] 		
*		THE THROUGH COM EDITOR		QA			ACCEPT .093 DIA. H	712			$ _{\mathbf{A}}$
! 		CWI / TEAM LEADER		Q 1	i i		EAT#CB7996	/12	] 		1
		VERIFY WELD FILLER MATERIAL COMP		İ	i						i
İ		PRIOR TO OPERATION START		Ì	j i						İ
(60)		AND THROUGH COMPLETION		İ	j j			02-20-0	ĺ		İ
*				QA			300 SERIES SS MATER	712			A
j		CWI / TEAM LEADER		İ	j j		IAL W/ SS WOOL		ĺ		ĺ
		VERIFY PURGE DAM MATERIAL COMPL			j j				ĺ		ĺ
		PRIOR TO OPERATION START									ļ
(70)		AND THROUGH COMPLETION						02-20-0			╛
*				QA	[ ]		WELDER # 709	712			A
		CWI / TEAM LEADER			ļ ļ				ļ		
		VERIFY WELDER QUALIFICATIONS CO									
(00)		PRIOR TO OPERATION START						02.20.0			
(80)		AND THROUGH COMPLETION						02-20-0			╛



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



# Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 5 Date: 04/15/04 User ID: DURHAM

# 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

Item# Sub Op Pc Document Description / Material Description / File Name / Heat Lot

64860 PF	PL NCS	X PVVS ING	PECTION REC	CORD		inepecti	on Drawing	Number:	SE121-001	P-1MTM F	Rev: 0B
Inspectio	n type: F	ormed Panel	Interpass (i	<b>明(注</b> )	After struc	ctural welding	a After w	olding Port	Final Ins	pection	
		SE121-001P			d S/N(s):4	470 / J-770-l			Date of Ins	pection: 02	/20/04
	Profile	Meterial	Magnetic		Inspector		Profile	Material	Magnetic	Surface	Inspector
Number			Permeability	Finish	Initiale	Number	Deviation	-	Permeabili		Initials
1	0.011	0.384	LESS THAN 1.01	N/A		44	0.030	NVA	LESS THAN 1.01	N/A	4774
2	0.021	0.365	LESS THAN 1.01	N/A		45	0.026	N/A	LESS THAN 1.01	N/A	
3	0.027	0.383	LESS THAN 1.01	N/A		46	0.023	NA	LESS THAN 1.01	N/A	4
4	0.035	0.363	LE88 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	0.061	N/A	LESS THAN 1.01	Ñ/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	<del>                                     </del>
11	0.075	0.382	LESS THAN 1.01	N/A	<del>                                     </del>	54	0.032	N/A	LESS THAN 1.01	N/A	<u> </u>
12	0.068	0.382	LESS THAN 1.01	N/A	<u> </u>	55	0.010	N/A	LESS THAN 1.01	N/A	(40)
13	0.058	0.382	LESS THAN 1.01	N/A	<b></b>	56	0.017	N/A	LESS THAN 1.01	N/A	201
14	0.048	0.383	LESS THAN 1.01	N/A	<del>                                     </del>	57		<b>.</b>	<b>.</b>		<b>—</b>
15	0.034	0.383	LESS THAN 1.01	N/A	<del>                                     </del>	58			<u> </u>		ļ
16	0.022	0.382	LESS THAN 1.01	N/A	+	59	<b>_</b>	<del></del>	<u> </u>	<u> </u>	<del> </del>
17	0.011	0.381	LESS THAN 1.01	N/A	<del>                                     </del>	60	<del> </del>		<del> </del>	ļ	
18	0.005	0.381	LESS THAN 1.01	N/A	<del>                                     </del>	61	1		<del> </del>	ļ <u></u>	<del> </del>
19	-0.001	0.381	LESS THAN 1.01	N/A	<del>                                     </del>	62 63			<u> </u>		
20 21	-0.004	0.383	LESS THAN 1.01	N/A	╀	_*			<u> </u>		1
	-0.004	0.382	LESS THAN 1.01	N/A N/A	<del>                                     </del>	64 65		1	<del> </del>	<u> </u>	
22	-0.007	0.381 0.382	LESS THAN 1.01	N/A	<del>                                     </del>	66	<del> </del>	<del> </del> -	<del>                                     </del>		
23 24	-0.006 -0.004	0.383	LESS THAN 1.01	N/A	+	67		<del> </del>	<del>                                     </del>	<del> </del>	
25	-0.004	0.381	LESS THAN 1.01	N/A	+-	68	+	<del> </del>	<del> </del>	<del> </del>	+
26	0.031	N/A	LESS THAN 1.01	N/A	+	69	!	!	+	<del> </del>	
27	0.033	N/A	LESS THAN 1.01	N/A	+	70	1	<del>[</del>	+		1
28	0.033	N/A	LESS THAN 1.01	N/A	+ + -	71		<del> </del>			
29	0.031	N/A	LESS THAN 1.01	N/A	+ + -	72	+			<del>                                     </del>	-
30	0.018	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	73	+	<del>                                     </del>	1	<del> </del>	
31	0.007	N/A	LESS THAN 1.01	N/A	+ + -	74	<del>                                     </del>	1	1	<del>                                     </del>	1
32	0.013	N/A	LESS THAN 1.01	N/A	+	75	†	<del>                                     </del>	1	<del>                                     </del>	1
33	0.050	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	76	<del> </del>	<del> </del>		†	<del> </del>
34	0.067	N/A	LESS THAN 1.01	2 2 4 2	† †	77	1		1	1	
35	0.066	N/A	LESS THAN 1.01		+ + -	78	1	<u> </u>		<del>                                     </del>	
36	0.062		LESS THAN 1.01	-	+-1	79	<del> </del>	1		†	1
37	0.058	N/A	LESS THAN 1.01	+	<del>                                     </del>	80			1	1	
38	0.054	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	81		<del>†                                      </del>	<del> </del>	†	
39	0.048	N/A	LESS THAN 1.01			82	1	1			
40	0.043		LESS THAN 1.01			83	1		1		
41	0.040		LESS THAN 1.01	<del></del>	<b>₩</b>	84					
42	0.038		LESS THAN 1.01	<del>•</del>		85					
43	0.034		LESS THAN 1.01			86		<u> </u>			

64880 PI	PL NCSX	PVVS INS	PECTION REC	ORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B		
Inspection type: Formed Panel Interpass (#) After struct							ural welding	ural welding After welding Port			Final Inspection		
Part # / P								Date of Inspection: 02/20/04					
Point	Profile	Material	Magnetic	Surface				Profile	Material	Magnetic		Inspector	
Number	Deviation		Permeability		Initi		Number	Deviation		Permeabili		initials	
1	0.045	N/A	LESS THAN 1.01	N/A	<b>7</b>	ATTAIL S	44	0.004	N/A	LESS THAN 1.01	N/A	1000	
2	0.032	N/A	LESS THAN 1.01	N/A	1		45	0.002	N/A	LESS THAN 1.01	N/A	(3/1)	
<sup></sup> 3	0.037	N/A	LESS THAN 1.01	N/A		4	46	0.073	N/A	LESS THAN 1.01	N/A		
4	0.046	N/A	LESS THAN 1.01	N/A		7	47	0.069	N/A	LESS THAN 1.01	N/A	<del>  7  </del>	
5	0.044	N/A	LESS THAN 1.01	N/A		I	48	0.040	N/A	LESS THAN 1.01	N/A	<del>1 (</del>	
6	0.031	N/A	LESS THAN 1.01	N/A		L	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	$\Box$		52	0.035	N/A	LESS THAN 1.01	N/A	T (	
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	<del>                                     </del>	
12	-0.021	N/A	LESS THAN 1.01	N/A	$\Box$		55	0.049	N/A	LESS THAN 1.01	N/A	1	
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	$\Box$		58	0.062	N/A	LESS THAN 1.01	N/A	1 1	
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	П		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	(25,41)	
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			1	<u>'''</u>		
23	-0.010	N/A	LESS THAN 1.01	N/A	<u> </u>	I	66			]		1	
24	-0.017	N/A	LESS THAN 1.01	N/A		<u> </u>	67						
25	-0.021	N/A	LESS THAN 1.01	N/A		T	68			· ·			
26	-0.023	N/A	LESS THAN 1.01	N/A			69		·				
27	-0.025	N/A	LESS THAN 1.01	N/A		1	70		İ				
28	-0.019	N/A	LESS THAN 1.01	N/A			71		L			1	
29	-0.014	N/A	LESS THAN 1.01	N/A			72					1	
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		L		<u>"</u>		
33	0.013	NA	LESS THAN 1.01	N/A			76		<u>L</u>			1	
34	0.019	NA	LESS THAN 1.01	N/A			77					1	
35	0.029	N/A	LESS THAN 1.01	N/A			78					1	
36	0.077	NA	LESS THAN 1.01	NA			79					1	
37	0.050	N/A	LESS THAN 1.01	N/A			80					1	
38	0.057	N/A	LESS THAN 1.01	NVA			81				Ī	<u> </u>	
39	0.060	N/A	LESS THAN 1.01	N/A			82					1	
40	0.034	N/A	LESS THAN 1.01	N/A			83				L	· · · · · · · · ·	
41	0.010	N/A	LESS THAN 1.01	N/A		4	84	L .					
42	0.062	N/A	LESS THAN 1.01	N/A			85						
43	0.020	N/A	LESS THAN 1.01	N/A		46,4	86					<del>-</del>	

64880 PT	PL NC8X	PVVS INC	PECTION REC	on Drawing	Number:	8E121-001	P-1MTM	lev: OB			
Inspectio	n type: Fo	med Panel	Interpass (	72.74	After struc	tural welding	After w	iding Port	Final Ins	pection	
Part # / P	anel#: S	E121-001P	PANEL #4	Carps/St	d S/N(s):4	470 / J-770-I	NDT / J-116	5	Date of Ins	pection: 02	2/20/04
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initiale	Number	Deviation	Thickness	Permeabili	tFinish .	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	4	46			<u> </u>		
4	0.021	N/A	LESS THAN 1.01	N/A	<u> </u>	47	<u> </u>				
5	0.020	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	48					ļ
6	0.015	N/A	LESS THAN 1.01	N/A	<u> </u>	49	<u> </u>		ļ <u></u>		∔
7	0.014 0.012	N/A N/A	LESS THAN 1.01	N/A N/A	$\vdash$	50					-
8 9	0.012	N/A	LESS THAN 1.01	N/A N/A	<del>                                     </del>	51 52	<u> </u>		1		
10	0.009	N/A N/A	LESS THAN 1.01 LESS THAN 1.01	N/A N/A	<del>  </del>	53	╁		-	1	+
11	0.003	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	54					
12	0.000	N/A	LESS THAN 1.01	N/A	<del>  </del>	55	†		<del> </del>	1	+
13	0.003	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	56					<del> </del>
14	0.011	N/A	LESS THAN 1.01	N/A		57				<u> </u>	
15	0.042	0.391	LESS THAN 1.01	N/A		58	<del> </del>				1
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				ļ	
22	0.045	0.391	LESS THAN 1.01	N/A	<del>                                     </del>	65			ļ		
23 24	0.046	0.391	LESS THAN 1.01	N/A N/A	-	66 67	+		1	ļ	
25	0.046 0.049	0.390	LESS THAN 1.01 LESS THAN 1.01	N/A	<del>                                     </del>	68	<del> </del>		-	ļ	-
26	0.052	0.391	LESS THAN 1.01	N/A		69			<del> </del> -	<u> </u>	+
27	0.052	0.393	LESS THAN 1.01	N/A	<del>                                     </del>	70	1	<del> </del>	<del> </del>	1	+
28	0.052	0.391	LESS THAN 1.01	N/A	<del>                                     </del>	71	<del> </del>	<u> </u>	† · · · · · · · · · · · · · · · · · · ·	<del>                                     </del>	†
29	0.051	0.391	LESS THAN 1.01	N/A	<del>                                     </del>	72	1				
30	0.052	0.392	LESS THAN 1.01	N/A		73	1	<u> </u>	<u> </u>	1	T .
31	0.017	N/A	LESS THAN 1.01	N/A		74					1
32	0.046	N/A	LESS THAN 1.01	N/A		75					
33	0.052	N/A	LESS THAN 1.01			76					
34	0.038	N/A	LESS THAN 1.01			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	<u> </u>	ļ <u>.</u>	ļ	Ļ	
37	0.020	N/A	LESS THAN 1.01	N/A		80			ļ	ļ	· · · · · · · · · · · · · · · · · · ·
38	0.016	N/A	LESS THAN 1.01	N/A	(a)	81	<del>                                     </del>	-	<del> </del>	<del> </del>	1
39 40	-			<b> </b>	<del> </del>	82 83	+	-	<del>                                     </del>		-
41	-	1	-	<del> </del>	<u> </u>	84	+	<del>                                     </del>	<del>                                     </del>	<del> </del>	+
42	+	+		†	<del>                                     </del>	85	1	+	<del>                                     </del>		
43	<del> </del>		1	†	<del>                                     </del>	86		1	<del>                                     </del>	+	+

64880 Pf	PPL NCS	X PVVS INS	PECTION REC	CORD		Inspecti	on Drawing	Number:	SE121-091	P-1MTM P	Rev: OB
Inspectio	n type: F	ormed Panel	Interpass (a	<b>(4)</b>	After struct	ural welding	After w	olding Port	Final ins	pection	
Part # / P	anei #: 3	SE121-001P			d S/N(s):44	70 / J-770-N	NDT / J-116	5	Date of Ins	pection: 02	/20/04
Point	Proffie	Material	Magnetic		nspector	Point	Profile	Material	Magnetic	Surface	Inspector
			Permeability		Initials	Number	Deviation		Permeabili		Initials
1	0.072	0.363	LESS THAN 1.01	N/A	100	44	-0.025	N/A	LESS THAN 1.01	N/A	10
2	0.074	0.383	LESS THAN 1.01	NA	1	45	-0.022	NA	LESS THAN 1.01	N/A	
3	0.074	0.383	LESS THAN 1.01	N/A	<b>A</b>	46	-0.016	NVA	LESS THAN 1.01	N/A	
4	0.075	0.362	LESS THAN 1.01	N/A		47	-0.009	N/A	LESS THAN 1.01	N/A	7
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	<del></del>	50	0.026	N/A	LESS THAN 1.01	NA	$\longrightarrow$
. 8	0.078	0.382	LESS THAN 1.01	N/A		51	0.072	N/A	LESS THAN 1.01	N/A	<del>                                     </del>
9	0.075	0.383	LESS THAN 1.01	N/A	<b></b>	52	0.042	N/A	LESS THAN 1.01	N/A	<del>                                     </del>
10	0.074	0.382	LESS THAN 1.01	N/A	igwdow	53	0.041	N/A	LESS THAN 1.01	N/A	<del>                                     </del>
11	0.071	0.381	LESS THAN 1.01	N/A	<del>                                     </del>	54	0.035	N/A	LESS THAN 1.01	N/A	<del>                                     </del>
12	0.069	0.381	LESS THAN 1.01	N/A	$\vdash$	55	0.027	N/A	LESS THAN 1.01	N/A	1
13	0.066	0.381	LESS THAN 1.01	N/A	1	56	0.072	N/A	LESS THAN 1.01	N/A	<del>                                     </del>
14	0.062	0.381	LESS THAN 1.01	N/A	<del></del>	57	0.019	N/A	LESS THAN 1.01	N/A	<del>                                     </del>
15	0.060	0.382	LESS THAN 1.01	N/A	<del>  </del>	58	0.057	N/A	LESS THAN 1.01	N/A	1 1
16 17	0.057	0.380	LESS THAN 1.01	N/A	<del> </del>	59 60	0.086	N/A N/A	LESS THAN 1.01	N/A N/A	+
18	0.052	0.380	LESS THAN 1.01	N/A	<del>                                     </del>	61	0.076	N/A N/A	LESS THAN 1.01	N/A	<del>                                     </del>
19	0.020	N/A N/A	LESS THAN 1.01	N/A N/A	<del>                                     </del>	62	0.083	N/A N/A	LESS THAN 1.01	N/A	1 1
20	0.012	N/A	LESS THAN 1.01	N/A	<del>  </del>	63	0.079	N/A	LESS THAN 1.01	N/A	+ /
21	-0.012	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	64	0.007	N/A	LESS THAN 1.01	N/A	+ + -
22	-0.012	N/A	LESS THAN 1.01	N/A	1	65	0.089	N/A	LESS THAN 1.01	N/A	<del>  </del>
23	-0.027	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	66	0.082	N/A	LESS THAN 1.01	N/A	+ + -
24	-0.027	N/A	LESS THAN 1.01	N/A	<del>   </del>	67	0.064	N/A	LESS THAN 1.01	N/A	+ + -
25	-0.028	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	68	0.041	N/A	LESS THAN 1.01	N/A	+ +
26	-0.027	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	69	0.092	N/A	LESS THAN 1.01	N/A	† †
27	-0.024	N/A	LESS THAN 1.01	N/A	1 1	70	0.070	N/A	LESS THAN 1.01	Ñ/A	† †
28	-0.021	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	71	0.046	N/A	LESS THAN 1,01	N/A	11
29	-0.020	N/A	LESS THAN 1.01	N/A		72	-0.012	N/A	LESS THAN 1.01	N/A	1
30	-0.016		LESS THAN 1.01	N/A		73	0.079	N/A	LESS THAN 1.01	N/A	T
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		
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		
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		LESS THAN 1.01	N/A		79	0.043	N/A	LESS THAN 1.01	N/A	
37	-0.008		LESS THAN 1.01	N/A		80	-0.021	N/A	LESS THAN 1.01		
38	-0.008		LESS THAN 1.01	N/A		81	0.003	N/A	LESS THAN 1.01		
39	-0.009		LESS THAN 1.01	<del></del>		82	-0.013	N/A	LESS THAN 1.01		
40	-0.016		LESS THAN 1.01	<del> </del>	1	83	0.015	N/A	LESS THAN 1.01		<del>  </del>
41	-0.020		LESS THAN 1.01			84	0.055	N/A	LESS THAN 1.01		<del></del>
42	-0.022	1919 9 .	LESS THAN 1.01	+	<del>( (%)</del>	85	0.050	N/A	LESS THAN 1.01	-	<del>  (20)</del>
43	-0.023	N/A	LESS THAN 1.01	N/A	1 (4)	86	-0.018	N/A	LESS THAN 1.0	N/A	

Inspection type: Formed Panel Interpess (#) After structural weiding After weiding Port Final Inspection												
			interpass (a	#)	After s	truct	ural welding	After w	elding Port	Final Insp	ection	
Part # / P	anel#: S	E121-001P	PANEL #3	Gege/St	d S/N(s	):44	70 / J-770-N	VDT / J-116	5	Date of ins	pection: 0	2/20/04
Point	Profile	Material	Magnetic	Surface				Profile	Material	Magnetic	Surface	inspector
Number	Deviation	Thickness	Permeability	Finish	Initiale		Number	Deviation	Thickness	Permeebilit	Finish	Initials
87	0.170	NA	LESS THAN 1.01	NVA		$\mathbf{J}$	126			]		
88	0.045	NA	LESS THAN 1.01	N/A			127					
89	-0.007	NA	LESS THAN 1.01	N/A	•		128					
90	0.013	NA	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				132					
94	0.021	N/A	LESS THAN 1.01	N/A			133					
95	0.008	N/A	LESS THAN 1.01		₩.		134					
96	0.024	N/A	LESS THAN 1.01			<u> </u>	135					
97	0.024	N/A	LESS THAN 1.01	N/A	4		136					
98							137					
99		<u> </u>					138					
100							139	<u>.</u>				
101							140					
102							141					
103							142					
104		<u> </u>			ļ		143	<u> </u>				
105							144					
106		<u> </u>	<u> </u>				145		!			
107		ļ					146		<u> </u>			
108							147	ļ	<u>                                     </u>			
109							148	ļ	<u> </u>	<u> </u>		
110							149		<u> </u>	1	<u> </u>	
111					ļ		150	<u> </u>				
112	<u> </u>			ļ <b>.</b>			151					<del></del>
113	ļ			ļ			152	ļ <u></u>			Ļ	+
114					ļ		153		ļ		Ļ	
115	<u>.                                    </u>			ļ	ļ		154		ļ		<u> </u>	
116	ļ						155			ļ	ļ	<del></del>
117	<u> </u>	ļ		ļ	ļ		156		ļ			$\bot$
118				ļ	<u> </u>		157	Ļ	ļ <u></u>			
119			ļ	ļ	<b>i</b>		158	<u> </u>	ļ			<del></del>
120		ļ	. <u> </u>	ļ	<b></b>		159	ļ	<del>                                     </del>	ļ		
121	<u> </u>			ļ	<b></b>		160			<b>↓</b>		
122	ļ	1		<u> </u>	<b>.</b>		161	ļ	<b></b>	<b></b>		<del>                                     </del>
123		ļ	<u> </u>		<b></b> _		162	ļ	<del>                                     </del>	ļ	<u> </u>	
124				<u> </u>	<u> </u>		163	<b></b>	ļ			<del></del>
125			<u> </u>			· <u>.</u>	164	<u> </u>		<u> </u>		

64880 PI	PPL NCS	X PVVS INS	PECTION REC	ORD	· ·	Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: Fo	rmed Panel	Interpass (	FIX K	After struct	tural welding	After w	elding Port	Final Ins	pection	
Part # / F	anel #: S	E121-001P			d S/N(s):44	70 / J-770-N	NDT / J-118	5	Date of Ins	pection: 02	2/20/04
Point	Profile	Material	Magnetic			Point	Profile	Material	Magnetic	Surface	nspector
Number	Deviation	-	Permeability	Finish	initials	Number	Deviation	Thickness	Permeabil		initials
1	0.002	N/A	LESS THAN 1.01	N/A		44	0.070	0.385	LESS THAN 1.01	N/A	(40)
2	0.008	NA	LESS THAN 1.01	N/A		45	0.065	0.365	LESS THAN 1.01	N/A	7
3	-0.017	N/A	LESS THAN 1.01	N/A	Ā	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	T 7
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	T
17	0.030	N/A	LESS THAN 1.01	N/A		60	E	N/A	LESS THAN 1.01	N/A	Т Т
18	0.023	N/A	LESS THAN 1.01	N/A		61	E	N/A	LESS THAN 1.01	N/A	<del>                                      </del>
19	0.013	N/A	LESS THAN 1.01	N/A	1	62	E	N/A	LESS THAN 1.01	N/A	
20	0.008	N/A	LESS THAN 1.01	N/A	1	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	7 7
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	<u> </u>
24	0.004	N/A	LESS THAN 1.01	N/A	<b>i</b>	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	1	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	1 1	75	0.075	N/A	LESS THAN 1.01	N/A	1
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		<del>                                     </del>	77	0.069	N/A	LESS THAN 1.01		
35	0.049	0.384	LESS THAN 1.01			78	0.045	N/A	LESS THAN 1.01		<b>T</b>
36	0.049	0.385	LESS THAN 1.01		Ţ	79	0.008	N/A	LESS THAN 1.01	2442	1
37	0.053	0.386	LESS THAN 1.01			80	0.049	N/A	LESS THAN 1.01	2212	
38	0.059	0.386	LESS THAN 1.01			81	0.093	N/A	LESS THAN 1.0		
39	0.067	0.384	LESS THAN 1.01		T	82	0.046	N/A	LESS THAN 1.0		
40	0.072	0.385	LESS THAN 1.01			83	0.055	N/A	LESS THAN 1.0	1.440	7
41	0.074	0.385	LESS THAN 1.01		1	84	0.040	N/A	LESS THAN 1.0	1111	<del>-   •</del>
42	0.072	0.387	LESS THAN 1.01			85	0.028	N/A	LESS THAN 1.0	1 1114	(4)
43	0.071	0.385	LESS THAN 1.01		<del>(\$5</del> )	86	0.069	N/A	LESS THAN 1.0	<del></del>	(AC)

64880 PF	PPL NCS	( PVVS INS	PECTION REC	ORD	·	Inspecti	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
			Interpass (	#)	After struct	ural <b>weldi</b> ng	After w	elding Port	Final Ins	pection	
*****		E121-001P	PANEL #1		d S/N(s):44	70 / J-770-N	NDT / J-116		Date of ins	pection: 0	2/20/04
	Profile	Material	Magnetic			Point	Profile	Material	Magnetic		Inspector
	Deviation	Thickness	Permeability		Initials	Number	Deviation	Thickness	Permeabili	tFinish_	Initials
87	0.023	N/A	LESS THAN 1.01	N/A	474	126					
88	0.010	N/A	LESS THAN 1.01	NA		127					
89	0.044	N/A	LESS THAN 1.01	N/A	<b>A</b>	128					Ī
90	0.023	N/A	LESS THAN 1.01	N/A		129					
91	0.005	N/A	LESS THAN 1.01			130					
92	0.011	N/A	LESS THAN 1.01			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	ļ				
95	0.010	N/A	LESS THAN 1.01	N/A	(4)	134		<u> </u>			
96	<u> </u>					135			ļ		
97		ļ				136					
98	_					137					
99						138					
100			ļ			139					
101						140	ļ				
102		<del> </del>	ļ			141			ļ <u>.</u>		
103	<del></del>	<del> </del>		<u> </u>		142	ļ				
104			<u> </u>			143					<b>_</b>
105			<u> </u>		-	144	<b>!</b>				
106		<u> </u>				145		ļ			<del></del>
107 108		<del> </del>			<u> </u>	146					
109		<del> </del>	<u> </u>		<u> </u>	147	<del> </del>				
110		<u></u>	<del> </del>	<u> </u>		148 149			<u> </u>	<del>                                     </del>	
111		1				150			<del> </del>		
112			<u> </u>			151			<del> </del>		<del></del>
113		1		<del>                                     </del>		152			<del>                                     </del>	<del> </del>	+
114		<del>                                     </del>			-	153	†			<del>                                     </del>	_
115		†		1		154			i.		
116		<del>                                     </del>	<del></del>	f	<u> </u>	155			<u> </u>	<del> </del>	<del>+</del>
117		1 -				156		<del>                                     </del>		<del>                                     </del>	<del></del>
118			<u> </u>			157	<u> </u>	†	1	<del>                                     </del>	<del> </del>
119				<del>                                     </del>		158		†		<u> </u>	<del></del>
120			<u> </u>			159	<b>—</b>			<del>                                     </del>	<del></del>
121		<u> </u>		<u> </u>	<u> </u>	160	· · · · · · · · · · · · · · · · · · ·				<del> </del>
122		<del>-</del>		<del>-</del>	<del>                                     </del>	161		<b>-</b>	†	<del>                                     </del>	<del></del>
123		1		<del>-</del>	<del></del>	162	†		<del>                                     </del>		-
124		1				163	Ť		<del> </del>	†	1
125			1	1		164			<b>†</b>	1	<del></del>



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

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

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



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION IN	STRUC	TIONS		RESULTS	INS	SPECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		Verify Panel Joint Alignment Weld Seam # 1-2 (.02" Max)		CWI		J-1149	.005	712			A
*		(.02 Max)		CWI		J-1149	.005	712			$\mathbf{A}$
(20)		Verify Panel Joint Alignment Weld Seam # 3-4 (.02" Max)		CWI		J-1149	.003	02-20-0			<b>A</b>
*		(.02 Max)		MFG		J-1149	MAX GAP .060	712			$\mathbf{A}$
(30)		Verify Panel / Rest Stop Position Panel #1 (009" Gap)		MING		J-1149	WAX GAF .000	02-20-0		   	A
*		•		MFG		J-1149	MAX. GAP .060	712			A
(40)		Verify Panel / Rest Stop Position Panel #3 (009" Gap)						02-20-0			
*   *	<u> </u> 	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			<b>A</b>
*	İ	CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START		QA			.093 HEAT # CB7996 & .062 HEAT # AV812 8 625 INCONEL	712			A
(60)		AND THROUGH COMPLETION						02-20-0			
*   *     (70)	Ì	CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION		QA			300 SERIES MATERIAL W/ SS WOOL	712			<b>A</b>



