

First Time



D.L. RICCI CORP. PWHT JOB ANALYSIS SHEET

CUSTOMER: Major Tool
 JOBSITE: Indianapolis Indiana
 DATE: 1-31-06 CUSTOMER CONTACT: Doug McCorkle
 TECHNICIAN: Eric, Herb, Bob, Joe, Seth, Kevin PROCEDURE/MATERIAL: Inconel/stainless steel
 WORK ORDER#: 65678/1.0 JOB LOCATION: Major tool shop
 SYSTEM #: _____ RECORDER S/N#: R-91, RC-088, RC-074, RC-079
 I.S.O. LINE #: _____ RC-070, RC-093, RC-037, RC-092, R-94, R-93, R-95
 SPOOL #: _____
 FIELD WELD #: _____
 CHART #: 11 TOTAL WELDS: _____ TOTAL TC'S: 101

WORK DESCRIPTION: ran a bake at 707° on the vessel and 275-311° on the parts.

parts
 HEAT CYCLE: 300° at 50°/hr 120 min. at 300° held 21 hours
70 min. at 707° held 24 hours.
 AMBIENT TO 707° F AT 50°/hr F/HR, ABOVE _____ F AT _____ F/HR
 HOLD FOR _____ HRS AT _____ F/HR, +/- _____ F, COOL TO _____ F AT _____ F/HR.
 COOL TO AMBIENT UNDER INSULATION Y/N _____

PWHT CYCLE INFORMATION:

started at Ambient and ramped up 50° every 70 min on the vessel till 707
started at Ambient and slowly ramped up on the parts 50° every
2 hours or so.
When the vessel got to 700° we held it the first time 24 hours First Time
when the parts got to 300° we held them 21 hours the First Time
when hold time was complete we ramp Down on the vessel 50° per ~~hour~~ 70 min
till about 500° and then the parts fell out of soak and then we
 * TO INCLUDE ALL INFORMATION RELEVANT TO PWHT CYCLE*

Neal Jacobs 2/11/06
 TECHNICIAN DATE

CUSTOMER ACCEPTANCE*: _____
 * SIGNATURE ACCEPTS ABOVE HEAT CYCLE PROCEDURE

DATE: 11 Feb 2006

K Drive: Job Sheet- Excel File

start to ramp the parts Down 50° per ~~hour~~ 70 min to 200°
and at 500° we changed the ramp rate on the vessel to 90° per hour
and target temp to 100° per ~~hour~~ step and we would hold each step till
we were within 10° Top to Bottom



D.L. RICCI CORP. PWHT JOB ANALYSIS SHEET

CUSTOMER: _____
JOBSITE: _____
DATE: _____ **CUSTOMER CONTACT:** _____
TECHNICIAN: _____ **PROCEDURE/MATERIAL:** _____
WORK ORDER#: _____ **JOB LOCATION:** _____
SYSTEM #: _____ **RECORDER S/N#:** AH992E037
I.S.O. LINE #: _____
SPOOL #: _____
FIELD WELD #: _____
CHART #: 9 **TOTAL WELDS:** _____ **TOTAL TC'S:** 11

WORK DESCRIPTION:

HEAT CYCLE:

AMBIENT TO _____ F AT _____ F/HR, ABOVE _____ F AT _____ F/HR
 HOLD FOR _____ HRS AT _____ F/HR, +/- _____ F, COOL TO _____ F AT _____ F/HR.
 COOL TO AMBIENT UNDER INSULATION Y/N _____

PWHT CYCLE INFORMATION:

ZONE # 6 WAS MOVED TO CHART 11 ZONE # 7 DUE TO A
MAJFUNCTION IN THE CONTROLLER

* TO INCLUDE ALL INFORMATION RELEVANT TO PWHT CYCLE*

TECHNICIAN _____ DATE _____

CUSTOMER ACCEPTANCE*: _____ DATE: _____

* SIGNATURE ACCEPTS ABOVE HEAT CYCLE PROCEDURE



D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: _____
 DATE: 2-6 CUSTOMER CONTACT: _____
 TECHNICIAN: _____ PROCEDURE/MATERIAL: _____
 WORK ORDER#: _____ JOB LOCATION: _____
 SYSTEM #: _____ RECORDER SERIAL #: AH992E037
 I.S.O. LINE #: _____
 SPOOL #: _____
 FIELD WELD #: _____
 CHART #: 9 TOTAL WELDS: _____ TOTAL TC'S: 11

