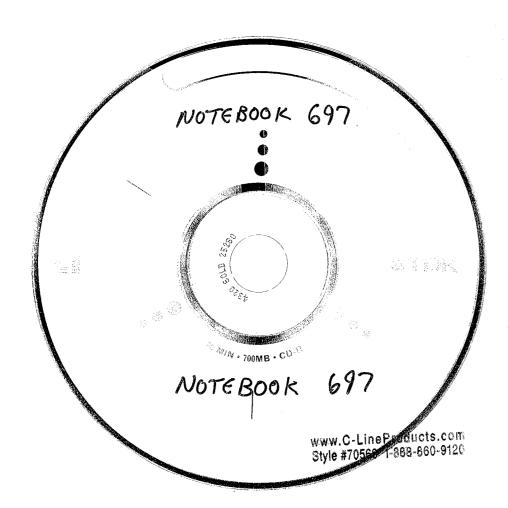
308 Q200506060008 Scientific Notebook No 697: Alloy 22

Scientific Notebook No 697: Alloy 22 Repassivation Test (03/28/2005 through 05/31/2005)

LABORATORY NOTEBOOK

CNWRA/SwRI



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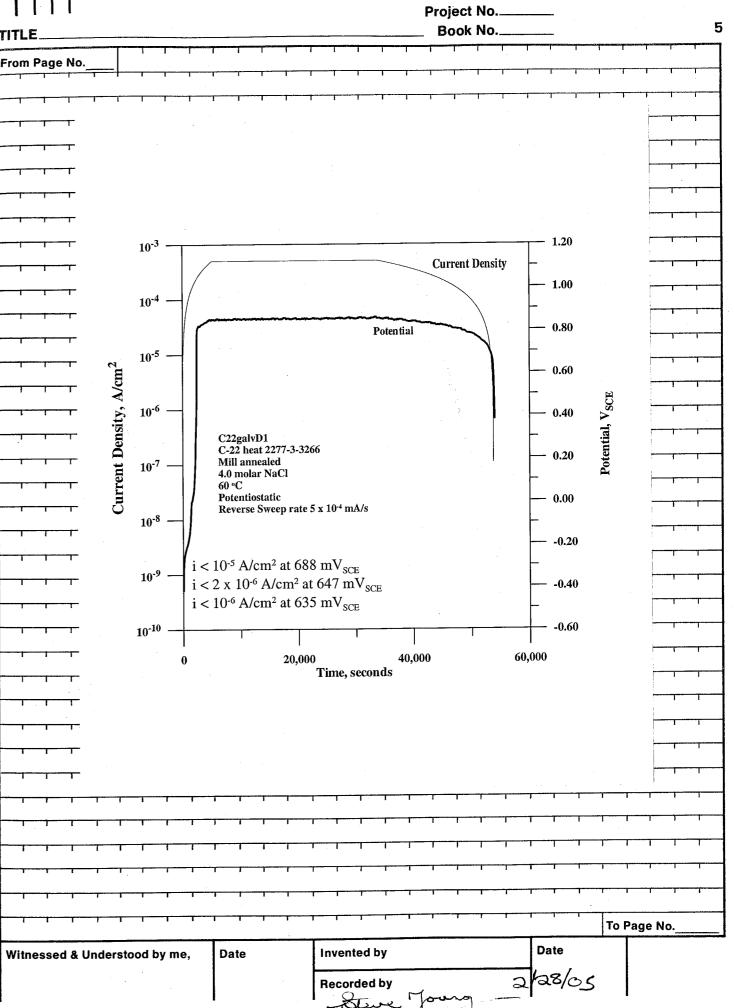
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					Total State Control			1 1. 1.	
			POTENTIAL SCAN A	ND HOLD		3.4 3.4			
1 1 1 1	Objec	tive: Same as page	1.		ļ				
TTTT	Alloy	/ Heat No. : C-22 He	eat# 2277-3-3266		-	1			
	Specia rinsed	men surfaces polished	pecimen machined to dimensions d to 600 Grit finish using SiC pape evice forming washers attached to e to 50 ip-oz	er. Specimen cleaned in ace	tone and				
		ue Screwdriver:	Snap-on USA Cal: 9/3/04	SN: 1001: Due: 3/3/0	200319			10-3	
		Weight: 39.880 Weight: 39.799		us SN: 1280 Due: 5/10	/05		 	10-4	
· · · · · · · · · · · · · · · · · · ·		ion: 4M NaC	<u> </u>			}			
								10-5	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		+D1 to	aCl Lot: 042966 aL			1		A/cm ²	
· · · · · · · · · · · · · · · · · · ·	Reage	ents measured with	Model: OHAUS Cal: 7/15/04 1/14/0 SBY 3/28/05	SN: 2883 Due: 1/15/	057/14/05 2/08/05				C22galvD1
- 		pH: 8.751	Model: Orion EA 940			 	<u> </u>	å	C-22 heat 2277-3-326 Mill annealed
	Final	pH: 6,847	Cal:7/21/04 pH Probe: #13-620-29	Due: 7/21 SN: 4079				Current Density,	4.0 molar NaCl 60 °C Potentiostatic
	Test	Temperature: 60°	C Measured with Hg Th	nermometer SN: E98- Due: 07/0	i		1 1 1	10-8	Reverse Sweep rate 5
	Coun	ter Electrode: Platinu	ım Flag					10 ⁻⁹ — i <	: 10 ⁻⁵ A/cm ² at 688
	Refer	ence Electrode: Fish	er 13-620-51	SN: 7282	317			1 <	2 x 10 ⁻⁶ A/cm ² at
	Gas:	99.999% Nitrogen Gas	·			T		i <	10 ⁻⁶ A/cm ² at 635
	Ecorr	431 V _{SCE} +.066 V _{SCE}	Model: Keithley 614 Cal: 12/2/04	SN: 4673 Due: 12/2				10-10	20.000
	Poten	ntiostat: Solartron 148	0	SN: 0024	0551	 			20,000
	DATA	FILE: C-aa	galv D1			- T	1 1 1		
	Numb	per of Crevice Corros	ion Sites:	⊘ /24 (24 max.)			· · · · · · · · · · · · · · · · · · ·		
		No crevia	ce corrosion.						
· · ·		Slight a	old staining .						
· · · · ·		* Repolish	old staining . . For further testing	nq •					
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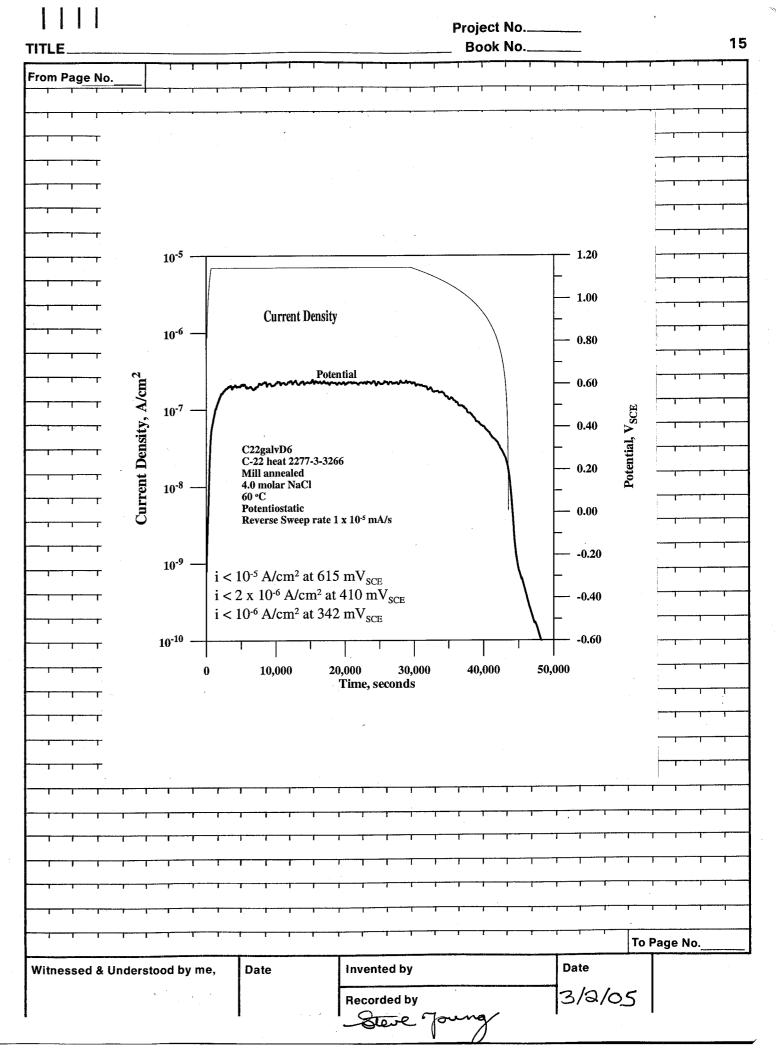
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- 1 - 1 - 1 .		POTENTIAL SCAN AND HOLD			- T				
	Objective: Same as pa								
	Alloy / Heat No. : C-22	P. Heat# 2277-3-3266			 	- T-			
	Specimen surfaces poli	n: Specimen machined to dimensions specified in ished to 600 Grit finish using SiC paper. Specimer	cleaned in acetone a	and					
	rinsed in DI water. PTFI hardware. Hardware To	E crevice forming washers attached to specimen u orgue to 50 in-oz.	sing insulated C-276			10-3 —	·		1.20
	Torque Screwdriver:	Snap-on USA	SN: 1001200319	9		~~			-
	•	Cal: 9/3/04	Due: 3/3/05					Current Density	1.00
- 1 	Initial Weight: 40. 8	Model: Sartorius Genius	SN : 12809099	•		10-4 —	1/		
<u> </u>	Final Weight: 40.8	Cal: 11/10/04	Due: 5/10/05	· ·			\/		- 0.80
	Solution: HM					10-5		Potential	1
T T T T	467.5	559 NaCl Lot: 042966				A/cm ²			- 0.60
 	+ DI	ssg NaCl Lot: 042966 to al					·		
7 7 7	· · · · · · · · · · · · · · · · · · ·					10-6 —	1		0.40
-	Reagents measured w	Cal: 7/15/04 1/14/05	SN: 2883 Due: 1/15/05 フ/	14/05		Density, —	C22galvD2	20.00	- 0.40 Notential, V _{SCE}
	Initial pH: 8.474	5 BY 3/22/05 Model: Orion EA 940	SBY 3/28/	105		— H 10-7 —	C-22 heat 2277-3- Mill annealed	3200	0.20
	Final pH: 7.265	Cal:7/21/04	SN: 2330 Due: 7/21/05			<u>ទ</u>	4.0 molar NaCl 60 °C		-
1 1 1		pH Probe: #13-620-296	SN: 4079126			ਨੋ	Potentiostatic Reverse Sweep ra	te 5 x 10 ⁻⁴ mA/s	0.00
1 1 1						10-8 —	- Reverse Sweep in	W A 10 MA25	-
	Test Temperature: 60	Measured with Hg Thermometer Cal: 01/07/05	SN: E98-191 Due: 07/07/05				$i < 10^{-5} \text{ A/cm}^2 \text{ at } 6$	579 mV	-0.20
	Counter Electrode: Pla	atinum Flag				10-9	$i < 2 \times 10^{-6} \text{ A/cm}^2$	at 620 mV _{SCE}	-0.40
	Reference Electrode: f	Fisher 13-620-51	SN: 7282317				$i < 10^{-6} \text{ A/cm}^2 \text{ at } 6$	5 0.2	-
	Gas: 99.999% Nitrogen	Gas			•	10 ⁻¹⁰			-0.60
	Ecorr:313Vsc		SN : 467374	1	,		1	' '	10,000
	Ept: SOH VscI	E Cal: 12/2/04	Due: 12/2/2005		}.	 -	0 10,000	20,000 30,000 Time, seconds	40,000
	Potentiostat: Solartron	1480	SN: 00240551	1					
	DATA FILE: C-QG	agh Da		·					
· · · · · · · · · · · · · · · · · · ·	Number of Crevice Cor	•		 		r			
	Number of Clevice Co.	rrosion Sites: O /24 (24 m	ax.)			 			
	No crevio	se corrosion.							•
1 1 1 1 1						1 1			
- 1 - 1 - 1 - 1	* Repolish	old tint staining. for further testing.			· ·		7 7 7		
1 1 1 1	" Repolisk	to Tol TolTheir resiming.		1	:	 	7-1-1		
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Milanaan - I O II - I			 	Page No	140	مدر ما لا معامل ما المعامل المعامل المعامل	, Date	Invented by	Date
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			DOTENTIAL COAN AND HOLD								1
	Objective: Same	o oo nogo 1	POTENTIAL SCAN AND HOLD		Ц				•		
- - - - - - - - - - 	*	e as page 1. :: C-22 Heat# 227	77 3 3066				•				- 1 - 1
			n machined to dimensions specified in	a CNIMPA Drawing							!
	Specimen surfactions of the surfaction of the surface in DI water the surface	ces polished to 600	Grit finish using SiC paper. Specime ming washers attached to specimen	en cleaned in acetone and						1.20	- T - T - T - T - T - T - T - T - T - T
	Torque Screwd	river:	Snap-on USA Cal: 9/3/04	SN: 1001200319 Due: 3/3/05			10-4	-		-	1
	Initial Weight: Final Weight:	1	Model: Sartorius Genius Cal: 11/10/04	SN: 12809099 Due: 5/10/05		- 1 - 1 - 1	10-5			1.00	· · · · · · · · · · · · · · · · · · ·
		M NaCI							Current Density	0.80	1
	4	67.529 Nac	Cl Lot: 042966		-		72 106			- 0.60	11
	4	· DI to a	11-				7 10-6 —		Potential	- 0.00	
	Reagents meas	ured with	Model: OHAUS Cal: 7/15/04 1 /14/05	SN: 2883 Due: 1/15/05 7/14/05			sity, /			0.40	A SCI
		. 20	5BY 3/28/05	5BY 3/Q8/05			10-7 —	C22galvD4 C-22 heat 2277-3	-3266	-	
	Initial pH: 8.0 Final pH: 7.2		Model: Orion EA 940 Cal:7/21/04	SN: 2330 Due: 7/21/05			i i	Mill annealed 4.0 molar NaCl		- 0.20 §	
1 1 1	1 mai pi i. 1, 2	710	pH Probe: #13-620-296	SN: 4079126			irre	60 °C Potentiostatic			
1 1 1							ට් 10 ⁻⁸ —	Reverse Sweep ra	nte 1 x 10 ⁻⁵ mA/s	0.00	- T
	Test Temperatu	re: 60°C	Measured with Hg Thermomete Cal:10/14/04	or SN: 323007 Due:10/14/2005						-0.20	1 1
	Counter Electro	de: Platinum Flag						$< 10^{-5} \text{ A/cm}^2 \text{ at } 0^{-5}$		\ <u> </u>	1 - 1
	Reference Elect	trode: Fisher 13-62	20-52	SN: 4028036				$< 2 \times 10^{-6} \text{ A/cm}^2$		-0.40	-1 -1
	Gas: 99.999% N	itrogen Gas					i	$< 10^{-6} \text{ A/cm}^2 \text{ at } 2$	292 mV_{SCE}	\	1
	Ecorr: 7.371		Model: Keithley 614	SN: 467374			10-10			-0.60	T T -
- 1 - 1 - 1 - 1	Ept: -, 145		Cal: 12/2/04	Due:12/2/2005	-		0	20,	,000 40,000	60,000	-1
1 1 1 1	Potentiostat: So	plartron 1480		SN: 00240551	H				Time, seconds		7
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	¥ 0	gher goile 4	int staining. Further testing.				·				1 1 1
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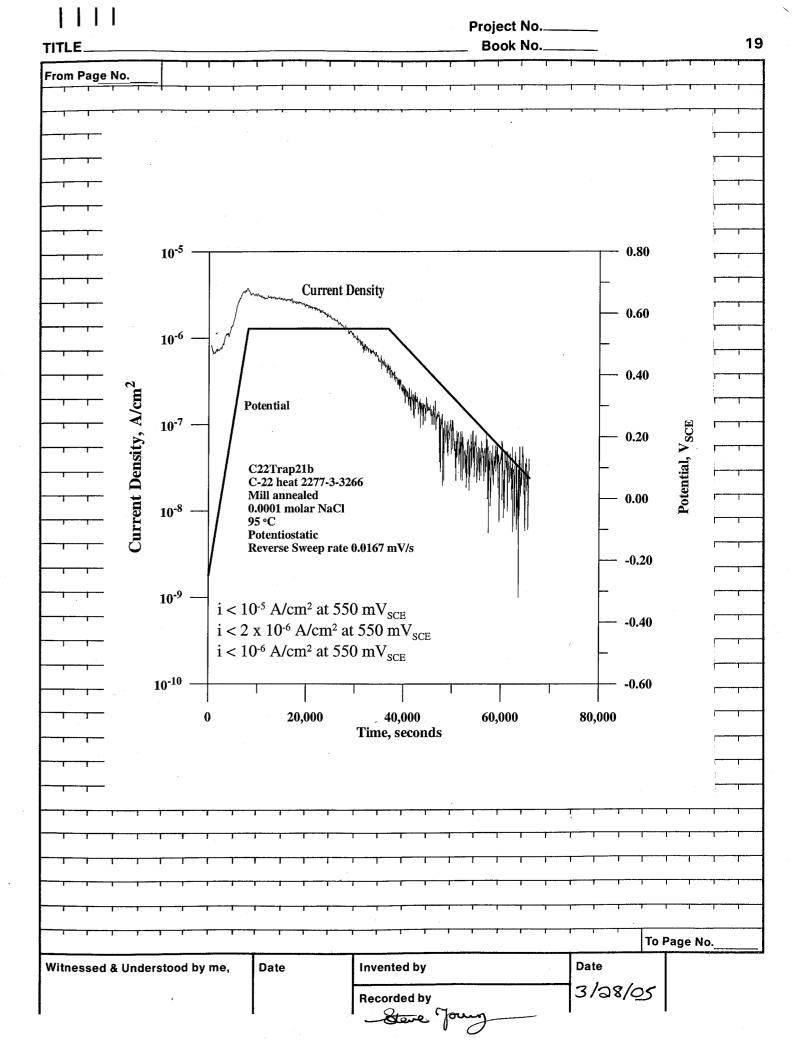
Project No.____ 13 Book No._ 1.20 1.00 **Current Density** 0.80 **Potential** 0.60 0.40 C22galvD5 C-22 heat 2277-3-3266 Mill annealed 4.0 molar NaCl 60 °C Potentiostatic 0.00Reverse Sweep rate 1 x 10⁻⁵ mA/s -0.20 10^{-9} — i < 10^{-5} A/cm² at 665 mV_{SCE} $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } 495 \text{ mV}_{SCE}$ -0.40 $i < 10^{-6} \text{ A/cm}^2 \text{ at } 442 \text{ mV}_{SCE}$ 80,000 60,000 20,000 40,000 Time, seconds To Page No. Invented by Date 2/28/05 Recorded by Steve your

