

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, Pat, Joe, & Th, Kevin PROCEDURE/MATERIAL: In cond/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.

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\*

Herb Jacobs 2/11/06  
 TECHNICIAN DATE

CUSTOMER ACCEPTANCE\*: \_\_\_\_\_  
 \* SIGNATURE ACCEPTS ABOVE HEAT CYCLE PROCEDURE

DATE: 11 Feb 2006

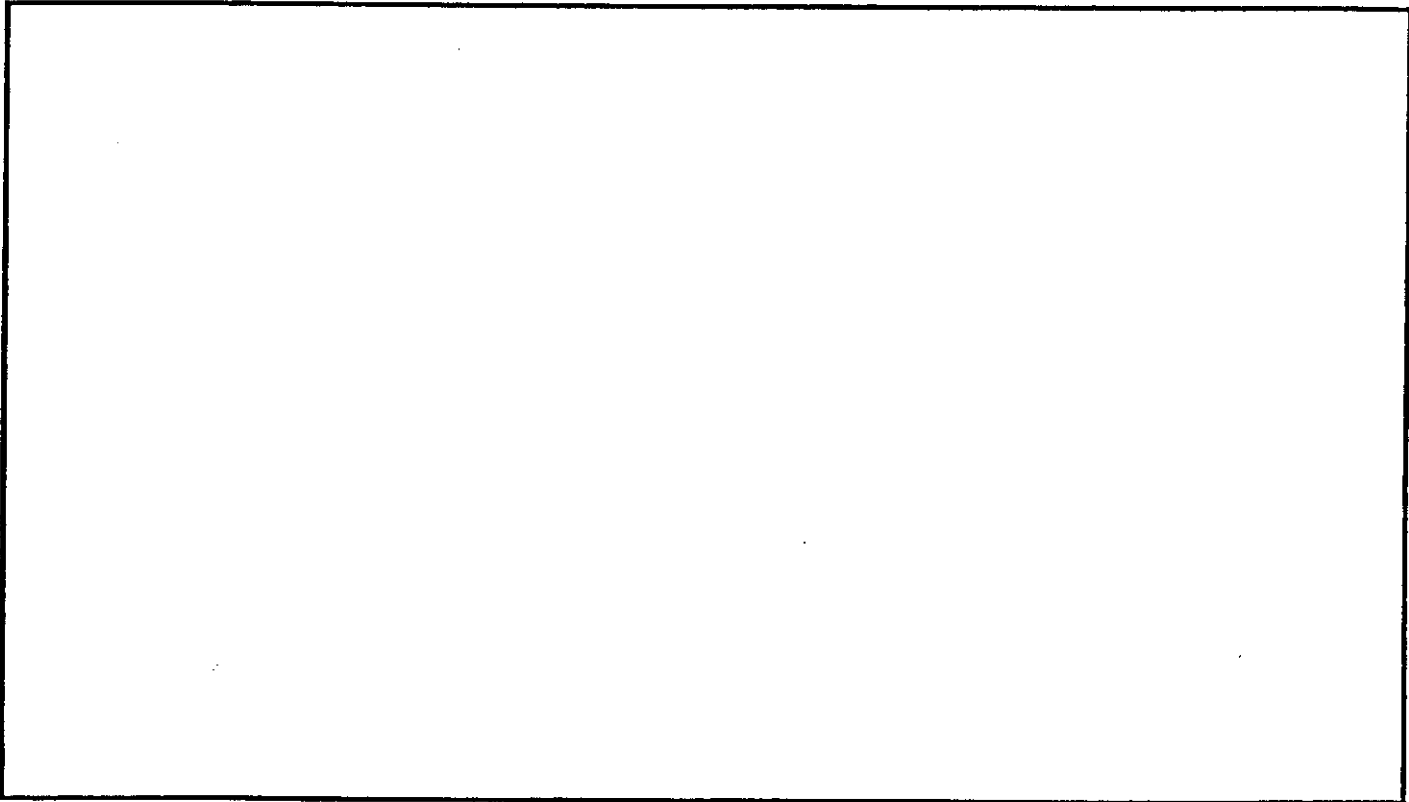
Start to ramp the parts Down 50° per ~~hour~~ 70 min to 200°  
 and at 500° we changed the ramp rate on the vessel to 90° per hour  
 and target temp to 100° per ~~hour~~ step and we would hold each step till  
 we were within 10° Top to Bottom