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
14:13	70	71	69	72	71	72	70	72	70	67	70	72
14:43	112	118	116	128	126	M	126	129	130	123	127	127
15:13	137	147	145	142	137	0	139	151	148	126	147	131
15:43	136	140	142	140	136	V	138	151	145	124	145	133
16:13	135	139	140	139	136	E	139	148	143	126	144	136
16:43	161	166	167	166	162	D	164	172	168	152	169	161
17:13	172	174	173	174	170		172	175	174	170	177	170
17:43	170	172	174	172	171	T	169	171	170	168	170	17
18:13	170	171	173	172	170	0	169	171	170	168	170	171
18:43	170	172	173	172	171		169	171	170	168	170	17
19:13	170	172	178	172	171	C	169	172	170	168	170	17
19:43	176	180	181	179	178	H	176	177	178	176	178	17
20:13	201	204	204	203	202	A	201	207	202	200	202	201
20:43	222	226	226	225	223	R	221	225	224	220	224	22
21:13	220	221	223	224	220	T	219	225	220	218	223	22
21:43	246	247	248	250	246	#	245	251	246	243	249	24
22:13	270	272	273	274	271		270	274	271	268	273	27
22:43	285	287	291	289	287	U	285	290	288	284	289	28
23:13	309	313	330	314	311		309	315	312	308	313	31
23:43	319	320	361	322	320	Z	318	322	319	318	321	32
00:13	333	337	376	337	335	0	334	336	335	333	335	33
00:43	358	361	375	361	360	N	359	361	360	358	360	36
1:13	379	385	383	383	380	E	379	383	382	377	382	38
1:43	404	410	407	408	405	#	404	405	407	403	407	40
2:13	419	421	423	422	421		419	422	419	421	421	41
2:42	441	445	447	446	445	7	444	449	445	447	445	44
3:13	466	470	472	471	469		468	472	469	467	470	47
3:43	484	488	490	488	486		485	489	488	484	488	48
4:13	510	513	515	512	512		509	514	512	509	513	514

* Time/Temperature Log shall be used to record temperatures above 800 Degrees F (or per applicable procedure) every hour during the heating and cooling cycles and every one-half hour during PWHT cycle.

=PORT



D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: _____

DATE: 2-7

CUSTOMER CONTACT: _____

TECHNICIAN: _____

PROCEDURE/MATERIAL: _____

WORK ORDER#: _____

JOB LOCATION: _____

SYSTEM #: _____

RECORDER SERIAL #: AH492E037

I.S.O. LINE #: _____

SPOOL #: _____

FIELD WELD #: _____

CHART #: 9

TOTAL WELDS: _____

TOTAL TC'S: 11

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12	
4:43	527	524	531	530	529	PORT T J E ADDED	527	531	529	528	524	530	
5:13	551	553	555	554	553		552	554	553	553	553	553	555
5:43	570	572	573	572	570		569	571	570	568	570	571	
6:13	592	593	596	594	592		592	595	593	592	593	595	
6:43	617	620	621	619	618		617	619	618	616	618	620	
7:13	637	640	640	637	636		636	639	637	633	637	635	
7:43	660	663	664	662	661		661	664	662	658	662	660	
8:13	670	676	676	674	671		673	676	673	671	673	676	
8:43	697	701	702	700	697		698	701	698	696	699	701	
9:13	698	702	703	702	699		700	702	700	698	700	702	
9:43	699	702	703	701	700		700	702	700	699	700	701	
10:13	701	704	705	704	702		264	704	704	703	699	702	705
10:43	707	709	710	709	707	286	706	708	707	705	707	708	
11:13	707	708	710	709	707	302	706	708	707	705	707	708	
11:43	707	709	710	709	707	302	706	709	707	705	707	709	
12:13	707	709	710	709	708	302	706	709	707	705	707	708	
12:43	707	709	710	709	707	302	706	709	707	705	707	708	
13:13	708	709	706	704	707	302	706	707	707	705	707	708	
13:43	708	709	711	709	708	302	706	709	707	706	707	708	
14:13	708	709	711	709	708	302	706	708	707	705	707	708	
15:13	708	709	710	709	708	302	706	708	707	705	707	709	
15:43	708	709	710	709	708	302	706	708	707	705	707	708	
16:13	707	709	711	709	707	302	706	708	707	705	707	708	
16:43	707	709	710	709	707	302	706	709	707	706	707	708	
17:13	707	709	710	709	707	302	706	708	707	705	707	708	
17:43	707	709	710	709	707	302	706	708	707	705	707	708	
18:13	707	709	710	709	708	302	706	708	707	705	707	708	
18:43	706	709	707	709	707	302	706	708	707	705	707	708	
19:13	707	709	711	709	707	302	706	709	707	705	707	708	