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	Tool & Machine, Inc.		Us	ser ID: DURHAM
*		QA	WELDERS 709 # 683 712	A
	CWI / TEAM LEADER			
	VERIFY WELDER QUALIFICATIONS CO			
	PRIOR TO OPERATION START			
(80)	AND THROUGH COMPLETION		02-20-0	
*		QA	ACCEPT PER WPS 390 712	A
İ	CWI / TEAM LEADER			
	VERIFY PARAMETER COMPLIANCE			
	PRIOR TO OPERATION START			
(90)	AND THROUGH COMPLETION		02-20-0	

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			40 CFH SHIELDING /	791	581	A	L
		CWI / TEAM LEADER					20 CFH PURGE				
		VERIFY SHIELDING GAS		ļ			ļ				
		AND PURGE GAS COMPLIANCE									
(10)		PRIOR TO OPERATION START		CVV				00.01.0			
(10)		AND THROUGH COMPLETION		CWI					02-21-0		
*				QA			.062 625 INCO HT AV	791	581	A	Ł
ļ							8128 .093 625 INC				
		CWI / TEAM LEADER					O HT # CB7996				
	!!!	VERIFY WELD FILLER MATERIAL COMP									
(20)		PRIOR TO OPERATION START		CVV				02.21.0	02 21 0		
(20)		AND THROUGH COMPLETION		CWI			200 277772 2 2 4 2		02-21-0		
*				QA			300 SERIES S.S. / S	791	581	A	L
		CWI / TEAM LEADER					.S. WOOL INSERT				
		VERIFY PURGE DAM MATERIAL COMPL									
(30)		PRIOR TO OPERATION START AND THROUGH COMPLETION		CWI				02 21 0	02-21-0		
(30)		AND THROUGH COMPLETION					(02 /700 A CCEDTA DI E		581		
7				QA			683 /709 ACCEPTABLE	/91	381	A	L
							TO MTM WELDER QU				
	!!!	CWI / TEAM LEADER					IFICATION CHECK				
		VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START									
(40)		AND THROUGH COMPLETION		CWI	 			02 21 0	02-21-0		
*		AND THROUGH COMI LETION		QA			.062 FILLER 75-175	791	581	A	
				QA			.093 FILLER 100-2	1 3 1	J01 	A	i.
		CWI / TEAM LEADED					10 ALL PARAM. PER				
	!!!	CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE		 			WPS		 		
		PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION		CWI				02-21-0	02-21-0		
(30)		THE THROUGH COMMEDITION		CVVI				02-21-0	02-21-0		



## **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P - Item: 130

Date of Inspection:02	2/21/2004		Type of	Material:625	INCON	EL	NI	)T#:8	065	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacturing [x] Weldment [ ] Bar Stock [ ] Forging	] ]	s: ] Casting ] Plate ] Other	Surface Co [ ] Machi [ ] Rough [x] Other AS-WELD	ned 1		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card		t Treat Yes No	ed:
MTM Job Number: Resource ID: Part ID:	230-FABRICAT SE121-001P PVVS PRIMAR`	ION - WI	EIDNER	Test R Quantity Inspec Quantity Accep Quantity Rejec Run Ho	ted: ted: ted:	1 1 0				
Customer Inspection Plan: Test Step: Revision: Material Test Number:				Customer Specif MTM Spec N Acceptance St	Number: N	ASME SEC <sup>®</sup> N/A	pection Criteria: TION V ARTICLE 6 PARA 6.29.1			
Inspection Magnification Used: Light Source Used:		TION								
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		N/A   [x]	Preher Proper Fill Shielding Welder Co	eess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: informing to WPS:	Acc   R	[x] [x] [] [] [] [] [] [x] [] [x] [x] [x	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:	Acc [] [] [] [] []	Rej [] [] [] [] []	N/A
% of all access	sible surfaces	[ ] Joii	nt Preps	Inspection Require [ ] Root Pass RMEDIATE FILLER	[]	Back Gouç	ge [] Cover Pass [	[x] Othe	er	
Notes: Inspect intermediate-pass w	elds on joining	1-3 to 2-5	5-4, 100% e	ach weld. No reject	able indica	ations were	noted at the time of inspection.			
This is to certify that the piec shown.  Inspector:	es specified hav		inspected in	accordance with the	·		Daylor D. Edwards			

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	J	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE		QA			40 CFH SHIELDING / 20 CFH PURGE	791		,	A
(10)		PRIOR TO OPERATION START AND THROUGH COMPLETION						02-21-0			
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START		QA			.062 625 INCO HT AV   8128   .093 625 INC   O HT # CB7996	791   			A
(20)		AND THROUGH COMPLETION						02-21-0			
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		QA			300 SERIES S.S. / S .S. WOOL INSERT	791   			A
(30)		AND THROUGH COMPLETION		0.4			602 /700 A GCEDTA DI E	02-21-0			
**************************************		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START		QA			683 /709 ACCEPTABLE TO MTM WELDER QU IFICATION CHECK	/91     			A
(40)		AND THROUGH COMPLETION						02-21-0			
*		CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START		QA			.062 FILLER 75-175   .093 FILLER 100-2   10 ALL PARAM. PER   WPS	791		,	A
(50)		AND THROUGH COMPLETION						02-21-0			



### Nondestructive Test Certification for Visual Inspection

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

Date of Inspection:0	2/21/2004	Тур	of Materia	1:625 INCC	NEL	ND	T#:8067
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacturing [x] Weldment [ ] Bar Stock [ ] Forging	g Process: [ ] Casti [ ] Plate [ ] Other	g [	urface Conditio ] Machined ] Rough x] Other S-WELDED	n:	Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	Heat Treated: [ ] Yes [x] No
MTM Job Number: Resource ID: Part ID:	230-FABRICAT SE121-001P PVVS PRIMAR	ION - WEIDNE	Quanti Quanti	Test Results: ty Inspected: ty Accepted: ity Rejected: Run Hours:	1 1 0 0.0		
Customer Inspection Plan: Test Step: Revision: Material Test Number:			MT	er Specification M Spec Number ptance Standard	ı: ASME SEC <sup>T</sup> r: N/A	ection Criteria: TION V ARTICLE 6 ARA 6.29.1	
Inspection Magnification Used: Light Source Used:		TION					
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibn		[x] Prope [x] Shie	Fil	Temp:	Rej         N/A           []         [x]           []         []           []         []           []         [x]           []         [x]           []         [x]           []         [x]	Post-Weld Inspection Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning: Distortion of Part:	Acc         Rej         N/A           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]
% of all access	sible surfaces	[ ] Joint Prep 2N	-		[ ] Back Goug	ge [ ] Cover Pass [	x] Other
Notes: Inspect 2nd intermediate-pa	ss welds on join	ing 1-3 to 2-5-4	100% each we	eld. No rejectab	le indications v	vere noted at the time of inspect	ion.
This is to certify that the piece shown.  Inspector:	es specified hav	·		e with the spec		Daylor D. Edwards	

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	]	RESULTS	INS	PECTEL	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			40 CFH SHIELDING /	791			A
		CWI / TEAM LEADER					20 CFH PURGE		ĺ		ļ
		VERIFY SHIELDING GAS							ļ		
		AND PURGE GAS COMPLIANCE									
(10)		PRIOR TO OPERATION START						02-21-0	 	 	1
(10)		AND THROUGH COMPLETION		0.4			.093 625 INCO HT #	791			┤.
*		CWI / TEAM LEADED		QA				/91	 	 	A
		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP					CB7996		 	 	
		PRIOR TO OPERATION START							! 		1
(20)		AND THROUGH COMPLETION			j			02-21-0	! 		İ
*				QA			300 SERIES S.S. / S	791			$\mathbf{A}$
i i		CWI / TEAM LEADER			j j		.S. WOOL INSERT		ļ	į į	İ
j j		VERIFY PURGE DAM MATERIAL COMPL			j j			j	ĺ	į į	j
		PRIOR TO OPERATION START									
(30)		AND THROUGH COMPLETION						02-21-0			_
*				QA			683 / 709 ACCEPTABL	791			A
							E TO MTM WELDER Q				ļ
		CWI / TEAM LEADER					LIFICATION CHECK				
		VERIFY WELDER QUALIFICATIONS CO									
(40)		PRIOR TO OPERATION START AND THROUGH COMPLETION						02-23-0	<u> </u>	!	
(40)		AND THROUGH COMPLETION		QA			.093 FILLER 100-210	791			$\mathbf{A}$
, ,				QA			ALL PARAM. PER WP	191	ļ Ī	!	A
		CWI / TEAM LEADER					c ALL FARAIVI. FER WF		]	!	
		VERIFY PARAMETER COMPLIANCE					S 				
		PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION			j j			02-21-0	İ	į į	



## **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P - Item: 134

Date of Inspection:0	2/21/200	04		Type of	Materi	al:625	INCC	NEL		NI	)T#:8	068	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufact [x] Weldr [ ] Bar S [ ] Forgii	ment Stock	] [	s: ] Casting ] Plate ] Other		Surface Co [ ] Machi [ ] Rough [x] Other AS-WELD	ned 1	n:		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	[]	at Treat   Yes   No	ed:
MTM Job Number: Resource ID:	230-FABRI SE121-001 PVVS PRIM	-Sub:4 ICATIC 1P MARY	N - W	EIDNER	Quan	Test Ro ity Inspec tity Accep tity Rejec Run Ho	ted: ted: ted:	1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:					M	ΓM Spec N	Numbe	r: N/A	1E SECT	ection Criteria: TION V ARTICLE 6 ARA 6.29.1			
Inspection Magnification Used: Light Source Used:		FICATI											
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr	: [] : [] : [] : [] : []	Rej [] [] [] [] [] [] [] [] [] [] [] [] []	N/A	Prehea Proper Fill Shielding Welder Co	g Gas/Back onforming Ro F	ss Temp: ial/Flux: k Purge: to WPS: oot Pass: ill Pass: ver Pass:	Acc [] [] [] [] [] [] [] [] [] []	Rej [] [] [] [] [] [] [] [] []	N/A   [x]	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc   [x]   [x]   [x]   [x]   [x]   []	Rej [] [] [] []	N/A [] [] [] [] [X
% of all access	sible surfac	ces	[ ] Joi	nt Preps	Inspection [ ] Ro	ot Pass		[]Ba	ck Goug	e [x] Cover Pass	] Othe	¥r	
Notes: Inspect final coverpass welc	s on joinin	g 1-3 to	o 2-5-4	, 100% each	n weld. No	o rejectabl	e indic	ations v	were not	ed at the time of inspection.			
This is to certify that the piec shown.  Inspector:	·			inspected in		ce with the			าร	Daylor D. Edwards			

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

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

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

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	]	RESULTS	INS	PECTED	) BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			40 CFH SHIELDING /	791			A
	!!	CWI / TEAM LEADER					20 CFH PURGE		Ì		ļ
	!!!	VERIFY SHIELDING GAS								ļ	
	!!	AND PURGE GAS COMPLIANCE									
(10)	 	PRIOR TO OPERATION START						02-23-0	 	l i	
(10)		AND THROUGH COMPLETION		0.4			.093 625 INCO HT #	791			-
, T		CWI / TEAM LEADED		QA			.093 625 INCO H1 #   CB7996	/91	 	l i	A
	!!	CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP					CB /990 		 	l İ	
	!!!	PRIOR TO OPERATION START							! 	l İ	
(20)		AND THROUGH COMPLETION						02-23-0	! 	İ	i
*				QA			300 SERIES S.S. / S	791			$\mathbf{A}$
		CWI / TEAM LEADER			j j		.S. WOOL INSERT		ļ	ļ	İ
j j	j	VERIFY PURGE DAM MATERIAL COMPL			j j				ĺ	j	İ
		PRIOR TO OPERATION START									
(30)		AND THROUGH COMPLETION						02-23-0			
*				QA				791	ļ		A
							MTM WELDER QUALIF				
	!!	CWI / TEAM LEADER					ATION CHECK			ļ	
		VERIFY WELDER QUALIFICATIONS CO								ļ	
(40)	!!!	PRIOR TO OPERATION START AND THROUGH COMPLETION						02-23-0	<u> </u> 	l I	
(40)		AND THROUGH COMPLETION		QA			.093 FILLER 100-210	791			$\mathbf{A}$
,	 			QA			ALL PARAM. PER WP	/91 	ļ Ī	l İ	A
	 	CWI / TEAM LEADER					c ALL FARAIM. FER WF		]	] ]	
		VERIFY PARAMETER COMPLIANCE					S				
		PRIOR TO OPERATION START									
(50)	!!!	AND THROUGH COMPLETION						02-23-0	j	İ	İ



## **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	INCON	NEL	ND	T#:8071
[x] Incoming Inspection [ ] In-Process Inspection [	Manufacturing Proc [x] Weldment [ ] Bar Stock [ ] Forging	ess: [ ] Casting [ ] Plate [ ] Other	Surface Co [ ] Machi [ ] Rough [x] Other AS-WELD	ned 1		Test Being Run to:  [x] Router Instructions [x] Drawing [ ] Test Plan [ ] Technique Card	Heat Treated: [ ] Yes [x] No
MTM Job Number: 64 Resource ID: 23 Part ID: SE	80-FABRICATION - E121-001P /VS PRIMARY FAB	WEIDNER	Test Ro Quantity Inspec Quantity Accep Quantity Rejec Run Ho	ted: ted: ted:	1 1 0 0.0		
Customer Inspection Plan: Test Step: Revision: Material Test Number:			Customer Specif MTM Spec N Acceptance St	Number:	ASME SECT. N/A		
Inspection Magnification Used: 10 Light Source Used: AM		HLIGHT					
Pre-Weld Inspection  Base Material Certs: Filler Material Certs: PQR/WPS: WPQ: Joint Preparation: Fit-up: Pre-Weld Cleaning: Equip Condition/Calibr:	Acc         Rej         N/A           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]	Prehee Proper Fill Shielding Welder Co	eess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS: Root Pass: Fill Pass: Cover Pass: nterpass Cleaning: Distortion of Part:	[] [] [] [] [] [] [] [] [] [] [] [] [] [	Rej N/A	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc         Rej         N/A           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]
			Inspection Require	ments:			
100 % of all accessib	ole surfaces [ ] J	oint Preps	[] Root Pass	[x]	] Back Gouge	e [] Cover Pass [	] Other
Notes: Performed visual inspection to requirements.	the backgrinding o	f Seam 1-2 an	d Seam 3-4. Backg	round joi	nts acceptable	e to customer drawing / specific	cation
This is to certify that the pieces shown.  Inspector: 93	specified have bee	n inspected in	accordance with the	•		Carify desplay SCIII	

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	]	RESULTS	INS	PECTED	) BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			40 CFH SHIELDING /	791			A
	!!!	CWI / TEAM LEADER					20 CFH PURGE		Ì		ļ
		VERIFY SHIELDING GAS		ļ					ļ	ļ	
		AND PURGE GAS COMPLIANCE								 	
(10)		PRIOR TO OPERATION START						02.22.0			
(10)		AND THROUGH COMPLETION						02-23-0			┨.
*				QA			.093 625 INCO HT #	791		 	A
	!!!	CWI / TEAM LEADER					CB7996		ļ		
		VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START							ļ	l i	
(20)		AND THROUGH COMPLETION		] ]	 			02-23-0	]	 	
*		THE THROUGH COMPLETION		QA			300 SERIES S.S. / S	791			$\mathbf{A}$
		CWI / TEAM LEADER		Į QA	 		S. WOOL INSERT		 	 	🔼
		VERIFY PURGE DAM MATERIAL COMPL					S. WOOL INSERT		! 	l İ	
		PRIOR TO OPERATION START							Ì	İ	
(30)		AND THROUGH COMPLETION			İ			02-23-0		İ	İ
*				QA			709 / ACCEPTABLE TO	791			A
j					j j		MTM WELDER QUALI			İ	İ
j		CWI / TEAM LEADER			İ		CATION CHECK			İ	İ
		VERIFY WELDER QUALIFICATIONS CO			]				ĺ	ĺ	ĺ
		PRIOR TO OPERATION START		ļ					ļ	ļ	
(40)		AND THROUGH COMPLETION						02-23-0			
*				QA			.093 FILLER 100-210	791			A
							ALL PARAM. PER WP			ļ	
		CWI / TEAM LEADER					S				
		VERIFY PARAMETER COMPLIANCE									
(50)		PRIOR TO OPERATION START						02.22.0			
(50)		AND THROUGH COMPLETION						02-23-0			_



## **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P - Item: 139

Date of Inspection:02/23	3/2004	Type of	Material:625	INCONE	EL.	ND	T#:8077
[x] Incoming Inspection [x] [ ] In-Process Inspection [ ]	Bar Stock [	ss: ] Casting ] Plate ] Other	Surface Co [ ] Machi [ ] Rough [x] Other AS-WELD	ned 1		Test Being Run to:  [x] Router Instructions [x] Drawing [] Test Plan [] Technique Card	Heat Treated: [ ] Yes [x] No
Part Inform MTM Job Number: 6488 Resource ID: 230- Part ID: SE12 Part Name: PVV3 Serial Number: Customer P.O.: S-04 Customer Unit/Plant:	30/1.0 -Sub:40 -Op: FABRICATION - W 21-001P S PRIMARY FABR	/EIDNER	Test R Quantity Inspec Quantity Accep Quantity Rejec Run Ho	ted: ted: ted:	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Customer Inspection Plan: Test Step: Revision: Material Test Number:			Customer Specil MTM Spec N Acceptance St	Number: N/	SME SEĈT. 'A		
Inspection Met Magnification Used: 10X Light Source Used: AMB		.IGHT					
Base Material Certs: Filler Material Certs: PQR/WPS: WPQ: Joint Preparation: Fit-up: Pre-Weld Cleaning:	Acc         Rej         N/A           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]           []         []         [x]	Prehea Proper Fill Shielding Welder Co	eess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: informing to WPS:	Acc Re  []	[x]   [x]	Post-Weld Inspection  Welds Properly Completed:	Acc         Rej         N/A           [x]         []         []           [x]         []         []           [x]         []         []           [x]         []         [x]           []         []         [x]
		1	Inspection Require	ments:	'		
100 % of all accessible	surfaces [ ] Jo	int Preps	[ ] Root Pass	[ ]E	Back Gouge	[x] Cover Pass [	] Other
Notes: Performed visual inspection to the	ne cover pass weld	in Seam 1-2	and in Seam 3-4.	Welds both	acceptable	to customer drawing / specifica	tion requirements.
This is to certify that the pieces sp shown.  Inspector: 933		inspected in		e specificat		AWS OCT SANGER SCHOOL	<b>&gt;</b>



Page: 74 Date: 04/15/04 User ID: DURHAM

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

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

	Drawing ID: SE121-001P Rev: 0	INSPECTION INST	TRUC'	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	T ZONE CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*	<b>(g</b>  ,288" <b>)</b>		QA		4470	P #1 -0.013/+0.060,	522			A
Ì						P #2 -0.040/+0.021		ĺ		ĺ
Ì						, P #3 -0.006/+0.04				ĺ
Ì						2, P #4 -0.16/+0.04		j		İ
Ì	Profile Tolerance (+.188/100")					8		j		İ
(10)	(tack welded vessel)						02-23-0			
*			QA		J-1165	LESS THAN 1.01	522			A
	Magnetic Permeability 1.01 Max.							İ		
(20)	Record range (high / low)						02-23-0			

Page: 75 Date: 04/15/04 User ID: DURHAM

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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			40 CFH SHIELDING /	791			A
		CWI / TEAM LEADER					20 CFH PURGE		ļ		
		VERIFY SHIELDING GAS							ļ		
		AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START							ļ i		
(10)		AND THROUGH COMPLETION		 				02-24-0	 	] 	
*		AND TIMOUGH COMILETION		QA			.093 625 INCO HT #	791			A
		CWI / TEAM LEADER		Q/1			CB7996		<u> </u>	] 	**
		VERIFY WELD FILLER MATERIAL COMP			i i				ļ		İ
İ		PRIOR TO OPERATION START		j	j j				j	j j	İ
(20)		AND THROUGH COMPLETION						02-24-0			
*				QA			300 SERIES S.S. / S	791	ļ		A
		CWI / TEAM LEADER		ļ			.S. WOOL INSERT				
		VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START							ļ		
(30)		AND THROUGH COMPLETION		<u> </u> 				02-24-0	ļ Ī	 	
*		THE THROUGH COM LETION		QA			683 / ACCEPTABLE TO				A
				Q/1			MTM WELDER QUALI			] 	**
		CWI / TEAM LEADER		ļ 			CATION CHECK		<u> </u> 	! 	
		VERIFY WELDER QUALIFICATIONS CO			j j				İ		İ
İ		PRIOR TO OPERATION START		İ				İ	į	j	İ
(40)		AND THROUGH COMPLETION						02-24-0			
*				QA			.093 FILLER 100-210	791			A
				ļ			ALL PARAM. PER WP				ļ
		CWI / TEAM LEADER					S				
		VERIFY PARAMETER COMPLIANCE									
(50)		PRIOR TO OPERATION START AND THROUGH COMPLETION		 				02-24-0	 	 	
(30)		AND THROUGH COMILECTION		l				02-24-0	L		]

64880 PI	PPL NCS	X PVVS INS	PECTION RE	CORD	······································	Inspect	on Drawing	Number:	S£121-001	P-1MTM	Rev: 0B
Inspectio	n type: Fo	ormed Panel	Interpass (	# )	After struct	ural welding		elding Port			
Part # / F	anel #: 5	€121-001P			d S/N(s):44			<u> </u>	Date of Ins		2/23/04
Point	Profile	Material	Magnetic		Inspector	Point	Profile	Materia!	Magnetic		Inspector
Number	Deviation	Thickness	-	Finish	initials	Number	Deviation		Permesbili		Initials
1	0.011	N/A	LESS THAN 1.01	N/A	The same	44	1		1		T
2	0.023	N/A	LESS THAN 1.01	N/A	(W)	45					<del>†</del>
3	0.032	N/A	LESS THAN 1.01	N/A		46		<u> </u>	· · · ·		1
4	0.035	N/A	LE88 THAN 1.01	N/A	4	47					
5	0.033	N/A	LESS THAN 1.01	N/A		48					<del>† -</del>
6	0.030	N/A	LESS THAN 1.01	N/A		49					<u> </u>
7	0.025	N/A	LESS THAN 1.01	N/A		50					†
8	0.020	N/A	LESS THAN 1.01	N/A		51				-	<del>                                     </del>
9	0.013	N/A	LESS THAN 1.01	N/A		52				""	
10	0.009	N/A	LESS THAN 1.01	N/A		53					1 -
11	0.004	N/A	LESS THAN 1.01	N/A		54				_	<b>T</b>
12	0.000	N/A	LESS THAN 1.01	N/A		55					<del>'</del>
13	-0.002	N/A	LESS THAN 1.01	N/A		56			· · · · · · · · · · · · · · · · · · ·		
14	0.005	N/A	LESS THAN 1.01	N/A		57			-		1
15	0.024	N/A	LESS THAN 1.01	N/A		58					<del>                                     </del>
16	0.012		LESS THAN 1.01	N/A		59					
17	0.004		LESS THAN 1.01	N/A		60	-	-		•	<u> </u>
18	0.002	N/A	LESS THAN 1.01	N/A		61				****	
19	0.002	N/A	LESS THAN 1.01	N/A	}	62	` <del>`</del>				
20	0.008	N/A	LESS THAN 1.01	N/A		63	<u> </u>	<u> </u>			1
21	0.016	N/A	LESS THAN 1.01	N/A		64					1
22	0.027	N/A	LESS THAN 1.01	N/A		65					1
23	0.036	N/A	LESS THAN 1.01	N/A		66		· · ·	_		
24	0.045	N/A	LESS THAN 1.01	N/A	<u> </u>	67				-	1
25	0.055	N/A	LESS THAN 1.01	N/A		68					<u> </u>
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	<u> </u>				1
31	0.033		LESS THAN 1.01	N/A		74	L. "				<u> </u>
32	0.044	N/A	LESS THAN 1.01	N/A		75					
33	0.050		LESS THAN 1.01	N/A		76					
34	0.017	N/A	LESS THAN 1.01	N/A		77		1			
35	0.046	N/A	LESS THAN 1.01	N/A		78		_	<del>"=</del> -		_
36	0.017	N/A	LESS THAN 1.01	N/A		79			·		<del>                                     </del>
37	0.001	N/A	LESS THAN 1.01	N/A	(10)	80					1
38	0.011	N/A	LESS THAN 1.01	N/A		81					<b>-</b>
39						82			Ì		<del> </del>
40						83	_		- "	<del></del>	<del>                                     </del>
41						84					<del>'</del>
42						85					<del></del>
43						86		T .		<del>-</del>	<del>                                     </del>

		•	PECTION RE	CORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
		ormed Panel		#)	After struct	ural welding	After w	elding Port	Final Ins	ection	
Part # / P		SE121-001P	PANEL #1	Gage/St	d SM(s):44	70 / J-1165			Date of Ins		2/23/04
Point	Profile	Material	Magnetic	Surface	Inapector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	initials	Number	Deviation	Thickness	Permeabilit	tFinish	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	(4)
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	1 7
5	-0.015	N/A	LESS THAN 1.01	N/A		48	0.038	N/A	LESS THAN 1.01	N/A	17
6	-0.023	N/A	LESS THAN 1.01	N/A		49	0.034	N/A	LESS THAN 1.01	N/A	1 (
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	1
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	<u> </u>	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	LES\$ THAN 1.01	N/A	
18	0.023	N/A	LESS THAN 1.01	N/A	<u> </u>	61	0.069	N/A	LESS THAN 1.01	N/A	
19	0.014	N/A	LESS THAN 1.01	N/A	<u> </u>	62	0.084	N/A	LESS THAN 1.01	N/A	
20	800.0	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	<u> </u>
28	0.003	N/A	LESS THAN 1.01	N/A	<del>  </del>	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	ļ	73	0.042	N/A	LESS THAN 1.01	N/A	
31 32	-0.026	N/A	LESS THAN 1.01	N/A	<u> </u>	74	0.087	N/A	LESS THAN 1.01	N/A	
33	-0.023 -0.012	N/A	LESS THAN 1.01	N/A		75	0.076	N/A	LESS THAN 1.01	N/A	+
			LESS THAN 1.01	N/A	<del>  </del>	76	0.091		LESS THAN 1.01	N/A	
34	0.047	N/A	LESS THAN 1.01	N/A	<b></b> _	77	0.080	N/A	LESS THAN 1.01	N/A	
35	0.044	N/A	LESS THAN 1.01	N/A	<u> </u>	78	0.069	N/A	LESS THAN 1.01	N/A .	
36	0.042	N/A	LESS THAN 1.01	N/A	ļļ	79	0.035	N/A	LESS THAN 1.01	N/A	
37	0.041	N/A	LESS THAN 1.01	N/A	<del>  </del>	80	0.048	N/A	LESS THAN 1.01	N/A	<del> </del>
38 39	0.046	N/A	LESS THAN 1.01	N/A	<del></del>	81	0.092	N/A	LESS THAN 1.01	N/A	
	0.056	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	82	0.046	N/A	LESS THAN 1.01	· N/A	
40 41	0.063	N/A	LESS THAN 1.01	N/A		83	0.050	N/A	LESS THAN 1.01	N/A	<u> </u>
42	0.067	N/A	LESS THAN 1.01	N/A		84	0.049	N/A	LESS THAN 1,01	N/A	<b>_</b>
42	0.065	N/A	LESS THAN 1.01	N/A	( M77ar)	85 86	0.025	N/A	LESS THAN 1.01	N/A	(1724)
40	0.062	N/A	LESS THAN 1.01	N/A		86	0.072	N/A	LESS THAN 1.01	N/A	(a)