K Drive: Job Sheet- Excel File



**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 Swartz 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 Spada  
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 Spada  
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 Spada  
Technician
4. Welds are at soak temperature. Technician has reviewed chart (checking ramp rate up to soak).  
Herb Spada  
Technician
5. When soak is complete, technician has reviewed chart, checked soak time/temperature and reviewed ramp rate to completion.  
Herb Spada  
Technician
6. PWHT is complete. Technician has reviewed chart and everything is correct. (Do not unwrap welds until this stage is signed off)  
Herb Spada  
Technician
7. Unwrap welds. Take hardness test if required and record results.  
\_\_\_\_\_  
Technician

2<sup>nd</sup> Time



# D.L. RICCI CORP. PWHT JOB ANALYSIS SHEET

CUSTOMER: Major Tool  
 JOBSITE: Indianapolis Indiana  
 DATE: 2-9-06 CUSTOMER CONTACT: Dana 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-93, R-95  
 SPOOL #: \_\_\_\_\_  
 FIELD WELD #: \_\_\_\_\_  
 CHART #: 11 charts TOTAL WELDS: \_\_\_\_\_ TOTAL TC'S: 101

WORK DESCRIPTION: When Temps were all lower than 212° we <sup>started</sup> ~~started~~ ramping up the vessel and parts till we got the parts back up to 300° & vessel back up to 707° and then held parts 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 ~~to~~ 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 until we were and 200° Then we shut off machs. and let cool.

\* TO INCLUDE ALL INFORMATION RELEVANT TO PWHT CYCLE\*

Herb Gardner 2/11/06  
 TECHNICIAN DATE

CUSTOMER ACCEPTANCE\*: [Signature]  
 \* SIGNATURE ACCEPTS ABOVE HEAT CYCLE PROCEDURE

DATE: 2/14/2006



# D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: \_\_\_\_\_  
 DATE: 2-6 CUSTOMER CONTACT: \_\_\_\_\_  
 TECHNICIAN: \_\_\_\_\_ PROCEDURE/MATERIAL: \_\_\_\_\_  
 WORK ORDER#: \_\_\_\_\_ JOB LOCATION: \_\_\_\_\_  
 SYSTEM #: \_\_\_\_\_ RECORDER SERIAL #: AH03XC074  
 I.S.O. LINE #: \_\_\_\_\_  
 SPOOL #: \_\_\_\_\_  
 FIELD WELD #: \_\_\_\_\_  
 CHART #: 40 TOTAL WELDS: \_\_\_\_\_ TOTAL TC'S: 12

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
14:12	71	70	70	69	71	68	70	71	70	69	70	69
14:42	128	128	127	127	126	125	126	128	128	127	127	126
15:12	143	145	129	149	140	123	124	129	140	132	123	123
15:42	139	142	125	139	138	122	124	127	139	126	123	123
16:12	135	137	126	135	135	125	127	129	139	126	127	123
16:42	135	139	128	136	140	150	152	154	164	151	152	123
17:12	130	139	133	134	145	170	172	174	175	172	172	123
17:42	151	160	155	155	166	170	172	173	172	170	171	123
18:12	173	175	171	174	177	170	172	173	171	170	171	123
18:42	170	172	171	170	172	170	172	173	171	170	171	123
19:12	171	171	171	170	172	170	172	173	171	170	171	123
19:42	175	174	175	173	174	174	175	177	175	177	179	130
20:12	199	199	200	197	199	198	199	203	199	202	203	154
20:42	223	222	221	221	223	220	222	224	223	221	221	171
21:12	220	221	221	219	221	220	222	223	221	221	223	172
21:42	245	246	246	245	247	243	247	246	246	246	246	197
22:12	278	271	271	270	271	270	272	273	271	271	272	230
22:42	285	287	285	285	287	283	286	287	287	285	286	236
23:12	310	312	309	310	312	308	311	312	312	310	311	261
23:42	320	321	320	318	321	319	322	323	321	320	321	271
00:12	335	336	336	334	336	335	336	338	335	335	337	271
00:42	360	361	361	359	361	360	361	363	361	360	362	271
01:12	377	378	377	378	378	376	378	380	377	377	378	271
1:42	402	403	402	402	403	401	403	405	402	401	403	271
2:12	420	421	421	420	422	419	422	424	421	419	421	271
2:42	445	446	446	445	447	445	446	448	446	444	444	271
3:12	470	471	470	469	471	469	471	472	470	468	471	271
3:42	486	487	487	485	487	486	488	490	487	486	488	271
4:12	511	512	512	510	513	511	513	515	512	511	514	271

\* 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.