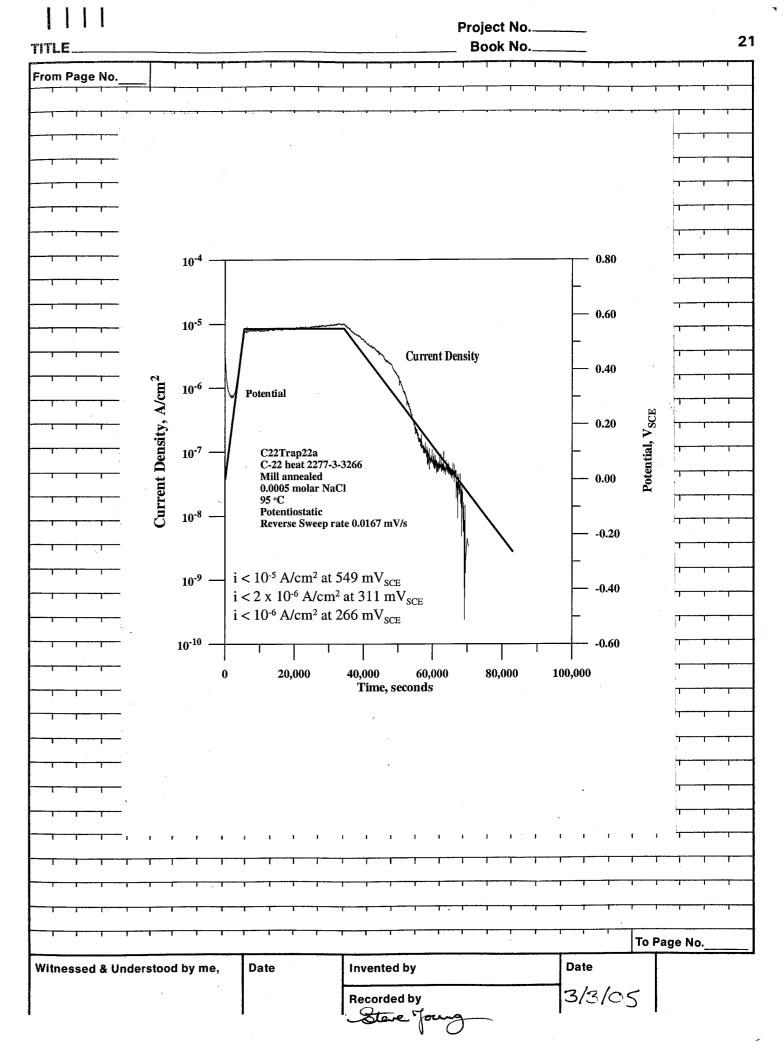
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				POTENTIAL SCAN AND HOLD		
	Objec	ctive: Same as p	page 1.			<u> </u>
	Alloy	/ Heat No. : C-2	2 Heat# 2277	7-3-3266		
	Speci	imen Preparatio	n: Specimen r	machined to dimensions specified in	n CNWRA Drawing.	
	rinsea	men surfaces po I in DI water. PTI vare. Hardware	FE crevice form	Orit finish using SiC paper. Specimening washers attached to specimen oz.	en cleaned in acetone and using insulated C-276	
, , , , , , , , , , , , , , , , , , , 		e Screwdriver:		Snap-on USA	SN: 1001200319	
	•			Cal: 9/3/04	Due: 3/3/05	
1 1 1	Initial	Weight: 40.	58426a	Model: Sartorius Genius	SN: 12809099	
1 1 1 1		Weight: 40.5		Cal: 11/10/04	Due: 5/10/05	
	Soluti	on: 4M /	اکاما			
	Coluti					1-1
<u> </u>		467.5	ag NaCl	Lot: 042966		
		+ DI	to al			· ' '
	Reane	nts measured v	with	Madal OUNIO		1
T T T T	rreage	into measureu (WILLI	Model: OHAUS Cal: 7/15/04 1 / IH / OS	SN: 2883 Due: 1/15/05 7/14/C	5
 	Initial	pH: 8.544		SBY 3/28/05	SBY 3/08/05	
·		рн. 8.3-4 эн: 7 .793		Model: Orion EA 940 Cal:7/21/04	SN: 2330	
	,a. k	سے، ہے، ،،،		pH Probe: #13-620-296	Due: 7/21/05 SN: 4079126	
					ON. 4073120	1
	Test To	emperature: 🂪	o°c	Measured with Hg Thermometer	r SN: E98-191	-TT
			,	Cal: 01/07/05	Due: 07/07/05	1
 	Counte	er Electrode: P	latinum Flag			
		nce Electrode:	_	-51	CN: 7000047	
					SN: 7282317	
		9.999% Nitrogen				T
1 1 1 1	Ecorr:	273Vsc +. 170Vsc	E	Model: Keithley 614 Cal: 12/2/04	SN: 467374	1
		iostat: Solartron	-	Cal. 12/2/04	Due: 12/2/2005	
	i otenti	ostat. Goldition	1400		SN: 00240551	
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Project No.__ 17 Book No._ TITLE. From Page No. **Current Density** 0.60 10⁻⁶ 0.40 A/cm² **Potential** 10⁻⁷ 0.20 Density, C22Trap21a C-22 heat 2277-3-3266 Mill annealed 0.00 10-8 0.0001 molar NaCl 95 °C Potentiostatic Reverse Sweep rate 0.0167 mV/s -0.20 $i < 10^{-5} \text{ A/cm}^2 \text{ at } 550 \text{ mV}_{SCE}$ -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } 550 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } 550 \text{ mV}_{SCE}$ 100,000 20,000 40,000 60,000 80,000 Time, seconds To Page No. Date Invented by Witnessed & Understood by me, Recorded by

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	τ .	POTENTIAL SCAN AND HOLD		
	T Objective: Same as page 1.	POTENTIAL SCAN AND HOLD		
	Alloy / Heat No. : C-22 Heat# 2	2277-3-3266		
	•	nen machined to dimensions specified in Cl	NMPA Drawing	
	Specimen surfaces polished to 60	00 Grit finish using SiC paper. Specimen of forming washers attached to specimen using the specimen using th	leaned in acetone and	
 	r	Proto 6104	SN: 139072	- 1 - 1
	Torque Screwdriver: т	Cal: 9/29/04	Due: 3/29/05	
	r Initial Weight: 39. 6/34 Ձ զ	Model: Sartorius Genius	SN: 12809099	
	Final Weight: 39. 6/329 9	Cal: 11/10/04	Due: 5/10/05	
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1 1 1	Solution: 0.0001 M /			
	•	21 Lot:042966		1-1-
	+ DI +0 7	al		
	T Becaute measured with	Model: OHAUS	SN: 2883	:
1 1 1	T Reagents measured with	Cal: 1/14/05	Due: 7/14/05	T - 1 -
T	T Initial alle 600	Model: Orion EA 940	CN. 2220	1
	Initial pH: 5.9Q Final pH: 7,61	Cal:7/21/04	SN: 2330 Due: 7/21/05	
	Γ	pH Probe: #13-620-296	SN: 4079126	
· · · · · · · · · · · · · · · · · · ·	г ·			
	Test Temperature: 95°C	Measured with Hg Thermometer	SN: E98-191	
1 -1 1		Cal: 01/07/05	Due: 07/07/05	
- T - T - T	Counter Electrode: Platinum Fla	ag		
	Reference Electrode: Fisher 13	-620-51	SN: 7282317	
	Cap. 90 000% Nitrogen Cop			1
	Gas: 99.999% Nitrogen Gas	Madal. Voithlay 644	CN: 467274	-
	Ept: -358 mVsce	Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005	
	Potentiostat: Solartron 1480		SN: 00240551	<u> </u>
1 1 1	, , , , , , , , , , , , , , , , , , ,	011		
T- T- I	r DATA FILE: C-32 Tc	ab . Alp		1 1
	Number of Crevice Corrosion S	Sites: O /24 (24 ma	x.)	
1 1 1	No crevice	corrosion .	e de la companya de l	-
1 1 1	Mild staini	ng present.		
	- KRandiel D	ng present. or further testing.		
	- A- Keponsk -	Testing.		
· 1 -1 -1	I			: 1 1
1 1			1 11 1	1 1
			1-1-1-1	
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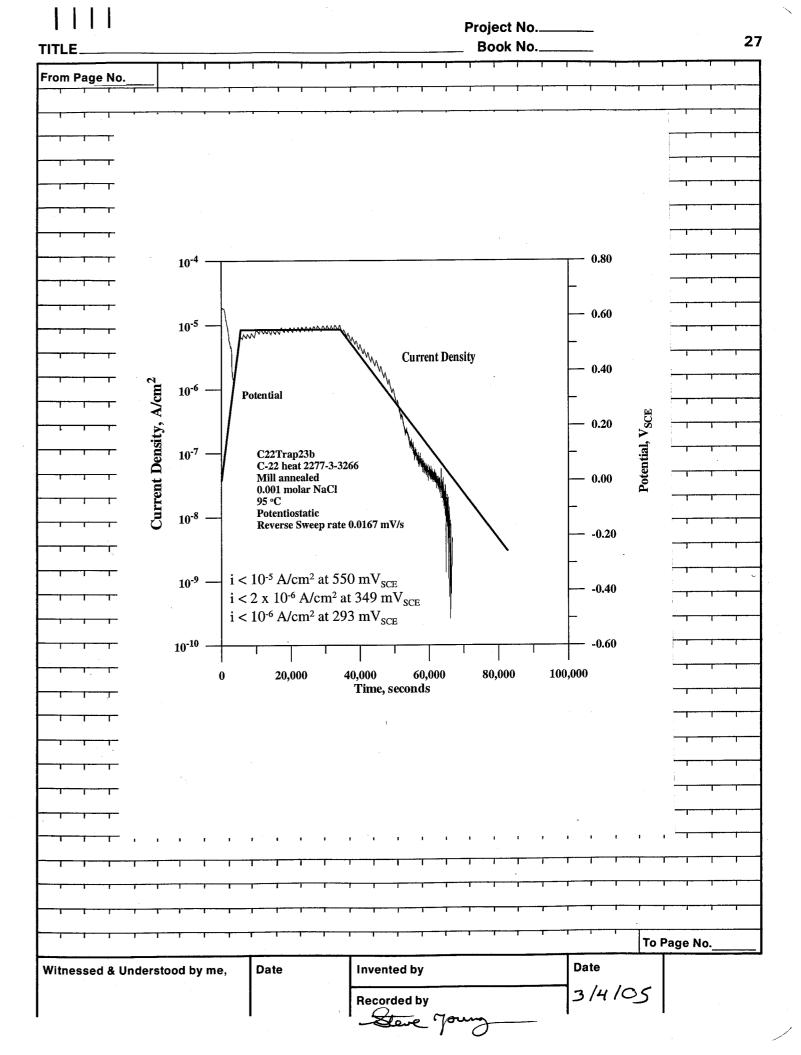




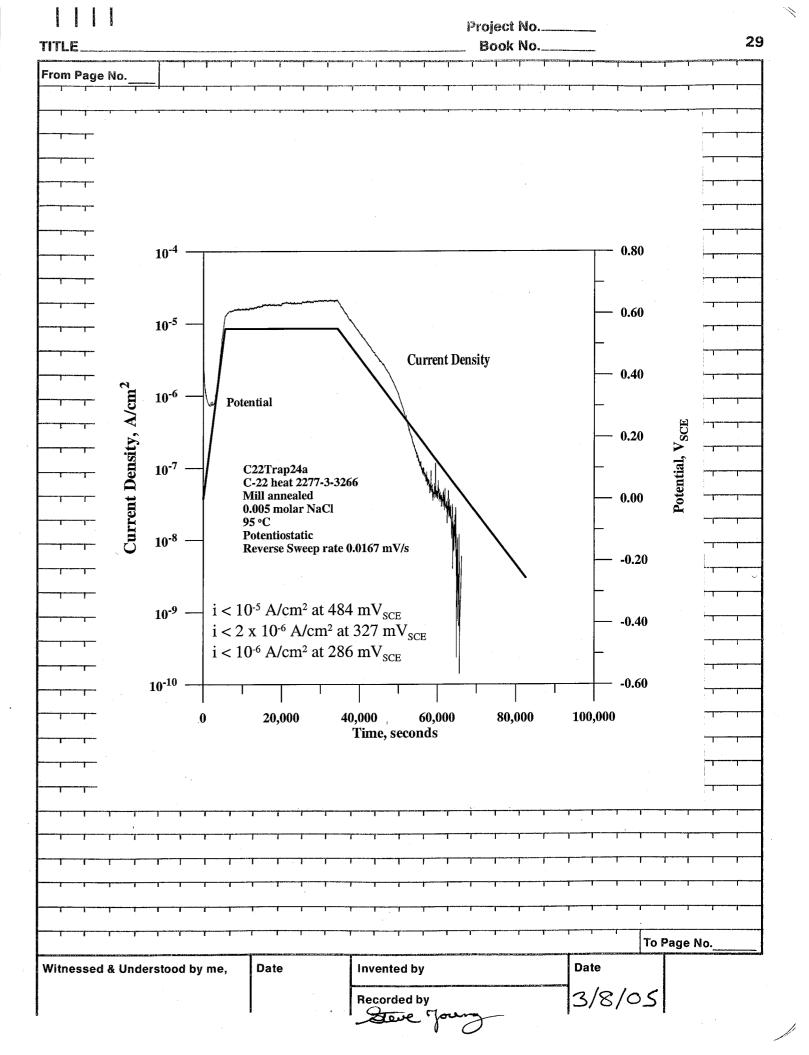
Project No._ 23 Book No. TITLE From Page No. 10-4 0.60 10-5 **Current Density** 10⁻⁶ Potential 0.20 10⁻⁷ C22Trap22b C-22 heat 2277-3-3266 Mill annealed 0.00 0.0005 molar NaCl 95 °C Potentiostatic 10⁻⁸ Reverse Sweep rate 0.0167 mV/s -0.20 $_{10^{-9}}$ — $i < 10^{-5}$ A/cm² at 550 mV_{SCE} -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } 354 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } 295 \text{ mV}_{SCE}$ 10-10 100,000 20,000 40,000 60,000 80,000 Time, seconds To Page No. Date Witnessed & Understood by me, Date Invented by 3/3/05 Recorded by

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			Cur	rent Density	•	-		· · · · · · · · · · · · · · · · · · ·	· · · · · ·
71.	11					0.40			
wy	10-6	Potential				_		7	
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	- 11		/			0.20	SCE	-	-
nsit	10-7	C22Trap23a				_	al, V	-	- 1
	10	C-22 heat 2277-3 Mill annealed	3-3266	HANGE THE REAL PROPERTY OF THE PARTY OF THE		— 0.00	Potential, V _{SCE}	1	
rent		0.001 molar NaC 95 °C	1	"\ \		— v.vv	Po		
Current Density, A/cm ²	10-8	Potentiostatic Reverse Sweep ra	ate 0.0167 mV/s			_			
		neverse 5 weep 1	ate 010107 m 175			0.20			
					` .	_		-	- ,
	10 ⁻⁹ — i	< 10 ⁻⁵ A/cm ² at : < 2 x 10 ⁻⁶ A/cm ²	534 mV _{SCE}			-0.40			
	i	$< 10^{-6} \text{ A/cm}^2 \text{ at }^2$	287 mV _{SCE}			_		1	
	10-10					-0.60		1 1	
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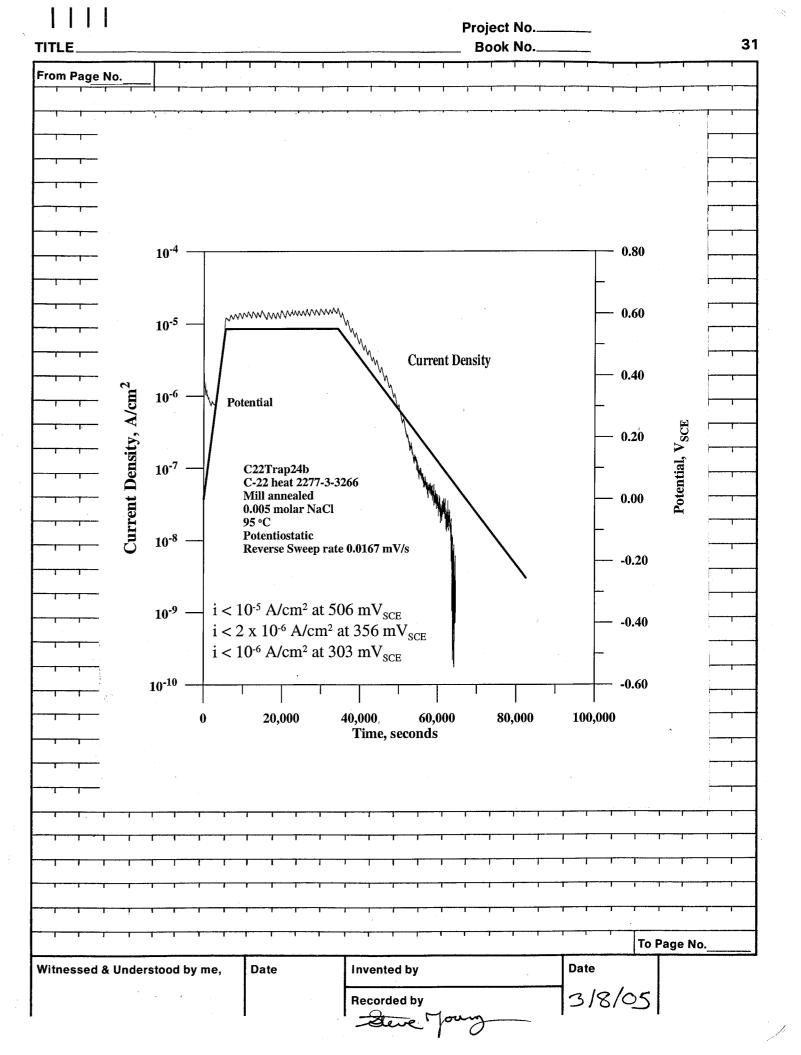
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	T	POTENTIAL SCAN AND	HOLD	
	Objective: Same as page			
	Alloy / Heat No. : C-22			
	Specimen surfaces polish	Specimen machined to dimensions spect to 600 Grit finish using SiC paper. crevice forming washers attached to spue to 50 in-oz.	Specimen cleaned in acetone and	
	Torque Screwdriver:	Snap-on USA Cal: 9/3/04	SN: 1001200319 Due: 3/3/05	-
	Initial Weight: 39,7143	Sa Model: Sartorius Genius	SN: 12809099	
	Final Weight: 39.7133	1	Due: 5/10/05	
		M NaCl		
	0.1169	NaCl Lot: 042966 to aL		
	+ 10	to al		1
	Reagents measured with	Model: OHAUS	SN: 2883	-
	Г	Cal: 7/15/04 1 /14 /05	Due:4/15/05 7/14/05	-
	- Initial pH: 5.87る	58Y 3/28/05 Model: Orion EA 940	SBY 3/28/05 SN: 2330	
	Final pH: 6.714	Cal:7/21/04	Due: 7/21/05	
1 1	l	pH Probe: #13-620-296	SN : 4079126	
1 1 1	Γ 			
	- Test Temperature: 95° -	Measured with Hg Ther Cal: 01/07/05	mometer SN: E98-191 Due: 07/07/05	
	Counter Electrode: Platin	num Flag		
	Reference Electrode: Fis	her 13-620-51	SN : 7282317	
	Gas: 99.999% Nitrogen Ga			
	Ecorr: 7.582VSCE	•	SN: 467374	
	Ept: +,a12VscE	Cal: 12/2/04	Due: 12/2/2005	I
	Potentiostat: Solartron 14	ου	SN: 00240551	1
	DATA FILE: C-22	Trap 23b		1
	Number of Crevice Corro	sion Sites:	/24 (24 max.)	
1 - 1 - 1	No cre	evice corrosion.		
	Mild b	lue and gold staining	•	
	* Regalis	lue and gold staining h for further testi	Λα	
	-	ior joining hom	7	-
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			POTENTIAL SCAN AND HO	DLD	
	Objective: Same	as page 1:			
	Alloy / Heat No. :	C-22 Heat# 2277	7-3-3266		
	Specimen Prepa	ration: Specimen	machined to dimensions specif	ied in CNWR	A Drawing.
1 	rinsed in DI water.		Brit finish using SiC paper. Spening washers attached to speci-		
T T T	Torque Screwdri	· ·	Snap-on USA	SI	V: 1001200319
		-	Cal: 9/3/04		ue: 3/3/05
	Initial Weight: 4	0.69642a	Model: Sartorius Genius	18	N: 12809099
1 1 1 1 1	Final Weight: 4	0.694433	Cal: 11/10/04	Di	ue: 5/10/05
	Solution: O. C	DOSM Nac	:1		
		–			
	.1. 0		Lot:042771 L		
		וט סד וט	-		
	Reagents measu	red with	Model: OHAUS Cal: 7/15/04 1/14/05	Du	N: 2883 Je: 1/15/05 7/14/0 5
	Initial pH: 5,47	14	SBY 3/28/05 Model: Orion EA 940		5 BY 3/28/05 N: 2330
	Final pH: 7.00		Cal:7/21/04		ie: 7/21/05
			pH Probe: #13-620-296	SI	1: 4079126
					
	Test Temperature	e: 95°C	Measured with Hg Thermor		N: 323007
T			Cal:10/14/04	Di	ue:10/14/2005
	Counter Electrod	e: Platinum Flag			
	Reference Electro	ode: Fisher 13-620	0-52	SI	N: 4028036
	Gas: 99.999% Nit	rogen Gas	·		
	Ecorr: 406		Model: Keithley 614		1: 467374
<u> </u>	Ept: +.1881		Cal: 12/2/04		ie:12/2/2005
	Potentiostat: Sol	artron 1480		SI	N: 00240551
	DATA FILE: C-	aa Trap	240		
1 1 1 1		e Corrosion Sites		(24 max.)	
		ودودنوو ور		(E4 max.)	
					