64880 PI	PL NCS	X PVVS INS	PECTION REC	ORD	·····	Inspection	on Drawing	Number:	SE121-001	P-1NTM	Rev: 0B
			interpass (	¥}	After struct	ural welding		elding Port			
Part#/P	Panel #: S	E121-001P	PANEL #1	Gage/St	d S/N(s):44	70 / J-1165			Date of Ins		02/23/04
Point	Profile	Material	Megnetic		Inspector		Profile	Material	Magnetic		Inspector
Number		Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili		Initials
87	0.028	N/A	LESS THAN 1.01	NA	MTM	126					
88	0.013	N/A	LESS THAN 1.01	N/A		127					
89	0.053	N/A	LESS THAN 1.01	N/A	1	128					
90	0.027	N/A	LESS THAN 1.01	N/A		129					
91	0.009	N/A	LESS THAN 1.01	N/A	1	130		ļ.,			
92	0.006	N/A	LESS THAN 1.01	N/A		131			I		
93	0.034	N/A	LESS THAN 1.01	N/A	<b>*</b>	132					
94	0.053	N/A	LESS THAN 1.01	N/A		133					
95	0.053	N/A	LESS THAN 1.01	N/A	061	134					
96						135					
97						136					
98						137					
99						138				ì	
100		<u> </u>				139					
101		<u> </u>	<u>.</u>			140					
102		<u> </u>				141					
103					"	142					
104	<del>-</del>	1				143					
105		<u> </u>				144					
106						145					
107				<u> </u>		146					
108						147					
109						148					
110						149			·		
111	1 107	<u> </u>				150					
112		ļ <u></u>			<u> </u>	151					
113						152					
114						153					
115				<u> </u>		154					
116						155					
117						156					
118						157					
119		<u> </u>				158					
120						159				1	
121			<u> </u>			160					
122						161					
123		.	1			162					
124	ļ	1				163					
125						164					

64860 P	PL NO	X PVVS INS	PECTION RE	CORD		Inepection	on Drawing	Number:	SE121-001P-1MTM Rev: 0B					
Inspectio	n type: F	ormed Panel	Interpass (	#)	After struct	ural welding		elding Port	Final ins		···			
Part # / F	anel#: 3	SE121-001P	PANEL #3	Gege/8t	d S/N(s):44	70 / J-1165			Date of Ins		2/23/04			
Point	Profile	Material	Magnetic			Point	Profile	Meterial	Magnetic	Surface	Inspector			
Number	Deviation	1 Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	-		Initials			
1	0.039	N/A	LE88 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	<b>LESS THAN</b> 1.01	NA				
4	0.026	N/A	LESS THAN 1.01	N/A	III	47	-0.011	N/A	LESS THAN 1.01	NA	7			
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	NA		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	l l	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	1			
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	ļ <u> </u>	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	<del>                                     </del>	59	0.118	N/A	LESS THAN 1.01	N/A				
17	0.087	N/A	LESS THAN 1.01	N/A	<b></b>	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	<b></b>	62	0.094	N/A	LESS THAN 1.01	N/A				
20	0.020	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	63	0.087	N/A	LESS THAN 1.01	N/A	<u> </u>			
21	0.007	N/A	LESS THAN 1.01	N/A	<u> </u>	64	0.029	N/A	LESS THAN 1.01	N/A				
22	-0.006	N/A	LESS THAN 1.01	N/A	<del>                                      </del>	65	0.010	N/A	LESS THAN 1.01	N/A	<u> </u>			
23	-0.013	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	66	0.112	N/A	LESS THAN 1.01	N/A	<u> </u>			
24	-0.017	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	67	0.092	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
25 26	-0.019	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	68	0.060	N/A	LESS THAN 1.01	N/A				
27	-0.019	N/A	LESS THAN 1.01	N/A		69	0.101	N/A	LESS THAN 1.01	N/A				
28	-0.018 -0.016	N/A N/A	LESS THAN 1.01	N/A	<del>                                     </del>	70	0.082	N/A	LESS THAN 1.01	N/A				
29	-0.016	<del></del>	LESS THAN 1.01	N/A	<del></del>	71	0.063	N/A	LESS THAN 1.01	N/A	+			
30	-0.016	N/A N/A	LESS THAN 1.01	N/A	<del>                                     </del>	72	0.003	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
31	-0.016	N/A N/A	LESS THAN 1.01	N/A	<del>   </del>	73	0.113	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
32	-0.015	N/A N/A	LESS THAN 1.01	N/A N/A	<del>                                     </del>	74	0.092	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
33	-0.009		LESS THAN 1.01 LESS THAN 1.01	N/A N/A		75	0.033	N/A	LESS THAN 1.01	N/A	<del> </del>			
34					<del>                                     </del>	76	0.028	N/A	LESS THAN 1.01	N/A	<del>  </del>			
35	-0.010 -0.006	N/A	LESS THAN 1.01	N/A	<del> </del>	77	0.073	N/A	LESS THAN 1.01	N/A	+			
36	-0.006	N/A N/Ä	LESS THAN 1.01	N/A	<del>                                     </del>	78	0.073	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
37	-0.005	N/A	LESS THAN 1.01	N/A	<del>                                     </del>	79	0.060	N/A	LESS THAN 1.01	N/A	+			
38	-0.006	N/A	LESS THAN 1.01	N/A N/A	<del>                                     </del>	80	-0.010	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
39	-0.010	N/A	LESS THAN 1.01		<del>                                     </del>	81	0.024	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
40	-0.018	N/A	LESS THAN 1.01 LESS THAN 1.01	N/A N/A	<del> </del>	82	-0.004	N/A	LESS THAN 1.01	N/A	<del>                                     </del>			
41	-0.018	N/A		N/A N/A	-	83	0.027	N/A	LESS THAN 1.01	N/A	<del>   </del>			
42	-0.024	N/A	LESS THAN 1.01 LESS THAN 1.01	N/A		84 85	0.072	N/A	LESS THAN 1.01	N/A	+ —			
43	-0.028	N/A	LESS THAN 1.01	N/A N/A	( M24)	1	0.060	N/A	LESS THAN 1.01	N/A	<del>  (\$;\)</del>			
73	-0.020	<u> </u>	LEGO IMAN 1.01	1 IN/A		86	0.014	N/A	LESS THAN 1.01	N/A	(d)			

64880 PI	PPL NC8X	PVV\$ INS	PECTION REC	ORD		Inspection Drawing Number: 8E121-001P-1MTM Rev: 0B							
Inspectio	n type: Fo	med Panel	Interpess (i	¥)	After struct	ural welding	After w	elding Port	Final Inspection				
Part#/F	anel#: S	E121-001P	PANEL #3	Gage/St	d S/N(s):44	70 / J-1165			Date of ins		/23/04		
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector		
Number	Devistion	Thickness	<b>Permeability</b>	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials		
87	0.037	N/A	LESS THAN 1.01	N/A		126							
88	0.046	N/A	LESS THAN 1.01	N/A		127							
89	0.010	N/A	LESS THAN 1.01	NA	4	128	<u> </u>						
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			<u></u>				
95	0.025	N/A	LESS THAN 1,01			134							
96	0.020	N/A	LESS THAN 1.01		(m)	135							
97	0.020	N/A	LESS THAN 1.01	N/A		136					<u>.</u>		
98						137							
99						138							
100		<u> </u>	<u> </u>			139							
101						140					1		
102		<u></u>				141							
103						142							
104						143		1					
105						144					<u> </u>		
106						145							
107						146							
108		<u> </u>				147							
109						148							
110			<u> </u>			149							
111						150							
112						151							
113						152							
114						153							
115						154							
116						155				<u> </u>			
117				}		156							
118						157							
119						158							
120						159							
121_						160							
122						161							
123						162							
124						163					<u> </u>		
125						164							

64880 PI	PPL NCSX	PVVS INSI	PECTION REC	CORD			Inspection	on Drawing	Number:	SE121-001P-1MTM Rev: 0B			
		rmed Panel	Interpass (	#)	After s	truc	tural welding	After w	elding Port	Final Ins	pection		
Part # / F	Panel #: S	E121-001P	PANEL #2	Gage/St	d S/N(s	<del>s):44</del>	70 / J-1165			Date of Ins	pection: 0	2/23/04	
Point	Profile	Material	Magnetic	Surface	Inspec	tor	Point	Profile	Material	Magnetic	Surface	Inspector	
Number	Deviation	Thickness	Permeability	Finish	Initials		Number	Deviation	Thickness	Permeabili	tFinish	Initials	
1	-0.003	N/A	LESS THAN 1.01	N/A		$\overline{\mathcal{L}}$	44	0.029	N/A	LESS THAN 1.01	N/A		
2	-0.001	N/A	LESS THAN 1.01	N/A	10		45	0.026	N/A	LESS THAN 1.01	N/A	<del>( ****)</del>	
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	7		47	0.058	N/A	LESS THAN 1.01	N/A	7	
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	(27)	
13	0.030	N/A	LESS THAN 1.01	N/A	\		56	0.062	N/A	LESS THAN 1.01	N/A	8	
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		<u> </u>	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				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				75						
33	0.058	N/A	LESS THAN 1.01				76			_			
34	0.081	N/A	LESS THAN 1.01	N/A			77						
35	0.082	N/A	LESS THAN 1.01				78						
36	0.077	N/A	LESS THAN 1.01	N/A		<u> </u>	79						
37	0.072	N/A	LESS THAN 1.01		<u> </u>		80						
38	0.064	N/A	LESS THAN 1.01				81						
39	0.052	N/A	LESS THAN 1.01		$\perp I$		82						
40	0.044	N/A	LESS THAN 1.01		7		83						
41	0.038	N/A	LESS THAN 1.01				84						
42	0.035	N/A	LESS THAN 1.01			7	85						
43	0.031	N/A	LESS THAN 1.01	N/A			86						

54880 PF	PPL NC8)	( PVVS INS	PECTION REC	CORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM I	Rev: 0B
Inspectio	n type: Fo	rmed Panel	Interpass (	#)	After struct	ural welding	After w	elding Port	Final Ins	pection	
Part # / P	anel #: S	E121-001P			d S/N(s):44	70 /J-1165			Date of Ins		2/23/04
Point	Profile	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic		Inspector
Number	Deviation		Permeability	Finish	Initi <b>al</b> s	Number	Deviation		Permeabili		Initials
1	0.056	N/A	LESS THAN 1.01	N/A		44	0.046	N/A	LESS THAN 1.01	N/A	(AD)
2	0.042	N/A	LESS THAN 1.01	N/A	(B)	45	0.066	N/A	LESS THAN 1.01	N/A	
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	<b>!</b>
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	1
18	0.013	N/A	LESS THAN 1.01	N/A	1	61	0.115	N/A	LESS THAN 1.01	N/A	
19	0.023	N/A	LESS THAN 1.01	N/A		62	0.085	N/A	LESS THAN 1.01	N/A	(274)
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	1	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			Î		
27	-0.013	N/A	LESS THAN 1.01	N/A	1 1	70		1			
28	-0.013	N/A	LESS THAN 1.01	N/A		71		1			
29	-0.009	N/A	LESS THAN 1.01	N/A		72					
30	-0.009	N/A	LESS THAN 1.01	N/A		73					1
31	-0.006	N/A	LESS THAN 1.01	N/A		74		1	ŀ		
32	0.000	N/A	LESS THAN 1.01	N/A		75		Ī			
33	0.007	N/A	LESS THAN 1.01			76				1	
34	0.016	N/A	LESS THAN 1.01			77		1	†		
35	0.026	N/A	LESS THAN 1.01	N/A		78			1	İ	
36	0.114	N/A	LESS THAN 1.01	+		79		†	† · · · · · ·		1
37	0.098	N/A	LESS THAN 1.01	<del></del>		80	1			1	
38	0.110	N/A	LESS THAN 1.01	+		81	1		1	1	
39	0.103	N/A	LESS THAN 1.01	-		82			1	·	
40	0.048	N/A	LESS THAN 1.01		111	83	1			†	
41	0.016	N/A	LESS THAN 1.01		4	84	Ī	1	<b>†</b>		
42	0.105	N/A	LESS THAN 1.01			85	1		1		
43	0.062	N/A	LESS THAN 1.01		(Acres)	86	1			<u> </u>	1



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

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

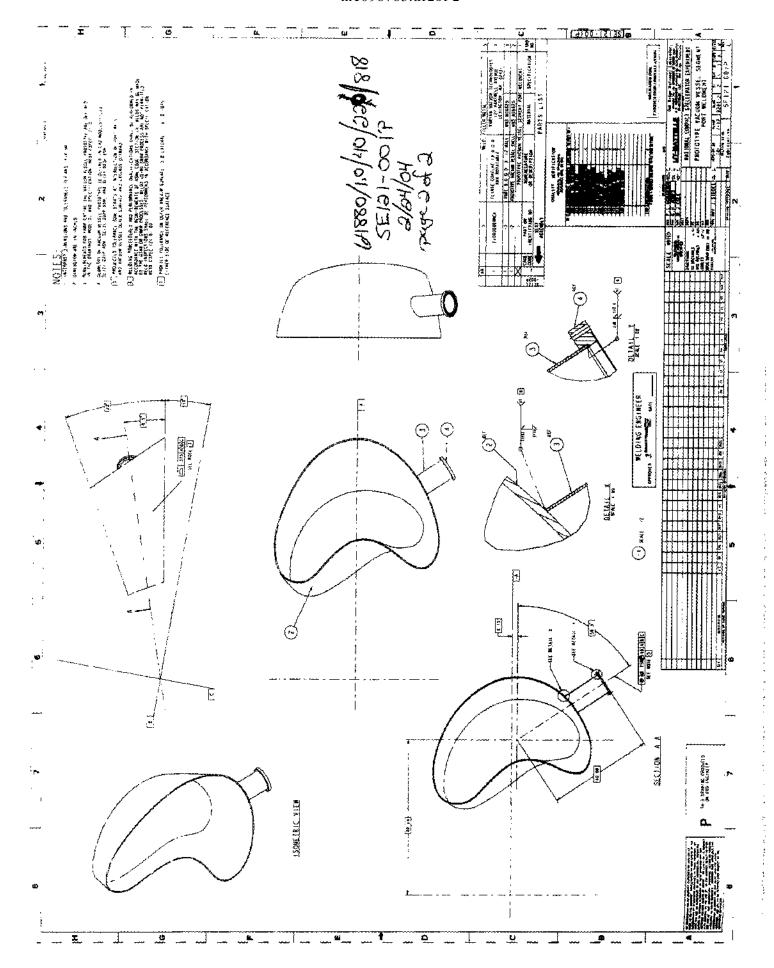
	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g  ,308")		QA		4470	-0.034 / +0.151	522			A
Ì	ĺ	Profile Tolerance (+.188/120")							j	1	ĺ
(10)	Ì	(tack welded vessel)						02-24-0	ĺ	1	ĺ
*				QA		J-1165	LESS THAN 1.01	522			A
Ì	İ	Magnetic Permeability 1.01 Max.		j					ĺ	İ	İ
(20)		Record range (high / low)						02-24-0			

MAC	
	)

MGS W.D. # 37/-F0004 RADIOGRAPHIC REPORT: Roge	~ Q
DATE: 2/24/04	
Customer Major 700 + Machine	
<u>₩5₽ €. /٩₽ 87.</u>	
Indpls, IN.	
Customer's P.O. No.:	
Job Location: <u>Same</u>	
Item Description: SP 52 121-001P	

# MQS Inspection, inc. 5307 West 86th Street Indianapolis, IN 46268

		one: 3 : 317-		72-819 1798	6		item Desci 100% Insp.	ription: ASP SE 121-00/P Spot Imp.
SERBAL NO. or PIECE	NO.: 6	487	50/	1.0/	40/	220/818		TECHNIQUE DATA
Weld No.		ACC			CODE	REMARKS		Inspection Specification: ASME VIII
weld 1-a	0-1	IV			P			Acception of Standard: /ISME V/II V/VI , UV/O!
	1/-2		ľ		9			RT Proceduse No.:
	2-3							RT Technique Used Below: _E
								A *SOURCE
Wel 2 3-4								() _   ) ¬   C ysource
	11-2				e			
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	4_	<b>_</b>	ــــ					© S # 3 DH-FOURCE
	1	1	<u> </u>	oxdot				© > ***********************************
	1			$\sqcup$	<u> </u>			
	<u> </u>		<u> </u>	<del>⊢</del> →				FILM . [1] SOURCE
<u> </u>	<u> </u>	<u> </u>						n to source
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			<u> </u>			<del></del>		
			<u> </u>					SOURCE - PENE.
			L	ļ. — ļ				SOURCE POSITIONED PIENE
· ·		<u> </u>		<b></b>				IN CENTER OF PIPE
			ļ	<b> </b>				
	<u> </u>	<u> </u>						MATERIAL: 625 Toconsi
·	ļ	<u> </u>	<u> </u>	┸	_			PIPE SIZE: N/A WALL THICKNESS: _375"
·		1	<u> </u>	<b>├</b>	<del></del>			WELD PROCESS: SMAWGTAWGMAW
	—	ļ.,	<b>-</b>	1				SOURCE: ISOTOPE: IZZAE CURIER: 129_ KVP/MA: 26
	—	<u> </u>	<u> </u>			·		PHYSICAL SIZE: ,/5/*
	+	ļ	-	1 -				EXPOSURE TIME: SFD: 18"
	┿	₩	<del>                                     </del>	╂┅╼┼	<del> </del>			FILM/OBJECT INCHES:COTTALCT
<u></u>	<del> </del>	₩	-	$\vdash \vdash$				GEOMETRIC UNIHABINESS:
	+	ļ	<b></b>	┝	-+			
	+	+	<del></del>	<del>  - </del>		· · · · · · · · · · · · · · · · · · ·		MATERIAL: PLACEMENT: 35
<del></del>	+	-	<b>├-</b> -	₩				SHIMS: MATERIAL: THICONERS:
	+		-	╀	-+			MARKERINO BELT: P6 #5
		٠,	₩	┼┷┤	<del>-  </del>			FILM: BRAND: Kodek TYPE: AA  SZE: 4.5" × 1"7" LOAD: 5"104"  BMULSION(S)A NA  SCREENS: FRONT: 2000" BACK: 2000" BACKING: NA
	+	$\vdash$	<del> </del>	+ +				SIE: 4.5 X // LOAD: 3//9E
	<del> </del>	<del>↓</del>	₩	<del>∤</del> }	<del></del>	•		EMULSION(S)R
	+-	+	┼	+ + +				SCREENS FRONT: .000"BACK: .000" BACKING:
·	+	<del> </del>	┼	┿				VIEWING: SINGLE:DOUBLE:
	+	1	<del> </del>	+	<del></del>		<del></del>	DENSITY (PEN.)
	+	+-	<b>ļ</b>	+	<del></del>			DENSITY (WELD) MIN/MAX: 20-40
***		<u> </u>	ل	<del></del>				
Name of the last o			_	CODE	<b>_L</b>	71 %		1. Roletti veaver 264/371#
P Porcetty C Creack		1	SI —	SIDE IN	clusions wough	TI — Tungsten k CV — Roof Cond	COVID	RADIOGRAPHER
F - Incomplete Fu	<b>mois</b>		MT -	Mall Tr	rough	CX - Root Com	rendity	RADIOGRAPHER 1. Robert weaver 2694/371 TE.
P — Incomplete Pr	enetro	tion	UC-	Under	cut _	OX- Oxidation		
S - Surface							1	NTERPRETER Donale D. Flance 2/24/14



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

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

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	I	RESULTS	INSPECTED BY			]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			SHIELDING @ 40 CFH	791			A
		CWI / TEAM LEADER					/ PURGE @ 20 CFH		ĺ	ĺ	
	!	VERIFY SHIELDING GAS		ļ					ļ	ļ	
		AND PURGE GAS COMPLIANCE								ļ	
(10)	!	PRIOR TO OPERATION START						02.01.0	ļ i	l i	
(10)		AND THROUGH COMPLETION		0.4			0.62 D.IGO 625 HEAT	03-01-0			┨.
*		CNII (TEANALEADED		QA			.062 INCO 625 HEAT	791		<u> </u>	A
		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP					# AV8128		<u> </u>	l İ	
	!	PRIOR TO OPERATION START								ŀ	1
(20)	!	AND THROUGH COMPLETION						03-01-0		İ	
*				QA			625 INCO	791			$\mathbf{A}$
	İ	CWI / TEAM LEADER			j j				İ	İ	İ
	]	VERIFY PURGE DAM MATERIAL COMPL		j					į	ĺ	
	! !	PRIOR TO OPERATION START							ļ	ļ	
(30)		AND THROUGH COMPLETION						03-01-0			1
*	ļ			QA			683 ACCEPTED TO MT	!	ļ	ļ	A
	ļ ļ						M WELDER QUALIFICA	ļ	ļ	ļ	
		CWI / TEAM LEADER					ION CHECK		ļ	ļ	
		VERIFY WELDER QUALIFICATIONS CO								ļ	
(40)		PRIOR TO OPERATION START AND THROUGH COMPLETION						03-01-0	 	ļ	
(40)		AND THROUGH COMPLETION		0.4			75-175 AMPS ALL PAR	791			┤,
		  CWL/TEAM LEADER		QA			AM. TO WPS	/91 	ļ	ļ	A
	!	VERIFY PARAMETER COMPLIANCE					AM. TO WES		]	l I	1
	!	PRIOR TO OPERATION START								! 	
(50)		AND THROUGH COMPLETION						03-01-0	İ	İ	



Page: 78 Date: 04/15/04 User ID: DURHAM

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

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

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		(g  ,328")		QA		4470	+0.050 / +0.100	522			A
		Profile Tolerance (+.188/140")							ĺ		Ì
		(within approximately 6" of port attachment p									
(10)		t)						03-01-0			
*				QA		J-1165	LESS THAN 1.01	522			A
İ	İ	Magnetic Permeability 1.01 Max.							į		ĺ
(20)		Record range (high / low)						03-01-0			

Page: 79 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P - Item: 152

Workorder: 64880/1-0 Sub:40 Op:250

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	J	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			SHIELDING @ 40 CFH	791			A
							PURGE @ 20 CFH				
	! !	CWI / TEAM LEADER					ARGON				
	!!!	VERIFY SHIELDING GAS									
	!	AND PURGE GAS COMPLIANCE									
(10)		PRIOR TO OPERATION START AND THROUGH COMPLETION						03-02-0			
*		AND THROUGH COMPLETION		QA			.062 INCO 625 HEAT	791			$\mathbf{A}$
	l I	CWI / TEAM LEADER		QA 			LOT AV8128	791			1
	! !	VERIFY WELD FILLER MATERIAL COMP					LOTAVOIZO		 		
	!!!	PRIOR TO OPERATION START			j j						
(20)		AND THROUGH COMPLETION			j j			03-02-0			İ
*				QA			625 INCO / 300 SERI	791			A
		CWI / TEAM LEADER					ES S.S.				
	! !	VERIFY PURGE DAM MATERIAL COMPL									
(20)		PRIOR TO OPERATION START						02.02.0			
(30)		AND THROUGH COMPLETION		0.1			(02 / 500 A GGEDTED	03-03-0			┦.
*				QA			683 / 709 ACCEPTED	791			A
		CWI / TEAM LEADED					TO MTM WELDER QU				
	!	CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO					IFICATION CHECKS				
	! !	PRIOR TO OPERATION START									
(40)	!	AND THROUGH COMPLETION			j j			03-02-0			
*				QA			.062 DIAM FILLER 7	791			$\mathbf{A}$
					j j		5-175 AMPS / ALL				İ
		CWI / TEAM LEADER			j j		PARAMETERS PER WP				İ
	!!!	VERIFY PARAMETER COMPLIANCE			į į						
	!	PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION						03-02-0			



## **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P - Item: 153

Date of Inspection:03	3/03/2004		Type of	Material:625	INCC	DNEL	-	ND	NDT#:8165			
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacturin [x] Weldment [ ] Bar Stock [ ] Forging	[	s: ] Casting ] Plate ] Other	Surface Co [ ] Machi [ ] Rough [x] Other ROOT PA	ned 1		ED.	Test Being Run to:  [x] Router Instructions [x] Drawing [] Test Plan [] Technique Card	[x] Router Instructions [ ] Yes [x] Drawing [x] No [] Test Plan			
MTM Job Number: Resource ID: Part ID:	230-FABRICAT SE121-001P PVVS PRIMAR N/A S-04344-F	ION - W	'EIDNER	Test R Quantity Inspec Quantity Accep Quantity Rejec Run Ho	ted: ted: ted:	1 1 0						
Customer Inspection Plan: Test Step: Revision: Material Test Number:	N/A N/A			Customer Specil MTM Spec N Acceptance St	lumbe	r:	1E SECT	ection Criteria: ION V, ARTICLE 6 6.29.1.				
Inspection Magnification Used: Light Source Used:			ΙΤ									
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		N/A   [x]	Prehea Proper Fill Shielding Welder Co	ess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS:	Acc [] [] [] [x] [] [x] [] [x] []	Rej [] [] [] [] [] [] [] [] [] [] []	N/A   [x]	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc [] [] [] [] [] []	Rej [] [] [] [] []	N/A   [x]   [x]   [x]   [x]   [x]   [x]   [x]   [x]	
			1	Inspection Require	ments:	•	<u>'</u>					
100 % of all access	sible surfaces	[ ] Joi	int Preps	[x] Root Pass		[ ] Bad	ck Gouge	e [] Cover Pass [	] Other	ŗ		
Notes: Visual inspection performed requirements.	on root pass b	etween I	ind number	s 2 (shell) and 3 (tul	pe). W	/elds ac	cceptable	e per customer drawing and spe	ecificatio	ın		
This is to certify that the piec shown.  Inspector:	es specified ha		inspected in	accordance with th			าร	AWS OC 1 David I Josephy SCITI	m			



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Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P - Item: 154

Workorder: 64880/1-0 Sub:40 Op:260

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  ,348")		QA		4470	+0.027 / +0.100	522			A
		Profile Tolerance (+.188/160")							ĺ	ĺ	
		(within approximately 6" of port attachment p									
(10)		t)						03-02-0			
*				QA		J-1165	LESS THAN 1.01	522			$\mathbf{A}$
İ		Magnetic Permeability 1.01 Max.			İ				j	ĺ	İ
(20)		Record range (high / low)						03-02-0			

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**Quality Assurance Documentation for Part ID: SE121-001P - Item: 155** 

Workorder: 64880/1-0 Sub:40 Op:265

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	CTIONS	]	RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			SHIELDING @ 40 CFH	791			A
							PURGE @ 20 CFH				
ļ	!	CWI / TEAM LEADER					ARGON		ļ	ļ	
	!	VERIFY SHIELDING GAS							ļ		
		AND PURGE GAS COMPLIANCE									
(10)	<u> </u>	PRIOR TO OPERATION START AND THROUGH COMPLETION						03-03-0	<u> </u>	 	
*		AND THROUGH COMPLETION		QA			.062 INCO 625 HEAT	791			$\mathbf{A}$
}	l I	CWI / TEAM LEADER		QA 			LOT AV8128	191	ļ	 	1
	!	VERIFY WELD FILLER MATERIAL COMP					LOT A V 012 0		] ]	! 	
Ì	!	PRIOR TO OPERATION START							ļ		
(20)	j	AND THROUGH COMPLETION			j j			03-03-0		İ	İ
*				QA			625 INCO / 300 SERI	791			A
Ì		CWI / TEAM LEADER					ES S.S.		ĺ		ĺ
ļ	!	VERIFY PURGE DAM MATERIAL COMPL									
(20)	!!!	PRIOR TO OPERATION START						02.02.0		 	
(30)		AND THROUGH COMPLETION					400 / <b>5</b> 00 / <b>6</b> 00 PP	03-03-0			┥.
*				QA			683 / 709 ACCEPTED	791		 	A
ļ		COM (TEAN) EADED					TO MTM WELDER QU		ļ	l I	
ļ	!	CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO					IFICATION CHECKS		ļ i	 	
ŀ		PRIOR TO OPERATION START							 	 	
(40)	!!!	AND THROUGH COMPLETION						03-03-0		 	
*				QA			.062 DIAM FILLER 7	791			$\mathbf{A}$
Ì							5-175 AMPS / ALL			İ	
Ì		CWI / TEAM LEADER					PARAMETERS PER WP		İ	j	
Ì	İ	VERIFY PARAMETER COMPLIANCE							j	İ	İ
	!!!	PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION						03-03-0			