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# D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: \_\_\_\_\_

DATE: 2-7

CUSTOMER CONTACT: \_\_\_\_\_

TECHNICIAN: \_\_\_\_\_

PROCEDURE/MATERIAL: \_\_\_\_\_

WORK ORDER#: \_\_\_\_\_

JOB LOCATION: \_\_\_\_\_

SYSTEM #: \_\_\_\_\_

RECORDER SERIAL #: AH03XC074

I.S.O. LINE #: \_\_\_\_\_

SPOOL #: \_\_\_\_\_

FIELD WELD #: \_\_\_\_\_

CHART #: 4 TOTAL WELDS: \_\_\_\_\_

TOTAL TC'S: 12

8:30 - 10:10am Parts

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
4:42	528	529	529	528	530	528	530	532	529	528	530	271
5:12	552	553	551	552	554	553	554	556	554	553	555	27
5:42	570	570	570	569	571	570	572	573	571	569	572	271
6:12	592	593	593	593	594	593	594	593	594	593	595	271
6:42	618	619	619	618	619	618	619	621	619	618	620	271
6:12	637	638	637	635	636	636	638	640	637	635	638	271
7:42	662	663	662	660	661	660	662	665	662	640	662	271
8:12	672	673	674	672	673	673	675	674	674	672	675	272
8:42	698	699	699	697	699	697	700	702	702	697	699	271
9:12	701	701	700	700	702	700	702	703	701	700	701	281
9:42	700	702	701	700	702	700	702	704	701	700	701	281
10:12	706	707	706	705	707	705	707	708	707	705	707	292
10:42	708	708	708	707	709	707	709	710	709	707	709	291
11:12	709	709	709	707	709	707	709	711	707	707	709	303
11:42	707	709	708	707	709	707	709	711	708	707	709	301
12:12	709	709	709	707	709	707	709	711	708	707	709	301
12:42	708	709	708	707	709	707	709	711	708	707	709	301
13:12	708	709	709	707	709	707	709	711	709	707	709	307
13:42	709	709	709	707	709	707	709	710	708	707	709	307
14:12	709	709	709	709	709	707	709	711	709	707	709	307
14:42	708	709	708	707	709	707	709	711	709	707	709	306
15:12	709	709	709	707	709	707	709	711	709	707	709	307
15:42	708	709	708	707	709	707	710	710	709	707	709	307
16:12	708	709	708	707	709	707	709	711	709	707	709	301
16:42	708	708	708	707	709	707	709	710	708	707	709	301
17:12	709	709	709	707	709	707	709	711	709	707	709	301
17:42	707	709	708	707	709	707	709	710	708	707	709	307
18:12	708	709	707	707	709	707	709	710	708	707	709	307
18:42	708	709	708	707	709	707	709	711	708	707	709	307

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# D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: \_\_\_\_\_