* Time/Temperature Log shall be used to record temperatures above 800 Degrees F (or per applicable procedure) every hour during the heating and cooling cycles and every one-half hour during PWHT cycle.

=PORT



D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: _____
 DATE: 2-8 CUSTOMER CONTACT: _____
 TECHNICIAN: _____ PROCEDURE/MATERIAL: _____
 WORK ORDER#: _____ JOB LOCATION: _____
 SYSTEM #: _____ RECORDER SERIAL #: AH 992E037
 I.S.O. LINE #: _____
 SPOOL #: _____
 FIELD WELD #: _____
 CHART #: 9 TOTAL WELDS: _____ TOTAL TC'S: 12

V
END
8:30

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
19:43	707	708	710	709	708	302	706	709	707	706	707	708
20:13	707	709	710	709	708	301	706	709	707	705	707	708
20:43	707	709	711	709	707	302	706	709	707	706	707	708
21:42	707	709	710	709	707	302	706	709	707	706	707	708
22:42	707	709	711	709	708	302	706	709	707	706	707	708
23:42	708	709	710	709	708	302	706	709	707	705	707	708
00:42	708	709	711	709	708	302	706	709	707	706	707	708
1:42	707	709	711	709	708	302	706	708	707	706	707	708
2:42	707	709	711	709	708	302	706	709	707	705	707	708
3:42	708	709	711	709	708	302	706	709	707	705	707	708
4:42	708	709	711	709	708	302	706	709	707	705	707	708
5:42	708	709	711	709	708	302	706	709	707	706	707	708
6:42	708	709	711	709	708	302	706	709	707	705	707	708
7:42	708	709	711	709	708	302	707	709	707	706	707	708
8:42	701	701	701	700	697	302	699	700	699	697	699	700
9:12	676	671	677	676	673	302	675	676	675	673	674	675
9:45	649	650	651	649	647	302	649	649	648	646	649	651
10:27	615	615	616	614	611	302	613	613	613	611	613	614
10:57	600	601	602	601	598	302	598	601	599	597	599	600
11:27	550	560	565	562	554	302	555	561	558	554	560	561
12:27	499 499	502 502	503 503	502 502	500 500	302 302	499 499	501 501	501 500	499 499	500 500	501 501
13:27	427	442	455	452	430	302	439	450	441	438	449	450
14:27	406 406	402 402	402 402	401 401	401 401	301 301	400 400	402 402	400 400	400 400	400 400	400 400
15:27	346	368	381	376	363	265	367	375	368	361	373	374
16:27	349	351	354	351	350	250	348	351	350	349	349	352
17:27	318	336	342	340	333	205	334	340	335	331	338	339
18:27	297	301	312	303	300	173	298	300	295	298	299	300
19:27	285	293	298	296	291	150	291	296	292	289	294	295
20:27	280	282	283	281	280	133	278	281	280	278	280	280

* Time/Temperature Log shall be used to record temperatures above 800 Degrees F (or per applicable procedure) every hour during the heating and cooling cycles and every one-half hour during PWHT cycle.