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			Materia	Material:625 INCONEL NDT#:8						8164				
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	ss:  ] Casting ] Plate ] Other	Surface Condition: [ ] Machined [ ] Rough [x] Other AS-WELDED					Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card		[]	at Treat Yes No	ted:			
Part I MTM Job Number: Resource ID: Part ID: Part Name: Serial Number: Customer P.O.: Customer Unit/Plant:	230-FAB SE121-0 PVVS PF	.0 -Sub BRICAT 001P RIMAR`	ION - W	/EIDNER	Quant	Test R iity Inspec tity Accep tity Rejec Run Ho	oted: cted:	1 1 0 0.0						
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MT	ΓM Spec l	Numbe	r: N/A	1E SECT	ection Criteria: FION V ARTICAL 6 SECTION 6.29.1				
Inspection Magnification Used: Light Source Used:	8X		:											
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Caliba	s: [] S: [x] Q: [] n: [] p: []	Rej [] [] [] [] [] [] [] []	N/A   [x]	Prehe Proper Fil Shieldin Welder Co	g Gas/Bacl onforming Ro F	ss Temp: ial/Flux: k Purge: to WPS: oot Pass: ill Pass: ver Pass:	[x] [x] [x] [i] [i] [i] [i] [i]	Rej [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [x] [x] [x] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Compl Weld Surf Weld Dimens Weld Conto Post-Weld Clean Distortion of	eted: aces: ions: ours: ning:	Acc   []   [x]   []   []   []   []	Rej [] [] [] [] []	N/A
100 % of all acces	sible surf	faces	[ ] Jo	int Preps FILL F	Inspection [x] Ro	oot Pass		[]Ba	ck Goug	e []Cover Pass	[	] Othe	er er	
Notes: PERFORMED THE INSPECTION NO INDICATIONS FOUND				-	S 4-5 OPI	ERTATO	===== ₹ 709 F	PERFO	RMED T	THE WELDING OF THIS P	ASS U	INDER	: WPS	390
This is to certify that the piece	es speci	fied ha	ve been	inspected in	accordan	ce with th	e spec	cification	ns	11611. Millel	AND OC 1	MINITER		

**Inspector:** 712-W.MILLER

Date: 02/16/2004

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Quality Assurance Documentation for Part ID: SE121-001P - Item: 157

Workorder: 64880/1-0 Sub:40 Op:270

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	CTIONS	I	RESULTS	INS	INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			40 CFH SHIELDING AN	791			A
							D 20 CFH PURGE ARG				
	!!!	CWI / TEAM LEADER		ļ			N GAS		ļ		
	!!	VERIFY SHIELDING GAS							ļ		
	!!	AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START							ļ i	 	
(10)	!!!	AND THROUGH COMPLETION						03-04-0	ļ	 	
*		AND TIMOCOTI COMI LETION		QA			.093 625 INCO HT #C	791			$\mathbf{A}$
	] 	CWI / TEAM LEADER		QA			B7996		ļ	[ ]	
	!!!	VERIFY WELD FILLER MATERIAL COMP								! 	
		PRIOR TO OPERATION START		İ	j j				ĺ		İ
(20)		AND THROUGH COMPLETION						03-04-0			Ĺ
*				QA			INCO 625 AND 300 S	791			A
		CWI / TEAM LEADER		ļ			ERIES S.S				
	!!	VERIFY PURGE DAM MATERIAL COMPL							<u> </u>		
(30)	!!	PRIOR TO OPERATION START AND THROUGH COMPLETION		 				03-04-0	]	 	
(30)		AND THROUGH COMPLETION		0.4			700/692 OLLA LIEIED T	791			1
*	 			QA			709/683 QUALIFIED T O MTM WELDER QUAL	1 -	 	 	A
	 	CWI / TEAM LEADER					ICATION CHECK	'	<u>.</u> İ	 	
	!!!	VERIFY WELDER QUALIFICATIONS CO							ļ Ī	! 	
		PRIOR TO OPERATION START			i i				ļ	! 	İ
(40)	İ	AND THROUGH COMPLETION		İ	j j			03-04-0	ĺ	İ	İ
*				QA			100-210 AMPS ALL PA	791			A
j		CWI / TEAM LEADER		j	j j		RAMETERS TO WPS		j	j	İ
	!!!	VERIFY PARAMETER COMPLIANCE							ļ	ļ	
(50)	!!!	PRIOR TO OPERATION START						00.04.0			
(50)		AND THROUGH COMPLETION		<u> </u>				03-04-0			]



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## **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P - Item: 158

Date of Inspection:03/04/2004 Type of M				Materi	aterial:625 INCONEL NDT#:817						8176		
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	s: ] Casting ] Plate ] Other	[ ] Machined					Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	nstructions [ ] Yes [x] No					
MTM Job Number: Resource ID:	230-FABI SE121-00 PVVS PR	0 -Sub RICAT 01P RIMAR	ION - W	'EIDNER	Quan	Test R tity Inspec tity Accep tity Rejec Run Ho	oted: cted:	1 1 0					
Customer Inspection Plan: Test Step: Revision: Material Test Number:					M	ΓM Spec I	Numbe	r: N/A	1E SEĈT	ection Criteria: FION V ARTICAL 6 ON 6.29.1			
Inspection Magnification Used: Light Source Used:	8X		:										
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Caliba	s: [x] S: [x] D: [] o: [] s: []	Rej [] [] [] [] [] [] []	N/A   [x]   []   [x]	Prehe Proper Fil Shieldin Welder Co	g Gas/Bacl onforming Ro F	ss Temp: ial/Flux: k Purge: to WPS: oot Pass: fill Pass: ver Pass:	[x] [x] [x] [x] [x] [i] [i] [i] [i]	Rej [] [] [] [] [] [] [] [] [] [] []	N/A [] [] [x] [x] [x] [x] [x] [x]	Post-Weld Inspection Welds Properly Complete Weld Surface Weld Dimension Weld Contour Post-Weld Cleanin Distortion of Par	es: [x] es: [x] es: [x] es: [x] g: []	Rej [] [] [] [] []	N/A
% of all acces	sible surfa	aces	[ ] Joi	int Preps	Inspection [ ] Ro	oot Pass		[]Ba	ck Goug	e [x] Cover Pass	[ ] Ot	her	
Notes: PERFORMED THE VISUAL AT THIS INSPECTION POIN		TION C	ON THE	FINAL COVE	ER PASS (	OF THE F	PORT T	UBE T	O SUB A	ASSEMBLY. THERE WAS NO	) INDIC	ATION F	OUND
This is to certify that the piece	es specif	ied ha	ve been	inspected in	accordan	ce with th	ne spec	ification	ns	uh II. a Mishel "II	OC 1	 »	

**Inspector:** 712-W.MILLER Date: 02/13/2004



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Quality Assurance Documentation for Part ID: SE121-001P - Item: 159

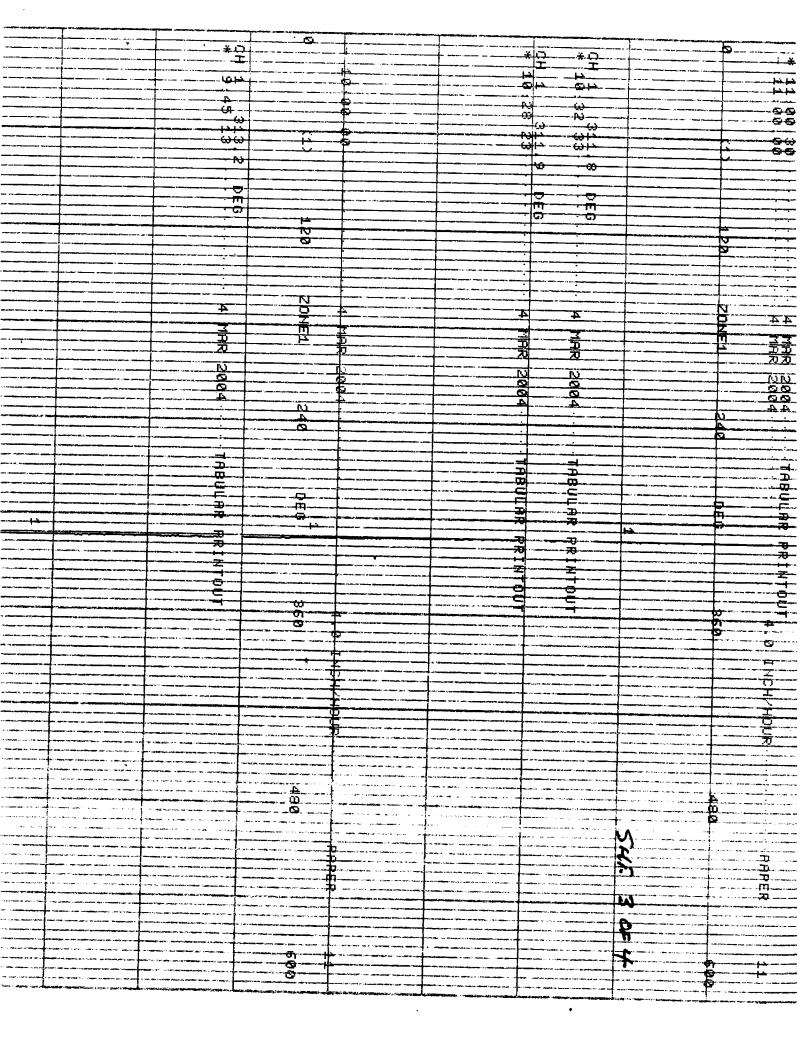
Workorder: 64880/1-0 Sub:40 Op:280

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INS	INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	1
*		(g  ,368")		QA		4470	-0.047 / -0.011	522			A
j i		Profile Tolerance (+.188/160")			j j			İ	j	İ	İ
		(within approximately 6" of port attachment p									ĺ
(10)		t)						03-03-0			ĺ
*				QA		J-1165	LESS THAN 1.01	522			$\mathbf{A}$
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(20)		Record range (high / low)		İ	j j			03-03-0	İ	İ	İ
*		{# .250 p48"}		QA		4470	0.198	522			A
(30)					j j			03-03-0	j	İ	İ
1*				QA		4470	39.991 / 40.015	522			A
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8455 E. 30TH STREET INDPLS, IN 46219 PHONE: (317) 890-0474 FAX: (317) 890-0861 1936 WEST CENTRAL AVE. TOLEDO, OH 43606 PRONE: (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

	SERVICE ENGI	DEFUITG REAC		·	OF	1
CUSTOMER:	Major Tool		PAGE:		<del></del>	t
ADDRESS:			DATE:		3/29/2004	
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PHONE:	634-9420					
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UNIT: Vocum Leak	Test	TTEM: (s	SE 121-001P	Rev 0)	( Spec 475 re	v7)
PROBLEM:	I preformed the leak test on the vacuum c	kamber that was for th	he Princetor	project.		
•	test preformed with the chamber of or un					
	o Alcatel 142 that was calibrated before t		Calibrated	leok.		<del></del>
COMMENTS:	The Calibrated leak's Serial Number was 2	613 with a calibration	date of 12-1	0-03 with	h a leak rate	<del> </del>
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#### Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 6 Date: 04/15/04 User ID: DURHAM

#### 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

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MAJOR TO 1458 E 19T	JO = Client • Bestelhraneshrift JOR TOOL AND MACHINE INC 8 E 19TH ST DIANAPOLIS			PRESERVENCE PARTO MACH IST DLIS USA	INE INC	0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 1 HAYNES(R) 625 ALLO NADCAP CERTIFICAT	Description Freduit • Material Beshreibung Y PLATE - 'E NUMBER 0089
	46218 USA IN 46218    Incation - Specification			Quantity Ordered Quantle Commandee Bestellemenge 1 PC	Quantity Skipped Quantitie Expedice Liefermenge 1 PC	S400E,S1000E, EN 1020	04 3.1.B

Certified By • Certifie Par • Bescheinigt Durch: Paul Guest Certification Supervisor/Technician

This material is free of mercury contamination. Mill Orders Used: 2739027801 (1 PC)

(A) 1750 °F to 1950 °F

09/15/03

Paul O. Duest





Page: 84 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 163

Workorder: 64880/1-0 Sub:14 Op:10

	D	rawing ID: SE121-001P Rev: A	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	
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#### CORRECTED

# Certificate of Conformance EXOTIC METAL TREATING INC.

Certificate # 46600

6234 E. Hanna Avenue • Indianapolis, Indiana

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  $1900^{\circ}\text{F} \pm 15^{\circ}\text{F}$  FOR 45 MINUTES  $\pm$  5 MINUTES RAPID AIR COOLED TO 1000°F & AIR COOLED.

commission expires: 9-30-09

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Page: 85 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 166

Workorder: 64880/1-0 Sub:14 Op:31

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	F	RESULTS	INS	PECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA		VISUAL	OK	085			A
Ì	j	VERIFY HEAT TREAT CERTIFICATION			j j			j	j		İ
		AND FURNACE CHART COMPLY WITH									
(10)		MTM PURCHASE ORDER REQUIREMEN						01-16-0			



Page: 86 Date: 04/15/04

User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 167

Workorder: 64880/1-0 Sub:14 Op:35

	D	rawing ID: SE121-001P Rev: A	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTEL	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA		J-1165	UNDER 1.01	085			A
		MAGNETIC PERMEABILITY OF ANNEAL						İ	İ	ĺ	ĺ
(10)		1.01 MAX						01-16-0			



Page: 87 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 168

Workorder: 64880/1-0 Sub:14 Op:40

	D	rawing ID: SE121-001P Rev: A	INSPECTION INS	STRUC	TIONS	I	RESULTS	INS	PECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1*				MFG		FEELER GAGE	.080 (GOOD)	746	522		A
(10)	İ	.094" Max Gap (Part Surface To gauge)		QA		FEELER GAGE		10-29-0	10-29-0		İ

4880 PI	PPL NCSX	( PVVS INS	PECTION REC	CORD		Inspect	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
spectio	n type: Fo	rmed Panel	☐ Interpass (	<b>#)</b> 🗆	After struc		g □ After w				
		E121-001P			1 S/N(s): J-1	009-NDT /	J-1178 / J-11	65 / J-1180	Date of ins	pection: 02	2/10/04
oint	Profile	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic		Inspect
umber	Deviation		Permeability	Finish	Initiais	Number	Deviation		Permeabili		Initials
1	0.000	0.377	LESS THAN 1.01	N/A	( 122	44	0.028	0.379	LESS THAN 1.01	N/A	
2	0.000	0.377	LESS THAN 1.01	N/A		45	0.037	0.380	LESS THAN 1.01	N/A	016
3	0.010	0.376	LESS THAN 1.01	N/A	<del>                                     </del>	46	0.040	0.376	LESS THAN 1.01	N/A	+
4	0.014	0.377	LESS THAN 1.01	N/A	<del>                                     </del>	47	0.045	0.376	LESS THAN 1.01	N/A	<del>1 ) ·</del>
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	1	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	<del>                                      </del>
8	0.025	0.380	LESS THAN 1.01	N/A	1	51	.03.6	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		56	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	1
14	0.043	0.380	LESS THAN 1.01	N/A	/	57	0.015	0.380	LESS THAN 1.01	N/A	1 1
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	1
17	0.070	0.381	LESS THAN 1.01	N/A		60	0.030	0.378	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	<i></i>
21	0.050	0.381	LESS THAN 1.01	N/A	<u> </u>	64	0.055	0.382	LESS THAN 1.01	25.2	
22	0.082	0.381	LESS THAN 1.01	N/A	<u> </u>	65	0.055	0.381	LESS THAN 1.01	20	
23	0.070	0.380	LESS THAN 1.01	N/A	<u> </u>	66	0.030	0.381	LESS THAN 1.01	22.8	] T
24	0.050	0.380	LESS THAN 1.01	N/A	<b></b>	67	0.025	0.381	LESS THAN 1.01	18.8	T
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	<u> </u>	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	<del></del>	72	0.025	0.379	LESS THAN 1.01	16.4	
30	0.015	0.376	LESS THAN 1.01	N/A	<del>  </del>	73	0.070	0.380	LESS THAN 1.01	18.8	
31	0.012	0.377	LESS THAN 1.01	N/A	<del>                                     </del>	74	0.090	0.380	LESS THAN 1.01	31.2	
32	0.014	0.380	LESS THAN 1.01	N/A	<del>     </del>	75	0.075	0.381	LESS THAN 1.01	19.4	
33	0.018	0.380	LESS THAN 1.01		<del>                                     </del>	76	0.075	0.380	LESS THAN 1.01		+
34 35	0.046	0.380	LESS THAN 1.01		<del>                                     </del>	77	0.065	0.378	LESS THAN 1.01	18.6	4/
	0.046	0.381	LESS THAN 1.01	N/A	<del>[                                     </del>	78	0.065	0.376	LESS THAN 1.01		+/
36 37	0.040	0.380 0.377	LESS THAN 1.01	N/A		79	0.065	0.376	LE86 THAN 1.01	18	₩
38	0.038	0.377	LESS THAN 1.01	N/A N/A	<del>                                     </del>	80	0.060	0.377	LESS THAN 1.01		#
39	0.020	0.377	LESS THAN 1.01		<del>                                     </del>	81	0.060	0.376	LESS THAN 1.01	26.2	+\
40	0.020	0.377	LESS THAN 1.01	N/A	<del>                                     </del>	82	0.070	0.380	LESS THAN 1.01		+
41	0.020	0.380	LESS THAN 1.01 LESS THAN 1.01	N/A N/A	<del>                                     </del>	83 84	0.065	0.380	LESS THAN 1.01		++-
42	0.020	0.380	LESS THAN 1.01			85	0.020	0.381 0.380	LESS THAN 1.01 LESS THAN 1.01		
			LEGG (MAN I.U)		`	022	i v.uau	13.3690.1	II EDD TUAN 4 CA		

			PECTION REC							SE121-001		lev: 0B
Inspectio	n type: Fo	rmed Panel	□ interpass (	<b>#)</b> 🗆	After	struct	ural welding	☐ After w	elding Port	☐ Final Ins	pection 🗆	
Part # / F	Panel #: S	E121-001P	PANEL #1							Date of Ins		/10/04
Point	Profile	Material	Magnetic	Surface	Inspe	ctor		Profile	Material	Magnetic		Inspector
Number	Deviation	Thickness	Permeability	Finish	In a	<u> </u>	Number	Deviation	Thickness	Permeabili	tFinish	Initials
87	0.070	0.378	LESS THAN 1.01	28.8	10	•	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				131					
93	0.045	0.380	LESS THAN 1.01	•		l	132					
94	0.060	0.380	LESS THAN 1.01				133					
95	0.075	0.380	LESS THAN 1.01	21.6	(F)		134			ļ		
96					<u> </u>		135					
97							136			<u> </u>		<u> </u>
98			]				137	<u></u>		<u> </u>		<u> </u>
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125							164		<u> </u>	<u></u>	<u> </u>	



Page: 88 Date: 04/15/04

User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 1 - Item: 170

Workorder: 64880/1-0 Sub:14 Op:70

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	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
		32 MICRO-INCH SURFACE FINISH									
(20)		(INTERIOR (CONCAVE) SIDE)						02-11-0			
*		(g   .094")		QA		J-1149	.090	085			A
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2903		02-11-0			j



Page: 89 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 171

Workorder: 64880/1-0 Sub:15 Op:10

	D	rawing ID: SE121-001P Rev: A	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	<1.01	363			A
j i		Magnetic Permeability 1.0 Max.		j	j j			İ			ĺ
(10)		(Panel Blank)						02-11-0			ĺ
*				QA		J-160	.405	085			A
j i		.375 (+.040/-0)		ĺ	j j						İ
(20)		(Panel Blank)						10-02-0			ĺ
*				QA		VISUAL	GOOD	085			A
j i		SURFACE FINISH:			j j			İ			İ
		SMOOTH, CLEAN, NO HEAVY SCRAPES,		Ì				Ì			ĺ
		PITS, OR GOUGES		Ì							Ì
(30)		(Panel Blank)						10-02-0			

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2650 3 6877	0.18		0.030	3.52	<9,10	21.42	}	4.46	0.28	8.56	60,11	0.006	0.004	8.17	0.29	<u> </u>				1
2650 3 6877	COQNED	Ta	Z2*	Bí	Se.	La	CONCLA	Ph	Mg	Y	Ag	N	Ça.	Al÷Tí	NitCo					Ŧ
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1458 E 19							1458 I	E 19TH	ST					SE121-	-001P	-2 PA	NEL	2					
INDIANA	APOLI	S					INDIA	NAPOI	LIS					HAYN	ES(R	) 625	ALL(	OY PL	ATE	-			
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Geglucht Haerte		Τ	Grain Size	Predominant	Recay, Grain	Unrecry.	ALA	Attack Depth		Con	rassen:	Test	ļ	Touetmes	Toughness	Touvinuess	Toughness	Терг	Stress	Hours	% Elong in	% Elong	_
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391396002-0	08/15/03	P03-03297		20030915074	4 Of 4	<u>International</u>	PO Box 9013 Kokomo, Indiana, 46902
Sold To • Client • Be			Ship To • Destinata			Product Description •	Description Praduit - Material Beshreibung
MAJOR TO	OL AND M.	ACHINE INC	MAJOR TO	OOL AND MACH	HINE INC	$0.375 \times 0/0 \times 0/0$	
1458 E 19T	H ST		1458 E 19T	TH ST		SE121-001P-2 PANEL 2	
INDIANAP	OLIS		INDIANAI	POLIS		HAYNES(R) 625 ALLO	Y PLATE -
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This material is free of mercury contamination.

Mill Orders Used: 2739027801 (1 PC)

(A) 1750 °F to 1950 °F

Certifled By • Certifle Par • Bescheinigt Durch: Tammy Shepherd Certification Supervisor/Technician 09/15/03







#### CORRECTED

# Certificate of Conformance EXOTIC METAL TREATING INC.

P03-04902 P.O. #

6234 E. Hanna Avenue • Indianapolis, Indiana

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.

03-2248 HEAT#

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.

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Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 175

Workorder: 64880/1-0 Sub:15 Op:31

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTED	BY	
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Page: 91 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 176

Workorder: 64880/1-0 Sub:15 Op:35

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	F	RESULTS	INS	PECTEL	) BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
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Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 177

Workorder: 64880/1-0 Sub:15 Op:40

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	F	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
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1 (	Deviation	Thickness	Permeability	Finish	initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
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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	36.4	
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		0.395	<1.01	56		52	0.045	0.380	<1.01	37.6	
	0.025	0.402	<1.01	52		53	0.040	0.376	<1.01	37.6	
		0.397	<1.01	50.4		54	0.020	0.393	<1.01	35.2	147M
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	0.050	0.385	<1.01	34.4		59					
	0.030	0.383	<1.01	48		60				$\geq \leq$	
	0.020	0.381	<1.01	40.4		61					
	0.015	0.380	<1.01	35.2	ļ	62	$\geq \leq$				
	0.020	0.378	<1.01	38.8		63					
	0.015	0.378	<1.01	37.2	<u> </u>	64	$\geq$				
	0.015	0.385	<1.01	60.8	<del>                                     </del>	65			$\geq \leq$		
	0.020	0.386	<1.01	50.4		66	$\geq \leq$		25		
	0.030	0.386	<1.01	43.6	<b></b>	67				$\geq \leq$	
	0.035	0.384	<1.01	41.6	ļ	68			25		
	0.040	0.384	<1.01	60.4	ļ	69	$\geq \leq$				
	0.050	0.385	<1.01	45.2	<del>  </del>	70					
	0.055	0.382	<1.01	47.6		71	125	$\leq$	$\sim$		
	0.060	0.382	<1.01	64.8	ļļ	72		$\leq$	$\leq$	$\sim$	
	0.060	0.381	<1.01	51.8		73		$\leq$	$\geq$	25	-
	0.055	0.381	<1.01	43.2		74	-	425	$\approx$	25	
	0.060	0.381	<1.01	43.8		75 75		4	$\leq$	25	$\sim$
	0.070	0.383	<1.01	31.2	<del>  </del>	76				$\sim$	-
	0.065	0.381	<1.01	49.6	<del>                                     </del>	77	1		25	125	$+ \geq \leq$
	0.065	0.381	<1.01	50.8	<del>                                     </del>	78	125	1	~5	$+ \approx 5$	+25
	0.040	0.382	<1.01	37.2	<del>  </del>	79	-		$\leq$	125	
	0.040	0.381	<1.01	51.8	<del>                                     </del>	80	1		~	4	
	0.030	0.381	<1.01	41.6	1	81		425	45	-	
	0.020	0.381	<1.01	34	<del>                                     </del>	82	-		-	-	
	0.025	0.382	<1.01	34		83				$\leftarrow$	
	0.020	0.381	<1.01	33.6	1	84	1		$ \leftarrow  $		+
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Page: 93 Date: 04/15/04

Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 2 - Item: 179

Workorder: 64880/1-0 Sub:15 Op:70

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	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		j				02-09-0			Ĺ
*				QA		J-1180	FROM WITHIN TO 65 R	854			R
ĺ	İ	32 MICRO-INCH SURFACE FINISH		j			A	j			ĺ
(20)		(INTERIOR (CONCAVE) SIDE)						02-09-0			
*		(g   .094")		QA		J-1149	<.094	854			A
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2904		02-09-0			j



Page: 94 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 180

Workorder: 64880/1-0 Sub:16 Op:10

	D	rawing ID: SE121-001P Rev: A	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	
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*				QA		J-1165	<1.01	363			A
j i		Magnetic Permeability 1.0 Max.		j	j j			İ			ĺ
(10)		(Panel Blank)						02-11-0			
*				QA		J-160	.381	085			A
j i		.375 (+.040/-0)		ĺ	j j						İ
(20)		(Panel Blank)						10-02-0			ĺ
*				QA		VISUAL	GOOD	085			A
j i		SURFACE FINISH:			j j			İ			ĺ
j		SMOOTH, CLEAN, NO HEAVY SCRAPES,		j	j j			İ	İ		ĺ
		PITS, OR GOUGES		Ì							
(30)		(Panel Blank)						10-02-0			

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Certified By . Certific Par . Bescheinigt Durch: Paul Guest Certification Supervisor/Technician

This material is free of mercury contamination. Mill Orders Used: 2739027801 (1 PC)

(A) 1750 °F to 1950 °F

09/15/03







#### CORRECTED

# Certificate of Conformance **EXOTIC METAL TREATING INC.**

Certificate 46687

Vendor Code 0013

6234 E. Hanna Avenue • Indianapolis, Indiana P03-04564 P.O. #

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 speciffications 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.