	1510 V 0	e and gold	d staining . Further testing.		
	不 'Kep	iolish tord	turther testing.		
1 1 T					
 					
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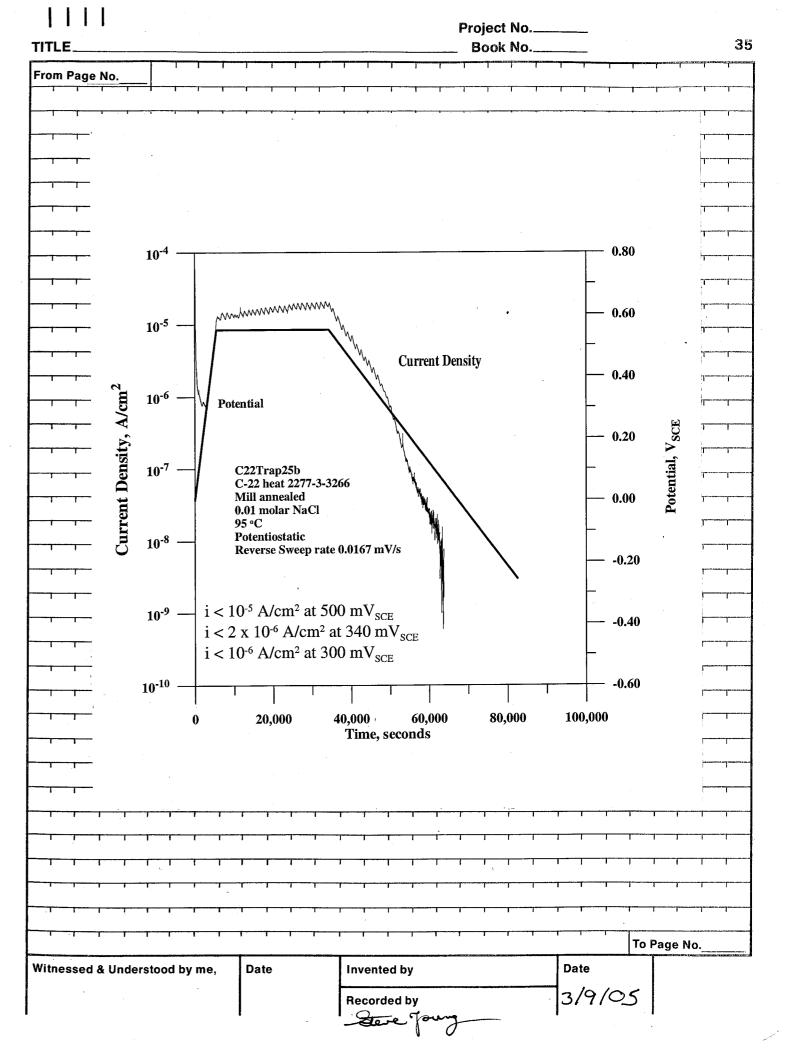
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		POTENTIAL SCAN AND HOLD		
	Objective: Same as page 1.			<u> </u>
 	Alloy / Heat No. : C-22 Heat	# 2277-3-3266		-
	Specimen Preparation: Specimen Preparation:	cimen machined to dimensions specified in C	NWRA Drawing.	:
· · · · · · · · · · · · · · · · · · ·	Specimen surfaces polished to rinsed in DI water. PTFE crevion	o 600 Grit finish using SiC paper. Specimen of ce forming washers attached to specimen usi	cleaned in acetone and	-
	hardware. Hardware Torgue t		DN- 4004000040	-1
	Torque Screwdriver:	Snap-on USA Cal: 9/3/04	SN: 1001200319 Due: 3/3/05	-
	Initial Weight: 40.4993	7 • Model: Sartorius Genius	SN : 12809099	
	Final Weight: 40,49781	, ·	Due: 5/10/05	
, , , ,	Solution: 0.005M	J	•	
		VaCI Lot:042771		-
 	+ D1 +	a a L		
	Reagents measured with	Model: OHAUS	SN: 2883	1
		Cal: 7/15/04 1/14/05	Due: 1/15/05 7/14/05	
,	Initial pH: 5.621	SBY 3/28/05 Model: Orion EA 940	5BY 3/Q8/05 SN: 2330	
1 -1 -1	Final pH: 6,745	Cal:7/21/04	Due: 7/21/05	
		pH Probe: #13-620-296	SN: 4079126	1
1 1 1				
	Test Temperature: 95° C	Measured with Hg Thermometer Cal: 01/07/05	SN: E98-191 Due: 07/07/05	
1 1 1 1	Counter Electrode: Platinum	Flag		
	Reference Electrode: Fisher	13-620-51	SN : 7282317	1
	Gas: 99.999% Nitrogen Gas			7
	Ecorr: 7.414VSCE Ept: +, 229VSCE	Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005	
· . · · · ·	Potentiostat: Solartron 1480		SN : 00240551	! ' '
				1
T	DATA FILE: C-22 -	Trap 246		7 7
	Number of Crevice Corrosion	n Sites: O /24 (24 ma	x.)	1 1
	No crevice	corrosion.		1 1
	Blue and o	gold staining.		1 1
·			•	
	Thepolish to	or further testing.		
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			POTENTIAL SCAN AND HOLD								
	Objective: Same as page Alloy / Heat No.: C-22 H		2266								
			chined to dimensions specified in	CNWRA Drawing							
<u> </u>	Specimen surfaces polishe	ed to 600 Grit	finish using SiC paper. Specimen	cleaned in acetone and	1	' '					
- 1 1 1 1	rinsed in DI water. PTFE cr hardware. Hardware Torgo		g washers attached to specimen u	sing insulated C-276			_	10-4	_		
1 1 1	Torque Screwdriver:		Snap-on USA	SN: 1001200319			-	10			
	·		Cal: 9/3/04	Due: 3/3/05		1 1	- -				
	Initial Weight: 38.874	1669 n	Model: Sartorius Genius	SN: 12809099			_	_		Secretary and a second	
- 	Final Weight: 38.878	2369	Cal: 11/10/04	Due: 5/10/05		 		10-5			7/
	Solution: O.OIM								M		Current De
	1.1699	NaCl	Lot: 042771			-			Y /		
	- IA +	to aL					A/cm ²	10-6	Poter	ntial	. \\\\
	Decreate measured with		Model: OHAUS	SN: 2883			_ ¥				
	Reagents measured with		Cal: 7/15/0 4 \ / / / / / S	Due: 1/15/05 7/14/05			ty,		1		No.
	Initial pH: 5,775	P	58Y 3/28/05 Model: Orion EA 940	5BY 3/28/05 SN: 2330			Density,	10-7	/ c	22Trap25a	
······································	Final pH: 6,573		Cal:7/21/04	Due: 7/21/05	1		Ď		C	-22 heat 2277-3 Iill annealed	-3266
		ı	oH Probe: #13-620-296	SN: 4079126			ent	ľ	0.	.01 molar NaCl	
		20					Current	10-8		5 °C otentiostatic	
	Test Temperature: 95°		Measured with Hg Thermometer Cal:10/14/04	SN: 323007 Due:10/14/2005		1	–	10 "	R	everse Sweep ra	ate 0.0167 mV/s
	Counter Electrode: Platin		541.10/14/04	240.10/14/2000		1 1	`	i			
	Reference Electrode: Fis		,	SN: 4028036			-		. 10	5 1 1 2 1	477 XI
			,,	014. 4020000				10-9		⁵ A/cm ² at 4	
	Gas: 99.999% Nitrogen Ga		Mandala Kabibaa 044	ON 407074		· · · · · · · · · · · · · · · · · · ·	·				2 at 324 mV _{SCE}
	Ecorr: 7.521Vsce Ept: +,337Vsce		Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due:12/2/2005	-	-1-			1 < 10	⁻⁶ A/cm ² at 2	283 mv _{sce}
*************************************	Potentiostat: Solartron 1	480		SN: 00240551				10-10	т		
· · · · · · ·			~		ļ		_ : ` ` :	ı		20,000	40,000 60,000
	DATA FILE: C- 22	•		•			-	U	,	20,000	40,000 60,000 Time, seconds
	Number of Crevice Corro	sion Sites:	⊘ /24 (24 n	nax.)		' '	:			•	
The second second				,			-			:	
	No crevic					1 1	_				
	Multi color	r stainir	ng .				1 7	, , , , , , , , , , , , , , , , , , , 	1 1	1 1 1	
	* Repolish	for fu	ng . orther testing.					 	1 1		
 	•		J			:		7-1-1			
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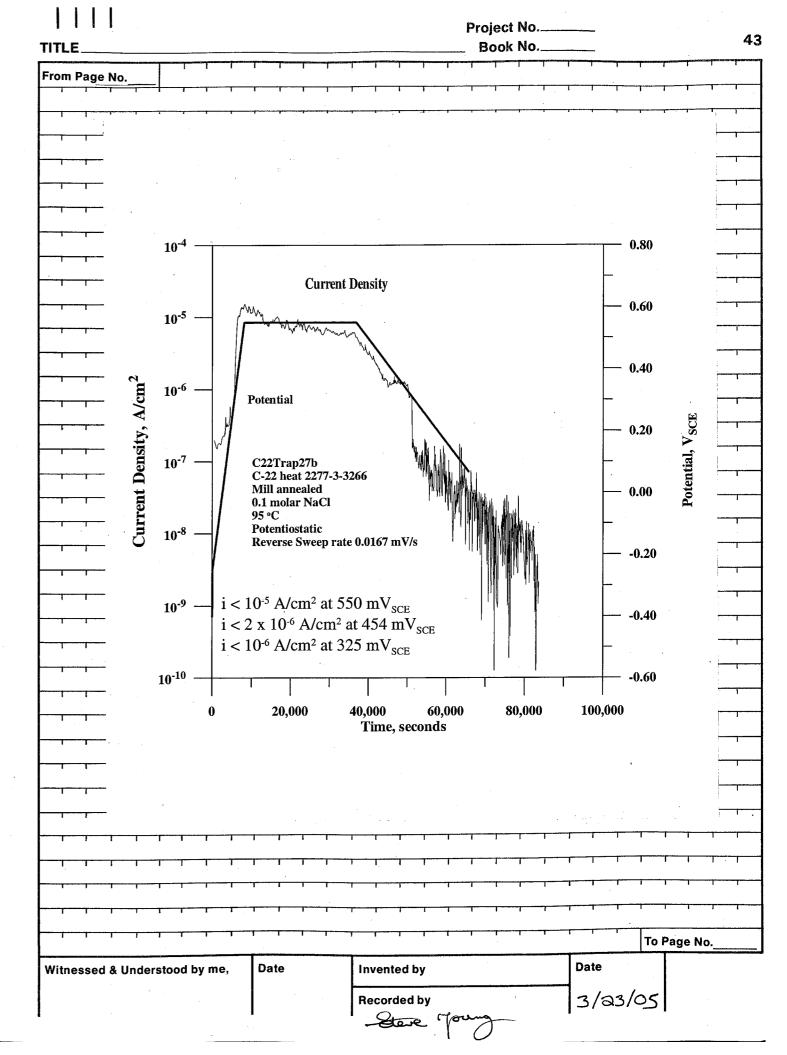
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1 1 1 1 1			POTENTIAL SCAN AND HOLD		
 	Objective: Same as pa	ge 1.		. •	1 1
	Alloy / Heat No.: C-22	Heat# 227	7-3-3266		7-1-
	Specimen surfaces poli	shed to 600 (crevice form	machined to dimensions specified in Cl Grit finish using SiC paper. Specimen o ming washers attached to specimen usions	cleaned in acetone and	1 1
	Torque Screwdriver:	. 5	Snap-on USA	SN : 1001200319	1
	rorque ociewaniver.		Cal: 9/3/04	Due: 3/3/05	1
	Initial Weight: 39, 6	94819	Model: Sartorius Genius	SN: 12809099	· · · · · · · · · · · · · · · · · · ·
	Final Weight: 39.69		Cal: 11/10/04	Due: 5/10/05	·
		1 NaC	M		· · ·
 					<u> </u>
 	1.160	g Nac	Cl Lot: 042771		
	+ 101	+0 G	31		
	Reagents measured w	ith	Model: OHAUS	SN: 2883	
	iveagents measured w	101	Cal: 7/15/04 1/14/05	Due: 1/15/05 7/14/05	
. ,	Initial pH: 5. 870		58Y 3/38/05 Model: Orion EA 940	5BY 3/28/05 SN: 2330	
	Final pH: 6.813		Cal:7/21/04	Due: 7/21/05	1
	, , O ,		pH Probe: #13-620-296	SN: 4079126	
					
	Test Temperature: 92	5°C	Measured with Hg Thermometer Cal: 01/07/05	SN: E98-191 Due: 07/07/05	-
 	Counter Electrode: Pla	atinum Flag			
	Reference Electrode:	J	0-51	SN: 7282317	1 1
	•				-
	Gas: 99.999% Nitrogen			6 11 407074	
	Ecorr: -, 610 V _{SC} Ept: +, 249 V _{SC}	_	Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005	: :
	Potentiostat: Solartron	_		SN: 00240551	
 	, otomiootati oolarii on	1100			
	DATA FILE: C- 27	2 Traj	p 25 b		-
	Number of Crevice Co	rosion Site	s: O /24 (24 ma	x.)	
· 			orrosion,		1-1-
	• • •				
	Mulmea	ior sto	ining. Further testing.		
	* Kepolis	h for	turther testing.		
			•		1
	1 . 1 . 1 . 1 . 1	F 1, 1			
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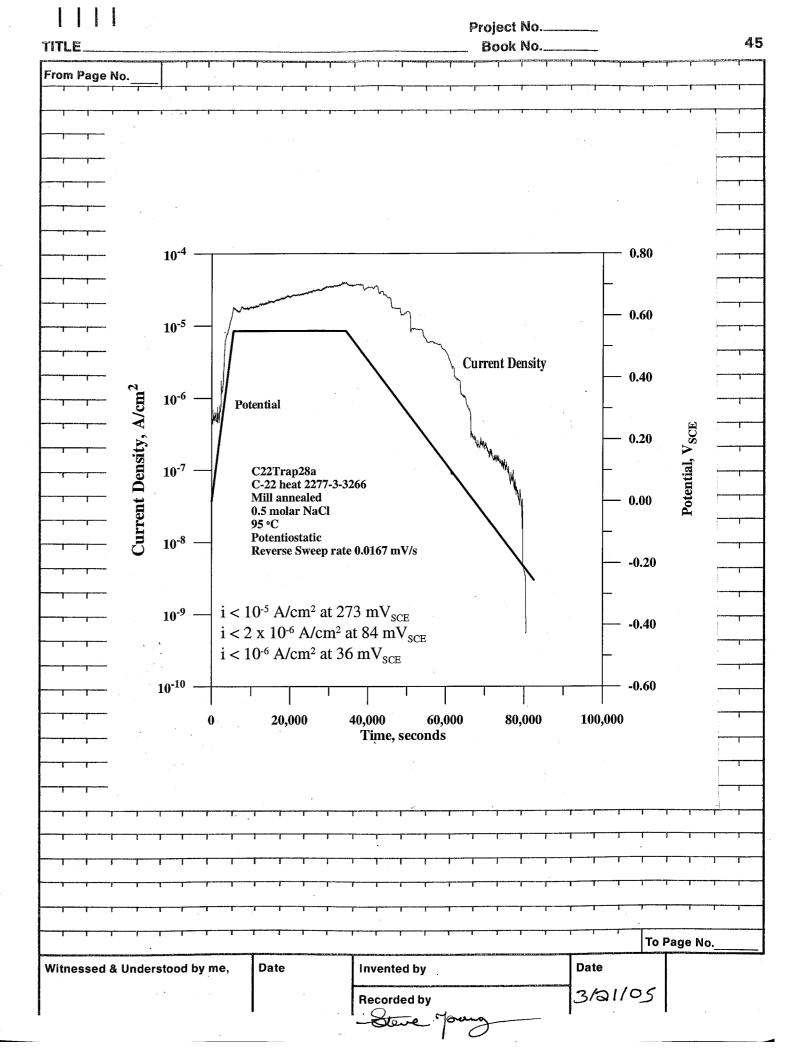
Project No.____ 37 Book No._ TITLE From Page No. 10⁻⁴ 0.800.60 10⁻⁵ -**Current Density** 0.40 10⁻⁶ Potential \mathbf{F} 0.20 10⁻⁷ C22Trap26a C-22 heat 2277-3-3266 Mill annealed 0.00 0.05 molar NaCl 95 °C Potentiostatic 10^{-8} Reverse Sweep rate 0.0167 mV/s -0.20 $_{10^{-9}}$ — i < 10^{-5} A/cm² at 465 mV_{SCE} -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } 300 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } 268 \text{ mV}_{SCE}$ 10^{-10} -0.60 80,000 100,000 20,000 40,000 60,000 Time, seconds To Page No. Date Witnessed & Understood by me, Date invented by 3/10/05 Recorded by