DATE: 2-8

CUSTOMER CONTACT: \_\_\_\_\_

TECHNICIAN: \_\_\_\_\_

PROCEDURE/MATERIAL: \_\_\_\_\_

WORK ORDER#: \_\_\_\_\_

JOB LOCATION: \_\_\_\_\_

SYSTEM #: \_\_\_\_\_

RECORDER SERIAL #: AH 03XC 074

I.S.O. LINE #: \_\_\_\_\_

SPOOL #: \_\_\_\_\_

FIELD WELD #: \_\_\_\_\_

CHART #: 46

TOTAL WELDS: \_\_\_\_\_

TOTAL TC'S: 12

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
19:12	708	709	708	707	709	707	709	710	709	707	709	30
19:42	708	709	709	707	709	707	709	711	708	707	709	30
20:12	708	709	708	707	709	707	709	711	708	707	709	30
20:42	708	709	708	707	709	707	709	711	709	707	709	30
21:42	708	709	708	707	709	707	709	710	709	708	709	30
22:42	708	709	708	707	709	707	709	711	709	707	709	30
23:42	708	709	708	707	709	707	709	711	709	707	709	30
00:42	709	709	708	707	709	707	709	711	709	708	709	30
01:42	708	709	709	707	709	707	709	711	707	707	709	30
02:42	708	709	708	707	709	707	709	711	708	707	709	30
03:42	708	709	708	707	709	707	709	711	709	707	709	30
4:42	708	709	708	707	709	707	710	711	708	707	709	30
5:42	708	709	708	707	709	707	710	711	708	708	709	30
6:42	708	709	708	707	709	707	709	711	709	708	709	30
7:42	708	709	709	707	709	707	709	711	709	707	709	30
8:42	699	699	699	699	699	698	701	702	700	691	699	30
9:12	674	675	675	674	675	673	677	690	675	673	675	30
9:42	650	651	650	649	650	649	652	659	651	648	651	30
10:12	625	625	626	624	625	625	628	629	627	629	626	30
10:42	600	601	600	600	601	600	603	605	602	599	601	30
11:12	576	576	577	578	577	577	587	585	582	572	576	30
12:12	501	502	500	501	502	499	528	510	501	499	501	30
13:42	448	449	448	455	449	461	482	472	463	447	452	31
14:12	401	402	401	399	402	403	442	419	401	400	402	31
15:12	370	373	371	378	370	367	398	385	383	363	376	28
16:12	350	351	350	349	351	349	354	353	351	350	351	35
17:12	342	343	341	344	345	342	349	347	347	338	342	22
18:12	300	301	300	300	302	302	325	311	304	300	301	20
19:12	298	300	297	298	299	297	303	301	300	296	298	29

8:30  
Temp V  
on vessel

\* 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.

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# D.L. RICCI CORP. TIME TEMPERATURE TABULATIONS

CUSTOMER: \_\_\_\_\_

DATE: 2-9

CUSTOMER CONTACT: \_\_\_\_\_

TECHNICIAN: \_\_\_\_\_

PROCEDURE/MATERIAL: \_\_\_\_\_

WORK ORDER#: \_\_\_\_\_

JOB LOCATION: \_\_\_\_\_

SYSTEM #: \_\_\_\_\_

RECORDER SERIAL #: AH63XC074

I.S.O. LINE #: \_\_\_\_\_

SPOOL #: \_\_\_\_\_

FIELD WELD #: \_\_\_\_\_

CHART #: 4

TOTAL WELDS: \_\_\_\_\_

TOTAL TC'S: 12

stands going up

2k  
3:45  
recessed

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
20:12	280	281	280	280	278	274	285	283	281	280	281	180
21:12	250	252	250	257	256	255	271	264	262	250	255	170
22:12	241	242	239	244	243	247	254	247	246	229	243	162
23:12	209	206	207	211	207	220	234	227	219	206	216	154
00:12	200	201	200	199	200	203	223	210	201	200	201	147
01:26	200	201	200	199	203	199	207	203	201	200	201	138
2:26	240	241	240	239	241	239	244	243	241	240	242	134
3:26	284	282	282	283	286	282	284	285	285	282	283	164
4:26	317	319	321	317	323	319	321	324	321	320	321	146
5:26	363	363	363	362	365	364	364	366	365	361	363	238
6:26	401	402	403	400	404	403	406	407	404	402	404	276
7:26	451	452	450	451	454	450	453	453	452	451	452	276
8:26	494	495	495	493	497	494	496	497	495	494	496	287
9:26	536	537	537	536	538	532	539	540	537	536	538	301
10:26	577	576	578	577	579	580	580	580	580	580	580	301
11:26	619	619	620	619	621	619	621	623	621	619	621	305
12:26	659	659	659	658	660	658	660	662	660	658	660	305
13:26	700	700	700	699	701	699	702	704	701	699	702	305
14:26	707	708	708	707	709	707	709	710	708	707	709	301
15:26	707	708	708	707	709	707	709	711	708	707	709	301
16:26	708	708	708	707	709	707	709	710	708	707	709	301
17:26	708	709	708	707	709	707	709	711	708	707	709	301
18:26	708	709	708	707	709	707	709	711	708	707	709	301
19:26	708	709	708	707	709	707	709	711	708	707	709	301
20:26	708	709	708	707	709	707	709	711	708	707	709	301
21:26	708	708	708	707	709	707	715	711	708	707	709	301
22:26	708	709	708	707	709	707	709	711	708	707	709	301
23:26	708	709	708	707	709	707	709	711	708	707	709	302
00:26	708	709	708	707	709	707	711	711	708	708	709	301

\* 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.