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Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 184

Workorder: 64880/1-0 Sub:16 Op:31

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTED	BY	
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Page: 96 Date: 04/15/04

User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 185

Workorder: 64880/1-0 Sub:16 Op:35

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTEL	BY	]
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Page: 97 Date: 04/15/04

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Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 186

Workorder: 64880/1-0 Sub:16 Op:40

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	F	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1*				MFG		J-642	.094" MAX.	407	363		A
(10)	ĺ	.094" Max Gap (Part Surface To gauge)		QA				02-04-0	02-04-0		İ

64880 PF	PPL NCS	PVVS INS	PECTION REC	ORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: Fo	rmed Panel	Interpass (a	<del> </del>	After struct	ural welding	After w	elding Port	Final Ins	ection	
Part # / P	anel#: S	E121-00	PANEL #3	Gage/St		J1009	J1178	J1165	Date of Ins	pection:	02/11/2004
Point	Profile	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
			Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
	0.03	0.38	<.101		MTM	44	0.02	0.382			MTA.
	0.025	0.38	<.101		(3)	45	0.03	0.381	<u> </u>		(801)
	0.015	0.381	<.101		<i>A</i>	46	0.03	0.381			
4	0.01	0.379	<.101			47	0.03	0.382		l	
5	<.01	0.381	<.101			48	0.03	0.38			]
6	<.01	0.381	<.101		1	49	0.03	0.38			
7	<.01	0.378	<.101			50	0.03	0.38			1
8	<.01	0.378	<.101			51	0.03	0.382			1
9	<.01	0.38	<.101			52	0.02	0.382			1
10	<.01	0.38	<.101			53	0.02	0.382	L.		
11	<.01	0.381	<.101			54	<.01	0.383			
12	<.01	0.379	<.101			55	0.02	0.382			T .
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		<u> </u>
17	<.01	0.379	<.101		;	60	<.01	0.378	19.8	<u> </u>	T '
18	0.06	0.379	<.101			61	<.01	0.378	21.6		
19	0.06	0.378	<.101			62	<.01	0.379	18.4		<u> </u>
20	0.05	0.379	<.101			63	0.02	0.378	19.6		1 .
21	0.04	0.379	<.101			64	0.015	0.379	22		<u> </u>
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		<u> </u>
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	<u> </u>	
28	0.025	0.381	<.101			71	0.02	0.38	16	<del></del>	<del>                                     </del>
29	0.025	0.381	<.101			72	<.01	0.379	19.2	<u> </u>	
30	0.02	0.381	<.101			73	0.03	0.381	25.2		<u> </u>
31	0.02	0.381	<.101			74	0.03	0.382	28		1
32	0.02	0.38	<.101			75	0.02	0.382	30.4		1 1
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		<del>                                     </del>
35	0.015	0.38	<.101			78	0.02	0.383	18.8	1	† †
36	0.02	0.38	<.101			79	0.02	0.379	19		*
37	.020.	0.381	<.101		(MTM)	80	<.01	0.379	23.6		ATM
38	0.015	0.381	<.101			81	0.08	0.379	20.2		031

39	<.010	0.38	<.101		ATT:	7	82	0.08	0.38	19.2		
40	<.010	0.38	<.101		(03		83	0.06	0.381	26		(001)
41	<.010	0.379	<.101				84	0.05	0.38	18.2		
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64880 PI	PPL NCSX	PVVS INSI	PECTION REC	ORD			Inspection	on Drawing	Number:	SE121-001	P-1MTM F	ev: 0B
Inspectio	n type: For	med Panel	Interpass (#	<b>‡)</b>	After	struct	ural welding	After w	elding Port	Final Ins	section	,
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Point	Profile	Material	Magnetic	Surface	Inspe	ctor	Point	Profile	Material	Magnetic		Inspector
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88	0.015	0.384	<.101	21.8	ए	37	127					
89	0.02	0.382	<.101	24.6	ı	4	128					
90	0.07	0.382	<.101			$\Box$	129					
91	0.08	0.381	<.101				130					
92	80.0	0.383	<.101				131					
93	0.06	0.382	<.101				132					<del>                                     </del>
94	0.055	0.382	<.101				133					
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Page: 98 Date: 04/15/04

Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 3 - Item: 188

Workorder: 64880/1-0 Sub:16 Op:70

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
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(10)		Magnetic Permeability 1.01 Max						02-12-0		<u> </u>	ĺ
*				QA		J-1009	30.8	363			A
		32 MICRO-INCH SURFACE FINISH									
(20)		(INTERIOR (CONCAVE) SIDE)						02-12-0			
*		(g   .094")		QA		J-1149	.080	363			A
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2905		02-12-0		<u> </u>	ĺ

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	Antenied Aged Hardness Grain Size Hardness Dorette Vielli: Gesseur De Grain rette Recult facht Baete Kurugruesse		Grain	~~ <del>~~~</del>	VCA	Volfernity	Con	Orion Rate	fisidation F	Rate	Chargy D	epaci Test			Cre	жу Вефиш	<u>.</u>					
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MAJOR TO 1458 E 19T	To + Client + Bestellarmschrift  JOR TOOL AND MACHINE INC  8 E 19TH ST DIANAPOLIS  Ship To • Destinate MAJOR TO 1458 E 19T INDIANA				HINE INC	Product Description • 0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 4 HAYNES(R) 625 ALLO NADCAP CERTIFICAT S400E,S1000E, EN 1020	Y PLATE - E NUMBER 0089		
	pecification = Specification = Spezifikation  STM-B-443 Rev 00e1 N06625 1			Ordered ommander emenge	Quantity Shipped Quantitie Expedice Liefermenge 1 PC				

Certified By • Certifie Par • Hescheinigt Durch: Paul Guest Certification Supervisor/Technician

This material is free of mercury contamination. Mill Orders Used: 2039027701 (1 PC)

(A) 1750 °F to 1950 °F

09/15/03



Page: 99 Date: 04/15/04

Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 190

Workorder: 64880/1-0 Sub:17 Op:10

	Drawing ID: SE121-001P Rev: A		INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
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İ	j	SURFACE FINISH:							İ	İ	ĺ
		SMOOTH, CLEAN, NO HEAVY SCRAPES,									
		PITS, OR GOUGES									
(30)		(Panel Blank)						10-02-0			



#### CORRECTED

# Certificate of Conformance

Certificate

# 46762

Vendor Code # 0013

6234 E. Hanna Avenue • Indianapolis, Indiana

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. DATE SHIPPED 11-26-03

HEAT # \_ 03-2210

DESCRIPTION

QUANTITY

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.

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Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 193

Workorder: 64880/1-0 Sub:17 Op:31

	Drawing ID: SE121-001P Rev: 0		INSPECTION INS	TRUC	TIONS	F	INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER# DATA/REMARKS		INSP	VERFD	AUDIT	
*				QA		VISUAL	GOOD	085			A
Ì	j	VERIFY HEAT TREAT CERTIFICATION			j j				İ	j	ĺ
		AND FURNACE CHART COMPLY WITH									
(10)		MTM PURCHASE ORDER REQUIREMEN						01-16-0			



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Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 194

Workorder: 64880/1-0 Sub:17 Op:35

	Drawing ID: SE121-001P Rev: 0		INSPECTION INSTRUCTIONS			F	INSPECTED BY			]	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	UNDER 1.01	085			A
		MAGNETIC PERMEABILITY OF ANNEAL							İ	İ	ĺ
(10)		1.01 MAX						01-16-0			



Page: 102 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 195

Workorder: 64880/1-0 Sub:17 Op:40

	Drawing ID: SE121-001P Rev: 0		INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	) BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1*				MFG		J-642	.094" NOGO	407	363		A
(10)	İ	.094" Max Gap (Part Surface To gauge)		QA				01-20-0	01-20-0	ĺ	ĺ

****			PECTION REC			inspection	on Drawing	Number:	SE121-001	P-1MTM R	ev: 0B
		med Panel	Interpass (#	)	After structi	ıral welding	After we	iding Port	Final Insp	ection	
Part # / P	anel#: St	£121-00/#4		Gage/St	d S/N(s):	J-1009	J-1165	J-1180	Date of Ins		02/09/2004
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic		Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation		Permeabili		Initials
1	0.000	0.390	<1.01	38		44					TITLICATO .
		0.391	<1.01	33	(0,0)	45					
		0.392	<1.01	31	-	46					
		0.390	<1.01	29	<del>}</del>	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					
	0.030	0.389	<1.01	30		52					
		0.390	<1.01	36		53					
		0.390	<1.01	42		54	><				
		0.389	<1.01	40		55					
		0.389	<1.01	39		56	$\geq <$				
		0.389	<1.01	34		57					
		0.390	<1.01	34		58					
		0.391	<1.01	39		59		$\rightarrow$	$\geq$		
		0.392	<1.01	35		60		$\sim$		$\rightarrow$	$\mathcal{N}$
		0.394	<1.01	29		61	$\geq \leq$	><		$\geq$	
		0.394	<1.01	18		62					
		0.396	<1.01	21		63	25				
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		0.396	<1.01	26 28	<b></b>	65	>		25	25	
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		0.395	<1.01	29	<del>  </del>	71		$\Leftrightarrow$	$ \Leftrightarrow $	$ \leq  $	
		0.395	<1.01	26		72				$ \Leftrightarrow $	
		0.395	<1.01	31	<del>                                     </del>	73					
		0.398	<1.01	45		74				$\Leftrightarrow$	
		0.395	<1.01	47	اسطيت	75		$\Leftrightarrow$			
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		0.393	<1.01	42	···( <b>53</b> 7)	77					
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# Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 7
Date: 04/19/04
User ID: DURHAM

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

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197	17	70		Inspection Data Checklist: 3 steps
CE121 /	001D 1	DAN	TI 5	- DIE FORMED PANEL
Item#	Sub	<u>Op</u>	<u>rc</u>	Document Description / Material Description / File Name / Heat Lot
198	18	10	10	Inspection Data Checklist: 3 steps
199	18	10	10	Material Certification: / SE121-001P-2 PANEL # 5 - PANEL BLANK .375" THK INCONEL 625 - mc094089.tif / 2650 2 6877
200	18	30		Certification: H/T CERTIFICATE - mc095443.pdf
201	18	30		Furnace charts: FURNACE CHART - 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	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	10	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			
Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
214	0	20		Nondestructive Visual Test Certification #8564 - 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 - MC097539.TIF
219	39	40		Map(s): SE121-001P-1MTM - MC097541.TIF
220	39	40		Map(s): SE121-001P-1MTM - MC097543.TIF
221	39	40		Map(s): SE121-001P-1MTM - MC097542.TIF
222	39	40		Map(s): SE121-001P-1MTM - MC097540.TIF
223	39	40		Inspection Data Checklist: 8 steps
CE121 (	102D 4	W/E	TDE	DACKING DING
				BACKING RING
Item#	Sub	<u>Op</u>		Document Description / Material Description / File Name / Heat Lot
224	25	10	10	Material Certification: / INCONEL 625_660 - SHEET,NICKEL ALLOY .125" THK - mc093762.tif / 2650 3 6874
225	25	20		Inspection Data Checklist: 5 steps
226	25	20		Nondestructive Visual Test Certification #8545
227	25	40		Inspection Data Checklist: 2 steps

# SE212-003P-3 - PORT EXTENSION



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Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 4 - Item: 197

Workorder: 64880/1-0 Sub:17 Op:70

	D	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
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(10)	ĺ	Magnetic Permeability 1.01 Max						02-09-0			Ĺ
*				QA		J-1180	CHECKS TO 47	854			R
ĺ	Î	32 MICRO-INCH SURFACE FINISH									
(20)		(INTERIOR (CONCAVE) SIDE)						02-09-0			
*		(g   .094")		QA		J-1149	< .094	854			A
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2906		02-09-0			j



Page: 104 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 198

Workorder: 64880/1-0 Sub:18 Op:10

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SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	<1.01	363			A
ĺ	Ì	Magnetic Permeability 1.0 Max.							j		
(10)		(Panel Blank)						02-11-0			
*				QA		J-160	.415	085			A
Ì	j	.375 (+.040/-0)			j			İ	į		ĺ
(20)		(Panel Blank)						10-02-0			
*				QA		VISUAL	GOOD	085			A
Ì	Ì	SURFACE FINISH:							ĺ		
		SMOOTH, CLEAN, NO HEAVY SCRAPES,									
	ļ	PITS, OR GOUGES									
(30)		(Panel Blank)						10-02-0			

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invoice No No. Se Facture Bechaungs Nr 391396005-D	Date Entered Date De Commande Beschläurum 08/15/03	Customer Reference Reference Custo Kundenhosjulikaten PO3-03297		Raport No. Rapport No. Zengais No. 10030915051	Pages of Tages Fage de Pages Ansahl der Seleso 4 Of 4	HAYNES International	Haynes International 1020 West Park Avenue PO Bux 9013 Kokomo, Indiana, 46902
MAJOR TO 1458 E 19T NDIANAF IN 46218	OOL AND MA H ST	ACHINE INC	Ship to Destruction MAJOR TO 1458 E 191 INDIANAI IN 46218	OOL AND MAC H ST	HINE INC	0.375 x 0/0 x 0/0 SE121-001P-2 PANEL 5 HAYNES(R) 625 ALLO NADCAP CERTIFICAT S400E, S1000E, EN 1026	Y PLATE - TE NUMBER 0089
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Certified By • Certifie Par • Bescheinigt Dorch: Paul Guest Certification Supervisor/Technician

Mill Orders Used: 2039028001 (1 PC)

(A) 1750 °F to 1950 °F

09/15/03

Paul O. Duest



# Certificate of Conformance EXOTIC METAL TREATING INC.

Certificate # 46917

6234 E. Hanna Avenue • Indianapolis, Indiana

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.

Sworn and subscribed to before the...

on 1-7-04

Notary Purille Mergah Comply - State Ostroliana

My commission expires 19-36-09

(Title)

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Page: 105 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 202

Workorder: 64880/1-0 Sub:18 Op:31

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	F	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			VISUAL	825			A
Ì	j	VERIFY HEAT TREAT CERTIFICATION			j j			İ	İ	İ	ĺ
		AND FURNACE CHART COMPLY WITH									
(10)		MTM PURCHASE ORDER REQUIREMEN						01-07-0			



Page: 106 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 203

Workorder: 64880/1-0 Sub:18 Op:35

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	F	RESULTS	INS	PECTEL	) BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	UNDER 1.01	085			A
		MAGNETIC PERMEABILITY OF ANNEAL							İ	İ	ĺ
(10)		1.01 MAX						01-16-0			



Page: 107 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 204

Workorder: 64880/1-0 Sub:18 Op:40

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	F	RESULTS	INS	PECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1*				MFG		J-642	.094" NOGO	407	363		A
(10)	ĺ	.094" Max Gap (Part Surface To gauge)		QA	j j			01-20-0	01-20-0	l	ĺ

64880 PF	PPL NCSX	PVVS INS	PECTION REC	CORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM	Rev: OB
Inspection	n type: For	med Panel	interpass (	#)	After stru	uctural <del>weldi</del> ng	After w	elding Port	Final Inst	pection	
Part # / P	anel#: Sl	E121-00/ #5		Gage/Str	d S/N(s):	J-1009	J-11 <u>6</u> 5	J-1180	Date of Ins	pection:	02/10/2004
Point	Profile	Material	Magnetic	Surface	inspecto	r Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabilit	t Finish	Initials
		0.424	<1.01	27				0.415	<1.01	18	
		0.424	<1.01	25				0.415	<1.01	16	
		0.425	<1.01	19			0.03	0.415		21	
		0.421	<1.01	20	7			0.410	<1.01	23	-4
		0.419	<1.01	21			0.02	0.415	<1.01	19	
		0.420	<1.01	18			0.078	0.424	<1.01	18	
7	<.010	0.422	<1.01	24			0.045	0.404	<1.01	27	
8	0.015	0.422	<1.01	21			0.078	0.419	<1.01	29	
	0.030	0.420	<1.01	20			0.015	0.419	<1.01	19	
10	0.040	0.420	<1.01	19		53	<.010	0.411	<1.01	28	1
	0.040	0.422	<1.01	18			0.03	0.403	<1.01	35 💥	, V
12	0.045	0.422	<1.01	18		55	0.063	0.415	<1.01	32	
13	0.055	0.423	<1.01	26			0.045	0.418	<1.01	28	(MFM)
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	><	> <		><	$\searrow$
16	0.062	0.420	<1.01	31		59	$\searrow$	$\overline{\mathbb{N}}$	$\searrow$	$\overline{N}$	V
17	0.062	0.419	<1.01	30		60	$\geq$	$\geq$	$\geq$	$\geq$	$\searrow$
18	0.062	0.418	<1.01	24		61	$\nearrow$	$\nearrow$	$\overline{\mathbb{N}}$	X	X
19	0.062	0.419	<1.01	19		62	$\overline{}$	$\overline{\mathbb{N}}$	$\nearrow$	X	$\searrow$
20	0.062	0.417	<1.01	21		63	$\searrow$	$\searrow$	$\nearrow$	X	$\rightarrow$
21	0.030	0.413	<1.01	20		64	$\overline{\mathbb{N}}$	$\supset <$	$\searrow$	X	$\overline{\mathbb{N}}$
22	0.040	0.414	<1.01	21		65	$\sim$	$\overline{}$	$\overline{}$	X	$\rightarrow$
23	0.025	0.414	<1.01	18		66	$\sim$	$\overline{\mathbb{N}}$	$\supset \!$	X	$\searrow$
24	0.020	0.416	<1.01	19		67	$\bigvee$	$\searrow$	$\searrow$	X	$\supset$
25	<.010	0.416	<1.01	19		68	$\geq$	$\geq$	$\overline{\mathbb{N}}$	X	
26	<.010	0.417	<1.01	18		69	$\supset$	$\supset \!$	$\mathbb{N}$	V	$\searrow$
27	<.010	0.419	<1.01	20		70		><	$\overline{}$	$\geq$	
28	<.010	0.418	<1.01	21		71		$>\!\!<$	$\overline{}$		
29	<.010	0.417	<1.01	37 🔻		72	>	> <	><	$\supset <$	$\supset \!$
30	<.010	0.416	<1.01	24		73	$\supset \!\!\!\! <$	$\supset <$		ightharpoons	
31	<.010	0.417	<1.01	21		74	$\geq <$	$\geq <$	$\geq <$	$\geq$	
32	<.010	0.414	<1.01	28		75	$\overline{}$	$\supset$	$\supset$	$\supset <$	
33	<.010	0.422	<1.01	25		76	$\supset \subset$	><			
34	0.020	0.425	<1.01	32		77	$\geq$	$\supset <$		$\supset$	$\overline{}$
35	<.010	0.423	<1.01	32		78	$\supset \subset$	$\supset \subset$	$\supset \subset$		
36	<.010	0.419	<1.01	22		79		$\geq <$		$\supset <$	$\supset \subset$
37	<.010	0.413	<1.01	20		80	><		><	$\supset$	$\supset$
	0.040	0.413	<1.01	19	T	81	$\supset \subset$			$\square$	
	0.060	0.414	<1.01	23	T	82	$\supset \!$	$\supset <$		> <	$\supset \subset$
	0.016	0.426	<1.01	19		83		><		$\supset \subset$	
	0.040	0.424	<1.01	22		84		$\supset <$		$\supset \sim$	
	0.020	0.419	<1.01	26	(T)		><	$\supset <$			$\supset \subset$
43	<.010	0.412	<1.01	14	(6)	86				$\overline{}$	



Page: 108 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-2 PANEL 5 - Item: 206

Workorder: 64880/1-0 Sub:18 Op:70

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	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			ĺ
*				QA		J-1180	CHECKS FROM WITHI	854			R
		32 MICRO-INCH SURFACE FINISH					TO 37 RA		j		Ì
(20)		(INTERIOR (CONCAVE) SIDE)						02-09-0			]
*		(g  .094")		QA		J-1149	.078	363			R
(30)		.094" Max Gap (Part Surface To gauge)				MTMFX2907		02-10-0			ĺ



Page: 109 Date: 04/15/04

Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 207

Workorder: 64880/1-0 Sub:29 Op:10

	D	rawing ID: SE121-002P Rev:	INSPECTION INS	STRUC	TIONS		RESULTS	INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1143	MAX. RECORDING OF	581			A
							ERM. OF PLATE 1.002				
ĺ							, 12 PLCS. RANDOMLY				
(10)		MAGNETIC PERMEABILITY 1.01 MAX					CHECKED.	09-17-0			



Page: 110 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 209

Workorder: 64880/1-0 Sub:29 Op:30

	D	rawing ID: SE121-002P Rev:	INSPECTION INS	TRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	<1.01	363			A
ĺ	Ì	MAGNETIC PERMEABILITY 1.01 MAX						İ	İ		ĺ
(10)		(AFTER ROLLING / PRIOR TO WELDING)						02-11-0			

Page: 111 Date: 04/15/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 210

Workorder: 64880/1-0 Sub:29 Op:40

CWI / TEAM LEADER   VERIFY SHIELDING GAS   AND PURGE GAS COMPLIANCE   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   791	) BY	SPECTED	INS	RESULTS	J	TIONS	STRUC	INSPECTION INS	rawing ID: SE121-003P Rev: 0	D	
CWI / TEAM LEADER   VERIFY SHIELDING GAS   AND PURGE GAS COMPLIANCE   PRIOR TO OPERATION START   09-24-0	AUDIT	VERFD	INSP	DATA/REMARKS	SER#	SAMPL	BY	GAGE/EQUIP	CHARACTERISTIC	ZONE	SHEET
VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START AND THROUGH COMPLETION  *  CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION  *  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  *  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  *  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  *  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  *  QA  791  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  400  AND THROUGH COMPLETION  QA  791	A		791				QA				*
AND PURGE GAS COMPLIANCE   PRIOR TO OPERATION START   09-24-0	j j	j j	j			j j	İ		CWI / TEAM LEADER	j j	
PRIOR TO OPERATION START									VERIFY SHIELDING GAS		
CWI / TEAM LEADER   QA   791							ļ			!!	
CWI / TEAM LEADER   VERIFY WELD FILLER MATERIAL COMP   PRIOR TO OPERATION START   AND THROUGH COMPLETION   QA   791							ļ		!	!!	
CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION   QA  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  791  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  791  QA  791  QA  791		!							AND THROUGH COMPLETION		(10)
VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  QA  791  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  791  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  791  QA  791  QA  791  QA  791	A		791				QA			CWI / TEAM I FADED	
PRIOR TO OPERATION START AND THROUGH COMPLETION  *  CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START AND THROUGH COMPLETION  *  QA  791  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  791  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  791							ļ		ļ.	!!	
(20) AND THROUGH COMPLETION									· · · · · · · · · · · · · · · · · · ·	!!!	
* CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START (30) AND THROUGH COMPLETION  * QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START (40) AND THROUGH COMPLETION  * QA  791  (40) AND THROUGH COMPLETION  QA  791  791  791  791  791  791  791  79										!!!	
CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START (30) AND THROUGH COMPLETION  *  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START (40) AND THROUGH COMPLETION  QA  (40) AND THROUGH COMPLETION  QA  791  QA  791									AND THROUGH COMPLETION		
VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START (30) AND THROUGH COMPLETION  *  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START (40) AND THROUGH COMPLETION  *  QA  791  (40) AND THROUGH COMPLETION  QA  791			791				QA			ļļ	*
PRIOR TO OPERATION START AND THROUGH COMPLETION  *  QA  CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START AND THROUGH COMPLETION  QA  O9-24-0  PQA  QA  791  QA  791	ļ ļ								!	: :	
(30)         AND THROUGH COMPLETION         09-24-0           *         QA         791           CWI / TEAM LEADER         VERIFY WELDER QUALIFICATIONS CO         9RIOR TO OPERATION START         99-24-0           (40)         AND THROUGH COMPLETION         09-24-0           *         QA         791									!	!!	
* QA 791  CWI / TEAM LEADER  VERIFY WELDER QUALIFICATIONS CO  PRIOR TO OPERATION START  (40) AND THROUGH COMPLETION  QA 791		.	00.24.0				}		!	!!!	(20)
CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START (40) AND THROUGH COMPLETION  * QA 791	┼─┤,	+							AND THROUGH COMPLETION		, ,
VERIFY WELDER QUALIFICATIONS CO PRIOR TO OPERATION START (40) AND THROUGH COMPLETION  * QA 791	A		[/91				QA		CWW (FFEARM FARE)		*
PRIOR TO OPERATION START									!	!!	
(40)         AND THROUGH COMPLETION         09-24-0           *         QA         791									~	: :	
* QA 791		,}	00 24 0				}			!!!	(40)
	+	++					0.4		AND THROUGH COMPLETION		` ′
	A		/91				QA		CWI / TEAM LEADED		-1-
CWI / TEAM LEADER										!!!	
PRIOR TO OPERATION START							-			!!	
(50) AND THROUGH COMPLETION 09-24-0		,	09-24-0						:	!!!	(50)

Page: 112 Date: 04/15/04 User ID: LONAKER

**Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 211** 

Workorder: 64880/1-0 Sub:29 Op:50

	L	Prawing ID: SE121-001P Rev: 0	INSPECTION INS	TRUC	TIONS		RESULTS	INS	PECTEI	) BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			ACCPET	712			A
	Ì	CWI / TEAM LEADER		j				ĺ	İ		
		VERIFY SHIELDING GAS		ļ							
	ļ	AND PURGE GAS COMPLIANCE		ļ					ļ		
(10)		PRIOR TO OPERATION START						02-06-0			╛
*				QA			INSPECTED WIRE TYP	712			A
	ļ	CWI / TEAM LEADER		ļ			TO WPS				ļ
	ļ	VERIFY WELD FILLER MATERIAL COMP									
(20)		PRIOR TO OPERATION START						02-06-0			_
*	ļ			QA			MATERIAL TYPE MAT	712			A
	ļ	CWI / TEAM LEADER		ļ			ES	ļ	ļ		
		VERIFY PURGE DAM MATERIAL COMPL		ļ							
(30)		PRIOR TO OPERATION START						02-06-0			4
*				QA			ACCEPT	712			A
	ļ	CWI / TEAM LEADER		ļ				ļ	ļ		
	ļ	VERIFY WELDER QUALIFICATIONS CO									
(40)		PRIOR TO OPERATION START						02-06-0			_
*	ļ			QA			ACCEPT PER WPS	712			A
	ļ	CWI / TEAM LEADER		ļ				ļ	ļ		
		VERIFY PARAMETER COMPLIANCE		ļ							
(50)		PRIOR TO OPERATION START						02-06-0			



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

**Inspector:** 712-W.MILLER

# **Nondestructive Test** Certification for Visual Inspection Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 212

Date of Inspection:0	2/09/2004	Type o	of Material:625	INCONEL	-	ND	T#:7951
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	Manufacturing [x] Weldment [ ] Bar Stock [ ] Forging	[ ] Casting	Surface Co [ ] Machi [ ] Rough [x] Other AS-WELD	ned 1		Test Being Run to:  [x] Router Instructions  [ ] Drawing  [ ] Test Plan  [ ] Technique Card	Heat Treated: [ ] Yes [x] No
MTM Job Number: Resource ID: Part ID:	205-PLASMA W SE121-001P-3 PORT EXTENS	VORKCENTER	Test R Quantity Inspec Quantity Accep Quantity Rejec Run Ho	ted: 1 ted: 1 ted: 0			
Customer Inspection Plan: Test Step: Revision: Material Test Number:				Number: N/A	1E SEĈT	oction Criteria: ION V ARTICAL 6 ION 6.29.1	
Inspection Magnification Used: Light Source Used:		:					
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		[x] Preh [] Proper F [] Shieldi [x] Welder C [x] [] [x]	ocess Inspection leat/Interpass Temp: iller Material/Flux: ng Gas/Back Purge: Conforming to WPS: Root Pass: Fill Pass: Cover Pass: Interpass Cleaning: Distortion of Part:	Acc         Rej           [x]         []           [x]         []           [x]         []           [x]         []           [x]         []           [x]         []           [x]         []           [x]         []           [x]         []           [x]         []           [x]         []	N/A [] [] [] [] [x] [x] [x] [x] [x]	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	Acc         Rej         N/A           []         []         [x]           [x]         []         []           []         []         [x]           []         []         [x]           []         []         [x]
100 % of all acces	sible surfaces	[ ] Joint Preps	Inspection Require  [ ] Root Pass PLASMA WELD ON	[ ] Ba	ck Gouge	e [x] Cover Pass [	] Other
Notes: PERFORMED THE INISPECTOR EXT. TUBE )	CTION PER THE	E ROUTER INSTRU	JCTIONS. WELD OPE	RATOR# 733	PERFOR	RMED THE WELDING OF THIS	COMPONENT. (
This is to certify that the piec shown.	es specified hav	ve been inspected	in accordance with th	e specification	าร	Wally Mily	MILES 701

NDT003 User ID: LONAKER Date: 04/15/04  $n:\ \ mtmapps\ \ mtndtlpi.qrp$ Page: 35

Date: 02/09/2004

Page: 113 Date: 04/15/04

User ID: LONAKER

Quality Assurance Documentation for Part ID: SE121-001P-3 - Item: 213

Workorder: 64880/1-0 Sub:29 Op:70

	D	rawing ID: SE121-001P Rev: 0	INSPECTION INS	STRUC	TIONS	Ī	RESULTS	INS	SPECTED	BY	]
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA		J-1152	20-32	522			A
Ì	32 MICRO-INCH RA SURFACE FINISH				j j						ĺ
(10)		(PORT EXTENSION TUBE)			j j			02-24-0			İ
*				QA		J-1165	LESS THAN 1.01	522			A
Ì		MAGNETIC PERMEABILITY 1.01 MAX		ĺ	j j			j			ĺ
(20)		(PORT EXTENSION TUBE)						02-24-0			
1*				QA		J-801	8.000 / 8.092	522			A
İ		8.0" Diameter +3/32" / -0		ĺ	j j						ĺ
(30)		(per ASTM B444)						02-24-0			



**Nondestructive Test** Certification for Visual Inspection
Quality Assurance Documentation for Part ID: SE121-003P - Item: 214