=PORT



D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: _____
 DATE: 2-9 CUSTOMER CONTACT: _____
 TECHNICIAN: _____ PROCEDURE/MATERIAL: _____
 WORK ORDER#: _____ JOB LOCATION: _____
 SYSTEM #: _____ RECORDER SERIAL #: AH 992E 637
 I.S.O. LINE #: _____
 SPOOL #: _____
 FIELD WELD #: _____
 CHART #: 9 TOTAL WELDS: _____ TOTAL TC'S: 12

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
21:27	250	251	264	259	250	120	251	258	258	249	255	262
22:27	236	231	250	243	237	#118	236	243	237	274	240	244
23:27	200	210	226	221	210	103	210	217	208	208	214	225
Start up 00:27	200	202	212	202	200	92	199	201	200	198	200	207
1:27	200	202	205	201	200	93	198	201	200	198	199	201
2:27	240	243	245	244	242	127	241	243	242	240	242	243
2:57	254	262	266	260	256	133	256	260	259	253	260	252
3:27	280	286	288	286	282	150	281	286	284	278	285	281
4:27	317	323	322	322	319	195	318	324	321	317	322	322
5:27	361	365	367	360	342	238	362	367	364	362	365	365
6:27	400	405	405	406	403	276	404	407	405	402	406	406
7:27	450	453	454	453	451	277	449	453	452	450	452	451
8:27	488	493	494	497	494	288	494	498	495	493	496	491
9:27	533	538	538	537	534	302	534	536	535	534	535	536
10:27	572	577	579	576	571	302	575	577	575	575	579	579
11:27	616	619	620	619	617	301	616	618	616	617	618	620
12:27	653	660	660	659	658	302	656	659	658	656	658	659
13:27	699	701	703	701	699	302	699	701	700	698	699	701
13:45 P.M. START SOAK → 14:27	708	710	711	710	708	304	707	709	708	707	708	709
15:27	708	708	711	709	708	304	707	709	708	707	708	710
16:27	708	710	712	710	708	304	707	709	708	708	708	709
17:27	708	710	712	710	708	304	707	709	708	705	708	709
18:27	708	709	711	710	709	304	707	710	708	708	708	70
19:27	707	710	712	710	708	304	707	710	708	708	708	709
20:27	708	710	712	710	708	304	707	710	708	708	708	710
21:27	701	710	711	710	709	304	707	710	708	709	708	709
22:27	709	710	711	710	708	304	707	709	708	707	708	709
23:27	708	710	711	710	709	304	707	709	708	708	708	709
00:27	709	710	711	710	709	304	707	709	708	708	708	709

* Time/Temperature Log shall be used to record temperatures above 800 Degrees F (or per applicable procedure) every hour during the heating and cooling cycles and every one-half hour during PWHT cycle.

=PORT



D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: _____
DATE: 2-10 **CUSTOMER CONTACT:** _____
TECHNICIAN: _____ **PROCEDURE/MATERIAL:** _____
WORK ORDER#: _____ **JOB LOCATION:** _____
SYSTEM #: _____ **RECORDER SERIAL #:** _____
I.S.O. LINE #: _____
SPOOL #: _____
FIELD WELD #: _____
CHART #: 9 **TOTAL WELDS:** _____ **TOTAL TC'S:** 12

AND
7:45
P.M.
SHUT
DOWN

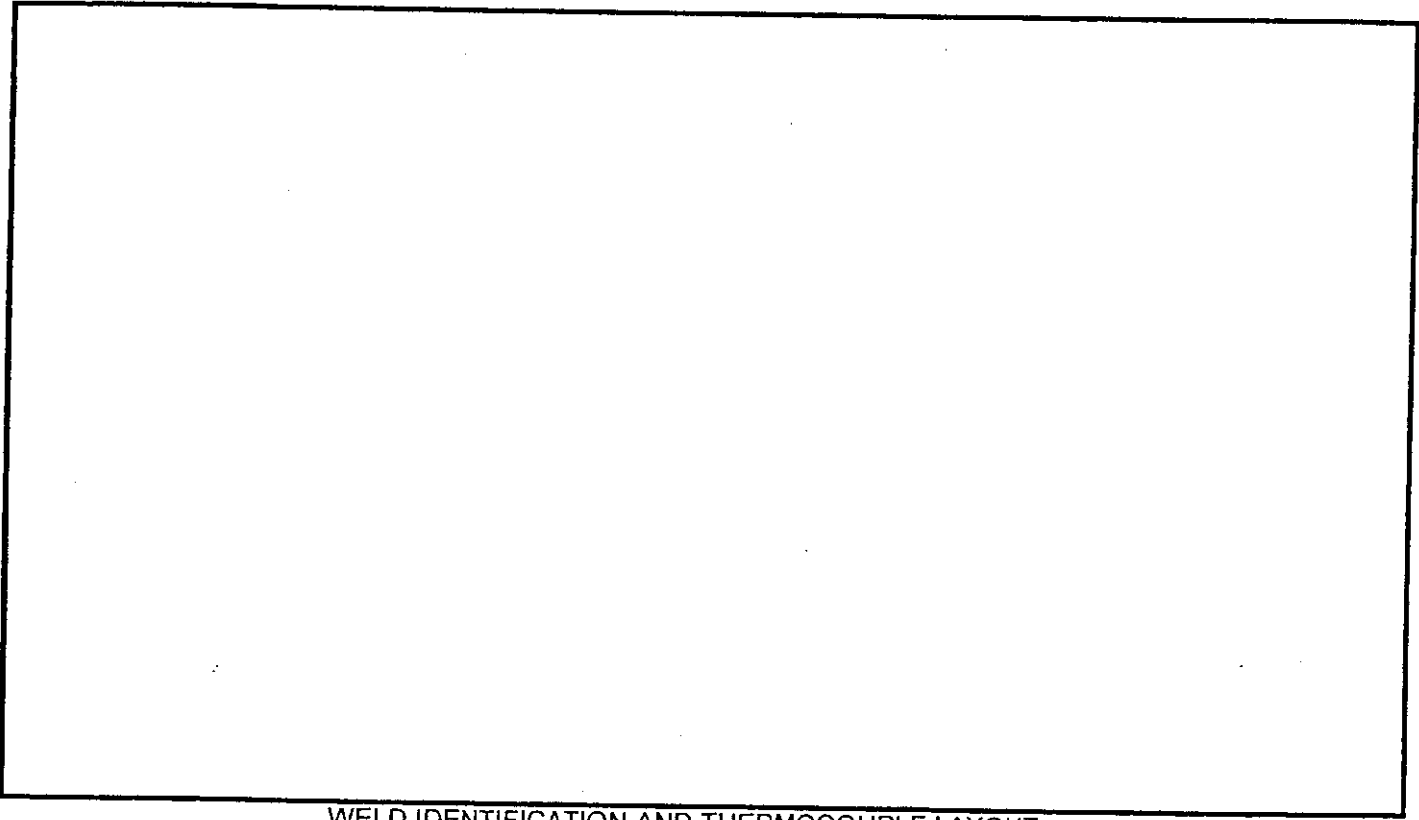
TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
1:27	709	710	711	710	708	304	707	709	708	708	707	709
2:27	708	710	711	710	709	304	707	709	708	708	708	709
3:27	708	710	711	710	709	304	707	710	708	708	708	709
4:27	709	710	711	710	708	304	707	710	708	708	708	710
5:27	709	710	711	710	709	306	707	710	708	708	708	709
6:27	709	710	712	710	709	304	707	710	708	708	708	710
7:27	709	710	710	710	709	304	707	710	708	708	708	709
8:27	672	678	679	676	674	304	673	677	678	674	676	676
9:27	621	631	632	630	627	304	628	629	629	626	629	630
10:27	576	583	588	588	580	304	581	589	585	580	587	586
11:27	499	501	507	503	497	284	498	494	499	498	499	511
12:27	450	463	473	471	454	252	460	471	464	459	470	472
13:27	399	403	414	407	400	230	394	405	400	399	402	415
14:27	371	387	395	392	384	201	386	392	388	384	392	390
15:27	298	327	346	345	322	172	331	341	329	329	336	351
16:27	273	287	308	305	286	150	288	298	284	288	294	314
17:27	224	250	274	271	252	133	253	263	248	252	256	281
18:27	196	219	245	242	229	120	222	231	217	222	221	251
19:27	175	195	221	218	202	109	197	205	192	197	194	226
20:27	158	175	201	198	185	100	177	183	173	177	173	203
20:39	155	172	197	194	181	97	173	179	169	173	169	199

* Time/Temperature Log shall be used to record temperatures above 800 Degrees F (or per applicable procedure) every hour during the heating and cooling cycles and every one-half hour during PWHT cycle.



D.L. RICCI CORP.
WELD AND THERMOCOUPLE IDENTIFICATION

DATE: 1-31-06 CUSTOMER CONTACT: Doug McCorkle
 TECHNICIAN: Eric, Herb, Brad, Joe, Seth, Kevin PROCEDURE/MATERIAL: Inconel / stainless steel
 WORK ORDER#: _____ JOB LOCATION: Major Tool shop
 SYSTEM #: _____ RECORDER S/N#: R-91, RC-088, RC-074, RC-079
 I.S.O. LINE #: _____ RC-070, RC-093, RC-037, RC-092, R-94, R-93, R-95
 SPOOL #: _____
 FIELD WELD #: _____
 CHART #: 11 Recorders TOTAL WELDS: _____ TOTAL TC'S: 101



WELD IDENTIFICATION AND THERMOCOUPLE LAYOUT
 THIS I.S.O. DRAWING IS COMPLETED BY THE PWHT TECHNICIAN

Neal Proctor 2-11-06
 TECHNICIAN DATE



PWHT QUALITY CONTROL SHEET

CUSTOMER Major Tool W/O# _____

DATE: 2-11-06

1. Customer has given specific direction to D.L. Ricci, as to which welds need PWHT. Heat Treating Documentation packet has been given to the technician. The technician as reviewed the procedure.
Herb Spade
Technician
2. Drawings of each spool piece have been completed. Each drawing shows the spool piece number and describes each weld on the spool.
Herb Spade
Technician
3. Welds are wrapped and troubleshooting is complete. All zones are working properly. Technician has reviewed procedure (ramp rate, soak temperature, soak time).
Herb Spade
Technician
4. Welds are at soak temperature. Technician has reviewed chart (checking ramp rate up to soak).
Herb Spade
Technician
5. When soak is complete, technician has reviewed chart, checked soak time/temperature and reviewed ramp rate to completion.
Herb Spade
Technician
6. PWHT is complete. Technician has reviewed chart and everything is correct. (Do not unwrap welds until this stage is signed off)
Herb Spade
Technician
7. Unwrap welds. Take hardness test if required and record results.

Technician



D.L. RICCI CORP.
 5001 Moundview Drive
 Red Wing, Minnesota 55066
 Phone: 651/388-8661 Fax 651/388-0002

CERTIFICATE OF CALIBRATION

MODEL: <u>CHINO</u>	SERIAL NO: <u>AH992E037</u>
THERMOCOUPLE TYPE: <u>K</u>	RANGE: <u>0 - 2000 F.</u>
CALIBRATION DATE: <u>10-14-06</u>	DUE DATE: <u>4-14-06</u>

TEST EQUIPMENT USED: <u>THERMO-ELECTRIC E-2642</u>	
MANUFACTURER: <u>Thermo-Electric</u>	CALIBRATION DATE: <u>8-16-05</u>
MODEL NO: <u>E-2642</u>	ACCURACY: <u>+/- 1 F</u>
SERIAL NO: <u>0008032</u>	

AMBIENT TEMP:

HUMIDITY:

ZONE: 1

INPUT	AS FOUND	AS LEFT	ACCURACY
200	<u>200</u>	<u>200</u>	<u>+/-10 DEG F</u>
400	<u>400</u>	<u>400</u>	<u>+/-10 DEG F</u>
600	<u>600</u>	<u>600</u>	<u>+/-10 DEG F</u>
800	<u>800</u>	<u>800</u>	<u>+/-10 DEG F</u>
1000	<u>1000</u>	<u>1000</u>	<u>+/-10 DEG F</u>
1200	<u>1200</u>	<u>1200</u>	<u>+/-10 DEG F</u>
1400	<u>1400</u>	<u>1400</u>	<u>+/-10 DEG F</u>
1600	<u>1600</u>	<u>1600</u>	<u>+/-10 DEG F</u>
1800	<u>1800</u>	<u>1800</u>	<u>+/-10 DEG F</u>
2000	<u>1999</u>	<u>2000</u>	<u>+/-10 DEG F</u>

THIS INSTRUMENT HAS BEEN CALIBRATED WITHIN MANUFACTURERS SPECIFICATION.
 THIS CALIBRATION IS TRACEABLE TO THE N.I.S.T.
 WE GUARANTEE THAT THIS PRODUCT HAS PASSED THROUGH E.H.S. STANDARD
 TESTING AND SATISFIES ALL SPECIFICATIONS

CALIBRATED BY: Michael Staehli
 SIGNATURE: Michael W. Staehli

PREHEAT AND STRESS RELIEVING EQUIPMENT

Time



D.L. RICCI CORP. PWHT JOB ANALYSIS SHEET

CUSTOMER: Major Tool
 JOBSITE: Indianapolis Indiana
 DATE: 2-9-06 CUSTOMER CONTACT: Doug McCorkle
 TECHNICIAN: Eric, Herb, Bret, Joe, Seth, Kevin PROCEDURE/MATERIAL: Inconel/stainless steel
 WORK ORDER#: _____ JOB LOCATION: Major Tool Shop
 SYSTEM #: _____ RECORDER S/N#: R-91, RC-088, 074, 079, 070
 I.S.O. LINE #: _____ RC-093, RC037, RC-092, R-94, R-73, R.
 SPOOL #: _____
 FIELD WELD #: _____
 CHART #: 11 checks TOTAL WELDS: _____ TOTAL TC'S: 101

WORK DESCRIPTION: When Temps were all lower then 212° we ^{started} ~~then~~ ramping up the vessel and ports till we got the ports back up to 300° & vessel back up to 707° and then held ports at Temp for 21 hours & The vessel for 18 hours so the both had a total of 42 hours of soak

^{vessel} Parts from 200° to 300° at 50°/per 120 min; then Held 21 hours
 HEAT CYCLE: From 200° to 707° at 50°/per 70 min Then Held 18 hours.
 AMBIENT TO _____ F AT _____ F/HR, ABOVE _____ F AT _____ F/HR
 HOLD FOR _____ HRS AT _____ F/HR, +/- _____ F, COOL TO _____ F AT _____ F/HR.
 COOL TO AMBIENT UNDER INSULATION Y/N _____

PWHT CYCLE INFORMATION:
When hold time was complete we ramped down on the vessel at 50° per hour till 500° to ~~then~~ keep parts in soak for 3 extra hours so we would have 42 hours on both parts and vessel after we were at 500° we set the ramp @ to 90° per hour and the target temp Down 100° and held at each target temp till even and then set Target temp 100° less untill we were and 200° Then we shut off machs. and let cool.

* TO INCLUDE ALL INFORMATION RELEVANT TO PWHT CYCLE*

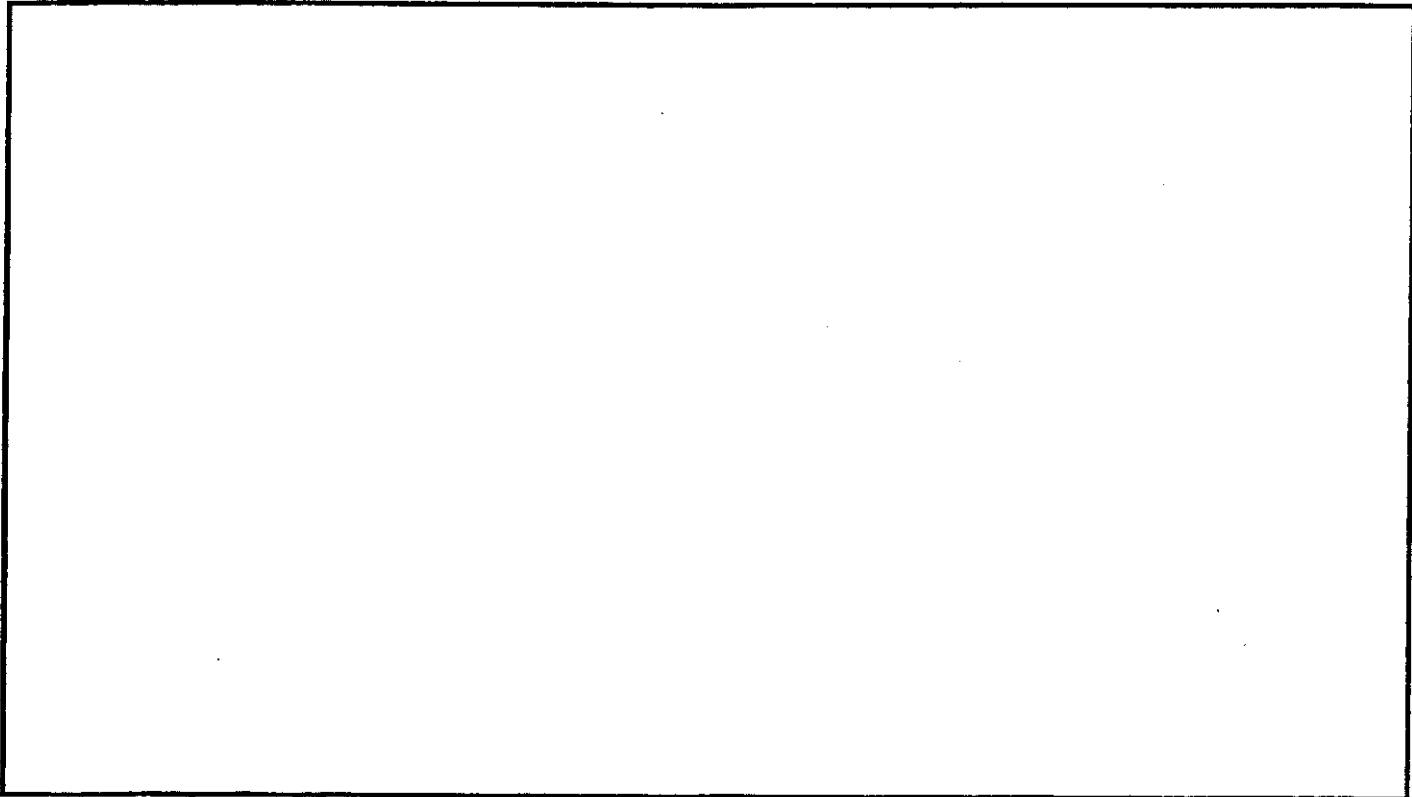
Herb Jacobs 2/11/06
 TECHNICIAN DATE

CUSTOMER ACCEPTANCE*: [Signature] DATE: 11 Feb 2006
 * SIGNATURE ACCEPTS ABOVE HEAT CYCLE PROCEDURE



D.L. RICCI CORP.
WELD AND THERMOCOUPLE IDENTIFICATION

DATE: 2-9-06 CUSTOMER CONTACT: Doug McCorkle
 TECHNICIAN: Eric, Herb, Brad, Tae, Seth, Kevin PROCEDURE/MATERIAL: Inconel/Stainless Steel
 WORK ORDER#: _____ JOB LOCATION: _____
 SYSTEM #: _____ RECORDER S/N#: R-91, RC-088, RC-074, RC-079
 I.S.O. LINE #: _____ RC-070, RC-093, RC-037, RC-092, R-94, R-93, R-95
 SPOOL #: _____
 FIELD WELD #: _____
 CHART #: 11 Records TOTAL WELDS: _____ TOTAL TC'S: 101



WELD IDENTIFICATION AND THERMOCOUPLE LAYOUT
 THIS I.S.O. DRAWING IS COMPLETED BY THE PWHT TECHNICIAN

 TECHNICIAN

 DATE



PWHT QUALITY CONTROL SHEET

CUSTOMER Major Tool W/O# _____

DATE: 2-9-06

1. Customer has given specific direction to D.L. Ricci, as to which welds need PWHT. Heat Treating Documentation packet has been given to the technician. The technician as reviewed the procedure.
Herb Jacob
Technician
2. Drawings of each spool piece have been completed. Each drawing shows the spool piece number and describes each weld on the spool.
Herb Jacob
Technician
3. Welds are wrapped and troubleshooting is complete. All zones are working properly. Technician has reviewed procedure (ramp rate, soak temperature, soak time).
Herb Jacob
Technician
4. Welds are at soak temperature. Technician has reviewed chart (checking ramp rate up to soak).
Herb Jacob
Technician
5. When soak is complete, technician has reviewed chart, checked soak time/temperature and reviewed ramp rate to completion.
Herb Jacob
Technician
6. PWHT is complete. Technician has reviewed chart and everything is correct. (Do not unwrap welds until this stage is signed off)
Herb Jacob
Technician
7. Unwrap welds. Take hardness test if required and record results.

Technician