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 8		\mathbb{N}				Curre	nt Density	7		— 0. 4	10		1
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ensit	10-7 —	(C22Trap26l	b		NAM!	ا المحال					Potential, $ m V_{SCE}$	· ·
T T		l N	C-22 heat 22 Mill anneald	ed	66	V				0.0	00	oten	
irre	0	9	.05 molar N 5 °C Potentiostat							_		<u> </u>	
	10-8 —	Î	Reverse Swo	eep rate	0.0167 m	V/s				0.	20		1 1
							'			_			· · ·
	10-9)-5 A/cm ²				ı			0.	40		<u> </u>
			x 10 ⁻⁶ A/cm ²					I		_			1
	10-10				30	<u> </u>		, 		0.	60 .		
 -	10	'	20,000	1	 0,000	60,0	1	 80,000	100,		-		· · · · ·
· · · · · · · · · · · · · · · · · · ·		U	20,000	4	Time, s			00,000	100,	000			· r
													
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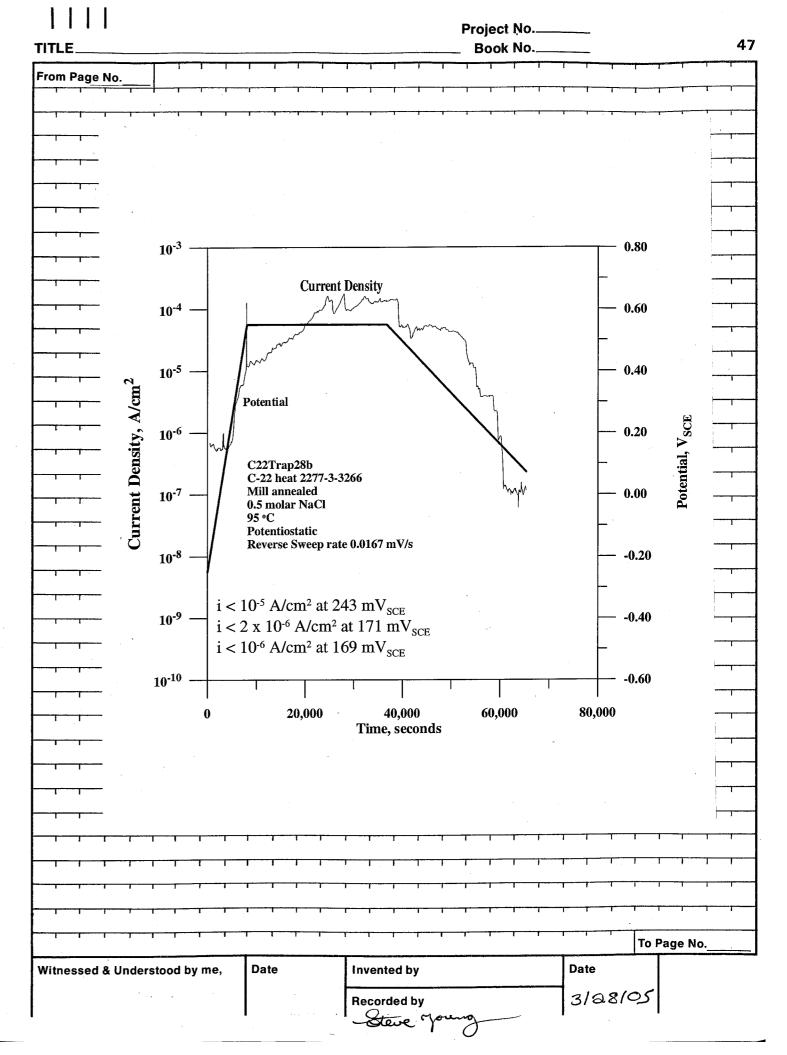
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	Objective: Same as page 1.	POTENTIAL SCAN AND HOLD		-							
	Alloy / Heat No.: C-22 Heat# 2277-	3-3266									***
	Specimen Preparation: Specimen m Specimen surfaces polished to 600 Gi rinsed in DI water. PTFE crevice formi hardware. Hardware Torgue to 50 in-	rit finish using SiC paper. Specimen on ng washers attached to specimen usi	cleaned in acetone and	1	P		10-3				0.80
- 		Proto 6104 Cal: 929/04	SN: 139072 Due: 3/29/05	1		 -					
		Model: Sartorius Genius Cal: 11/10/04	SN: 12809099 Due: 5/10/05			· ·	10-4	Potenti	al		— 0.60 —
	Solution: O. IM NaCl	Lot: 042771			· ·		10-5	Manneyman			- 0.40
	+ DI to al	<u>.</u>		1-1-	1				May 1		<u></u>
, , , , , , ,		Model: OHAUS Cal: 7/15/04 1/14/05 58y 3/08/05	SN: 2883 Due: 1/15/05 7/14/0	05		Density,	10-6	GOOTS AT	Sound /		0.20 S
1 1 1 1	Initial pH: 5.96	Model: Orion EA 940	<i>SB</i> Y 3/ର୫/୦ <i>5</i> SN: 2330	, 			V	C22Trap27a C-22 heat 2277-3-32	266		ınti
	•	Cal:7/21/04 pH Probe: #13-620-296	Due: 7/21/05 SN: 4079126				10-7	Mill annealed 0.1 molar NaCl 95 °C		Current Densit	ty - 0.00 \$5.
		Measured with Hg Thermometer Cal: 10/14/04	SN: 323007 Due: 10/14/2005				10-8	Potentiostatic Reverse Sweep rate	0.0167 mV/s		-0.20
	Counter Electrode: Platinum Flag					•					<u>-</u>
	Reference Electrode: Fisher 13-620-	52	SN: 4028036	1 1			$10^{-9} - \int_{1}^{1}$	$i < 10^{-5} \text{ A/cm}^2 \text{ at } 55$ $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } 55$			-0.40
 	Gas: 99.999% Nitrogen Gas			1)		li	$i < 10^{-6} \text{ A/cm}^2 \text{ at } 27$			<u> </u>
· · · · · · · · · · · · · · · · · · ·		Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005		1		10-10	·	332		-0.60
1 1 1 1	DATA FILE: C-22 Trag	a7a	SN: 00240551			'	0	20,000	40,000 60,000 Time, seconds	80,000	100,000
	Number of Crevice Corrosion Sites:		x.)							1	
- 	Crevice corro	sion present.		1	1.						
· · · · · · · · · · · · · · · · · · ·	Crevice corro	ining .		1	1		· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	
· · · · · · · · · · · · · · · · · · ·		<u> </u>		·							
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Witnessed & Understo	ood by me, Date Invent	ed by	Date		Witr	nessed & Und	derstood by m	e, Date	Invented by		Date
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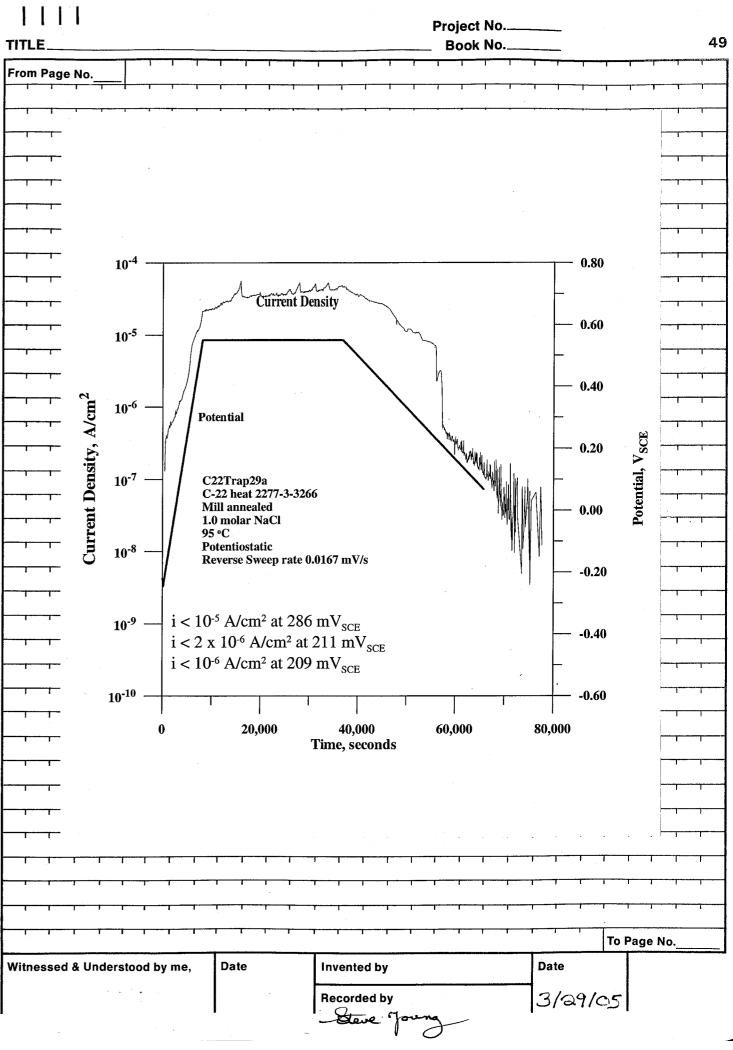
Specimen surfaces polished to 600	POTENTIAL SCAN AND HOLD 277-3-3266 In machined to dimensions specified in CN O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and	
Alloy / Heat No.: C-22 Heat# 22 Specimen Preparation: Specime Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCl	277-3-3266 n machined to dimensions specified in CN O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Alloy / Heat No.: C-22 Heat# 22 Specimen Preparation: Specime Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCl	277-3-3266 n machined to dimensions specified in CN O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Alloy / Heat No.: C-22 Heat# 22 Specimen Preparation: Specime Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCl	277-3-3266 n machined to dimensions specified in CN O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Alloy / Heat No.: C-22 Heat# 22 Specimen Preparation: Specime Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCl	277-3-3266 n machined to dimensions specified in CN O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Alloy / Heat No.: C-22 Heat# 22 Specimen Preparation: Specime Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCl	277-3-3266 n machined to dimensions specified in CN O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Specimen Preparation: Specime Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCI	n machined to dimensions specified in CN O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCI	O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Specimen surfaces polished to 600 rinsed in DI water. PTFE crevice for hardware. Hardware Torgue to 50 Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCI	O Grit finish using SiC paper. Specimen clarming washers attached to specimen usin in-oz. Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	eaned in acetone and in insulated C-276 SN: 1001200319 Due: 3/3/05 SN: 12809099	
Torque Screwdriver: Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCl	Snap-on USA Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	Due: 3/3/05 SN: 12809099	
Initial Weight: 40, 81802 Final Weight: 40, 81376 Solution: 0.5M NaCl	Cal: 9/3/04 Model: Sartorius Genius Cal: 11/10/04	Due: 3/3/05 SN: 12809099	
Final Weight: 40.81376 Solution: 0.5M NaCl	Cal: 11/10/04		
Final Weight: 40.81376 Solution: 0.5M NaCl			
	Lot:042771		-
	Lot:042771		
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+ 101 to 21	· · · · · · · · · · · · · · · · · · ·		
	-		-
Reagents measured with	Model: OHAUS	SN: 2883	-
<u> </u>	Cal: 7/15/04 1/14/05	Due: 1/15/05 7/14/05 58Y 3/28/05	-
Initial pH: 6.015	5BY 3/28/05 Model: Orion EA 940	SN: 2330	
Final pH: 8,071	Cal:7/21/04	Due: 7/21/05	
	pH Probe: #13-620-296	SN : 4079126	
0500			T
Test Temperature: 9.5°C	Measured with Hg Thermometer Cal:10/14/04	SN: 323007 Due:10/14/2005	
Counter Electrode: Platinum Flag	9		
Reference Electrode: Fisher 13-6	620-52	SN: 4028036	
Gas: 99.999% Nitrogen Gas			-
Ecorr: 7, 207 VSCE	Model: Keithley 614	SN: 467374	
Ept: 378V _{SCE}	Cal: 12/2/04	Due:12/2/2005	
Potentiostat: Solartron 1480	•	SN: 00240551	
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DATA FILE: C-32 Tro	ip aca		
Number of Crevice Corrosion Si		(.)	
Crevice corros	ion present.	7 · · · · · · · ·	
Mild gold sta	aining .		-
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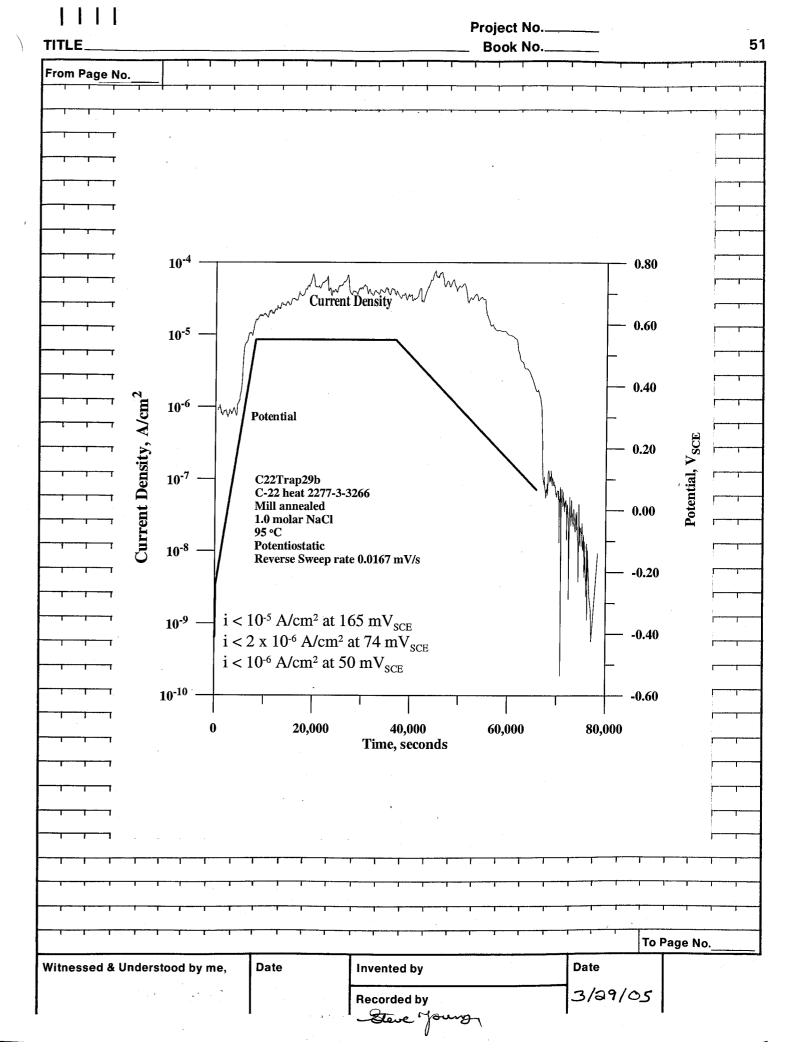
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 	.*		POTENTIAL SCAN AND HOLD	el	
	Objective: Same	as page 1.		•	- 1
	Alloy / Heat No.	: C-22 Heat# 227	7-3-3266		
	Specimen Prepa	ration: Specimen	machined to dimensions specified in	CNWRA Drawing.	
 	rinsed in DI water	es polished to 600 or . PTFE crevice for vare Torgue to 50 in	Grit finish using SiC paper. Specime ming washers attached to specimen in-nz	n cleaned in acetone and using insulated C-276	· ' '
 				CN: 420070	- 1
	Torque Screwdr	iver:	Proto 6104 Cal: 9/29/04	SN: 139072 Due: 3/29/05	·
1 1 1 1 1	Initial Waight: 1	10 (2021	Model: Sartorius Genius		• • •
	Initial Weight: 4 Final Weight: 4		Cal: 11/10/04	SN: 12809099 Due: 5/10/05	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
			Jan. 11/10/04	Due. 3/10/03	
, , , , , , , , , , , , , , , , , , , 		5M NaCl			· · ·
	<i>5</i> 8	3.459 NaC	1 Lot:042771		
1 -1 1 1 1		DI to al			1 -1
T. T. T. T.	-T	10 Ot	~.		
	Reagents measu	red with	Model: OHAUS	SN: 2883	1-1-
· · · · · · · · · · · · · · · · · · ·	Χ.		Cal: 1/14/05	Due: 7/14/05	
	Initial pH: 5.8	a .	Model: Orion EA 940	SN: 2330	
	Final pH: 8.8		Cal:7/21/04	Due: 7/21/05	
			pH Probe: #13-620-296	SN: 4079126	·
 			•		- r - r ,
	Test Temperatur	e: 95°C	Measured with Hg Thermometer	r SN: E98-191	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		_	Cal: 01/07/05	Due: 07/07/05	1 17
	Counter Electron	le: Platinum Flag			
		ode: Fisher 13-62	0-51	SN: 7282317	
				0.11.1202011	1
	Gas: 99.999% Nit		1		
, <u> </u>	Ecorr: - 414m	SCE	Model: Keithley 614	SN: 467374	
	Ept: - 172m	•	Cal: 12/2/04	Due: 12/2/2005	· · · · · · · · · · · · · · · · · · ·
	Potentiostat: Sol	artron 1480	•	SN: 00240551	·
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1 1		ce Corrosion Sites		max.)	
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			POTENTIAL SCAN A	ND HOLD		
	Objective:	: Same as page 1.				т
	Alloy / Hea	at No.: C-22 Heat#	2277-3-3266			
	Specimen	Preparation: Spec	imen machined to dimensions	specified in CN	WRA Drawing.	
	Specimen	surfaces polished to	600 Grit finish using SiC pape	er. Specimen cle	eaned in acetone and	
	hardware.	Hardware Torgue to	e forming washers attached to 50 in-oz.	specimen using	g insulated C-276	
		rewdriver:	Proto 6104		SN: 139072	
	701440 00		Cal: 9/29/04		Due: 3/29/05	
	Initial Wei	ght: <i>40.4954</i> 6	Model: Sartorius Gen	ine	SN : 12809099	-
		ght: 40,49171			Due: 5/10/05	
			J			
	Solution:	1M Na				
		116.889 N	VaCI Lot:0370	77A		
		+ 101 +0	aL			
						1 1
T T T T	Reagents	measured with	Model: OHAUS		SN: 2883	-
		`	Cal: 1/14/05		Due: 7/14/05	
i'	Initial pH:	7,03	Model: Orion EA 940		SN: 2330	
	Final pH:	7.99	Cal:7/21/04		Due: 7/21/05	
1 1 1 1 1			pH Probe: #13-620-29	96	SN : 4079126	
						 rr
	Test Temp	erature: 95°C	Measured with Hg Th	ermometer	SN: 323007	
			Cal: 10/14/04		Due: 10/14/2005	
	Counter El	lectrode: Platinum I	Flag			' '
 	Reference	Electrode: Fisher 1	3-620-52		SN: 4028036	
					ON: 4020000	т
·		9% Nitrogen Gas		i		-
1 1 1 1 1	Ecorr: ~3	117mVscE	Model: Keithley 614		SN: 467374	
		14.5 mysce	Cal: 12/2/04		Due: 12/2/2005	
	Potentiosta	at: Solartron 1480			SN : 00240551	
	DATA FILF	: C-22 T	can 29a			
			•			
	Number of	Crevice Corrosion	Sites:	1 /24 (24 max.)) .	' '
						