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

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NDT003

Oate of Inspection:0	4/19/20	04		Type of	f Materia	1:INC	ONE	L 625	) 		ND'	T#:8	564	
tage of Inspection: ] Incoming Inspection ] In-Process Inspection ] After Repair ] Final Inspection	Manufac [x] Welc [ ] Bar [ ] Forg	dment Stock	] ]	: ] Casting ] Plate ] Other	[	urface Co x] Mach ] Rough ] Other	ined 1	o:		Test Being Run to:  [X] Router Instructions  [] Drawing  [X] Test Plan  [] Technique Card		[x]	t Trea Yes No	ted:
MTM Job Number: Resource ID:	825-FINA SE121-00 NCSX PV S-04344-	) -Sub: L INSP )3P VS CC	ECTIO	N - PLAN	Quanti	Test R ty Inspec ty Accep ity Rejec Run Ho	ted: ted: ted:	0.0						
Customer Inspection Plan: Test Step: Revision: Material Test Number:					MT	M Spec N	Numbe	r: PP4	X-CSP( 75	ection Criteria: EC-121-01-01 PARAGRAI D PARAGRAPH 7.2	PH 3.3.	.2.4		
Inspectio Magnification Used: Light Source Used:	n Methods FL-2	Used:												
Pre-Weld Inspection  Base Material Cert Filler Material Cert PQR/WP: WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Callb	g: [] s: [] p: []	Rej	N/A	Prehe Proper Fi Shieldin Welder Co	Fi	Temp: al/Flux: Purge: 0 WPS: ot Pass: ill Pass: ex r Pass: exning:	Acc [] [] [] [] [] [] [] [] [] [] [] [] []	Rej [] [] [] [] [] [] [] [] [] [] []	N/A   [x]	Post-Weld Inspection Welds Property Compl Weld Surf Weld Dimens Weld Conte Post-Weld Clean Distortion of the	eted: aces: lons: ours: ung:	Acc [] [] [] [] [] [] []	Rej	N/A [x] [x] [x] [x] [x]
100 % of all acces	sible surfa	ces	[ ] Joi	nt Preps	Inspection		ments:	[]Bad	ck Goug	e [] Cover Pass	[]	) Othe	r	
otes: FINAL CLEANLINESS VE	RIFICATIO	)N						•						
his is to certify that the ple nown.  Inspector:  Reviewed By:	Rah	t l	Du	Inspected in	D	ce with the			ons					
Reviewed By Customer:				PLASMA				- <b>-</b> ·						
<b>37.003</b> n:\mimeso	s\mtndtloi.arr	_				Page: 36				Use	r ID: DU	JRHAM	l Date:	04/19/

Page: 114 Date: 04/15/04 User ID: LONAKER

Quality Assurance Documentation for Part ID: SE121-003P - Item: 215

Workorder: 64880/1-0 Sub:39 Op:10

	D	rawing ID: SE121-002P Rev: 0	INSPECTION INS	STRUC	TIONS	]	RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			20 CFH ARGON PURGE GAS AND WELDER 40				A
		CWI / TEAM LEADER VERIFY SHIELDING GAS AND PURGE GAS COMPLIANCE					FH ARGON, PURGE GA USED AT TACK WELD ONLY				
(10)		PRIOR TO OPERATION START AND THROUGH COMPLETION						04-06-0			j j
*		CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START		QA			.062 625 INCO HEAT LOT AV8128 .093 HE AT LOT CB 7996	791			A
(20)		AND THROUGH COMPLETION						04-06-0	i.		Ĺ
*		CWI / TEAM LEADER VERIFY PURGE DAM MATERIAL COMPL PRIOR TO OPERATION START		QA			300 SERIES S.S. S. S. WOOL INSERT	791			A
(30)		AND THROUGH COMPLETION						03-31-0			
*		CWI / TEAM LEADER VERIFY WELDER QUALIFICATIONS CO		QA			709 / 683 QUALIFIE D TO WPS PER MTM W LDER QUALIFICATION CHECK SYSTEM	791			A
(40)		PRIOR TO OPERATION START AND THROUGH COMPLETION						04-06-0			
*				QA			ALL PARAMETERS WI HIN WPS REQUIREME				A
	j j	CWI / TEAM LEADER VERIFY PARAMETER COMPLIANCE PRIOR TO OPERATION START					S   				



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(50) AND THROUGH COMPLETION 04-06-0



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

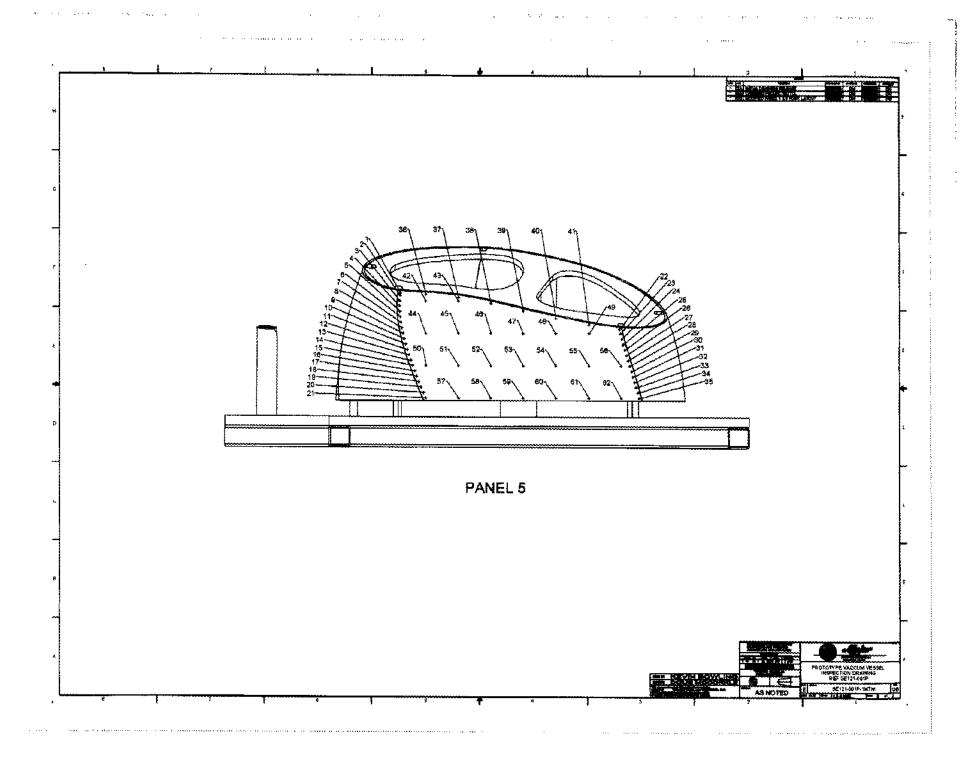
Stage of Inspection: [] Incoming Inspection [X] Weldment [] Casting [X] In-Process Inspection [] Bar Stock [] Plate [] Forging [] Other [] Forging [] Other    Part Information:   Resource ID: 230-FABRICATION - WEIDNER Part IN: Serial Number: N/A   Customer Unit/Plant: N/A    Customer Inspection Plan: N/A Revision: N/A Revision: N/A   Material Test Number: N/A     Customer Inspection Plan: N/A Revision: N/A Material Test Number: N/A     Manufacturing Process:   X Weldment [] Casting [] Machined [] Rough [] Rough [] Drawing [] Test Plan [] Test Plan [] Test Plan [] Technique Card    Test Results: Quantity Inspected: 1 Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0     Quantity Rejected: 0     Quantity Rejected: 0     Quantity Rejected: 0     Run Hours: 0.0     Customer Specification: ASME SECT. V, ARTICLE 6 MTM Spec Number: Acceptance Standard: AWS D1.6, PARA. 6.29.1	Date of Inspection:04/06/20	Type of	Material:625 IN	CONEL	NI	DT#:8489
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  Customer Inspection Plan: N/A Test Step: N/A Revision: N/A  Quantity Inspected: 1 Quantity Rejected: 0 Run Hours: 0.0  Inspection Criteria: Customer Specification: ASME SECT. V, ARTICLE 6 MTM Spec Number:	] Incoming Inspection	Iment [ ] Casting Stock [ ] Plate	[ ] Machined [ ] Rough [x] Other		<ul><li>[x] Router Instructions</li><li>[x] Drawing</li><li>[ ] Test Plan</li></ul>	[]Yes
Test Step: N/A Customer Specification: ASME SECT. V, ARTICLE 6 Revision: N/A MTM Spec Number:	MTM Job Number: 64880/1.0 Resource ID: 230-FABR Part ID: SE121-00 Part Name: NCSX PV Serial Number: N/A Customer P.O.: S-04344-F	0 -Sub:39 -Op:10 RICATION - WEIDNER I3P VS COMPLETE	Quantity Inspected: Quantity Accepted: Quantity Rejected:	1 1 0		
	Test Step: N/A Revision: N/A		MTM Spec Num	ion: ASME SEC <sup>-</sup> ber:	T. V, ARTICLE 6	
Inspection Methods Used:  Magnification Used: 10X Light Source Used: AMBIENT AND FLASHLIGHT	Magnification Used: 10X					
Pre-Weld InspectionAccRejN/AIn-Process InspectionAccRejN/APost-Weld InspectionAccRejN/ABase Material Certs:[][][x]Preheat/Interpass Temp:[][][x]Welds Properly Completed:[x][][]Filler Material Certs:[][][x]Proper Filler Material/Flux:[][][x]Weld Surfaces:[x][][]PQR/WPS:[][][x]Shielding Gas/Back Purge:[][][x]Weld Dimensions:[x][][]WPQ:[][][x]Welder Conforming to WPS:[][][x]Weld Contours:[x][][]Joint Preparation:[][][x]Root Pass:[][][x]Post-Weld Cleaning:[x][][][]Fit-up:[][][x]Sistortion of Part:[][][x]Pre-Weld Cleaning:[][][x]Sistortion of Part:[][][x]Equip Condition/Calibr:[][][x][][x]Distortion of Part:[][][x][][x]	Base Material Certs: [] Filler Material Certs: [] PQR/WPS: [] WPQ: [] Joint Preparation: [] Fit-up: [] Pre-Weld Cleaning: []	[]         [x]         Prehea           []         [x]         Proper Fill           []         [x]         Shielding           []         [x]         Welder Configuration           []         [x]           []         [x]           []         [x]           []         [x]           []         [x]           []         [x]	at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS: Root Pass: Fill Pass: Cover Pass: nterpass Cleaning:	[] [x] [x] [x] [x] [x] [x] [x] [x] [x] [	Welds Properly Completed: Weld Surfaces: Weld Dimensions: Weld Contours: Post-Weld Cleaning:	[x] [] [] [] [] [] [] [] [] [] [] [] [] []
Inspection Requirements:			Inspection Requiremen	its:		
100 % of all accessible surfaces [ ] Joint Preps [x] Root Pass [ ] Back Gouge [x] Cover Pass [ ] Other	100 % of all accessible surface	ces [ ] Joint Preps	[x] Root Pass	[ ] Back Goug	ge [x] 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.	Visual inspection performed on root pa			Extension Tube) to	o itself and to find no. 4 (Weld E	Backing Ring).
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	hown.	•	·		ANS COUNTY Deaply SCIV	HET IS

Page: 116 Date: 04/15/04 User ID: LONAKER

Quality Assurance Documentation for Part ID: SE121-003P - Item: 217

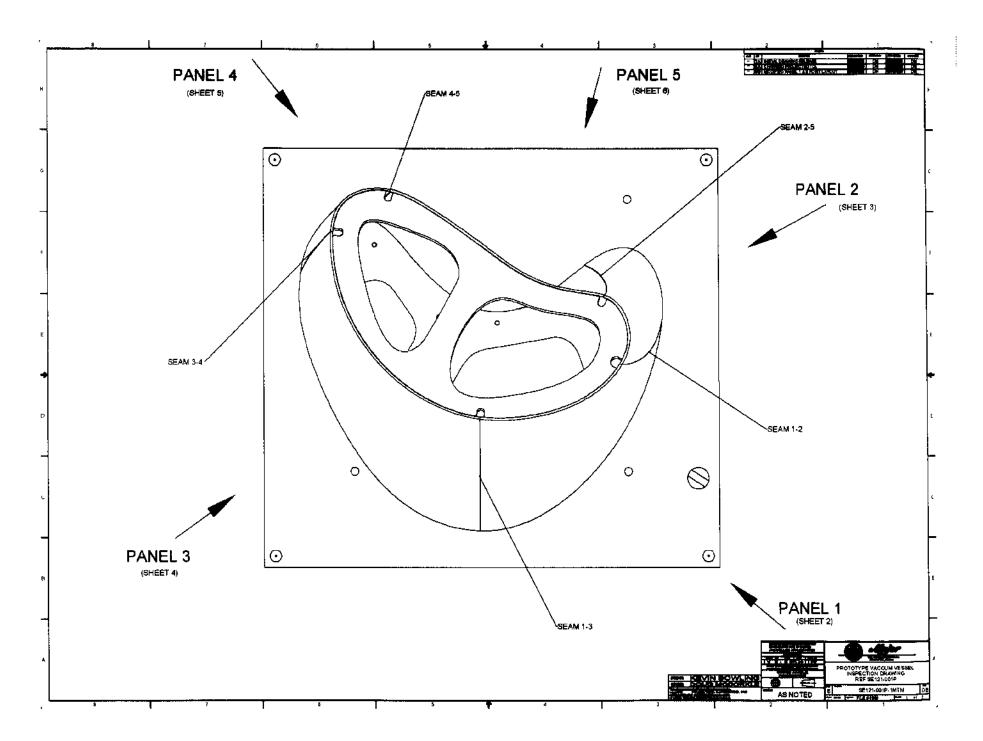
Workorder: 64880/1-0 Sub:39 Op:30

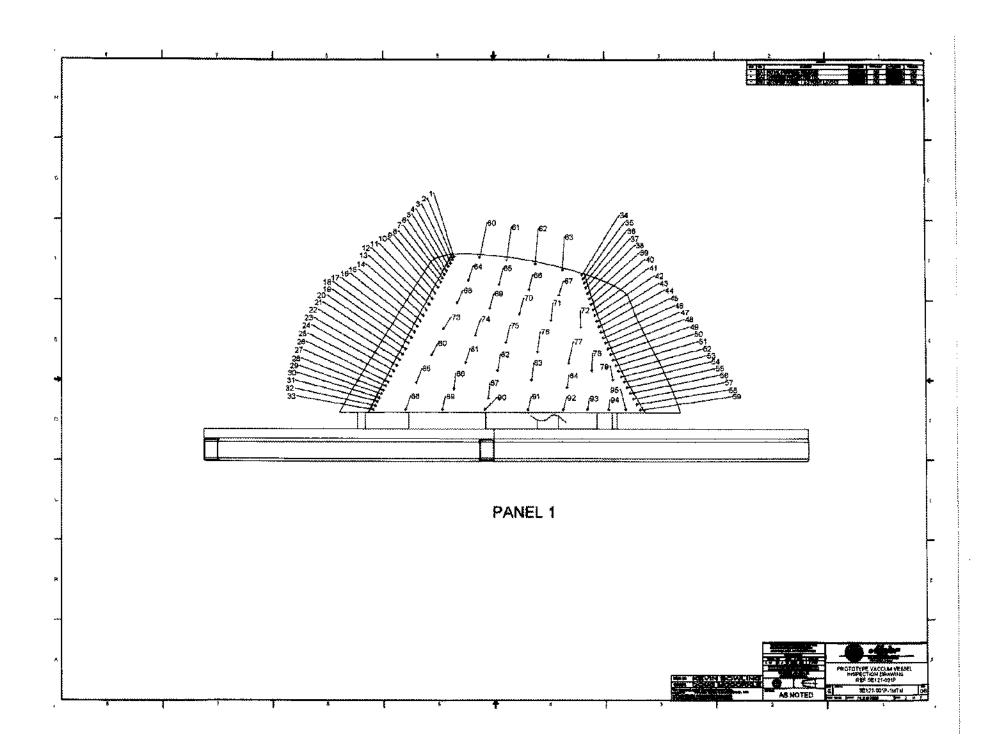
	D	rawing ID: SE121-003P Rev: 0	INSPECTION INS	TRUC	TIONS	I	RESULTS	INS	PECTED	) BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	]
*				QA			20 CFH ARGON GAS A	791			$\mathbf{A}$
							D WELDER 40 CFH AR				
	!!	CWI / TEAM LEADER		ļ			ON		ļ	ļ	
	!!	VERIFY SHIELDING GAS							ļ	ļ	
		AND PURGE GAS COMPLIANCE PRIOR TO OPERATION START							ļ i	l i	
(10)	!!	AND THROUGH COMPLETION						04-06-0	ļ Ī	l İ	
*		AND THROUGH COMILETION		QA			.062 INCO 625 HEAT	791			$\mathbf{A}$
	 	CWI / TEAM LEADER		QA			LOT # AV8128	/ 71	ļ	l İ	A
	!!	VERIFY WELD FILLER MATERIAL COMP								! 	
İ	!!	PRIOR TO OPERATION START		İ	İ				!	İ	
(20)		AND THROUGH COMPLETION						04-06-0			Ĺ
*				QA			300 SERIES S.S.	791			A
	!!	CWI / TEAM LEADER					S.S. WOOL INSERT				
	!!	VERIFY PURGE DAM MATERIAL COMPL									
(20)	!!	PRIOR TO OPERATION START						04-06-0	 	 	
(30)		AND THROUGH COMPLETION		0.4			700 OLIALIEUED TO MT				$\frac{1}{4}$
	 			QA			709 QUALIFIED TO MT M WELDER QUALIFICA	!	]	 	A
	 	CWI / TEAM LEADER					IONS SYSTEM	N I		ļ	
	!!!	VERIFY WELDER QUALIFICATIONS CO								l	
		PRIOR TO OPERATION START		<u> </u> 						İ	
(40)	!!	AND THROUGH COMPLETION		İ	İ			04-06-0	ĺ	İ	İ
*				QA			ALL PARAMETERS WIT	791			A
İ		CWI / TEAM LEADER		j	j j		IN WPS GUIDLINES		ĺ	j	İ
	!!	VERIFY PARAMETER COMPLIANCE		ļ						ļ	
(70)	!!	PRIOR TO OPERATION START									
(50)		AND THROUGH COMPLETION		<u> </u>				04-06-0			



			PECTION REC	CORD		inspection Drawing Number: SE121-001P-1MTM Rev: 0B						
nspectio	on type: F	ormed Panel				ural welding				ection X		
Part # / I	Panel #: 4	SE121-001P	PANEL #6	Gage/St	d S/N(s): 44	170, J-1009-	-NDT, J-110	35, J-1160	Date of Ins	pection: 04	-16-04	
oint	Profile	Materia	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector	
dumber	Deviation	n Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials	
1	0.108	0.425 *	LESS THAN 1.01	9.4		44	0.078	0.428 *	LESS THAN 1.01	12.1	100	
2	0.105	0.426 *	LESS THAN 1.01	8.6		45	0.076	0.424 *	LESS THAN 1.01	17.6	97	
3	0.117	0.419 *	LESS THAN 1.01	7.5		46	0.153	0.417	LESS THAN 1.01	11.6		
4	0.123	0.42 *	LESS THAN 1.01	13.4		47	0.142	0.415	LESS THAN 1.01	15.3		
5	0.116	0.421 *	LESS THAN 1.01	12.5		48	0.087	0.419 *	LESS THAN 1.01	16.9	<u>l</u>	
6	0.098	0.422 *	LESS THAN 1.01	14.6	}	49	0.013	0.427 *	LESS THAN 1.01	19:6		
7	0.074	0.421 *	LESS THAN 1.01	18.9		50	-0.006	0.43 *	LE\$9 THAN 1.01	13.8		
8	0.055	0.418 *	LESS THAN 1.01	17.3		51	0.076	0.42 *	LESS THAN 1.01	17.5		
9	0.046	0.417 *	LESS THAN 1.01	16.2		52	0.125	0.408	LESS THAN 1.01	12.6		
10	0.04	0.415	LESS THAN 1.01	14.3	$\vdash$	53	0.174	0.404	LESS THAN 1.01	16.9		
11	0.033	0.413	LESS THAN 1.01	15.9	<b></b>	54	0.154	0.413	LESS THAN 1.01	15.2	$\bot$	
12	0.024	0.413	LESS THAN 1.01	10.3	<del></del>	55	0.132	0.419	LESS THAN 1.01	16.4	$\bot$	
13	0.02	0.416 *	LESS THAN 1.01	10.0	<b> </b>	56	0.033	0.422 *	LESS THAN 1.01	15.3	<del>  -</del>	
14	0.019	0.418 *	LESS THAN 1.01	9.5	oxdot	57	0.102	0.422 *	LESS THAN 1.01	14.6	<del>                                     </del>	
15	0.018	0.421 *	LESS THAN 1.01	8.7	<del>                                     </del>	58	0.135	0.417 *	LESS THAN 1.01	9.6	<del>                                     </del>	
16	0.017	0.42 *	LESS THAN 1.01	16.5	$\vdash$	59	0.141	0.415	LESS THAN 1.01	10.8	<u> </u>	
17	0.019	0.419 *	LESS THAN 1.01	14.3		60	0.195 *	0.42 *	LESS THAN 1.01	17.1	<u> </u>	
18	0.026	0.42 *	LESS THAN 1.01	17.6	<del>                                     </del>	61	0.216 *	0.422 *	LESS THAN 1.01	16.4	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	
19	0.034	0.419 *	LESS THAN 1.01	18.6	<del>                                     </del>	62	0.153	0.423 *	LESS THAN 1.01	15.3	407	
20 21	0.041	0.42*	LESS THAN 1.01	13.5 19.6	+	63 64	<b>.</b>	<u> </u>		<del> </del>		
22	0.049	0.417	LESS THAN 1.01	21.3		65		1				
23	0.023	0.415	LESS THAN 1.01	17.6	<del>                                     </del>	66	<b>.</b>	<u> </u>	+	<del> </del>	-	
24	0.023	0.411	LESS THAN 1.01	8.4	<del>                                     </del>	67	<del> </del>	<u> </u>		<del> </del>	<del> </del>	
25	0.021	0.415	LESS THAN 1.01	10.2	<del>                                     </del>	68	1	<u> </u>	+	<del> </del> -	+	
26	0.013	0.415	LESS THAN 1.01	10.9	<del>                                     </del>	69		<del> </del>		1		
27	0.01	0.414	LESS THAN 1.01	8.7	++	70	<del>                                       </del>		<del> </del>	<del>                                     </del>	<del> </del>	
28	0.009	0.417 *	LESS THAN 1.01	9.3		71	1	<del> </del>	<del> </del>			
29	0.009	0.418 *	LESS THAN 1.01	12.3		72		<del>                                     </del>	+	<del> </del>	<del>                                     </del>	
30	0.015	0.417 *	LESS THAN 1.01	14.6		73		<del>                                     </del>	+		1	
31	0.019	0.417 *	LESS THAN 1.01	15.3	<del>                                     </del>	74	†	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	+	
32	0.024	0.417 *	LESS THAN 1.01	12.4		75		<u> </u>	1			
33	0.03	0.417 *	LESS THAN 1.01	14.3	<del>                                     </del>	76	t	<u> </u>	†		1	
34	0.039	0.417*	LESS THAN 1.01	10.3		77		1	1		1	
35	0.047	0.415	LESS THAN 1.01	9.2		78	<b>†</b>	† · · · · · · · · · · · · · · · · · · ·	<b>T</b>	<u> </u>	†——	
36	0.151	0.426 *	LESS THAN 1.01	10.7	<del>† †</del>	79	<b>†</b>	†	<del>                                     </del>	<b> </b>	1	
37	0.112	0.429	LESS THAN 1.01		<del>                                     </del>	80	<u> </u>		1		T	
38	0.112	0.423 *	LESS THAN 1.01			81					Ī	
39	0.113	0.417 *	LESS THAN 1.01	18.3		82	1				1	
40	0.062	0.42 *	LESS THAN 1.01	9.8		83	1					
41	0.025	0.417 *	LESS THAN 1.01	7.9	1	84						
42	0.136	0.426 *	LESS THAN 1.01	16.3	(2)	85		<u> </u>				
43	0.068	0.43 *	LESS THAN 1.01		(87)	86	1	T		T	T	