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# 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 #: 4

TOTAL WELDS: \_\_\_\_\_

TOTAL TC'S: 12

TIME/TC	1	2	3	4	5	6	7	8	9	10	11	12
01:26	708	709	708	707	709	707	709	711	709	708	709	301
2:26	708	709	708	707	709	707	909	911	909	708	709	301
3:26	708	709	708	707	709	707	709	711	709	708	709	301
4:26	708	709	708	707	709	707	709	711	708	708	709	301
5:26	708	709	708	707	709	707	709	711	708	708	709	301
6:26	708	709	708	707	709	707	709	711	709	708	709	301
7:26	708	710	708	707	709	707	709	711	709	707	709	301
8:26	675	676	675	674	676	674	676	678	676	673	675	301
9:26	629	630	630	630	631	629	630	633	631	628	630	301
10:26	581	581	580	581	581	578	586	585	581	578	580	301
11:26	499	499	500	498	499	499	513	504	502	500	502	283
12:26	454	455	454	453	454	452	474	469	460	453	454	251
13:26	401	401	401	400	401	400	416	406	401	400	401	238
14:26	379	391	378	391	384	381	391	389	386	372	377	213
15:26	300	300	307	308	313	323	347	340	331	299	311	196
16:26	282	284	282	286	284	284	209	300	299	278	280	182
17:26	225	233	236	238	241	251	275	266	253	230	237	169
18:26	197	201	201	203	210	222	245	239	233	200	209	157
19:26	169	181	175	177	187	204	227	217	200	179	190	147
20:26	150	162	156	158	168	188	212	200	181	162	176	139
21:21	135	148	142	142	154	176	199	186	166	150	165	132

602045

\* 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.  
 5001 Moundview Drive  
 Red Wing, Minnesota 55066  
 Phone: 651/388-8561 Fax 651/388-0002

# CERTIFICATE OF CALIBRATION

MODEL:	AH3725-N00	SERIAL NO:	AH03XC074
THERMOCOUPLE TYPE:	K	RANGE:	0 - 2000 F.
CALIBRATION DATE:	12/1/05	DUE DATE:	6/01/06

TEST EQUIPMENT USED:	THERMO-ELECTRIC E-2642
MANUFACTURER:	Thermo - Electric
CALIBRATION DATE:	8/16/05
MODEL NO:	E2642
ACCURACY:	+/- 1 F
SERIAL NO:	000803a

AMBIENT TEMP: 57 HUMIDITY: 60% ZONE: 1

INPUT	AS FOUND	AS LEFT	ACCURACY
200	199	200	+/-10 DEG F
400	401	400	+/-10 DEG F
600	600	600	+/-10 DEG F
800	800	800	+/-10 DEG F
1000	1000	1000	+/-10 DEG F
1200	1199	1200	+/-10 DEG F
1400	1400	1400	+/-10 DEG F
1600	1600	1600	+/-10 DEG F
1800	1800	1800	+/-10 DEG F
2000	1999	2000	+/-10 DEG F