	,	One crevice	corrosion site.			
			•			<u> </u>
1 1 1 1		Mild gold s	taining .			
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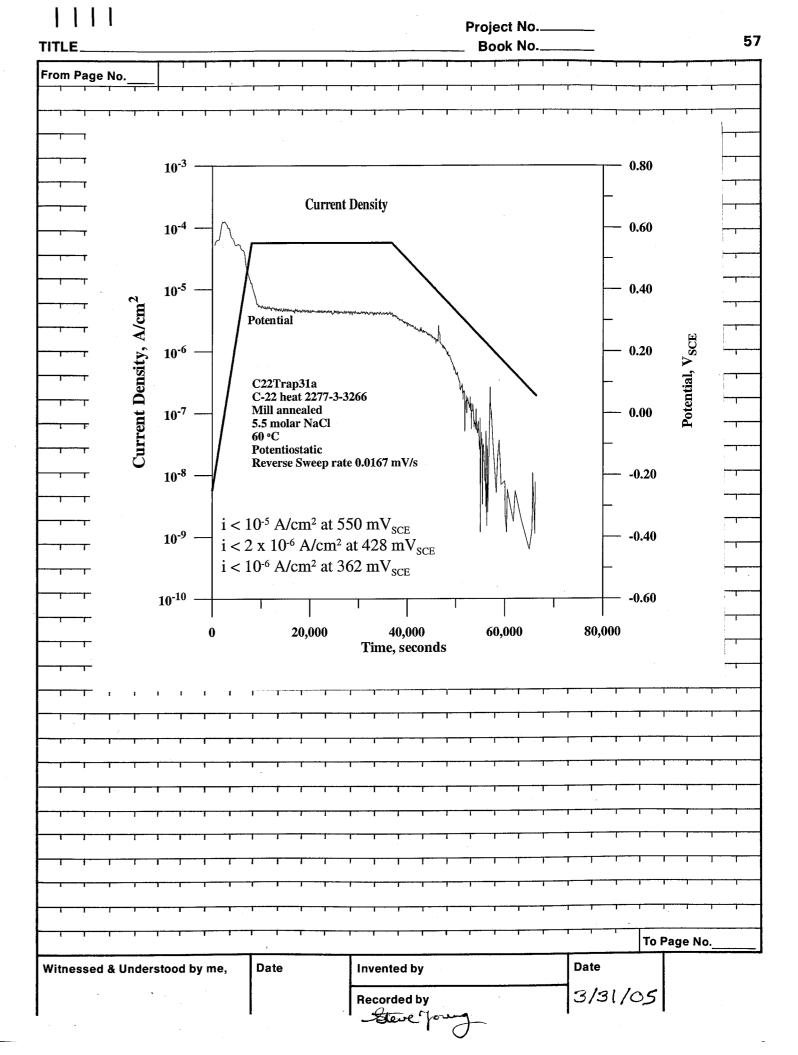
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			POTENTIAL SCAN AND HOLD		
7 7 7	•	Same as page 1.		,	
	-	t No.: C-22 Heat#			:
	Specimen s rinsed in Di	surfaces polished to 6	nen machined to dimensions specified in 0 600 Grit finish using SiC paper. Specimen forming washers attached to specimen us 50 in-oz.	cleaned in acetone and	
1 1 1 1	Torque Sc	-	Proto 6104	SN: 139072	7
	Torque oc	rewarrer.	Cal: 9/29/04	Due: 3/29/05	
	Initial Weig	ght: 39,962,77	Model: Sartorius Genius	SN: 12809099	
		ht: 39, 955587	1	Due: 5/10/05	
	Solution:	1M NaCi	,		
	Solution:		CI Lot: 037047A		
 		116.899 No			
		+ 101 +0	al		
	Dogganto	measured with	Model: OHAUS	SN: 2883	
	Reagents		Cal: 1/14/05	Due: 7/14/05	
	Initial pH:	7.00	Model: Orion EA 940	SN: 2330	
	Final pH:		Cal:7/21/04	Due: 7/21/05	
, , , , , , , , , , , , , , , , , , , 	i mai prii	7. • 1	pH Probe: #13-620-296	SN: 4079126	
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, , , , , , , , , , , , , , , , , , , 	Test Temp	erature: 95°C	Measured with Hg Thermometer		-
			Cal: 10/14/04	Due: 10/14/2005	
	Counter E	lectrode: Platinum F	lag		
	Reference	Electrode: Fisher 1	3-620-52	SN: 4028036	i -
	Gas: 99.99	9% Nitrogen Gas	ŧ		: 1
<u>, , , , , , , , , , , , , , , , , , , </u>	Ecorr:	431 mVsce 49.3 mVsce	Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005	
		at: Solartron 1480	The second of	SN: 00240551	
, , , , , , , , , , , , , , , , , , ,	DATA FILE	. 0-22	Trap 296		- r: -
	_		•		
1 1 1 1	Number of	Crevice Corrosion	Sites: 2 /24 (24 m	nax.)	
	-				
	-	Two crev	ice corrosion sites presen	4.	,
	-	Mild gold	•		
	_	2			
	-				, ——
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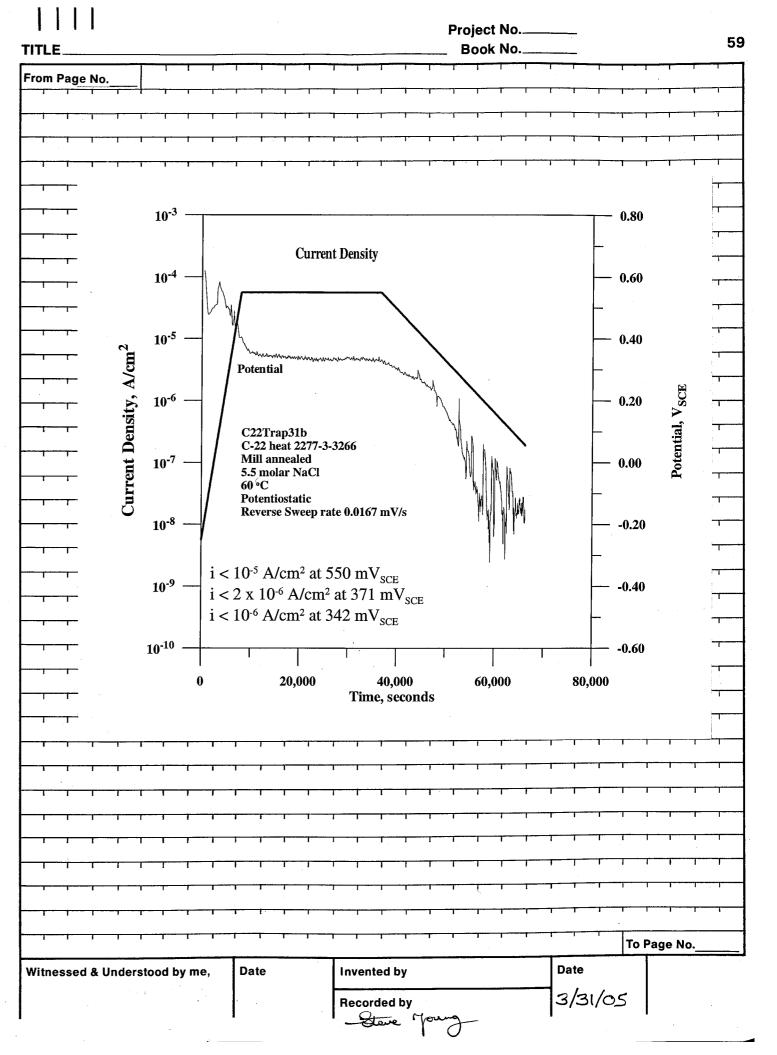
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			10 10			<u></u>	~~~~	Cui	rrent	Densi	ty	/__\.	v						0.60	1			
1 1		Vcm ²				Pote	ential		•		/	\	· Lang	~^	•				0.40			T-	-
-1 -1		ensity, A	10		$\frac{1}{2}$	C2	2Trap	30a	5 2 2	266	•							_	0.20		Potential, V _{SCE}		
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			10	-9	- i <	2 x	10-6	A/c	m² a	8 mV at -65 03 n	5 mV								-0.40)		1	T
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Project No.____ 55 Book No._ TITLE. From Page No. antenas () 10⁻² **Current Density** 10-3 -0.60 10⁻⁴ -Potential 10-5 — 0.20 10⁻⁶ C22Trap30b C-22 heat 2277-3-3266 Mill annealed 0.00 4.0 molar NaCl 10⁻⁷ 95 °C **Potentiostatic** Reverse Sweep rate 0.0167 mV/s -0.20 10-8 $i < 10^{-5} \text{ A/cm}^2 \text{ at } -69 \text{ mV}_{SCE}$ -0.40 10^{-9} \rightarrow i < 2 x 10^{-6} A/cm² at -123 mV_{SCE} $i < 10^{-6} \text{ A/cm}^2 \text{ at } -141 \text{ mV}_{SCF}$ 10⁻¹⁰ 20,000 40,000 60,000 100,000 80,000 Time, seconds To Page No. Date Witnessed & Understood by me, Date Invented by 3/30/05 Recorded by

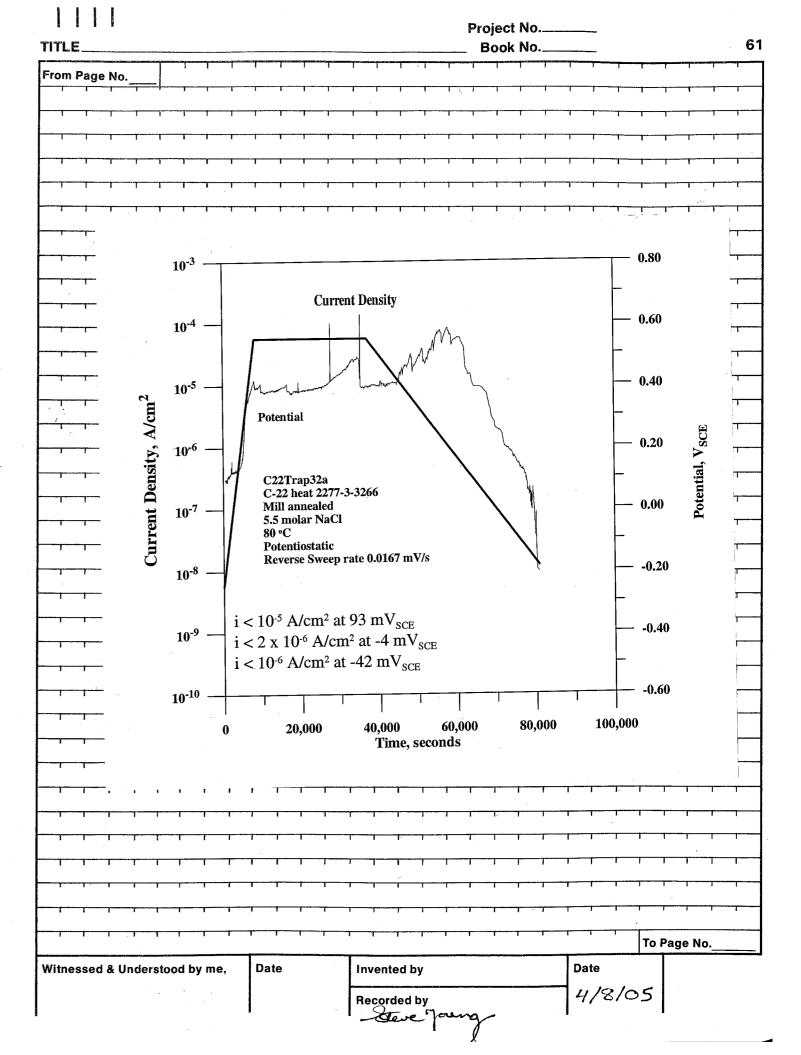
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			POTENTIAL SCAN AND HOLI	·	!
	Ohiective	: Same as page 1.	TOTENTIAL SCAN AND HOLI	,	
		eat No.: C-22 Hea	t# 2277-3-3266		
1 1 1 1	•		ecimen machined to dimensions specified	Lin CNWRA Drawing	
, , , , , ,	Specimen rinsed in [surfaces polished t	o 600 Grit finish using SiC paper. Specifice forming washers attached to specime	men cleaned in acetone and	1 1
- - - - - - - - - - 		crewdriver:	Proto 6104	SN: 139072	1 1
	Torque o	ciewanver.	Cal: 9/29/04	Due: 3/29/05	
	Initial We	ight: 39,5723	5 a Model: Sartorius Genius	SN : 12809099	ė,
		ght: 39,5677		Due: 5/10/05	
	Solution:	5.5M N) la CI		
	องเนเงท:		the state of the s		1 1 1
- 		<i>जवः</i> व्य	NaCl Lot: 042771		1
		+ D1 ·	to al		1 1 1
	Reagents	measured with	Model: OHAUS	SN: 2883	
	Neagents	· illeasured with	Cal: 1/14/05	Due: 7/14/05	
7	Initial nH	8.60	Model: Orion EA 940	SN: 2330	
	Final pH:		Cal:7/21/04	Due: 7/21/05	, , , , , , , , , , , , , , , , , , ,
			pH Probe: #13-620-296	SN : 4079126	7
					1 1
	Test Tem	perature: 60°	C Measured with Hg Thermome	eter SN: 323007	
			Cal: 10/14/04	Due: 10/14/2005	
	Counter E	Electrode: Platinun	n Flag		1 1
	Reference	e Electrode: Fishe	13-620-52	SN: 4028036	1 1 1
	Gae: 00 0	99% Nitrogen Gas		1	1 1 1
		458 mVsc.	Model: Keithley 614	SN: 467374	
		3.42mV _{SCE}	Cal: 12/2/04	Due: 12/2/2005	
		tat: Solartron 1480		SN : 00240551	:
	DATA FIL	E: C-33	Trap 31a		1
1	Number o	of Crevice Corrosio	on Sites: O/24 (2	4 max.)	1
-1-1-1					
1 1 1		No ocerica	, corrosian ,		T T
		· ·			-
	.17	Mud gold	staining.		
1 1 7	*	Kepolish -	tor turther testing,		:1 -1
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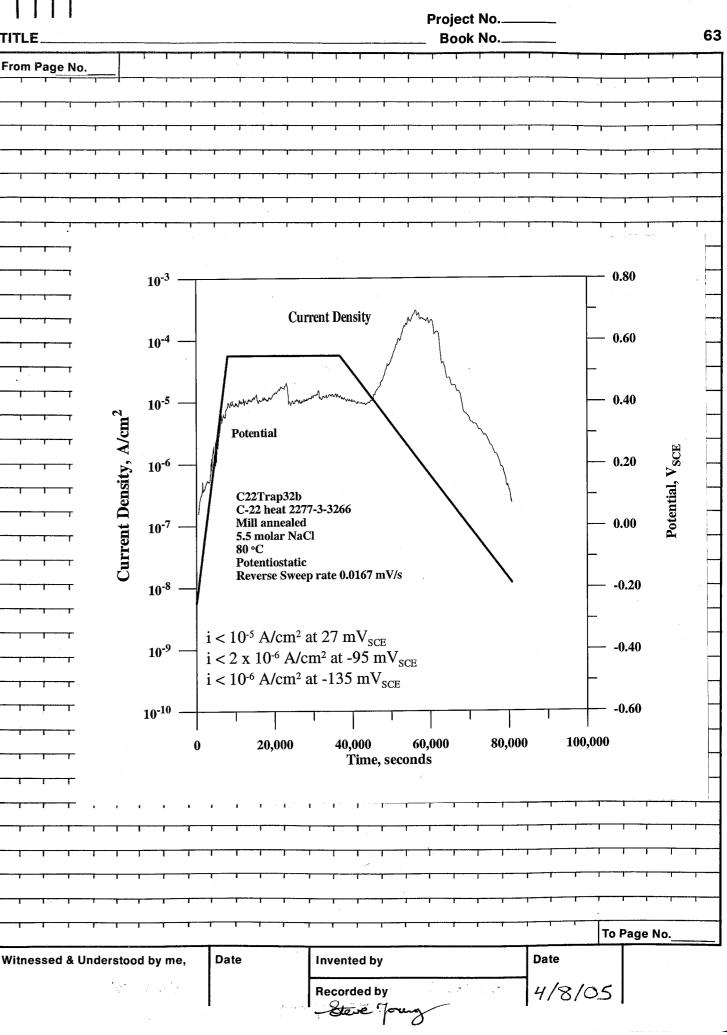
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				i • • •
		POTENTIAL SCAN AND HOLD		T
- 	Objective: Same as page 1.			
-1-1-1-1	Alloy / Heat No.: C-22 Heat	# 2277-3-3266		
		cimen machined to dimensions specified in C		
	Specimen surfaces polished to rinsed in DI water, PTFE crevi	o 600 Grit finish using SiC paper. Specimen ce forming washers attached to specimen us	cleaned in acetone and sing insulated C-276	
	hardware. Hardware Torgue t			!
	Torque Screwdriver:	Proto 6104	SN: 139072	: !
		Cal: 9/29/04	Due: 3/29/05	· · · · · ·
1 1	Initial Weight: 38, 9016	·	SN: 12809099 Due: 5/10/05	: I
	Final Weight: 38.8986	J	Due: 5/10/05	1
	Solution: 5.5M No			
	642.85	NaCl Lot: 042771		.
	+ 101 +	fo al		
		Markata CUAUC	ON- 2002	-1
	Reagents measured with	Model: OHAUS Cal: 1/14/05	SN: 2883 Due: 7/14/05	
	Initial pUt 0 5/	Model: Orion EA 940	SN: 2330	
	Initial pH: 8.56 Final pH: 7.84	Cal:7/21/04	Due: 7/21/05	
	, 1, 5 1	pH Probe: #13-620-296	SN : 4079126	
- I				
1 1 1	Test Temperature: 60°			
		Cal: 01/07/05	Due: 07/07/05	
T T T	Counter Electrode: Platinum	n Flag		
	Reference Electrode: Fisher	13-620-51	SN: 7282317	11
	Gas: 99.999% Nitrogen Gas	1		· · · · · · · · · · · · · · · · · · ·
	Ecorr: -527mVscE	Model: Keithley 614	SN: 467374	
	Ept: + 25mVscE	Cal: 12/2/04	Due: 12/2/2005	
	Potentiostat: Solartron 1480		SN: 00240551	1.
1 1 1	DATA FILE: C-22	Trap 31b		1 7 1
1 1 1	Number of Crevice Corrosio	•	nav)	
			iax.)	
	Three con	rosion sites.		
	Mild stain	ing.		
		J		
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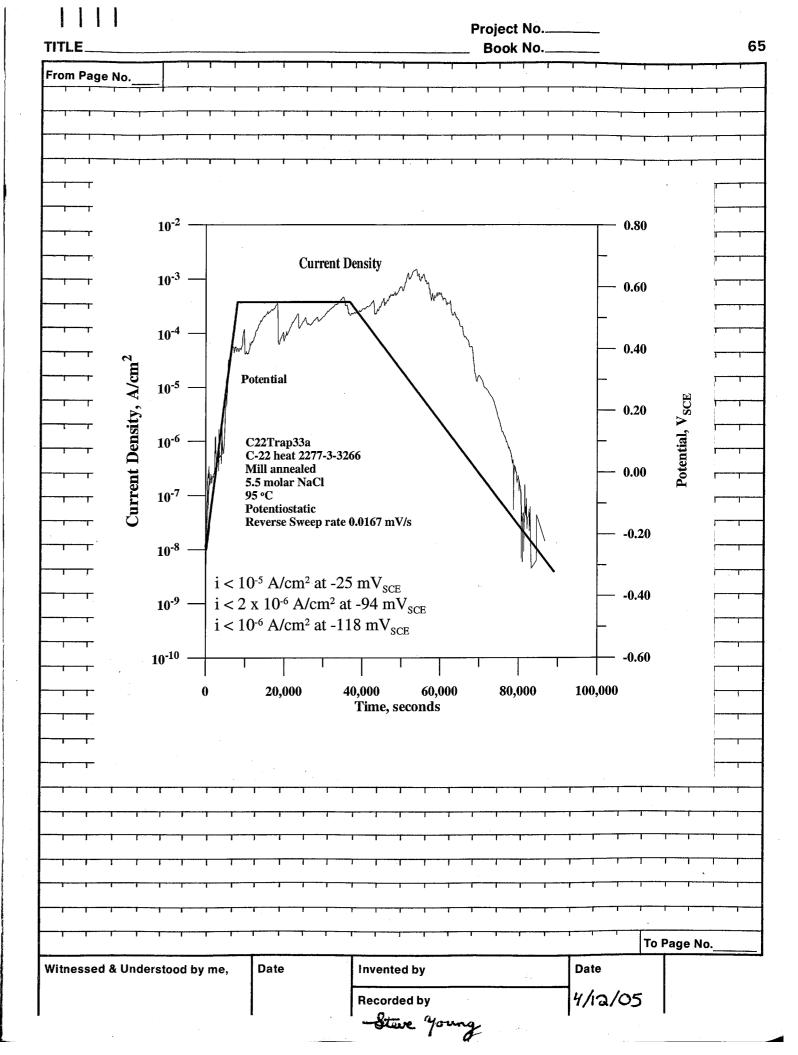
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		DOTENTIAL CO.		
	Objective: Same as page 1.	POTENTIAL SCAN AND HOLD		
1 1 1 1	Alloy / Heat No.: C-22 Heat	# 0077 0 0000		
1 1 1				1
	Specimen surfaces polished to	cimen machined to dimensions specified in C o 600 Grit finish using SiC paper. Specimen	cleaned in acetone and	
	rinsed in DI water. PTFE crevion hardware. Hardware Torgue to	ce forming washers attached to specimen us	ing insulated C-276	
 	Torque Screwdriver:	Proto 6104 Cal: 9/29/04	SN: 139072 Due: 3/29/05	
	Initial Weight: 38.73905	Model: Sartorius Genius		
	Final Weight: 38.73351		SN: 12809099 Due: 5/10/05	
	Solution: 5.5 M Na		_ =====================================	
, , , , , , , , , , , , , , , , , , , 				
1 1 1 1 1 1	642.839	NaCl Lot: 042771 al		
	+ D1 to	aL		
	Reagents measured with	Model: OHAUS		
	Academic incustrica With	Cal: 1/14/05	SN: 2883 Due: 7/14/05	
	Initial pH: 8.34	Model: Orion EA 940		
	Final pH: 7.61	Cal:7/21/04	SN: 2330	:
		pH Probe: #13-620-296	Due: 7/21/05 SN: 4079126	·
				
	Test Temperature: 80° C	Measured with Hg Thermometer	SN: 323007	· .
		Cal: 10/14/04	Due: 10/14/2005	
	Counter Electrode: Platinum I	Flag		
1 1 1 1 1 1 1 1 1 1 	Reference Electrode: Fisher 1	3-620-52	SN: 4028036	
	Gas: 99.999% Nitrogen Gas		J. 4020000	1 1
TTTT	Ecorr: -360mV _{SCE}	Model: Veikhan Odd	2	
	Ept: + 150mVscE	Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005	
, , , , , , , , , , , , , , , , , , , 	Potentiostat: Solartron 1480		SN: 00240551	
	DATA PUE O O O	T 20		
	DATA FILE: C-22	·		
, , , , , , , , , , , , , , , , , , , 	Number of Crevice Corrosion	Sites: 5 /24 (24 max	c.)	
 	_			
		ion sites.		1
	Mild st	taining.		,
				
			Control of the second	1 1 -1
	, , , , , , , , , , , , , , , , , , , 			
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	-	POTENTIAL SCAN AND HOLD		
	Objective: Same as page 1			
	Alloy / Heat No. : C-22 He			
		pecimen machined to dimensions specified in	CNWRA Drawing	
· · · · ·	Specimen surfaces polished rinsed in DI water. PTFE cre	d to 600 Grit finish using SiC paper. Specimer evice forming washers attached to specimen u	n cleaned in acetone and	· ' '
	hardware. Hardware Torgu			
	Torque Screwdriver:	Proto 6104 Cal: 9/29/04	SN: 139072 Due: 3/29/05	
	- Initial Waight: 29 40A			
	- Initial Weight: 39. 690 - Final Weight: 39. 676	39 9 Model: Sartorius Genius 56 9 Cal: 11/10/04	SN: 12809099 Due: 5/10/05	
			Duc. 0/10/00	
	Solution: 5.5 M N	the Control of the Co		1
		39 NaCl Lot: 042771		
	+ 101 4	io al		
	- Reagents measured with	Model: OHAUS	CN: 2002	
		Cal: 1/14/05	SN: 2883 Due: 7/14/05	
, , , , , , , , ,	_ Initial pH: 8.53	Model: Orion EA 940	SN: 2330	
	Final pH: 7.68	Cal:7/21/04	Due: 7/21/05	
	-	pH Probe: #13-620-296	SN: 4079126	
	<u>.</u>			
, , , , , , , , , , , , , , , , , , , 	Test Temperature: 80°	C Measured with Hg Thermometer Cal: 01/07/05	SN: E98-191 Due: 07/07/05	
	- Counter Electrode: Platinu	m Flag		
	- Reference Electrode: Fishe	· ·	SN: 7282317	
·	- Gas: 99.999% Nitrogen Gas			
	Ecorr: - 280 Notes	Model: Keithley 614	CN: 467074	
	- Ept: +110mVscE	Cal: 12/2/04	SN: 467374 Due: 12/2/2005	
	Potentiostat: Solartron 1480)	SN: 00240551	
· · · · · · · · · · · · · · · · · · ·	- DATA EU E. (~ ^ ~	T 201	· -	
	J 2 33	•		
1 1 1 1 1	Number of Crevice Corrosi	on Sites: 10 /24 (24 m	ax.)	;
1 1 1 1 T	- O := ::==			
		corrosion present.		· • • • • • • • • • • • • • • • • • • •
 	_ Mild stain	ning ·		
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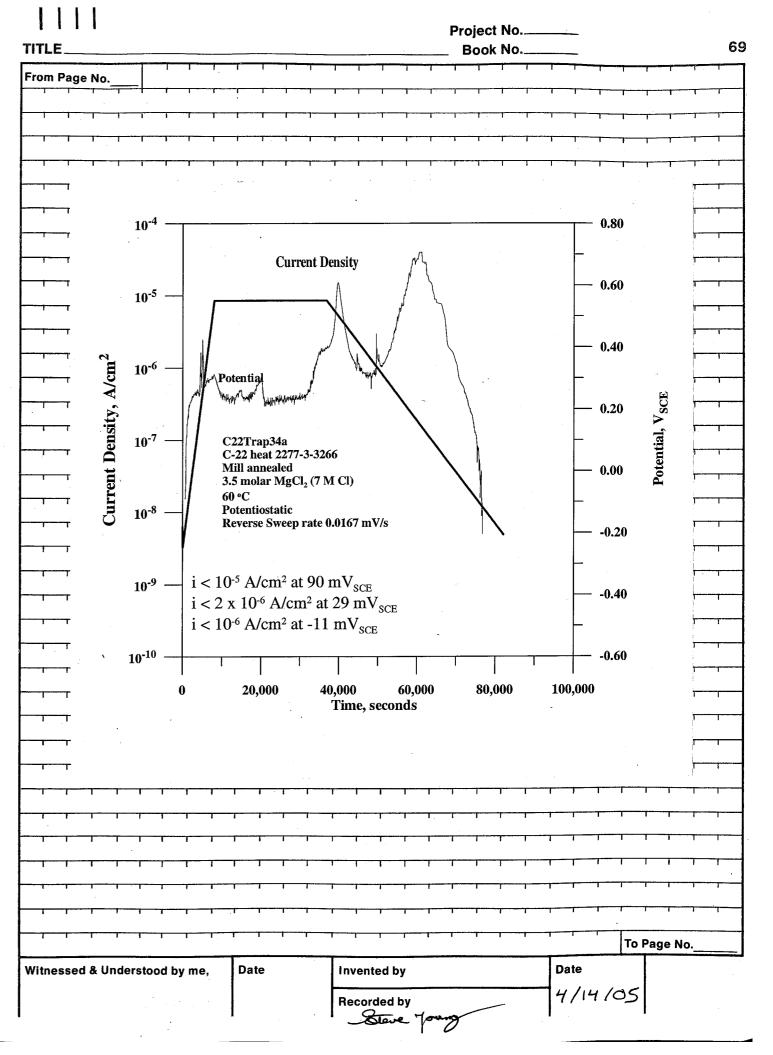
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		DOTENTIAL SCAN AND HOLD		, , , , , , , , , , , , , , , , , , ,
- , , , , , , , , , , , , , , , , , , ,	Objectives Same on page 1	POTENTIAL SCAN AND HOLD		
	Objective: Same as page 1.	227 2 2266		
	Alloy / Heat No. : C-22 Heat# 2			
		nen machined to dimensions specified in 0 00 Grit finish using SiC paper. Specimen		1 - 7 - 1
	rinsed in DI water. PTFE crevice	forming washers attached to specimen us		1 1
	hardware. Hardware Torgue to 5			1 1
	Torque Screwdriver:	Proto 6104 Cal: 9/29/04 4/11/<i>05</i>	SN: 139072 Due: 3/29/05 10/11/05	1 1-1-
		SBY 4/21/05	SBY 4/21/05	·
1 1 -1 -1	Initial Weight: 39.4935a g		SN: 12809099 Due: 5/10/05	, , , , , ,
	Final Weight: 39.387279	SBY 4/21/05	Due. 3/ 10/03	7
	Solution: 5.5 M NaC	21		1 1 1
	642.85 ₉	NaCl Lot: 042771		1 1 1
	+ Dl +0	Nacl Lot: 042771		· · · · · · · · · · · · · · · · · · ·
	Reagents measured with	Model: OHAUS	SN: 2883	
		Cal: 1/14/05	Due: 7/14/05	1 1 1
	Initial pH: 8.17	Model: Orion EA 940	SN: 2330	1 1
	Final pH: 7.32	Cal:7/21/04	Due: 7/21/05	
		pH Probe: #13-620-296	SN: 4079126	·
1 1 1 .	0500			
	Test Temperature: 95° C	Measured with Hg Thermometer Cal: 10/14/04	SN: 323007 Due: 10/14/2005	1 1 1
			Due: 10/14/2005	1 1
	Counter Electrode: Platinum Fla	ag		
	Reference Electrode: Fisher 13	3-620-52	SN: 4028036	
	Gas: 99.999% Nitrogen Gas			
T T 3	Ecorr: - 222mVsce	Model: Keithley 614	SN: 467374	: T 1 1
	Ept: + 268 mVscE	Cal: 12/2/04	Due: 12/2/2005	
	Potentiostat: Solartron 1480	*	SN: 00240551	· · · · · · · · · · · · · · · · · · ·
		F 60		:
	DATA FILE: C-22	Irap 33a		
	Number of Crevice Corrosion S	Sites: 15 /24 (24 m	ax.)	
-1 - 1 - 1 - 1	0			T 1
		present.		
, , , , , , , , , , , , , , , , , , , 	Mild staining	ng .		
				
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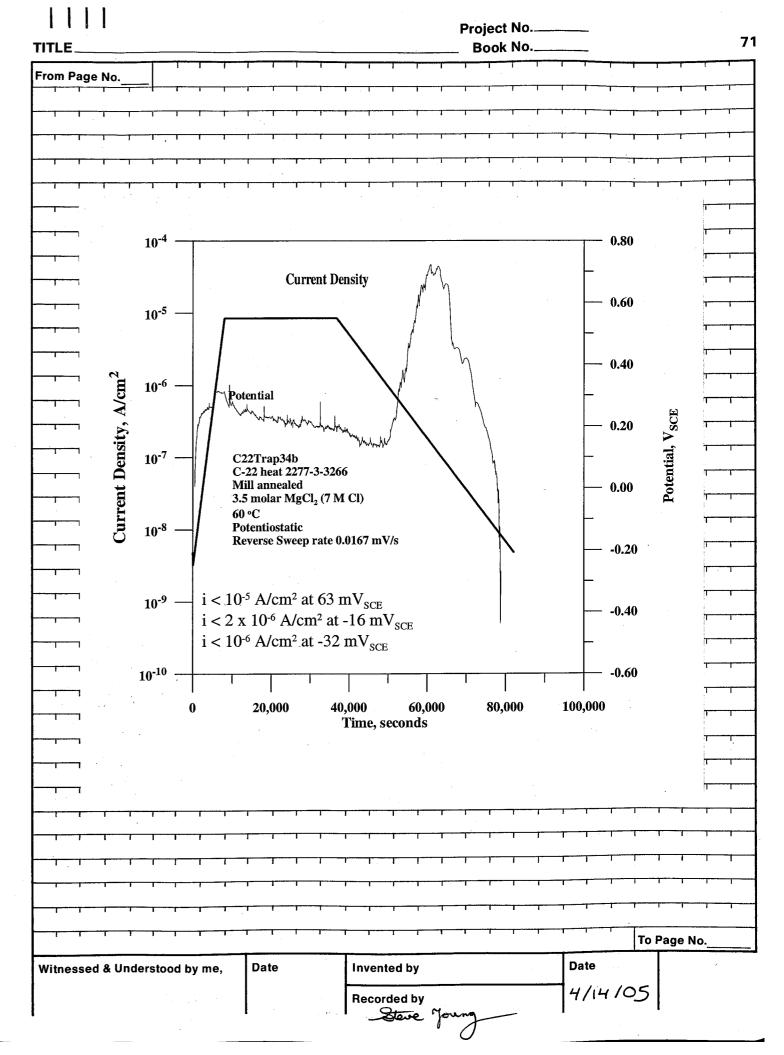
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	т .	POTENTIAL SCAN AND HOLD		 			1 1 1 1 1		, , , , , , , , , , , , , , , , , , ,
	T Objective: Same as page 1.	POTENTIAL SCAN AND HOLD					 		
, , , , , , , , , , , , , , , , , , , 	Alloy / Heat No.: C-22 Heat# 2	277-3-3266		 		ja satti taka kalim			
	T Charliman Branaration: Specim	en machined to dimensions specified in CN	IWRA Drawing.					·	
· · · · · · · · · · · · · · · · · · ·	Charles curfaces poliched to 60	00 Grit finish using SiC paper. Specimen ci forming washers attached to specimen usin	eaned in acelone and		•	10-3	C	1 N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.80
1 1 1	Torque Screwdriver:	Proto 6104	SN: 139072				Current	t Density $\int_{0}^{\infty} \int_{0}^{\infty} \int_{0}$	
1 1 1 1	T TOTAL SOLUTION	Cal: 9/29/04 4/11/05 SBY 4/21/05	Due: 3/29/05 10/11/05 SBY 4/21/05 SN: 12809099	25 1 1 1		10-4		_	0.60
	Initial Weight: 40, 41751 9	SBY 4/21/05 Model: Sartorius Genius		1 1		1 / 1/1	Monney	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	_
	Final Weight: 40. 38564	Cal: 11/10/04	Due: 5/10/05	1	·	10.5	Manney	memme	0.40
1 1 1	Solution: 5.5 M Na	21			~	10-5		\	0.40
,	642.839	NaC1 Lot: 042771		1	4/cm ²	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Potential	\	F
· · · · · · · · · · · · · · · · · · ·	~ 1 .	aL.		1	1	1 1		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0.20
					Density,	10		/ /	0.20
	Reagents measured with	Model: OHAUS Cal: 1/14/05	SN: 2883 Due: 7/14/05		en ' '		C22Trap33b	7	<u> </u>
1 1 1	7		SN: 2330	' '	1	10-7 — [C-22 heat 2277-3- Mill annealed	3200	<u></u>
 	Initial pH: 8.32.	Model: Orion EA 940 Cal:7/21/04	Due: 7/21/05		i i	11	5.5 molar NaCl 95 °C		
	T Final pH: 7.41	pH Probe: #13-620-296	SN: 4079126	1 1		- 11	Potentiostatic		- -
1 1 1	T			 	°	10-8	Reverse Sweep ra	te 0.0167 mV/s	-0.20
	Test Temperature: 95 ° C	Measured with Hg Thermometer	SN: E98-191 Due: 07/07/05						
	T	Cal: 01/07/05	Due. 07/07/03	1		i < 1	0-5 A/cm ² at 2	2 mV _{acr}	`
	Counter Electrode: Platinum F			111		$10^{-9} - \frac{1}{1} < 2$	$2 \times 10^{-6} \text{ A/cm}^2$	at -74 m V_{acr}	-0.4
	Reference Electrode: Fisher 1	3-620-51	SN: 7282317	1 1	ļ		$10^{-6} \text{ A/cm}^2 \text{ at } -$		L
	Gas: 99.999% Nitrogen Gas			<u></u>				SCE	
	Ecorr: -376 mVscE	Model: Keithley 614	SN: 467374			10-10	T .		-0.6
r 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ept: + 109 mVscE	Cal: 12/2/04	Due: 12/2/2005			0	20,000	40,000 60,000 80,000	100,000
	Potentiostat: Solartron 1480		SN : 00240551			Ū	20,000	Time, seconds	200,000
1 1 1	DATA FILE: C-22 -	Trap 33b		1 - 1	- 1 - 1			•	
1 1 1 1	Number of Crevice Corrosion		ax.)	 					
 	-			· 	·				
	T Crevice of	prrosion present.		 					· · ·
	Mild stai	ning.		1 1	<u></u>				
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	•	•			' ' '		, , , ,		
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•	ng kilong kilong Sing sekaran	Hecorded by	1.,.5,55	:	ł			Recorded by	7/10/05

67 - 0.60 **— 0.40 — 0.20** - 0.00 -0.20 .00,000 To Page No.

Djective: Same as page 1. Ioy / Heat No.: C-22 Heat Decimen Preparation: Specimen surfaces polished to used in DI water. PTFE crevindware. Hardware Torque Porque Screwdriver: Itial Weight: 39. 46514 Inal Weight: 39. 4636	# 2277-3-3266 coimen machined to o 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 9/29/4 SBY 44 Model: Sa Cal: 11/10 Cal: 1/14/ Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	dimensions specified ng SiC paper. Specified sattached to specimes attached at the second sec	d in CNWRA Drawing. Imen cleaned in acetone a en using insulated C-276 SN: 139072 Due: 3/29/95 IO, SBY H/AI/O5 SN: 12809099 Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	/11/05
loy / Heat No.: C-22 Heat Decimen Preparation: Specimen Surfaces polished to Issed in DI water. PTFE crevitations. Hardware Torgue for Group Screwdriver: itial Weight: 39. 46514 and Weight: 39. 4636 and Hardware with litial ph: 3.30 and ph: 5.14 est Temperature: 60° (# 2277-3-3266 coimen machined to o 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 9/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	dimensions specified ng SiC paper. Specified se attached to specime se attached se #1705 HAUS 1005 Tion EA 940 104 105 106 107 108 109 109 109 109 109 109 109	d in CNWRA Drawing. Imen cleaned in acetone a en using insulated C-276 SN: 139072 Due: 3/29/95 IO, SBY H/AI/O5 SN: 12809099 Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 Inter SN: 323007	/11/05
loy / Heat No.: C-22 Heat Decimen Preparation: Specimen Surfaces polished to Issed in DI water. PTFE crevitations. Hardware Torgue for Group Screwdriver: itial Weight: 39. 46514 and Weight: 39. 4636 and Hardware with litial ph: 3.30 and ph: 5.14 est Temperature: 60° (# 2277-3-3266 coimen machined to o 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 9/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	dimensions specified ng SiC paper. Specified se attached to specime se attached se #1705 HAUS 1005 Tion EA 940 104 105 106 107 108 109 109 109 109 109 109 109	d in CNWRA Drawing. Imen cleaned in acetone a en using insulated C-276 SN: 139072 Due: 3/29/95 IO, SBY H/AI/O5 SN: 12809099 Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 Inter SN: 323007	/11/05
loy / Heat No.: C-22 Heat Decimen Preparation: Specimen Surfaces polished to Issed in DI water. PTFE crevitations. Hardware Torgue for Group Screwdriver: itial Weight: 39. 46514 and Weight: 39. 4636 and Hardware with litial ph: 3.30 and ph: 5.14 est Temperature: 60° (# 2277-3-3266 coimen machined to o 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 9/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	dimensions specified ng SiC paper. Specified se attached to specime se attached se #1705 HAUS 1005 Tion EA 940 104 105 106 107 108 109 109 109 109 109 109 109	d in CNWRA Drawing. Imen cleaned in acetone a en using insulated C-276 SN: 139072 Due: 3/29/95 IO, SBY H/AI/O5 SN: 12809099 Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 Inter SN: 323007	/11/05
loy / Heat No.: C-22 Heat Decimen Preparation: Specimen Surfaces polished to Issed in DI water. PTFE crevitations. Hardware Torgue for Group Screwdriver: itial Weight: 39. 46514 and Weight: 39. 4636 and Hardware with litial ph: 3.30 and ph: 5.14 est Temperature: 60° (# 2277-3-3266 coimen machined to o 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 9/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	dimensions specified ng SiC paper. Specified se attached to specime se attached se #1705 HAUS 1005 Tion EA 940 104 105 106 107 108 109 109 109 109 109 109 109	d in CNWRA Drawing. Imen cleaned in acetone a en using insulated C-276 SN: 139072 Due: 3/29/95 IO, SBY H/AI/O5 SN: 12809099 Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 Inter SN: 323007	/11/05
loy / Heat No.: C-22 Heat Decimen Preparation: Specimen Surfaces polished to Issed in DI water. PTFE crevitations. Hardware Torgue for Group Screwdriver: itial Weight: 39. 46514 and Weight: 39. 4636 and Hardware with litial ph: 3.30 and ph: 5.14 est Temperature: 60° (# 2277-3-3266 coimen machined to o 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 9/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	dimensions specified ng SiC paper. Specified se attached to specime se attached se #1705 HAUS 1005 Tion EA 940 104 105 106 107 108 109 109 109 109 109 109 109	d in CNWRA Drawing. Imen cleaned in acetone a en using insulated C-276 SN: 139072 Due: 3/29/95 IO, SBY H/AI/O5 SN: 12809099 Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 Inter SN: 323007	/11/05
loy / Heat No.: C-22 Heat Decimen Preparation: Specimen Surfaces polished to Issed in DI water. PTFE crevitations. Hardware Torgue for Group Screwdriver: itial Weight: 39. 46514 and Weight: 39. 4636 and Hardware with litial ph: 3.30 and ph: 5.14 est Temperature: 60° (cimen machined to 6 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 0/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Of Cal: 1/14/ Model: Of Cal: 7/21/6 pH Probe C Measured	ng SiC paper. Specials attached to specime attached at 11/05 attached attached at 11/05 attached at	### SN: 2330 Due: 7/21/05 SN: 2330 Due: 7/21/05 SN: 2330 Due: 7/21/05 SN: 4079126	/11/05
pecimen Preparation: Specimen surfaces polished to seed in DI water. PTFE crevindware. Hardware Torgue forque Screwdriver: itial Weight: 39. 46514 and Weight: 39. 4636 and Hada. 2064 an	cimen machined to 6 600 Grit finish usin ice forming washers to 50 in-oz. Proto 610 Cal: 0/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Of Cal: 1/14/ Model: Of Cal: 7/21/6 pH Probe C Measured	ng SiC paper. Specials attached to specime attached at 11/05 attached attached at 11/05 attached at	### SN: 2330 Due: 7/21/05 SN: 2330 Due: 7/21/05 SN: 2330 Due: 7/21/05 SN: 4079126	/11/05
pecimen surfaces polished to used in DI water. PTFE crevitardware. Hardware Torgue forque Screwdriver: itial Weight: 39. 465 14 polition: 3.5 M Mg 1433.20 g + DI to eagents measured with itial pH: 3.30 giral pH: 5.14	o 600 Grit finish usinice forming washers to 50 in-oz. Proto 610 Cal: 0/29/4 SBY 4 Model: Sa Sq Cal: 11/10 Cl2 (7M Cl) Model: Ol Cal: 1/14/ Model: Ol Cal: 7/21/0 pH Probe	ng SiC paper. Specials attached to specime attached at 11/05 attached attached at 11/05 attached at	### SN: 2330 Due: 7/21/05 SN: 2330 Due: 7/21/05 SN: 2330 Due: 7/21/05 SN: 4079126	/11/05
ised in DI water. PTFE crevindware. Hardware Torgue forque Screwdriver: itial Weight: 39. 465 14 nal Weight: 39. 4636 blution: 3.5M Mg 1433.206 + DI +o eagents measured with itial pH: 3.30 inal pH: 5.14	ice forming washers to 50 in-oz. Proto 610 Cal: 0/29/4 SBY 4 Model: Sa Cal: 11/10 Cl2 (7M Cl) Model: Ol Cal: 1/14/ Model: Ol Cal: 7/21/0 pH Probe	HAUS 104 105 107 108 109 109 109 109 109 109 109 109 109 109	SN: 139072 Due: 3/29/95/0/ SN: 139072 Due: 3/29/95/0/ SN: 4/24/05 SN: 12809099 Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 SN: 323007	/11/05
itial Weight: 39. 46514 nal Weight: 39. 4636 plution: 3.5M Mg 1433.20 + D1 +o eagents measured with itial pH: 3.30 inal pH: 5.14 est Temperature: 60°	Cal: 0/29/4 SBY 4/ SBY 4/ SBY 4/ Model: Sa Cal: 11/10 CAL: 7/M CI Model: Ol Cal: 1/14/ Model: Ol Cal: 7/21/0 pH Probe	04 4/11/05 /21/05 artorius Genius 0/04) Lot: 04170 HAUS 05 rion EA 940 04 e: #13-620-296	Due: 3/29/95/0, 58Y 4/21/05 SN: 12809099 Due: 5/10/05 O3 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	
itial Weight: 39. 46514 nal Weight: 39. 4636 plution: 3.5M Mg 1433.20 + D1 +o eagents measured with itial pH: 3.30 inal pH: 5.14 est Temperature: 60°	Model: Say 4, Model: Say Cal: 11/10 Cl ₂ (7M Cl ₂ Model: Ol Cal: 1/14/ Model: Ol Cal: 7/21/0 pH Probe	/21/05 entorius Genius 0/04) Lot: 04170 HAUS 05 rion EA 940 04 e: #13-620-296 d with Hg Thermom	58Y 4/21/05 SN: 12809099 Due: 5/10/05 O3 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	
nal Weight: 39. 4636 olution: 3.5 M Mg 1433.206 + D1 + do eagents measured with itial pH: 3.30 inal pH: 5.14	Cal: 11/10 Cl ₂ (7M Cl ₂ Model: Ol Cal: 1/14/ Model: Ol Cal: 7/21/0 pH Probe	HAUS 100 HAUS 100 100 100 100 100 100 100 10	Due: 5/10/05 SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	
eagents measured with itial pH: 3.30 inal pH: 5.14	Model: Of Cal: 1/14/ Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	Lot: 04176 HAUS 705 rion EA 940 04 2: #13-620-296 d with Hg Thermom	SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	
Ha3.aod + DI to eagents measured with itial pH: 3.30 inal pH: 5.14 est Temperature: 60°	Model: Of Cal: 1/14/ Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	Lot: 04176 HAUS 705 rion EA 940 04 9: #13-620-296 d with Hg Thermom	SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	
Ha3.aod + DI to eagents measured with itial pH: 3.30 inal pH: 5.14 est Temperature: 60°	Model: Of Cal: 1/14/ Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	Lot: 04176 HAUS 705 rion EA 940 04 9: #13-620-296 d with Hg Thermom	SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	
+ D1 +o eagents measured with itial pH: 3.30 inal pH: 5.14 est Temperature: 60°	Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	HAUS 705 rion EA 940 04 e: #13-620-296 d with Hg Thermom	SN: 2883 Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126	
eagents measured with itial pH: 3.30 inal pH: 5.14 est Temperature: 60°	Model: Of Cal: 1/14/ Model: Of Cal: 7/21/0 pH Probe	rion EA 940 04 e: #13-620-296 d with Hg Thermom	Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 meter SN: 323007	
itial pH: 3.30 inal pH: 5.14 est Temperature: 60°	Cal: 1/14/ Model: O Cal:7/21/0 pH Probe	rion EA 940 04 e: #13-620-296 d with Hg Thermom	Due: 7/14/05 SN: 2330 Due: 7/21/05 SN: 4079126 meter SN: 323007	
est Temperature: 60°	Model: O Cal:7/21/0 pH Probe	rion EA 940 04 2: #13-620-296 d with Hg Thermom	SN: 2330 Due: 7/21/05 SN: 4079126 neter SN: 323007	
est Temperature: 60°	Cal:7/21/0 pH Probe	04 e: #13-620-296 d with Hg Thermom	Due: 7/21/05 SN: 4079126 neter SN: 323007	
est Temperature: 60°	pH Probe	e: #13-620-296 d with Hg Thermom	SN: 4079126 neter SN: 323007	, , , , , , , , , , , , , , , , , , ,
	C. Measured	d with Hg Thermom	neter SN: 323007	
				
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ounter Electrode: Platinur		4/04	Due: 10/14/200	05
ounter Electrode: Platinur	Г!			
*			SN: 4028036	· · · · · · · · · · · · · · · · · · ·
eference Electrode: Fishe	er 13-620-52		311. 4020000	1
as: 99.999% Nitrogen Gas		•		<u> </u>
corr: - 183 mVsce pt: + 450 mVsce		eithley 614	SN: 467374 Due: 12/2/2009	5
	Cal: 12/2/	/04		
otentiostat: Solartron 1480)		SN: 00240551	
ATA FILE: C-22	Trap 34	a.		1
lumber of Crevice Corrosi	on Sites:	5 /24	(24 max.)	1
Five co	crosion sites	S .		
No sta	ining.			
, , , , , , , , , , , , , , , , , , , 		· · · · · · · · · · · · · · · · · · ·		1-1-1-1
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me, Date	Invented by		Date	
	Five co No sto	No staining	Five corrosion sites. No staining.	Five corrosion sites. No staining.



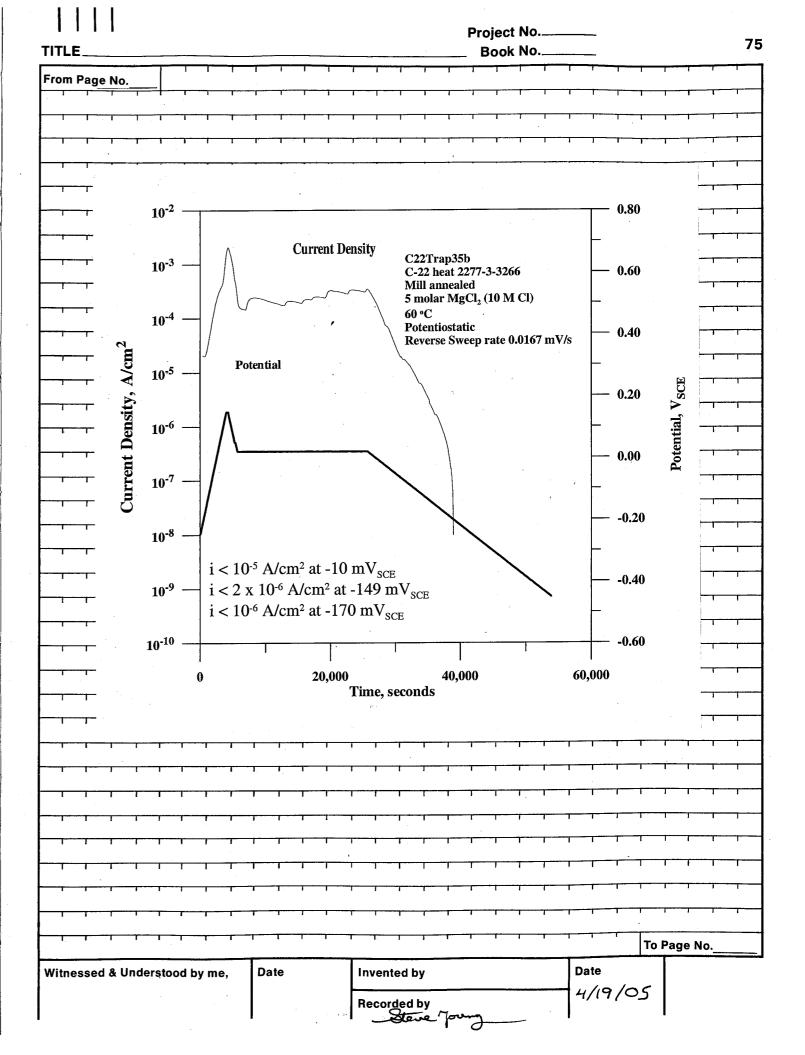
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om Page No.			1 1 1 1	, , , , , , , , , , , , , , , , , , , 	1 1 1 1
Tage No.					1 1
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			POTENTIAL SCAN AN	D HOLD	
	Objective: S	Same as page 1.			T . T
		No.: C-22 Heat	# 2277-3-3266		T T T
			cimen machined to dimensions s	specified in CNWRA Drawing	1
	Specimen su	urfaces polished to	600 Grit finish using SiC paper ce forming washers attached to	 Specimen cleaned in acet 	one and
1 1 1 1 1		lardware Torgue t			
· · · · · · · · · · · · · · · · · · ·	Torque Scre	ewdriver:	Proto 6104	SN: 139072	
			Cal: 9/29/04 4/4/05 SBY 4/21/05	Due: 3/29/(SBY 4/21/9	1510/11/05 ' ' '
	Initial Weigl	nt: 39,5069		.587 4/21/0 sN: 128090)99
		t: 39.5054		Due: 5/10/0)5
	Solution:	3.5M M	aCla (7M CI)		
, , , , , , , , , , , , , , , , , , , 		IH23 17	gClz (7M Cl) MgClz Lot:04	11703	:
		1460.11			
		+ DI to	5 2L		7 . 1 . 1
1 1 1 1	Possente m	easured with	Model: OHAUS	SN: 2883	, ,
 	Reagents in	leasureu witii	Cal: 1/14/05	Due: 7/14/)5 1 1 T
	Installation	271	Model: Orion EA 940	SN: 2330	· .
	Initial pH:		Cal:7/21/04	Due: 7/21/	ns :
	rinai pri: :	5.17	pH Probe: #13-620-29		1 1 1
1 1 1			P 10 0 0 0 0	-	1 1 1
 	Toet Tompe	erature: 60°	Measured with Hg Th	ermometer SN: E98-1	91
	rest rempe	rature. 60	Cal: 01/07/05	Due: 07/07	
		A. Dielie			
		ctrode: Platinum	•		
	Reference E	Electrode: Fisher	13-620-51	SN: 72823	17
	Gas: 99.999	% Nitrogen Gas			
	Ecorr: - 6	allmysce	Model: Keithley 614	SN : 46737	4
1		97 mVscE	Cal: 12/2/04	Due: 12/2/	2005
	Potentiosta	t: Solartron 1480		SN: 00240	551
		0 00	- 201		
	DATA FILE:	C- 22	Trap 34b		
	Number of	Crevice Corrosic	on Sites:	4 /24 (24 max.)	
		F			
			perosion sites.		
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tnessed & Understoo	d by me, I	Date	Invented by	Date	*



Project No._ TITLE. Book No ._ From Page No. 10-2 0.80 **Current Density** C22Trap35a 10^{-3} C-22 heat 2277-3-3266 0.60 Mill annealed 5 molar MgCl₂ (10 M Cl) 60 °C 10⁻⁴ Potentiostatic 0.40 Reverse Sweep rate 0.0167 mV/s **Potential** 10-5 0.20 Current Density, 10^{-6} 0.00 10⁻⁷ -0.20 **10⁻⁸** $i < 10^{-5} \text{ A/cm}^2 \text{ at -61 mV}_{SCE}$ -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } -104 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } -124 \text{ mV}_{SCE}$ **10⁻¹⁰** 60,000 20,000 40,000 Time, seconds To Page No. Date Witnessed & Understood by me, Date Invented by 4/19/05 Recorded by