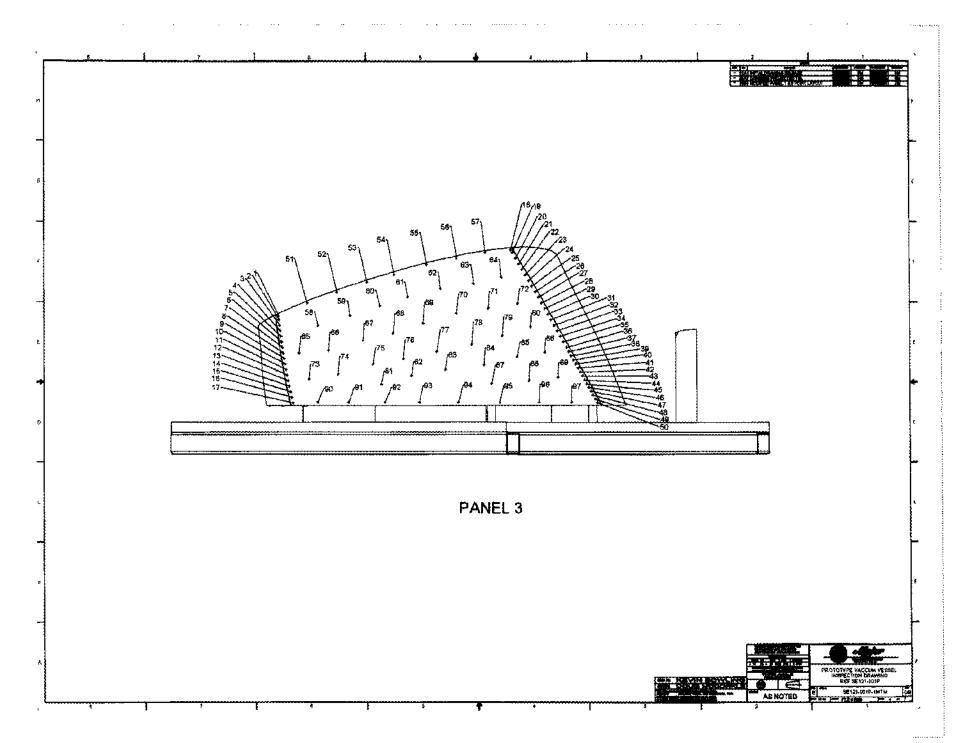
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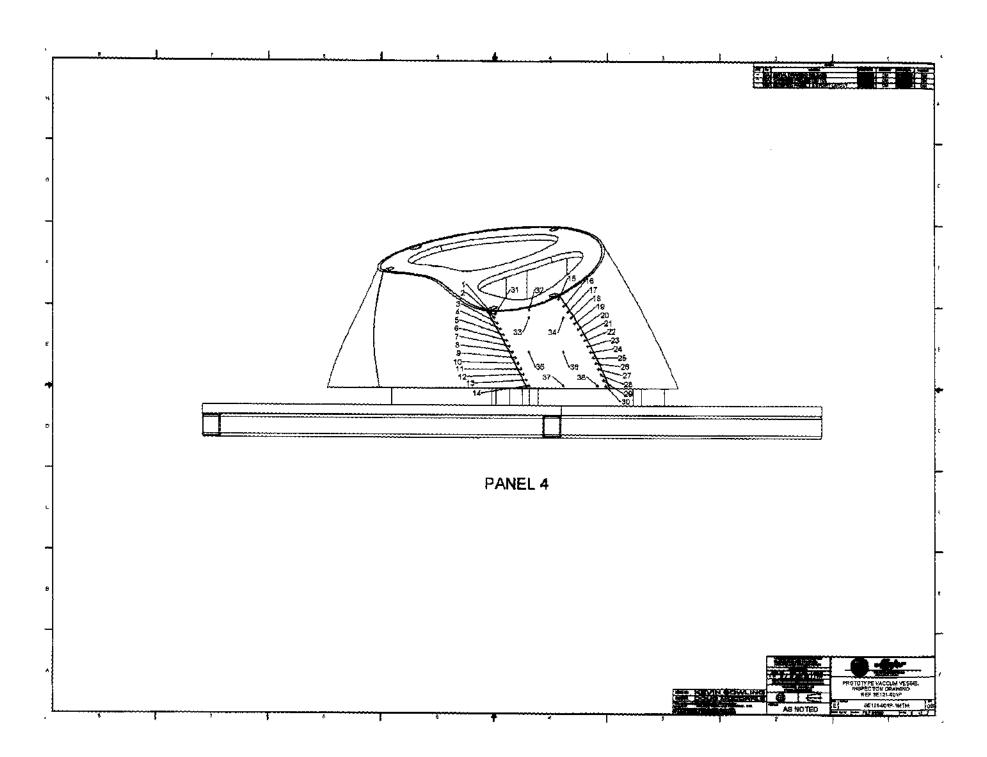
84880 Pf	PL NCSX	PVVS INS	PECTION REC	ORD		Inspecti	on Drawing	Number:	SE121-001	P-1MTM	Rev: 0B
Inspectio	n type: Fo	med Panel	Interpass (i	<b>#</b> )	After struct	ural welding	After w	elding Port	Final Ins	pection X	
		E121-001P					-NDT, J-116				-16-04
Point	Profile	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic		inspector
Number	Deviation		Permeability	Finish	Initials	Number	Deviation		Permeabili		Initials
1	0.069	0.376	LESS THAN 1.01	8.4		44	0.034	0.386	LESS THAN 1.01	13.2	
2	0.054	0.378	LESS THAN 1.01	9.6		45	0.037	0.385	LESS THAN 1.01	15.4	
3	0.046	0.38	LESS THAN 1.01	12.8	4	46	0.038	0.384	LESS THAN 1.01	9.5	
4	0.034	0.38	LESS THAN 1.01	8.8		47	0.038	0.384	LESS THAN 1.01	9.7	
5	0.027	0.381	LESS THAN 1.01	9.6		48	0.036	0.385	LESS THAN 1.01	6.4	
6	0.018	0.381	LESS THAN 1.01	10.4		49	0.034	0.386	LESS THAN 1.01	15.2	<u> </u>
7	0.009	0.381	LESS THAN 1.01	11.6	<u> </u>	50	0.032	0.384	LESS THAN 1.01	13.2	
8	0.003	0.381	LESS THAN 1.01	20.0		51	0.029	0.385	LESS THAN 1.01	14.7	
9	-0.004	0.381	LESS THAN 1.01	21.3		52	0.028	0.385	LESS THAN 1.01	16.2	
10	-0.009	0.382	LESS THAN 1.01	21.2		53	0.027	0.384	LESS THAN 1.01	8.4	
11	-0.014	0.383	LESS THAN 1.01	10.0		54	0.03	0.384	LESS THAN 1.01	16.2	
12	-0.014	0.381	LESS THAN 1.01	7.2		55	0.034	0.383	LESS THAN 1.01	14.4	
13	-0.011	0.381	LESS THAN 1.01	9.6		56	0.044	0.384	LESS THAN 1.01	14.8	
14	-0.001	0.383	LESS THAN 1.01	10.8		57	0.06	0.385	LESS THAN 1.01	16.4	
15	0.015	0.383	LESS THAN 1.01	8.8		58	0.068	0.386	LESS THAN 1.01	17.2	<u> </u>
16	0.029	0.383	LESS THAN 1.01	10.2		59	0.074	0.385	LESS THAN 1.01	18.0	<u> </u>
17	0.036	0.383	LESS THAN 1.01	12.5	<u> </u>	60	0.064	0.381	LESS THAN 1.01	24.8	
18	0.03	0.383	LESS THAN 1.01	9.5		61	0.061	0.381	LESS THAN 1.01	15.4	
19	0.019	0.383	LESS THAN 1.01	8.7	<u> </u>	62	0.029	0.386	LESS THAN 1.01	19.2	
20	0.01	0.383	LESS THAN 1.01	12.5	<u> </u>	63	-0.015	0.385	LESS THAN 1.01	16.4	
21	0.006	0.384	LESS THAN 1.01	11.4	1 1	64	0.014	0.387	LESS THAN 1.01	11.6	
22	0.004	0.387	LESS THAN 1.01	16.2		65	0.057	0.385	LESS THAN 1.01	14.8	
23	0.001	0.386	LESS THAN 1.01	12.4		66	0.028	0.385	LESS THAN 1.01	10.8	
24	-0.004	0.386	LESS THAN 1.01	11.1		67	-0.007	0.386	LESS THAN 1.01	21.6	<u> </u>
25	-0.007	0.387	LESS THAN 1.01	12.3	<u> </u>	68	-0.005	0.386	LESS THAN 1.01	7.6	
26	-0.007	0.386	LESS THAN 1.01	6.8		69	0.076	0.386	LESS THAN 1.01	9.6	
27	-0.007	0.386	LESS THAN 1.01	5.6		70	-0.015	0.386	LESS THAN 1.01	11.2	
28	-0.011	0.386	LESS THAN 1.01	6.8		71	-0.09	0.388	LESS THAN 1.01	16.8	1 1
29	-0.02	0.386	LESS THAN 1.01	8.0	<u> </u>	72	0.021	0.388	LESS THAN 1.01	17.3	1 1
30	-0.035	0.383	LESS THAN 1.01	7.6	1 1	73	0.028	0.388	LESS THAN 1.01	10.9	
31	-0.049	0.384	LESS THAN 1.01	8.4		74	0.048	0.384	LESS THAN 1.01	18.6	
32	-0.056	0.378	LESS THAN 1.01	10.8		75	-0.031	0.384	LESS THAN 1.01	12.7	
33	-0.051	0.379	LESS THAN 1.01	9.6		76	N/A	N/A	N/A	N/A	
34	0.006	0.384	LESS THAN 1.01	11.2		77	N/A	N/A	N/A	N/A	
35	0.011	0.385	LESS THAN 1.01	6.8		78	-0.102	0.385	LESS THAN 1.01		
36	0.008	0.386	LESS THAN 1.01	10.8		79	0.039	0.391	LESS THAN 1,01		1 1
37	0.006	0.385	LESS THAN 1.01	21.6		80	0.011	0.387	LESS THAN 1.01		
38	0.004	0.385	LESS THAN 1.01	12.0		81	0.022	0.387	LESS THAN 1.01	_	1
39	0.005	0.386	LESS THAN 1.01	13.6		82	-0.059	0.385	LESS THAN 1.01		
40	0.012	0.386	LESS THAN 1.01	14.3	<u> </u>	83	-0.081	0.387	LESS THAN 1.01		<u> </u>
41	0.022	0.387	LESS THAN 1.01	15.2		84	-0.007	0.386	LESS THAN 1.01	<del></del>	<b>─</b> ─
42	0.031	0.387	LESS THAN 1.01	10.2	(MAJON)	85	-0.036	0.391	LESS THAN 1.01		
43	0.035	0.387	LESS THAN 1.01	14.3		86	-0.018	0.389	LESS THAN 1.01	12.0	(2)

64880 PI	PPL NCSX	PVVS INS	PECTION REC	CORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM R	ev: 0B
Inspectio	n type: Fo	med Panel	Interpass (	<b>#)</b>	After struct	ural welding	After w	elding Port	Final Ins	ection X	
Part # / F	anel#: Si	E121-001P	PANEL #1			70, J-1009-				pection: 04	-16-04
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish	Initials
87	-0.081	0.387	LESS THAN 1.01		100	126					
88	-0.073	0.385	LESS THAN 1.01	9.4		127					
89	-0.053	0.388	LESS THAN 1.01		<b>A</b>	128					
90	-0.082	0.385	LESS THAN 1.01	10.0		129					
91	-0.113	0.389	LESS THAN 1.01	13.2		130					
92	-0.112	0.387	LESS THAN 1.01	10.4		131					
93	-0.106	0.388	LESS THAN 1.01	16.2	•	132					
94	-0.058	0.387	LESS THAN 1.01	14.8		133			·		
95	0.033	0.385	LESS THAN 1.01	15.2	(45, W)	134					
96						135					
97						136					
98						137					
99		<u> </u>				138					
100			-			139				]	
101						140					
102		L				141	1			·	
103						142					
104					<u> </u>	143					
105		L.				144					
106				I		145					
107					-	146			<u>.</u>		·
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111						150	<u></u>			· · · · · · · · · · · · · · · · · · ·	
112						151					
113						152		]	<u> </u>		Ţ
114						153	Ī				-
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117		<u> </u>				156					
118			T			157		1			
119						158	1				
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121	<u> </u>					160	Ţ	1			
122	1					161					
123		· · · · ·		1		162		· · · · · · · · · · · · · · · · · · ·			
124						163	"		<del> </del>		
125	Î					164					†

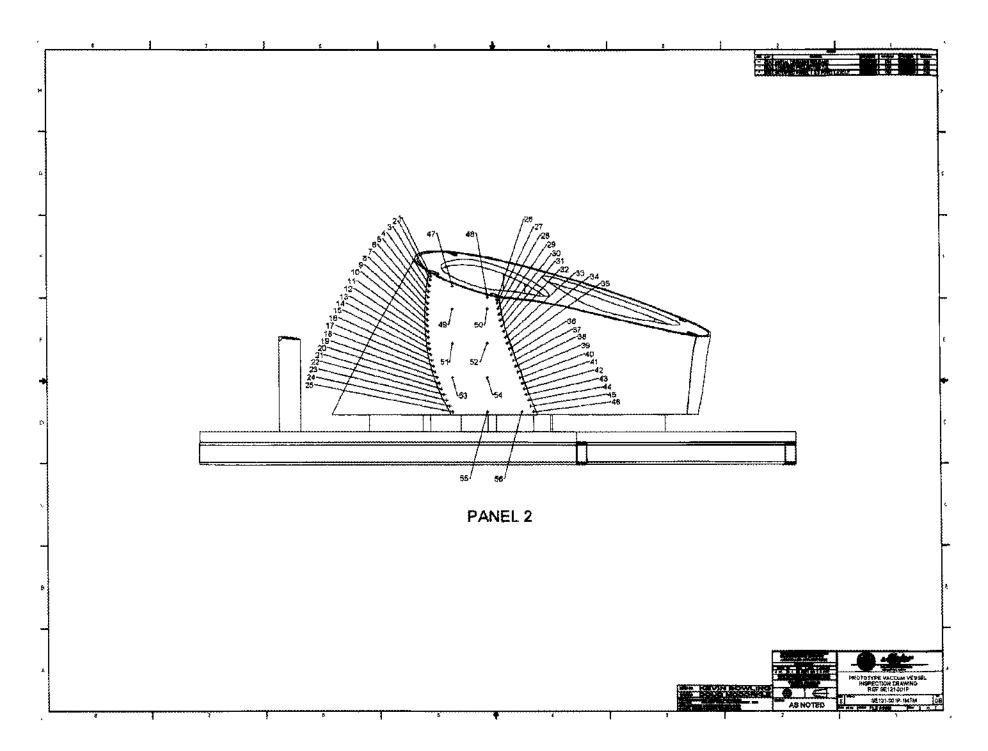


64880 PI	PPL NCSX	PVVS INS	PECTION REC	ORD		Inspection	on Drawing	Number:	SE121-001	P-1MTM F	lev: 0B
Inspectio	n type: Fo	rmed Panel	Interpass (#	<b>#</b> )	After struct	ural welding	After we	olding Port	Final Ins	pection X	
		E121-001P					NDT, J-116				-16-04
Point	Profile	Material	Magnetic			Point	Profile	Material	Magnetic		Inspector
			Permeability		Initials	Number	Deviation		Permeabili		Initials
1	0.093	0.386	LESS THAN 1.01	10.0		44	-0.029	0.385	LESS THAN 1.01	14.3	
2	0.076	0.382	LESS THAN 1.01	6.8		45	-0.034	0.387	LESS THAN 1.01	16.4	
3	0.056	0.377	LESS THAN 1.01	10.0	4	46	-0.033	0.388	<b>LESS THAN</b> 1.01	14.3	<u> </u>
4	0.044	0.375	LESS THAN 1.01	12.4	7	47	-0.029	0.389	LESS THAN 1.01	13.4	7
5	0.036	0.379	LESS THAN 1.01	11.6		48	-0.024	0.389	LESS THAN 1.01	8.6	
6	0.033	0.38	LESS THAN 1.01	15.6		49	-0.021	0.387	LESS THAN 1.01	17.6	
7	0.038	0.38	LESS THAN 1.01	15.3		50	-0.016	0.387	LESS THAN 1.01	15.2	
8	0.047	0.38	LESS THAN 1.01	17.6		51	0.112	0.384	LESS THAN 1.01	14.3	<u> </u>
9	0.054	0.379	LESS THAN 1.01	18.2		52	0.076	0.386	LESS THAN 1.01	14.2	<u> </u>
10	0.06	0.379	LESS THAN 1.01	17.8		53	0.089	0.389	LESS THAN 1.01	8.3	igspace
11	0.062	0.379	LESS THAN 1.01	18.4		54	0.05	0.387	LESS THAN 1.01	16.9	
12	0.063	0.377	LESS THAN 1.01	20.1		55	0.025	0.385	LESS THAN 1.01	12.5	ļ
13	0.062	0.379	LESS THAN 1.01	15.3		56	0.024	0.387	LESS THAN 1.01	17.6	
14	0.059	0.38	LESS THAN 1.01	16.0		57	0.074	0.387	LESS THAN 1.01	13.2	
15	0.058	0.377	LESS THAN 1.01	14.3		58	0.087	0.385	LESS THAN 1.01	12.3	<u> </u>
16	0.058	0.378	LESS THAN 1.01	16.3		59	0.095	0.385	LESS THAN 1.01	14.6	
17	0.06	0.379	LESS THAN 1.01	8.6	<u> </u>	60	0.095	0.388	LESS THAN 1.01	21.3	
18	0.076	0.382	LESS THAN 1.01	9.4		61	0.076	0.387	LESS THAN 1.01	14.3	
19	0.074	0.383	LESS THAN 1.01	15.3	<u> </u>	62	0.086	0.385	LESS THAN 1.01	16.0	
20	0.066	0.383	LESS THAN 1.01	14.5		63	0.094	0.387	LESS THAN 1.01	14.0	
21	0.052	0.385	LESS THAN 1.01	12.3	<u> </u>	64	0.065	0.388	LESS THAN 1.01	12.3	
22	0.036	0.384	LESS THAN 1.01	16.4		65	0.119	0.385	LESS THAN 1.01	14.8	
23	0.024	0.385	LESS THAN 1.01	18.5		66	0.121	0.383	LESS THAN 1.01	13.4	
24	0.013	0.383	LESS THAN 1.01	12.1	<u> </u>	67	0.065	0.383	LESS THAN 1.01	17.2	
25	0.007	0.385	LESS THAN 1.01	15.3		68	0.084	0.384	LESS THAN 1.01	15.3	$\bot$
26	0.004	0.384	LESS THAN 1.01	8.6		69	0.104	0.386	LESS THAN 1.01	14.6	
27	0.003	0.385	LESS THAN 1.01	9.4		70	0.085	0.385	LESS THAN 1.01	10.3	
28	0.004	0.383	LESS THAN 1.01	7.8	<u> </u>	71	0.039	0.388	LESS THAN 1.01	12.4	
29	0.006	0.383	LESS THAN 1.01	8.6	$\vdash$	72	-0.001	0.386	LESS THAN 1.01	14.3	<del>                                     </del>
30	0.008	0.383	LESS THAN 1.01	9.4		73	0.107	0.385	LESS THAN 1.01	17.3	4—4—
31	0.006	0.384	LESS THAN 1.01	9.4		74	0.098	0.384	LESS THAN 1.01	14.3	1
32	0.006	0.384	LESS THAN 1.01	6.1		75	0.052	0.383	LESS THAN 1.01	16.1	
33	0.005	0.383	LESS THAN 1.01		$oxed{oxed}$	76	0.054	0.383	LESS THAN 1.01	+	
34	0.002	0.383	LESS THAN 1.01	-		77	0.103	0.387	LESS THAN 1.01		<del>-                                     </del>
35	0.002	0.383	LESS THAN 1.01	+		78	0.102	0.389	LESS THAN 1.01	· · ·	<del>                                     </del>
36	0.004	0.384	LESS THAN 1.01		$\sqcup$	79	0.082	0.385	LESS THAN 1.01		<del>                                     </del>
37	0.006	0.384	LESS THAN 1.01	-	<u> </u>	80	0.011	0.384	LESS THAN 1.01		<del>                                     </del>
38	0.005	0.386	LESS THAN 1.01	+		81	0.058	0.385	LESS THAN 1.01	+	1
39	-0.001	0.385	LESS THAN 1.01		1	82	0.044	0.388	LESS THAN 1.01		<del>                                     </del>
40	-0.006	0.387	LESS THAN 1.01	•	<b>▶</b> ♥	83	0.077	0.385	LESS THAN 1.0	+	4
41	-0.012	0.385	LESS THAN 1.01			84	0.113	0.386	LESS THAN 1.01		<del> </del>
42	-0.018	0.384	LESS THAN 1.01	<del></del>	( lary lar	85	0.092	0.389	LESS THAN 1.0		
43	-0.024	0.385	LESS THAN 1.01	14.8	<u>・・</u> ノ	86	0.005	0.386	LESS THAN 1.0	16.2	(057)

64880 PI	PPL NCSX	PVVS INS	PECTION REC			Inspection	on Drawing	Number:	SE121-001	P-1MTM R	Rev: 0B
Inspectio	n type: Fo	med Panel	Interpass (	¥)	After struct	ural welding	After w	elding Port	Final Ins	pection X	
Part#/F	anel#: Si	E121-001P	PANEL #3	Gage/St	d S/N(s): 44	70, J-1009-	NDT, J-116	35, J-1180	Date of Ins	pection: 04	-16-04
	Profile	Material	Magnetic		Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	t Finish	Initials
87	0.09	0.385	LESS THAN 1.01	10.2		126					
88	0.085	0.386	LESS THAN 1.01	12.4		127					
89	0.004	0.386	LESS THAN 1.01	16.2	Ā	128					
90	0.071	0.385	LESS THAN 1.01	9.4		129					
91	0.087	0.383	LESS THAN 1,01	15.0		130					
92	0.083	0.387	LESS THAN 1.01	12.4		131				]	
93	0.109	0.386	LESS THAN 1.01	12.0	Ĭ .	132					
94	0.114	0.386	LESS THAN 1.01	13.4	7	133					
95	0.068	0.387	LESS THAN 1.01	10.2		134					
96	0.053	0.385	LESS THAN 1.01	17.2		135					
97	0.031	0.386	LESS THAN 1.01	16.4	( a ; v )	136					
98						137					
99						138					
100						139					
101	<u> </u>	<u></u>	<u></u>			140			<u>.</u>		<u>.</u>
102						141					
103						142					1
104			<u> </u>			143			<u> </u>		
105						144	1				
106		ļ	<b>.</b>		ļ	145		ļ <u> </u>		<u> </u>	
107		<u></u>				146					
108		Ļ		ļ		147	<u> </u>	<u> </u>			
109						148					<u> </u>
110		ļ				149				<u> </u>	
111	ļ					150				1	
112	<u> </u>	ļ			ļ	151	<u> </u>		<u> </u>	ļ	
113						152			<u> </u>		
114	ļ	<u> </u>	<b>.</b>	<u> </u>	<u> </u>	153	ļ	<b>.</b>		ļ	ļ
115	<u> </u>	<u> </u>		1	<b></b>	154		ļ		<u> </u>	
116			1			155		1		ļ	
117						156					
118						157			ļ	<u> </u>	<u> </u>
119						158			ļ		
120						159					
121	1	1		ļ	<u> </u>	160	<u> </u>			<u> </u>	
122			1			161		1			
123				<u> </u>		162	<u> </u>			ļ	
124						163			ļ		
125		<u> </u>				164			1	<u> </u>	



64880 P	PPL NCSX	PVVS INS	PECTION REC	ORD		Inspecti	on Drawing	Number:	SE121-001	P-1MTM I	Rev: 0B
Inspectio	n type: For	med Panel	Interpass (f	¥)	After struc	tural welding	After w	elding Port	Final Ins	ection X	
Part#/F	anel #: St	E121-001P	PANEL #4	Gage/St	d S/N(s): 44	470, J-1009	-NDT, J-116	35, J-1180	Date of Ins	pection: 04	-16-04
Point	Profile	Material	Magnetic	Surface	Inspector	Point	Profile	Material	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability		Initials	Number	Deviation	Thickness	Permeabilit		Initials
1	0.027	0.413	LESS THAN 1.01	13.2		44			<u>"</u>		
2	0.046	0.414	LESS THAN 1.01	10.8		45		1			
3	0.054	0.413	LESS THAN 1.01	21.2	A	46					
4	0.059	0.413	LESS THAN 1.01	16.8		47					
5	0.060	0.414	LESS THAN 1.01	14.8		48					
6	0.057	0.417 *	LESS THAN 1.01	16.4		49			I		
7	0.053	0.412	LESS THAN 1.01	17.3		50					
8	0.048	0.413	LESS THAN 1.01	12.6		51					
9	0.043	0.415	LESS THAN 1.01	16.1		52					
10	0.039	0.417 *	LESS THAN 1.01	15.9		53	<u></u>				
11	0.036	0.417 *	LESS THAN 1.01	14.3		54					
12	0.032	0.418 *	LESS THAN 1.01	10.6		55					
13	0.031	0.416 *	LESS THAN 1.01	14.5		56					
14	0.037	0.416 *	LESS THAN 1.01	12.3		57					
15	0.051	0.392	LESS THAN 1.01	13.2		58					
16	0.041	0.393	LESS THAN 1.01	15.1		59					
17	0.030	0.394	LESS THAN 1.01	17.9	<b></b>	60	<u> </u>	<u> </u>			ļ
18	0.017	0.391	LESS THAN 1.01	18.7	ļi	61					
19	0.008	0.391	LESS THAN 1.01	12.3	<b> </b>	62	ļ				
20	0.001	0.390	LESS THAN 1.01	10.9	ļ	63	<u> </u>	<b>,</b>	ļ	<u> </u>	ļ <u>-</u>
21	-0.002	0.390	LESS THAN 1.01	15.3	<b>├</b>	64	ļ		<u> </u>		<u> </u>
22	0.000	0.391	LESS THAN 1.01	16.0	ļ <u>i</u>	65	<u> </u>				<u> </u>
23	0.004	0.390	LESS THAN 1.01	18.9	<del>                                     </del>	66	1	-			
24	0.009	0.389	LESS THAN 1.01	17.1		67					
25 26	0.015	0.388	LESS THAN 1.01	17.0 15.3	$\vdash$	68 69	<u> </u>				
27	0.023 0.028	0.389	LESS THAN 1.01		<del>                                     </del>	70	1	<u> </u>	<b> </b>		
		0.392	LESS THAN 1.01	12.4	<del></del>	71	<del>                                     </del>	<u> </u>	<b> </b>		
28 29	0.031 0.034	0.391 0.392	LESS THAN 1.01 LESS THAN 1.01	15.3 14.3		72	+				+
30	0.034	0.392	LESS THAN 1.01	16.1	<del>                                     </del>	73	+	<u> </u>	<del> </del>	ļ	
31	0.050	0.391	LESS THAN 1.01	16.2	<del>                                     </del>	74	1			<del>                                     </del>	+
32	0.050	0.396	LESS THAN 1.01	12.6	<del>├</del> ├	75	<del> </del>	1	<del> </del>	<del>                                     </del>	+
33	0.051	0.400	LESS THAN 1.01		<del>                                     </del>	76	+	1		<del>                                     </del>	+
33	0.002	0.400	LESS THAN 1.01		<del>                                     </del>	77	+	<u> </u>	<del> </del>		<del></del>
35	0.026	0.395	LESS THAN 1.01	11.6	<del>                                     </del>	78	<del>                                     </del>	1		-	+
36	0.016	0.392	LESS THAN 1.01	12.1	<del>                                     </del>	79	+			<del> </del>	+
37	-0.002	0.393	LESS THAN 1.01	9.3		80	+		1	+	+
38	-0.002	0.388	LESS THAN 1.01	10.6	( <del>( ( )</del>	81	+	<del>                                     </del>	+		<del> </del>
39	-0.010	0.000	CEOO TANKI 1.01	10,0	<del>                                     </del>	82	<del> </del>	1	+		+
40	<b>†</b>	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<del> </del>	83	1	1	+		+
41	1	<del> </del>		<del>                                     </del>	<del> </del>	84	†	+	+		+
42						85	†	1	<del>                                     </del>		+
43	<del> </del>	<del> </del>	<del>†</del>	<del>                                     </del>		86	+	+	+		
43	I	<u> </u>	<u> </u>	]	<u> </u>			1	1		



64880 PF	PL NCSX	PVVS INSI	PECTION REC	ORD		Inspecti	on Drawing	Number:	SE121-001	P-1MTM F	Rev: 0B
Inspection	n type: For	med Panel	Interpass (#	<del> </del> )	After struc	tural welding	) After w	elding Port	Final Ins	pection X	
Part # / P	anel#: SE	121-001P	PANEL #2	Gage/St	d S/N(s): 4	470, J-1009	-NDT, J-116	35, J-1180	Date of Ins	pection: 04	-16-04
Point	Profile	Material	Magnetic	Surface	inspector	Point	Profile	Materia!	Magnetic	Surface	Inspector
Number	Deviation	Thickness	Permeability	Finish	Initials	Number	Deviation	Thickness	Permeabili	tFinish_	Initials
1	-0.025	0.387	LESS THAN 1.01	10.2		44	0.052	0.376	LESS THAN 1.01	9.8	(572)
2	-0.023	0.386	LESS THAN 1.01	16.3		45	0.043	0.375	LESS THAN 1.01	13.4	
3	-0.018	0.384	LESS THAN 1.01	15.3	1	46	0.032	0.381	LESS THAN 1.01	11.5	
4	-0.013	0.383	LESS THAN 1.01	12.4		47	0.047	0.392	LESS THAN 1.01	12.0	
5	-0.004		LESS THAN 1.01	11.3		48	0.096	0.399	LESS THAN 1.01	13.4	
6	0.008	0.384	LESS THAN 1.01	10.9		49	0.141	0.389	LESS THAN 1.01	16.4	
7	0.021	0.383	LESS THAN 1.01	14.2		50	0.145	0.406	LESS THAN 1.01	14.2	
8	0.027	0.383	LESS THAN 1.01	15.3		51	0.162	0.386	LESS THAN 1.01	14.5	
9	0.034	0.382	LESS THAN 1.01	17.6		52	0.154	0.388	LESS THAN 1.01	13.2	<u> </u>
10	0.041		LESS THAN 1.01	14.6		53	0.147	0.380	LESS THAN 1.01	15.6	<u> </u>
11	0.049	0.383	LESS THAN 1.01	12.3		54	0.135	0.381	LESS THAN 1.01	13.4	<u> </u>
12	0.053	0.385	LESS THAN 1.01	16.8		55	0.125	0.380	LESS THAN 1.01	14.6	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (
13	0.054	0.383	LESS THAN 1.01	14.5	L	56	0.130	0.381	LESS THAN 1.01	10.9	25,7
14	0.050		LESS THAN 1.01	15.2		57					
15	0.046		LESS THAN 1.01	10.3		58					
16	0.038		LESS THAN 1.01	9.8		59		<b>.</b>	ļ	ļ	
17	0.031		LESS THAN 1.01	11.0		60	ļ			1	ļ
18	0.030		LESS THAN 1.01	12.3	<b></b>	61	ļ <u>-</u>				
19	0.031	0.381	LESS THAN 1.01	15.4		62		<b>.</b>			
20	0.034	0.381	LESS THAN 1.01	14.6		63	-			ļ	
21	0.038	0.383	LESS THAN 1.01	13.2	<del>                                     </del>	64		-			
	0.045	0.383	LESS THAN 1.01	18.6		65			1		<del> </del>
23 24	0.053 0.064	0.383 0.382	LESS THAN 1.01	17.6 12.3	<del>  </del>	66 67				<del>                                     </del>	
25	0.004	0.381	LESS THAN 1.01	15.2	<del>                                     </del>	68		<del> </del>	<del> </del>		+
26	0.077	0.409	LESS THAN 1.01 LESS THAN 1.01	14.3		69			<del> </del>	<u> </u>	<del></del>
27	0.097	0.407	LESS THAN 1.01	10.3		70		<del> </del>	<del> </del>	<u> </u>	1
28	0.105	0.404	LESS THAN 1.01	9.4	<del></del>	71	1		1		+
29	0.103	0.402	LESS THAN 1.01	12.3		72	1		+		+
30	0.086	0.392	LESS THAN 1.01	14.6	<del>                                     </del>	73	<del> </del>		+		+
31	0.086	0.393	LESS THAN 1.01	18.4	<del>                                     </del>	74			<u> </u>		-
32	0.091	0.394	LESS THAN 1.01	13.2		75			†	<del>                                     </del>	╅──┤
33	0.112		LESS THAN 1.01		<del>                                     </del>	76		<del>                                     </del>	†	}	+
34	0.135	0.391	LESS THAN 1.01	10.6	<del>                                     </del>	77					
35	0.136	0.388	LESS THAN 1.01	9.2	<del>                                     </del>	78				<del>                                     </del>	<del></del>
36	0.129	0.390	LESS THAN 1.01	15.2		79			<del></del>	<u> </u>	<del> </del>
37	0.120	0.386	LESS THAN 1.01	14.3		80	† ·				†
38	0.111	0.384	LESS THAN 1.01	16.4		81	<del> </del>	1	<u> </u>		<u> </u>
39	0.100	0.385	LESS THAN 1.01	17.2	<del>                                     </del>	82	1		<del> </del>	<del>†</del>	1
40	0.088	0.383	LESS THAN 1.01	12.3		83			<u> </u>	<del>†                                     </del>	1
41	0.079	0.383	LESS THAN 1.01	15.2	_	84	1		<del> </del>	<b>†</b>	1
42	0.071	0.379	LESS THAN 1.01	10.2		85		<u> </u>	<del> </del>	†	1
43	0.061	0.380	LESS THAN 1.01	17.1	(2)	86		<u> </u>		1	