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

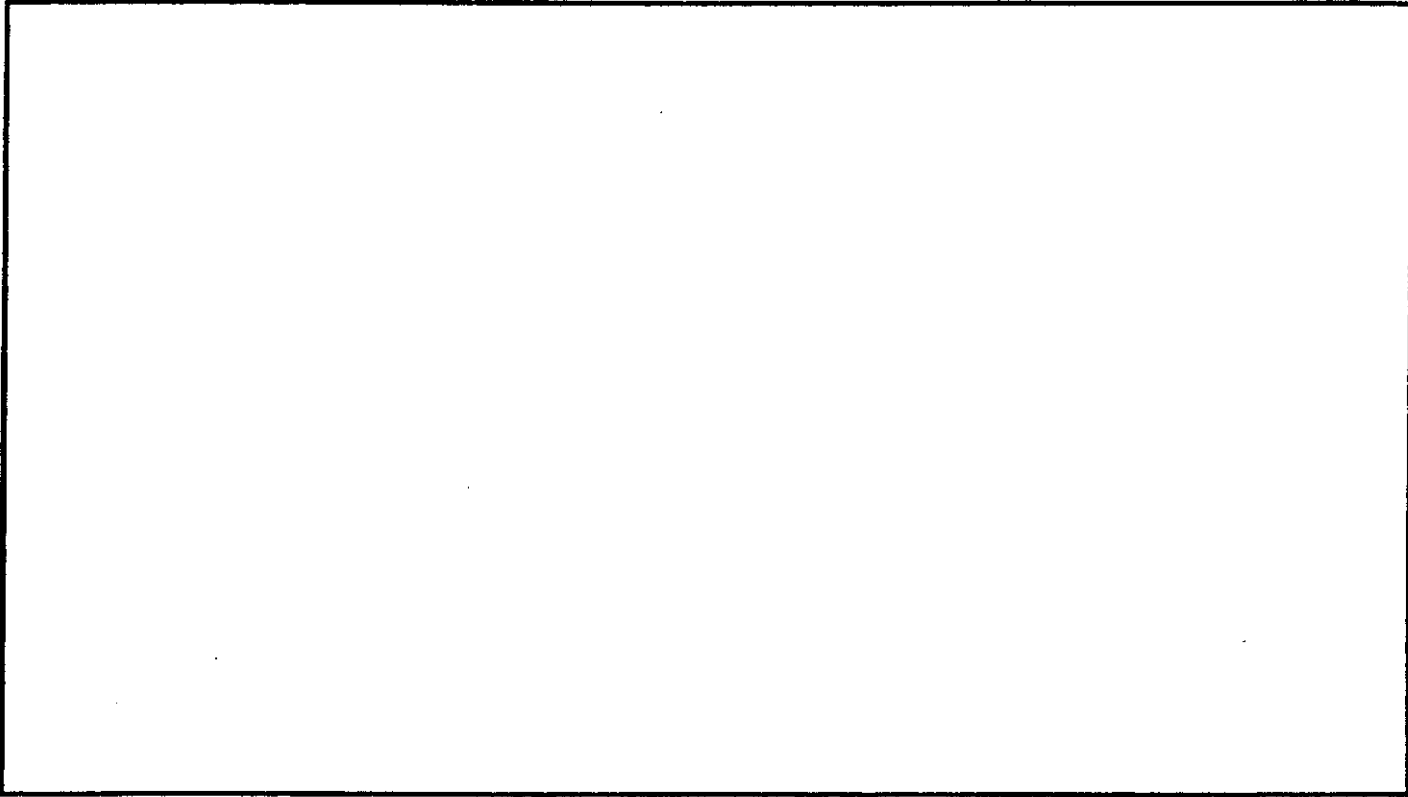
CALIBRATED BY: M.H. Wilson  
 SIGNATURE: M.H. Wilson

PREHEAT AND STRESS RELIEVING EQUIPMENT



**D.L. RICCI CORP.**  
**WELD AND THERMOCOUPLE IDENTIFICATION**

DATE: 2-9-06 CUSTOMER CONTACT: Doog McGorkle  
 TECHNICIAN: Eric, Herb, Brad, Joe, 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 Recordings 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.  
Herk Jacobs  
Technician
2. Drawings of each spool piece have been completed. Each drawing shows the spool piece number and describes each weld on the spool.  
Herk Jacobs  
Technician
3. Welds are wrapped and troubleshooting is complete. All zones are working properly. Technician has reviewed procedure (ramp rate, soak temperature, soak time).  
Herk Jacobs  
Technician
4. Welds are at soak temperature. Technician has reviewed chart (checking ramp rate up to soak).  
Herk Jacobs  
Technician
5. When soak is complete, technician has reviewed chart, checked soak time/temperature and reviewed ramp rate to completion.  
Herk Jacobs  
Technician
6. PWHT is complete. Technician has reviewed chart and everything is correct. (Do not unwrap welds until this stage is signed off)  
Herk Jacobs  
Technician
7. Unwrap welds. Take hardness test if required and record results.  
\_\_\_\_\_  
Technician