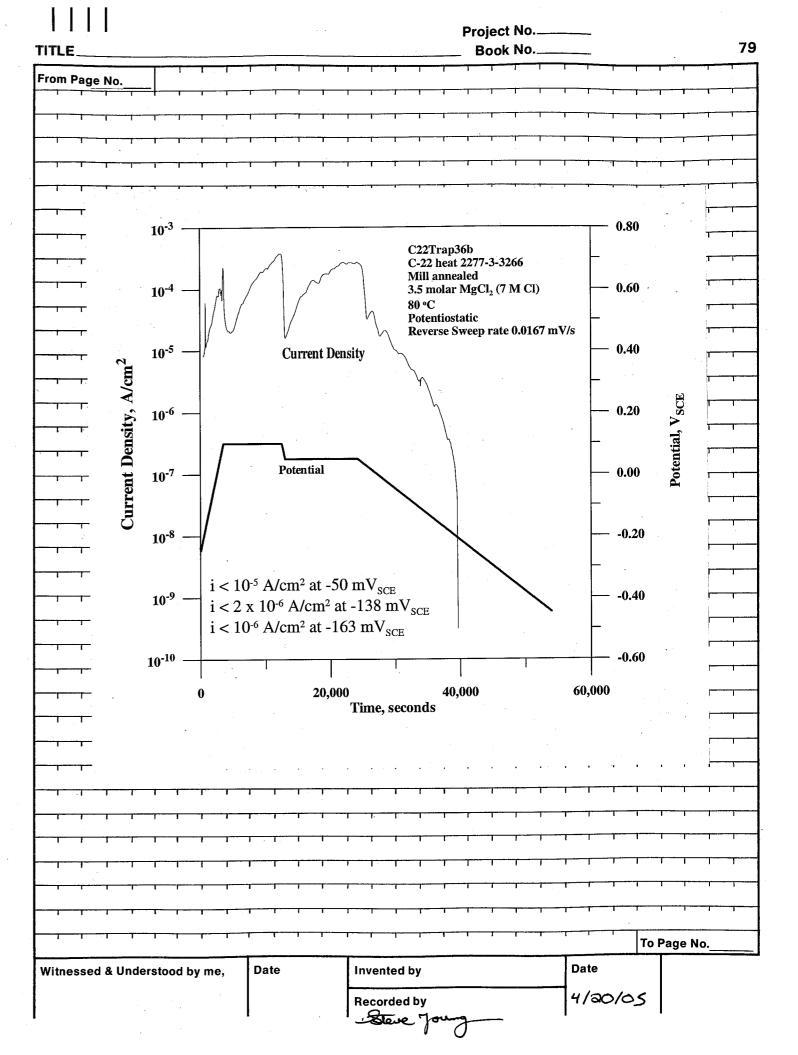
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4		TITLE	 	
om Page No				
				1-1-1-
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, , , , , , , , , , , , , , , , , , , 		POTENTIAL SCAN AND HOLD		
, , , , , , , , , , , , , , , , , , , 	Objective: Same as page 1.	FOTENTIAL SCAN AND HOLD		
	Alloy / Heat No.: C-22 Heat	# 2277-3-3266		
 	•	· ·	JWRA Drawing	' ' '
	Specimen surfaces polished to rinsed in DI water. PTFE crevi	cimen machined to dimensions specified in Cl o 600 Grit finish using SiC paper. Specimen c ice forming washers attached to specimen using	leaned in acetone and	1 1
	hardware. Hardware Torgue		CN: 420072	T-1-1
	Torque Screwdriver:	Proto 6104 Cal: 9/29/04 4/1/05	SN: 139072 Due: 3/29/05 10/11/05	ļ
		SBY 4/21/05	584 4/21/05 SN: 12809099	1
 	Initial Weight: 40. 597,4)	Due: 5/10/05	1 1 1
, , , , , , , , , , , , , , , , , , , 	Final Weight: 40.5515	· 1		11:-1
 	Solution: 5M MgCl	ar М ² (10М С1) Э (10М С1)		1-1-1-
	2033.09	MgCla. 6HaO Lot: 042	821	1 1
	+ DI to	aL		
	•			
	Reagents measured with	Model: OHAUS Cal: 1/14/05	SN: 2883 Due: 7/14/05	1
	Initial alls A 3H	Model: Orion EA 940	SN: 2330	
	Initial pH: Q.34 Final pH: 4.09	Cal:7/21/04	Due: 7/21/05	1
	rinai pri. 4.07	pH Probe: #13-620-296	SN: 4079126	
 		·		1 1 1
	Test Temperature: 60°C	Measured with Hg Thermometer	SN : E98-191	:
		Cal: 01/07/05	Due: 07/07/05	
 	Counter Electrode: Platinum	n Flag		1 1
 	Reference Electrode: Fishe	-1	SN: 7282317	
		113-020-01	J. 1202011	1 1
	Gas: 99.999% Nitrogen Gas			
· · · · · · · · · · · · · · · · · · ·	Ecorr: -345 mVsce	Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005	
· · · · · · · · · · · · · · · · · · ·	Ept: +allmVsce			
	Potentiostat: Solartron 1480		SN: 00240551	
	DATA FILE: C- 22	Trap 35b		1
		· •		
	Number of Crevice Corrosi	on Sites: 22/24 (24 ma	iX.)	
	Minas	orrosion under crevice wa	shees	
			and U.	
	No stair	ing.		
				1 1
				1
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			1 1 1 1	
 				
				
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tnessed & Underst	ood by me, Date	Invented by	Date	
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		Recorded by	4/19/05	



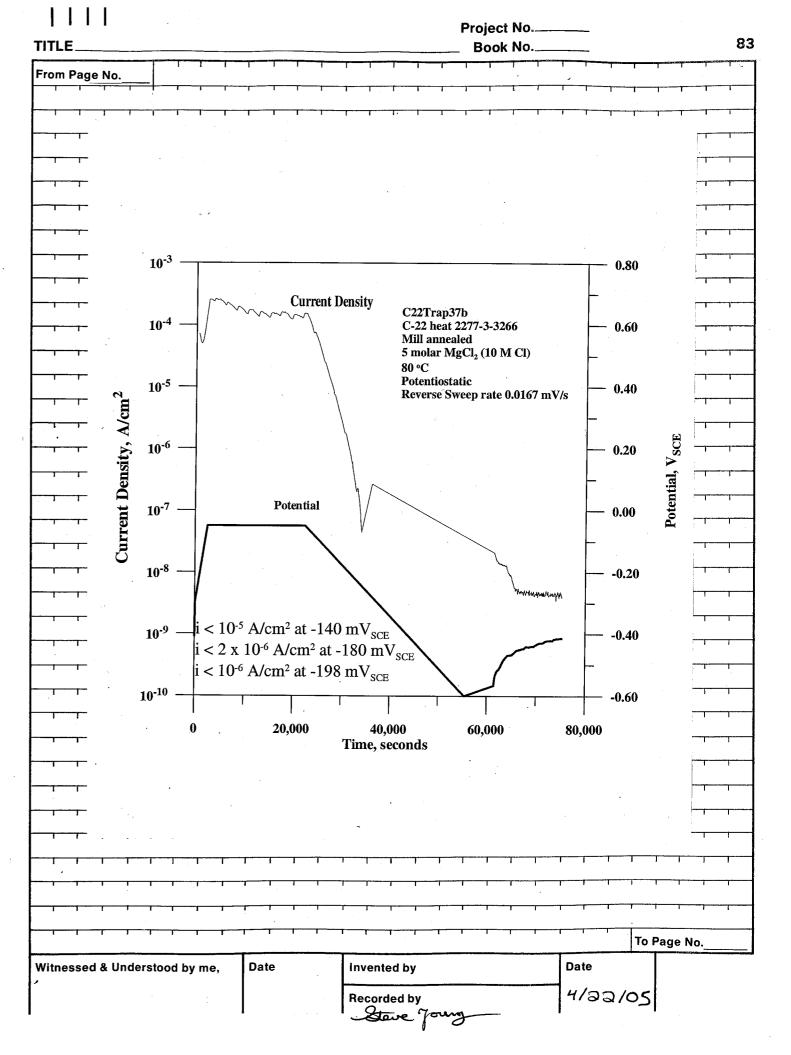
Project No ... 77 TITLE. Book No .. From Page No. 10⁻² **Current Density** C22Trap36a 10⁻³ C-22 heat 2277-3-3266 0.60 Mill annealed 3.5 molar MgCl₂ (7 M Cl) 80 °C **10⁻⁴** Potentiostatic 0.40 Reverse Sweep rate 0.0167 mV/s 10-5 0.20 Density, Potential 0.00 10⁻⁷ -0.20 **10⁻⁸** $i < 10^{-5} \text{ A/cm}^2 \text{ at } -75 \text{ mV}_{SCE}$ -0.40 10^{-9} \rightarrow i < 2 x 10⁻⁶ A/cm² at -140 mV_{SCE} $i < 10^{-6} \text{ A/cm}^2 \text{ at } -213 \text{ mV}_{SCE}$ 10^{-10} 60,000 Time, seconds To Page No. Date Date Witnessed & Understood by me, Invented by Recorded by 4/20/05

	Book No TI	TLE	T T T T T T T	
Page No.				
, , , , , , , , , , , , , , , , , , , 	· ·	POTENTIAL SCAN AND HOLD		
	Objective: Same as page 1.			
	Alloy / Heat No. : C-22 Hea			
		ecimen machined to dimensions specified in	CNIMPA Drawing	
	Specimen surfaces polished	to 600 Grit finish using SiC paper. Specimer	n cleaned in acetone and	['
	rinsed in DI water. PTFE crev	vice forming washers attached to specimen ι	using insulated C-276	1
	hardware. Hardware Torgue		61 1 400070	1
	Torque Screwdriver:	Proto 6104 Cal: 9/29/04 4/ <i>u</i> /0 <i>5</i>	SN: 139072 Due: 3/29/05 1 0/11/05	1
-, -, -		5BY 4/21/05	5BY 4/21/05 SN: 12809099	· -
	Initial Weight: 40,3793	- 9	Due: 5/10/05	<u> </u>
T T T	Final Weight: 40.3570	•	220. 0/ 10/00	-
	Solution: 3.5M M	gCla (7M CI)		1
	1423.14	gCla(7M Cl) MgCla·6HaO Lot:04 o aL	3664	1
	+ DI +	a aL		-
· · · · · · · · · · · · · · · · · · ·				
, , , ,	Reagents measured with	Model: OHAUS Cal: 1/14/05	SN: 2883 Due: 7/14/05	, ,
	•	Cai: 1/14/05	Due: // 14/05	1
- 	Initial pH: 4.69	Model: Orion EA 940	SN: 2330	<u>i </u>
	Final pH: 5.44	Cal:7/21/04	Due: 7/21/05]
		pH Probe: #13-620-296	SN : 4079126	·
		3		i.
1 1 1	Test Temperature: 80° (Measured with Hg Thermometer Cal: 01/07/05	SN: E98-191 Due: 07/07/05	1
, , , , , , , , , , , , , , , , , , , 	•		Due. 07707/05	1
' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' 	Counter Electrode: Platinur	n Flag		г т
 	Reference Electrode: Fishe	r 13-620-51	SN: 7282317	1. 1
	Gas: 99.999% Nitrogen Gas			·
	Ecorr: - 380 mVsce	Model: Keithley 614	SN: 467374	
1 1 1	Ept: +510 mVscE	Cal: 12/2/04	Due: 12/2/2005	1
	Potentiostat: Solartron 1480		SN: 00240551	1
1	000	T. 364		, ,
	DATA FILE: C-22	Trap 36b		
	Number of Crevice Corrosic	on Sites: 10/24 (24 r	nax.)	
	•			
<u> </u>	Mild s	taining.		
	•			
1 1 1				
- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			-	
				
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Project No.___ 81 TITLE Book No.. From Page No. 10-3 0.80 **Current Density** C22Trap37a 10^{-4} C-22 heat 2277-3-3266 0.60Mill annealed 5 molar MgCl₂ (10 M Cl) 80 °C **Potentiostatic** 10⁻⁵ 0.40 A/cm^2 Reverse Sweep rate 0.0167 mV/s 0.20 Potential 10⁻⁷ 0.00 10⁻⁸ -0.20 $_{10^{-9}}$ — $i < 10^{-5}$ A/cm² at -168 mV_{SCE} -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } -209 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } -219 \text{ mV}_{SCE}$ 10⁻¹⁰ 20,000 40,000 60,000 80,000 Time, seconds To Page No. Date Date Witnessed & Understood by me, invented by 4/22/05 Recorded by

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			DOTENTIAL COAN AND III		1
	Objective: Same	as nage 1	POTENTIAL SCAN AND H	ULD	
- 	Alloy / Heat No. :	·	77 2 2266		
					. 7
	Specimen surface	s polished to 600 PTFE crevice for	ming washers attached to spec	ecimen cleaned in acetone and	
					- 1 - 1
	Torque Screwdriv	ver:	Proto 6104 Cal: 4/11/05	SN: 139072 Due: 10/11/05	·
	Initial Weight: 🕉	3 271/-#-			
	Final Weight: 3		Model: Sartorius Genius Cal: 11/10/04	SN: 12809099 Due: 5/10/05	7
				Due: 3/10/03	-TT
		M Mg Cl2			
	20	033.10g M	19Cl2 6H2O Lot	043664	1
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T 1					
	Reagents measur	ed with	Model: OHAUS Cal: 1/14/05	SN: 2883 Due: 7/14/05	
	Initial pH: 2.4	l	Model: Orion EA 940	SN: 2330	
	Final pH: 4.80)	Cal:7/21/04	Due: 7/21/05	' '
			pH Probe: #13-620-296	SN: 4079126	
					1
	Test Temperature	: 80°C	Measured with Hg Thermon Cal: 01/07/05	meter SN: E98-191 Due: 07/07/05	1 1
1 1 1	Counter Electrode	: Platinum Flag			
	Reference Electro	de: Fisher 13-62	0-51	SN: 7282317	1
	Gas: 99.999% Nitro		-		1.
	Ecorr: - 410m	•	Model: Keithley C44	01. 40 - 0-	
<u> </u>	Ept: + 470 m		Model: Keithley 614 Cal: 12/2/04	SN: 467374 Due: 12/2/2005	,
	Potentiostat: Solar			SN: 00240551	
	•••			611. 662-46661	1 1
7 1 1 1	DATA FILE: C	-22 Tro	ip 376	•	
	Number of Crevice	Corrosion Sites	s: 13 /24	(24 max.)	
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Project No .__ 85 TITLE. Book No._ From Page No. 10⁻³ -0.80 **Current Density** C22Trap38a C-22 heat 2277-3-3266 0.60 10⁻⁴ Mill annealed 3.5 molar MgCl₂ (7 M Cl) 95 °C **Potentiostatic** 0.40 10⁻⁵ Reverse Sweep rate 0.0167 mV/s 0.20 10⁻⁶ 10-7 **Potential** 0.00-0.20 **10⁻⁸** $_{10^{-9}}$ - $i < 10^{-5}$ A/cm² at -214 mV_{SCE} -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } -241 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } -248 \text{ mV}_{SCE}$ 10-10 -80,000 20,000 40,000 60,000 Time, seconds To Page No. Date Witnessed & Understood by me, Date Invented by 4/26/05 Recorded by

Project No .__ 87 Book No._ TITLE. From Page No. **10⁻⁴ Current Density** C22Trap38b C-22 heat 2277-3-3266 0.60 10⁻⁵ Mill annealed 3.5 molar MgCl₂ (7 M Cl) 95 °C Potentiostatic Reverse Sweep rate 0.0167 mV/s **10⁻⁶** · 0.20 10⁻⁷ -**Potential** 0.0010⁻⁸ -0.20 10⁻⁹ $i < 10^{-5} \text{ A/cm}^2 \text{ at } -101 \text{ mV}_{SCE}$ -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } -153 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } -168 \text{ mV}_{SCE}$ 10-10 -80,000 40,000 60,000 20,000 Time, seconds To Page No. Date Date Invented by Witnessed & Understood by me, 4/26/05 Recorded by Steve young

Project No.__ 89 Book No._ TITLE. From Page No. 0.80 10⁻² **Current Density** C22Trap39a 10⁻³ C-22 heat 2277-3-3266 0.60 Mill annealed 5 molar MgCl₂ (10 M Cl) 95 °C 10⁻⁴ Potentiostatic 0.40 Reverse Sweep rate 0.0167 mV/s 10⁻⁵ 0.20 Density, 10⁻⁶ Potential 0.00 10⁻⁷ -0.2010⁻⁸ $i < 10^{-5} \text{ A/cm}^2 \text{ at } -209 \text{ mV}_{SCE}$ -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } -237 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } -240 \text{ mV}_{SCE}$ 10-10 --0.60 40,000 60,000 20,000 Time, seconds To Page No. Date Witnessed & Understood by me, Date Invented by 4/27/05 Recorded by

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-1 - 1		$10^{-6} \text{ A/cm}^2 \text{ at } -2$	11 - 230 m v _{SCE}		-		l T
		10° A/CIII- at -2	243 III V _{SCE}		· _	.60	1
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 				POTENTIAL SCAN AND	HOLD			1
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· · · · · · · · · · · · · · · · · · ·	Alloy	/ Heat No. : C-22	Heat# 227	77-3-3266				-
	Speci	imen Preparation	Specimen	machined to dimensions sp	ecified in Ci	MMPA Drawi	no	
 	Speci	imen surfaces polis	shed to 600	Grit finish using SiC paper.	Specimen c	leaned in ace	etone and	
1 1 1 1 1	rinsec	d in DI water. PTFE	crevice for	ming washers attached to s	oecimen usir	ng insulated (C-276	1 1
	hardw	ware. Hardware To	rgue to 50 i	n-oz.				
, , , ,	Torqu	ue Screwdriver:		Proto 6104		SN: 1390	72	: '
 				Cal: 4/11/05		Due: 10/1	1/05	
	Initial	l Weight: 3 9 , 7 3	573 a	Model: Sartorius Genius		SN: 1280	9099	· ·
		Weight: 39.69		Cal: 11/10/04		Due: 5/10	/05	
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	1.44.1	2.66						1
1 1 1 1		1 pH: 3.83		Model: Orion EA 940		SN: 2330		
	Final _I	pH: 5.61		Cal:7/21/04		Due: 7/21	/05	-
				pH Probe: #13-620-296		SN: 4079	126	
								1.1
	Test T	Temperature: 1C	5°C	Measured with Hg Ther	nometer	SN: 3230	07	
				Cal: 10/14/04		Due: 10/1	4/2005	
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	Keiere	ence Electrode: F	Isner 13-62	0-52		SN: 40280	36	
	Gas: 9	99.999% Nitrogen C	as				. *	
	Ecorr:	: -375 mVsc	. et	Model: Keithley 614		CN: 40707		1 1
	Ept:	+457 mVsc		Cal: 12/2/04		SN: 46737 Due: 12/2/		·
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Project No.___ TITLE. Book No. From Page No. 10-3 -**Current Density** C22Trap40a C-22 heat 2277-3-3266 Mill annealed 3.5 molar MgCl₂ (7 M Cl) 0.60 10-4 105 °C
Potentiostatic
Reverse Sweep rate 0.0167 mV/s 10⁻⁵ 0.40 0.20 Potential 10-7 -0.00 -0.20 10-8 $_{10^{-9}}$ — $i < 10^{-5}$ A/cm² at -208 mV_{SCE} -0.40 $i < 2 \times 10^{-6} \text{ A/cm}^2 \text{ at } -232 \text{ mV}_{SCE}$ $i < 10^{-6} \text{ A/cm}^2 \text{ at } -240 \text{ mV}_{SCE}$ 10-10 -40,000 60,000 80,000 20,000 Time, seconds To Page No. Date Date Witnessed & Understood by me, Invented by 5/3/05 Recorded by

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· ·	10-4				C-22 heat 2277-3-3266 Mill annealed	-	– 0.60			
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ADDITIONAL INFORMATION FOR SCIENTIFIC NOTEBOOK NO. 697

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File Types: (.exe, .bat, .zip, etc.)	xls, dat					
Remarks: (computer runs, etc.)	Media contains two folders: galvanodynamic and potentiodynamic containing data files.					