Page: 117 Date: 04/19/04 User ID: DURHAM

Quality Assurance Documentation for Part ID: SE121-003P - Item: 223

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-

	D	Prawing ID: SE121-003P Rev: 0	INSPECTION INS	STRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1165	LESS THAN 1.01	522			A
		Magnetic Permeability of all Inconel 625		ļ					]	]	
(10)		Material And Weld Zones (1.01 Max)						04-08-0			
*				QA		J-1165	LESS THAN 1.02	522			A
		Magnetic Permeability of Conflat Flange									
(20)		(1.02 Max)						04-08-0			_
*				QA		J-1165	LESS THAN 1.2	522	ļ	ļ	A
		Magnetic Permeability of Weld / Heat Affecte									
(20)		ne									
(30)		(Flange to Tube) (1.2 Max)		-				04-08-0			-
*		△ .375		QA		4470	+0.216/-0.034 TOTAL	522			R
							PROFILE [N/C:15410				
(40)		Finished part profile					-Doc:15140]	04-16-0			1
*		◆ Ø.250" (P48" A B C		QA		4470	0.570 [N/C:15418-Do	522		ļ	R
		Port Extension position					c:15418]				
(50)		(after re-attachment)						04-19-0			]
*				QA		J-1009-NDT	P#1 0.378-0.391,P#2	522			R
							0.409-0.375,P#3 0.				
							389-0.375,P#4 0.418				
							-0.388,P#5 0.430-0.				
							404 [N/C:15377-Doc				
(60)		.375 +0.04/06"					:15377]	04-08-0			
*				QA		J-1009-NDT	0.127-0.130	522			A
(70)		.125 +/013"		Ì				04-08-0			
1*				QA		J-1180	ACCEPT	522			A
		32 MICRO INCH SURFACE FINISH RA							İ	İ	İ
		ENTIRE INTERIOR VESSEL AND							]		
(80)		PORT EXTENSION SURFACE.						04-16-0			

Date Rottered Date De Commune Bestelldetum 08/14/03  Isranschrift OL AND N I ST OLIS USA  Ison • Specifikation	MACHI	Customer F Reference Kundenbes P03-03	Reference : Client :tdBdaten	Ship To - Des	Re Ray Za 2003  Ethnetaure • B TOO 19TH NAPO	pport No. p		Pages of Page di Anzahi d 1 O	of Pages le Pages der Solton Of 4	+	HAYN Internat	ional Product Des	¢ription • Desc	10 Ko	faynes interna 20 West Park PO Box 90 komo, Indiana it • Material Best	Avenue 113 a. 46902	
OL AND I I ST OLIS USA	, 1	NE INC		MAJOI 1458 E INDIAI	R TOO 19TH NAPO	estellarings LAND ST LIS	MACH		· · · · · · · · · · · · · · · · · · ·	+		Product Desc	tription • Desc	ripiion Produ	komo, Indiana	a. 46902	
OL AND I I ST OLIS USA	, 1	NE INC		MAJOI 1458 E INDIAI	R TOO 19TH NAPOI	L AND ST LIS	MACE	IINE IN	(C	0.1	25 (0.12)	Freduct Des	tription • Desc	ripiion Produ	ii - Material Best	rebung	
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ion • Spezifikation				IN 462	:18 (	JSA				HA	YNES(F	t) 625 A	LLOY	SHEET	Γ -		
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Al B	С	Co+Ta (No+Ta)	Co	Cr	Cu	Chemical Fe	Mn	Analyse Chi Mo	limique • Chem Ni	usche Ar	nalyse S	Si	Τi	V			
5	0.030	3.63	0.23	21.79	<del></del>						<del></del>			<del></del>	<del> </del>		
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458 E 19T		CHINE INC	1458 E 19TH		IINE INC	0.125 (0.12/0.13) x 36 x	
NDIANAP				ILIS		- [HAYNES(R) 625 ALLO	A SHEEL -
N 46218				USA		NADCAP CERTIFICAT S400E,S1000E, EN 1020	
Specification - Speci	Reaffou - Specification - Specification  S 5599 Rev P ASTM-B-443 Rev 99 NG6625 1				Questity Stipped Creatitie Expedies Liefermenge		
AMS 5599 Rev	P ASTM-B-443 Roy 9	9 N06625 1		1 PC	1 PC	<b>!</b>	

This material is free of mencury 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 + Certific Par + Basebolulgi Durch: Paul Guest Certification Supervisor/Technician 08/22/03

Paul O. Duest





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:0	3/31/2004	Type of	Material:625	NCONEL	-	NI	)T#:8545	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	[ ] Bar Stock [	s: ] Casting ] Plate ] Other	Surface Co [ ] Machin [ ] Rough [x] Other AS-WELD	ned		Test Being Run to:  [X] Router Instructions [X] Drawing  [ ] Test Plan  [ ] Technique Card	Heat Trea [ ] Yes [x] No	ited:
MTM Job Number: Resource ID: Part ID:	S-04344-F	EIDNER	Test Ro Quantity Inspec Quantity Accep Quantity Reject Run Hot	ted: 1 ted: 1 ted: 0				
Customer Inspection Plan: Test Step: Revision: Material Test Number:	N/A N/A		Customer Specif MTM Spec N Acceptance St	umber:	ИЕ SECT.			
Magnification Used:	n Methods Used: 10X AMBIENT AND FLASHL	IGHT						
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPQ Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		Prehea Proper Fill Shielding Welder Co	ess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS: Root Pass: Fill Pass: Cover Pass: nterpass Cleaning: Distortion of Part:	Acc Rej []	N/A	Post-Weld Inspection  Welds Properly Completed:     Weld Surfaces:     Weld Dimensions:     Weld Contours:     Post-Weld Cleaning:     Distortion of Part:	[x] []	N/A [] [] [] [] [X]
100 % of all access	nible curfeece. [1] lei		Inspection Require		ok Cougo	[v] Cover Peec	[ ] Othor	
	sible surfaces [ ] Joh	nt Preps	[x] Root Pass	[ ] Da	ck Gouge	[x] Cover Pass	Other	
Notes: Visual inspection performed requirements.	on the cover pass weld	joining find	no. 4 (Weld Backing	Ring) to itse	elf. Weld	acceptable to customer drawir	ng / specificati	on
This is to certify that the piec shown.  Inspector:	es specified have been 933-D.LEAPLEY	inspected in		e specification	ns	Lain & Beagling Scill	UT	

Page: 118 Date: 04/15/04 User ID: LONAKER

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

	D	Prawing ID: SE121-003P Rev: 0	INSPECTION INS	STRUC	TIONS		RESULTS	INS	PECTED	BY	
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			PURGE @ 20 CFH ARG	791			A
							N GAS AND WELDER@				
		CWI / TEAM LEADER					0 CFH ARGON GAS				ĺ
ļ	ļ	VERIFY SHIELDING GAS		ļ					ļ	ļ	
	!	AND PURGE GAS COMPLIANCE									
(10)	<u> </u>	PRIOR TO OPERATION START						02.21.0		 	
(10)		AND THROUGH COMPLETION		0.1			0.62.625 D.I.GO. IVE A.W.	03-31-0			١.
*	ļ			QA			.062 625 INCO HEAT	791	ļ		A
	<u> </u>	CWI / TEAM LEADER					LOT AV8128		}		
	1	VERIFY WELD FILLER MATERIAL COMP PRIOR TO OPERATION START							}	 	
(20)	1	AND THROUGH COMPLETION						03-31-0		 	
*		THE THROUGH COM LETTOR		QA			300 SERIES S.S. S.	791			$\mathbf{A}$
	l İ	CWI / TEAM LEADER		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			S. WOOL INSERT			 	•
	İ	VERIFY PURGE DAM MATERIAL COMPL					b. WOOD INDERT				
İ	i	PRIOR TO OPERATION START									
(30)		AND THROUGH COMPLETION						03-31-0	İ		
*				QA			709 QUALIFIED TO WP	791			A
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		VERIFY WELDER QUALIFICATIONS CO									
	ļ	PRIOR TO OPERATION START									
(40)		AND THROUGH COMPLETION						03-31-0			-
*	ļ			QA			75-175 AMPS .062 FI	791			A
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		CWI / TEAM LEADER					REMENTS				
		VERIFY PARAMETER COMPLIANCE							}		
(50)	<u> </u> 	PRIOR TO OPERATION START AND THROUGH COMPLETION						03-31-0		 	
(50)		AND INKOUGH COMPLETION		1				03-31-0			]



Page: 119 Date: 04/15/04

User ID: LONAKER

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

	D	Prawing ID: SE121-003P Rev: 0	INSPECTION INS	STRUC	TIONS		RESULTS	INS	SPECTED	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						03-05-0			ĺ
*				QA		VISUAL	OK	085			A
(20)		CLEANLINESS PER PP475						03-05-0			Ĺ



# Table of Contents Quality Assurance Documents For Workorder: 64880/1.0

Page: 8
Date: 04/19/04
User ID: DURHAM

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
228	19	10		Inspection Data Checklist: 5 steps
229	19	10		Nondestructive Visual Test Certification #8102
230	19	20		Inspection Data Checklist: 2 steps
THREA				BOSS - THREADED LIFTING BOSS
Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
231	58	10	10	Material Certification: TRACE ID: 69597/316_100 - BAR, ROUND, 316SST, .75 DIA MC086258.TIF / 13207

Shipping Release

Non Conformance 15103

Non Conformance 15377

Non Conformance 15410

Non Conformance 15418

RDD 04/20/04

Page: 120 Date: 04/15/04 User ID: LONAKER

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

	D	rawing ID: SE121-002P Rev: 0	INSPECTION INS	TRUC	TIONS	]	INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA			SHIELDING 40 / PUR	791			A
	!!	CWI / TEAM LEADER		]			GE @ 20 CFH		Ì		
	!!!	VERIFY SHIELDING GAS					ļ				
	!!!	AND PURGE GAS COMPLIANCE		ļ							
(10)		PRIOR TO OPERATION START						02.25.0			
(10)		AND THROUGH COMPLETION		0.4			0.62 625 P.I.GO FW.I.F.	02-25-0			
*				QA			.062 625 INCO FILLE	791			A
	!!	CWI / TEAM LEADER VERIFY WELD FILLER MATERIAL COMP					R HEAT # AV 8128		ļ i	 	
	!!!	PRIOR TO OPERATION START		ļ 					ļ Ī	] 	l
(20)	 	AND THROUGH COMPLETION		<u> </u> 				02-25-0	! 	 	
*		THE THROUGH COM LETTOR		QA			300 SERIES S.S.	791			A
	 	CWI / TEAM LEADER		Q/1			500 BERIES S.S.		! 	 	1
	!!!	VERIFY PURGE DAM MATERIAL COMPL		ļ 					Ì		ĺ
		PRIOR TO OPERATION START		ĺ					ĺ	İ	
(30)		AND THROUGH COMPLETION		Ì				02-25-0	İ		ĺ
*				QA			709 / 728 ACCEPTA	791			A
							BLE TO MTM QUALIFI				ĺ
	ĺ	CWI / TEAM LEADER		j			ATIONS CHECK SYSTE		j		İ
		VERIFY WELDER QUALIFICATIONS CO		ļ							ļ
	!!!	PRIOR TO OPERATION START									
(40)		AND THROUGH COMPLETION						02-25-0			ļ
*				QA			.062 70-170 AMPS AL	791			A
							L PARAMETERS WITHI				
	!!!	CWI / TEAM LEADER					WPS RANGE				
	!!!	VERIFY PARAMETER COMPLIANCE									
(50)	!!!	PRIOR TO OPERATION START		 				02.25.0			
(50)		AND THROUGH COMPLETION						02-25-0			1



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:0	2/25/2004	Type of	Material:304L	. SST AN	ND 625	INCONEL N	DT#:81	02	
Stage of Inspection: [ ] Incoming Inspection [x] In-Process Inspection [ ] After Repair [ ] Final Inspection	ss: ] Casting ] Plate ] Other	Surface Co [ ] Machin [ ] Rough [x] Other AS-WELDI	Test Being Run to:  [x] Router Instructions  [x] Drawing  [ ] Test Plan  [ ] Technique Card	Heat 1 [ ] Y [x] N					
MTM Job Number: Resource ID: Part ID:	S-04344-F		Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0  Run Hours: 0.0						
Customer Inspection Plan: Test Step: Revision: Material Test Number:	N/A N/A		Inspection Criteria: Customer Specification: ASME CODE ARTICLE 6, SECTION V MTM Spec Number: Acceptance Standard: AWS D1.6, SECT. 6.29.1						
Magnification Used:	n <b>Methods Used:</b> 10X AMBIENT / FLASHLIGH	łΤ							
Pre-Weld Inspection  Base Material Certs Filler Material Certs PQR/WPS WPC Joint Preparation Fit-up Pre-Weld Cleaning Equip Condition/Calibr		Prehea Proper Fill Shielding Welder Co	eess Inspection at/Interpass Temp: ler Material/Flux: g Gas/Back Purge: onforming to WPS: Root Pass: Fill Pass: Cover Pass: nterpass Cleaning: Distortion of Part:	Acc Rej []		Post-Weld Inspection Welds Properly Completed Weld Surface Weld Dimension Weld Contour Post-Weld Cleaning Distortion of Par	d: [x] s: [x] s: [x] s: [x] s: [x]	Rej N/A [] [] [] [] [] [] [] [] [X] [] [X]	
			Inspection Require	ments:					
100 % of all access	sible surfaces [ ] Jo	int Preps	[] Root Pass	[]B	ack Gouge	e [x] Cover Pass	[] Other		
Notes: Visual inspection performed drawing and specification re		Find no. 5 (P	ort extension tube) to	o Find no.6	(Conflat fla	ange) weld. Welds acceptabl	le per custo	mer	
This is to certify that the pieceshown.	es specified have been	inspected in		e specification	ons	Ching II Hengley	WS C 1 H. ISJACY CCVI		

Page: 121 Date: 04/15/04 User ID: LONAKER

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			I	INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPL	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		J-1152	20-30	522			A
Ì		32 Micro Surface Finish							İ		ĺ
(10)		(Interior)						02-25-0			
*				QA		J-1165	LESS THAN 1.2	522			A
İ	İ	1.2 Max Magnetic Permeability		ĺ	j j			İ	İ		İ
(20)		(Flange To Tube)						02-25-0			

VJRB0065

T,C.I. Corp.

Print on: 11/01/2001

E:WITR\VJRB\VJRB0065.BMP

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Page: 1

Heat#:13207

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Coil#:BO8501008

VIRALI IMPOEXPO LTD.

10, IMPERIAL CHAMBERS, 1 ST FLOOR. WILSON ROAD, BALLARD ESTATE, MERNISAL, 400 058. (INDIA)

#### TEST CERTIFICATE

CUSTOMER

. .

FIDELITY STAINLESS LTD. 7075 FIR TREE DRIVE, MISSISSAUGA. ONTARIO, LSS 157, CANADA.

ORDER NO. P00248

PACKING LIST NO. MP/10143A

INSPECTION NO. DATED IMP/10143/3

08/08/2001

BUNDLE NO.

42422,42832,43037,43039.

GRADE:

316/316L

DESCRIPTION STAINLESS STEEL BRIGHT GARS

62962 RB

SIZE (NCHES)			SHAPE	TÇ	X ZRANCE	LEN	GTH		PIECE	B	WEIGHT (1961)	
34,			MORNO	AS	FITM AHB4	12° R	Æ.	321		1	6489	
:		·			CHEMI	CAL ANAL	,YSIA		<u> </u>			
HEAT NO.	1320	17			_				•			
c	<b>HO</b> 1	si	b	2	W4	CF	Ko	Ctr	и	Ço		4
0.025	1.330	B. 400	0.020	0.038	10.220	16.870 .	2.060	0.480	0.046	0.200		

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1601	LESAL!

YELD FORT PROOF STRESS (KSI)	TENSILE STRENGTH (KSI)	ELONGATION %	REDUCTION OF AREA	HARCNESS BHH
60	95	- 41	. 71	194 -

#### Specification :

MATERIAL CONFIRMS TO ASTM A278-BIA, ASTM A478-BTA, ASTM A484-BB, ASTM A262-BSA PRACTICE S. RMS 50. ASTM A193-67A, BOM CL1, ASTM A348-68 ASTM A163-66, AMS 5848J, AMS 5853E, ASME SA152-66ED, ASME SA476-66ED. QQ-9-783F, MIL-9-7730A AMZ, NACE MR-01-75-96 UNISH \$51600/831603, GRAW SIZE, 5 A9 PER ASTM E112-65.



#### Remarks:

MATERIAL IS FREE FROM MERCURY CONTAMINATION, MICROSTRUCTURE: FREE FROM CONTINUOUS CARBIDE NETWORK. MACROSTRUCTURE ; GOOD MINIMUM SOLUTION ANNEALING TEMPERATURE 1080C WATER QUENCHIED, FREE FROM WELD OR WELD REPAIR.

We harby certify that the insterial described above has been tested and complies with the terms of order/contract.

ORDER DATE 9

SPANCH INIPAS

WORKS INSPECTOR

RT03515644

## PRINCETON UNIVERSITY PLASMA PHYSIC LABORATORY—PPPL

PRODUCT QUALITY CERTIFIC	CATION AND	SHIPPING	G RELEASE			
PROJECT	ITEM DESCR	UPTION		SHI	PMENT NUM	BER
NCSX	4	64880/1				
PPPL Subcontract / Order No.		NO.	SUBCONTRACTOR REFERENCE NO.	RE	V. QUANTIT	ΓY
S-04344-F	5	1	64880			1
SUBCONTRACTOR'S CERTIFIC	CATION	-				
This is to certify that the product program and are in conformance of identified in the above-reference accordance with the procurement	with the procure ed documents	ment requ unless no	irements including applicated below. Any support	able codes, stand orting documenta	ards and specifi	cations as
SIGNED:		_	DATE 4-2 PANY: MAJOR	0 - 1		
TITLE: QA TL		COMI	PANY MAJOR	TUR & M	RHILLE	
PPPL (AUTHORIZED REPRESE	NTATIVE) SH					
This section serves as the Quality acceptance thereof and does not a imposed by the purchase contract the Purchaser's right to reject the contract, drawings and specification	elieve the Vend It does not wa above described	ior, Manu iive any ri	facturer or Subcontractor ights the Purchaser may h	of any and all re ave under the pur	sponsibility or create,	obligation including
NONCONFORMANCES FROM	PROCUREMEN	NT QUAI	LITY REQUIREMENTS	MTM	NONCON FOLM	autes
NC 15103, 15						- 2:
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More value in havi			site while these	are resolu	ed. Fit	
BY PPPL QA REPRESENTATIV	E (OR DESIGN	(EE)		DATE 4- 26	0-04	
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MTM N/C: 15103

Page: 1
Date: 04/16/04
User ID: MCCORKLE

**Customer: PRINCETON PLASMA PHYSICS LAB** Contact: LARRY SUTTON Telephone: 609-243-2441 E-Mail: S-04286-F Fax: 609-243-2021 Part: / Customer P.O.: S-04344-F/Ln:1 Drawing ID: SE121-001P Revision: 0 Serial No./Qty: Reported By: DOUG MCCORKLE Telephone: 317-636-6433 E-Mail: dMcCorkle@MajorTool.com Fax: 317-634-9420 Problem: RADIOGRAPHIC INSPECTION REQUIREMENT ASME SECTION VIII, DIVISION 1, UW-51 PROCESSING DEFECTS NOTICED ON THE FILM DURING CUSTOMER VISIT. ROLLER MARKS WERE OBSERVED ON THE FILM AT LEAST PARTIALLY OVER THE WELD IMAGE. **Proposed Disposition:** CONTINUE MANUFACTURING. ISSUE WILL BE SUBMITTED TO PRINCETON FOR DIRECTION. IF RE-SHOOT IS DESIRED, PROVISIONS WILL BE ADDED INTO THE CURRENT MANUFACTURING ROUTING IN A PRACTICAL LOCATION. Number of additional pages: **Customer Disposition:** [X] Use As Is [ ] Rework [ | Repair [ ] Scrap Replace MTM's subcontracted RT Level II has determined that the marks in question do not interfere with the interpretation of the film (i.e. they can be differentiated from relevant indications). See attached MTM document. Phil Heitzenroeder Technical Contact Approval: 2004.04.19 16:08:52 -04'00' TitleNCSX Dep. Eng. Mgr. Date: 4/19/04 Phil Heitzenroeder Buver Approval: Title: VV Tech. Rep. Date: 4/19/04 2004.04.19 16:09:22 -04'00'

Major Tool Implemented By:\_\_\_\_\_

Date:

Title:

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**Customer: PRINCETON PLASMA PHYSICS LAB** Telephone: 609-243-2441 Contact: LARRY SUTTON Fax: 609-243-2021 E-Mail: S-04286-F Part: / Customer P.O.: S-04344-F/Ln:1 Drawing ID: SE121-003P Revision: 0 Serial No./Qty: Reported By: DOUG MCCORKLE Telephone: 317-636-6433 E-Mail: dMcCorkle@MajorTool.com Fax: 317-634-9420 Problem: THE MATERIAL THICKNESS ON PANEL #5 AND PANEL #4 IS OUT OF TOLERANCE. THE TOLERANCE IS 0.375 +0.040 / -0.060. PANEL #5 RANGES FROM 0.404-0.430. PANEL #4 RANGES FROM 0.388-0.418. REFER TO I.D.C'S FOR 64880/1 SUB: 39 OP: 40. **Proposed Disposition:** SUBMIT TO PPPL FOR EVALUATION / REMEDIAL DISPOSITION Number of additional pages: **Customer Disposition:** Use As Is [ ] Rework [ | Repair [ | Scrap [ | Replace A major goal of the prototype effort is to obtain feedback on the dimensional accuracy achievable by the proposed manufacturing methods, and therefore these tolerances are not cause for rejection and the prototype will be accepted "as is." Keeping in mind that for the "production" vessel the material thickness can be measured and controlled before and after the forming process, the required thickness tolerance can be easily achieved for production. Technical Contact Approval: Mike Viola Title: PVVS Technical Rep. Date: 4/20/04 Buyer Approval: Phil Heitzenroeder 2004.04.20 12:57:39 -04'00' Title: NCSX Deputy Date: 4/20/02 Engineering Manager Title: Major Tool Implemented By: Date: **Root Cause 1: 819-PROCESS DEVELOPMENT** Resource: SILVER TEAM, ENGINEERING Equipment: THE MATERIAL THICKNESS WAS DISCOVERED TO BE OVER TOLERANCE EARLIER IN THE Description: MANUFACTURING CYCLE. KNOWING THERE WAS SUBSTANTIAL WELDING / BLENDING / POLISHING TO BE DONE THE DECISION WAS MADE TO CONTINUE WITH THE PROCESS. THE OVER THICKNESS AMOUNT DID NOT EXCEED WHAT IS CONSIDERED "NORMAL THINNING" AND WAS ESTIMATED THAT IT WOULD BE WITHIN TOLERANCE AFTER ALL MANUFACTURING SEQUENCES WERE COMPLETED. SOME AREAS REMAINED SLIGHTLY OUT OF SPECIFICATION. Action: 04/16/04 By: 775-D.MCCORKLE Corr Actn: 1: Description: BASED ON KNOWLEDGE AND EXPERIENCE GAINED DURING THE PRODUCTION OF THE PVVS, THE PLATE MATERIAL WILL BE PROCURRED SURFACE GROUND TO A SPECIFIED THICKNESS WITH LESS OVERTOLERANCE THAN PREVIOUSLY SPECIFIED.

Verify Notes: CONFIRMED

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Contact:	PRINCETON PLASMA PI LARRY SUTTON S-04286-F	HYSICS LAB	Telephone: 609-243-244 Fax: 609-243-202	
Part: Drawing ID:	•	Revision: 0	Customer P.O.: S-04344-F/L Serial No./Qty:	n:1
	DOUG MCCORKLE dMcCorkle@MajorTool.com	ı	Telephone: 317-636-643 Fax: 317-634-942	
		EDGE. THE PRO	E +0.187 TOLERANCE. THE PROFILE FALL FILE POINTS THAT ARE OUT ARE INSPEC	
Proposed Dispo	sition: SUBMIT TO PPPL FOR RE	MEDIAL DISPOS	ITION	
Number	of additional pages:			
Customer Dispo	osition: [X] Use As Is	[ ] Rework	[   Repair [   Scrap [   ] Replac	e
	manufacturing methods, and "as is". Keeping in mind the been a panel weld seam with	therefore these tole at in the "production the vessel field	a feedback on the dimensional accuracy achieval erances are not cause for rejection and the proto on" vessel the segmentation would be different period, the required tolerances may be achievable d as part of the prototype evaluation.	type will be accepted and this would have
Technical (	Contact Approval: Phil Hetzenmeder 2004 04.19 11:32:24	-04'00'	Title: NCSX Dep Engrg Mgr	Date: 4/19/2004
	Buyer Approval: Phil Hestzenroeder 2004 04.19 11:32.4		Title: Vacuum Vessel Tech Rep	Date: 4/19/2004
Major Tool	I Implemented By:		Title:	Date:

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**Customer: PRINCETON PLASMA PHYSICS LAB** Contact: LARRY SUTTON Telephone: 609-243-2441 Fax: 609-243-2021 E-Mail: S-04286-F Customer P.O.: S-04344-F/Ln:1 Part: / Serial No./Qty: Drawing ID: SE121-003P Revision: 0 Telephone: 317-636-6433 Reported By: DOUG MCCORKLE Fax: 317-634-9420 E-Mail: dMcCorkle@MajorTool.com Problem: THE 0.250 PROJECTED TRUE POSITION CHECKS 0.570. **Proposed Disposition:** SUBMIT TO CUSTOMER FOR DISPOSITION Number of additional pages: [ ] Rework [ ] Repair [ ] Scrap [ ] Replace **Customer Disposition:** [x] Use As Is A major goal of the prototype effort is to obtain feedback on the dimensional accuracy achievable by the proposed manufacturing methods, and therefore these tolerances are not cause for rejection and the part will be accepted "as is". However, accurate positioning of the ports is a critical requirement for the production vessel and therefore it is requested that all pertinent data and process history be included in the document package. Phil Heitzenroeder Technical Contact Approval: 2004.04.19 17:08:18 -04'00' Date: 4/19/04 TitleNCSX Dep. Eng. Mgr. Buyer Approval: Phil Heitzenroeder Title: NCSX VV Tech. Rep. Date: 4/19/04 2004.04.19 17:08:45 -04'00'

Date: