

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, PRC**Report No:** NCR-000134**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 14-May-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0128**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> SEG-013A, SEG-013B
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b>	OBG Segment Assembly

**Reference Description:** Repair of SPMC material**Description of Non-Conformance:**

The Contractor performed repair of SPMC material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPMC weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPMC weld joint# SEG-013B-014.

**Applicable reference:**

AWS D1.5, Section 12.17.3 Critical Weld Repairs: "Except as provided in 12.17.2, all welded repairs shall be considered critical. They include, but are not limited to the following: ...

(5) Corrections requiring weld removal and rewelding except as provided in 12.17.2(4)...."

AWS D1.5, Section 12.17.2(4): "The depth of groove weld excavation shall not exceed 65 percent of the weld size shown on the drawings."

AWS D1.5, Section 12.17.4 Approval: "All critical repairs to base metal and welds shall be approved by the Engineer prior to beginning the repair and shall be documented giving details of the type of discontinuity and extent of repair."

**Who discovered the problem:** QA Inspector Steve Hall**Name of individual from Contractor notified:** ABFJV QC Inspector Mr. Steve Lawton**Time and method of notification:** 5/14/08 1900hrs**Name of Caltrans Engineer notified:** Stanley Ku**Time and method of notification:** 5/19/08 1300hrs Verbal**QC Inspector's Name:** ZPMC QC Inspector Mr. Chen Chih-Ming**Was QC Inspector aware of the problem:** Yes No**Contractor's proposal to correct the problem:****Comments:**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry, 916-227-5719, who represents the Office

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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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of Structural Materials for your project.

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**Inspected By:** Lowry,Patrick

SMR

**Reviewed By:** Lowry,Patrick

SMR

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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

**To:** AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607

**Date:** 30-May-2008

**Contract No:** 04-0120F4  
04-SF-80-13.2 / 13.9

**Dear:** Mr. Charles Kanapicki

**Job Name:** SAS Superstructure

**Attention:** Mr. Dave Williams Consultant

**Document No:** 05.03.06-000109

**Subject:** NCR No. ZPMC-0128

**Reference Description:** Repair of SPMC material

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

**Material Location:** OBG **Lift:**

### Remarks:

The Contractor performed repair of SPMC material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPMC weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPMC weld joint# SEG-013B-014.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance to prevent future occurrences.

**Transmitted by:** Stanley Ku Sr. Bridge Engineer

**Attachments:** ZPMC-0128

**cc:** Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, Ching Chao

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

**To:** CALTRANS - SAS Superstructure  
333 Burma Road  
Oakland CA 94607

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000109

**Subject:** NCR No. ZPMC-0128

**Dated:** 18-Aug-2008

**Contract No.:** 04-0120F 4  
04-SF-80-13.2 / 13.9

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000071 **Rev:** 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has educated the workers and QC inspector how to deal with the SPCM welding repair. If gouging depth is over 65% the repair requires the approval of the Engineer prior to performing the repair.

Please see attached.

**Submitted by:** Kanapicki, Charles

**Attachment(s):** ABF-NPR-000071R00;

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### Caltrans' comments:

**Status:** REJ

**Date:** 14-Sep-2008

The response is not acceptable. Please provide documentation of the repair performed, and documentation that the repaired area is acceptable.

**Submitted by:** Wright, Doug

**Attachment(s):**

**Date:** 14-Sep-2008





13 August 2008

Reply to: SL-ABF-08-0164

**Attention:** Gary Pursell

**Reference:** San Francisco Oakland Bay SAS Bridge Superstructure  
Caltrans Contract No. 04-0120F4  
ABF Job No. 660110

**Subject:** NCR# ZPMC-000128

Mr. Pursell:

This letter is issued to provide formal response addressing the proposed resolution to the following nonconformance reports:

NCR # ZPMC-000128

The Contractor performed repair of SPCM material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPCM weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPCM weld joint# SEG-013B-014.

ZPMC agrees with the nonconformance report about SEG013A-007, but would like to point out SEG013B-014 is not welded yet.

ZPMC has educated the workers and QC inspector how to deal with the SPCM welding repair. If gouging depth is over 65% the repair requires the approval of the Engineer prior to performing the repair.

Please reference the attached WRR, NCR and NDE records for final closure of this NCR.

If further clarifications are needed, please contact me.

Nate S. Lindell

Quality Assurance Manager

American Bridge Fluor Joint Venture

## NCR PROPOSED RESOLUTION

**To:** CALTRANS - SAS Superstructure  
333 Burma Road  
Oakland CA 94607

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000109

**Subject:** NCR No. ZPMC-0128

**Dated:** 08-Sep-2008

**Contract No.:** 04-0120F4  
04-SF-80-13.2 / 13.9

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000071 **Rev:** 01

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has identified this nonconformance of critical repair of SPCM welds without Engineer's approval and have generated an internal NCR

ZPMC has identified this nonconformance of critical repair of SPCM welds without Engineer's approval and have generated an internal NCR to document awareness to QA/QC personnel and to prevent further occurrences of this nonconformance. Please see attached.

### Submitted by:

**Attachment(s):** ABF-NPR-000071R01;

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### Caltrans' comments:

**Status:** REJ

**Date:** 14-Sep-2008

The response is not acceptable. Please provide documentation of the repair performed, and documentation that the repaired area is acceptable.

**Submitted by:** Wright, Doug

**Date:** 14-Sep-2008

**Attachment(s):**



## TRANSMITTAL LETTER

PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 08/11/2008

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: NCR-000134(ZPMC-0128)FOR CLOSURE

SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.B-288FOR CLOSURE.
- (2) COPY OF NCR WITH NUMBER NCR-000134(ZPMC-0128).
- (3) COPY OF INTERNAL NCR NCR-B-068
- (4) COPY OF WELDING REPAIR REPORT
- (5) COPY OF NDT AND VT REPORTS

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:

\_\_\_\_\_  
PLAN HOLDER

RECEIVED 11 AUG 2008

1358

\_\_\_\_\_  
DATE

\_\_\_\_\_  
COMPANY

\_\_\_\_\_  
PHONE NO.

PLAN NUMBER: N/A

#R787-QCP-102



No. B-289

## LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2008-8-9

REGARDING: NCR-000134 (ZPMC-0128)

With this letter of response, ZPMC requests closure for Caltrans NCR-000134 (ZPMC-0128). ZPMC agrees what describe in the nonconformance report about SEG013A-007, but we must point out there is a false for SEG13B-014, it is not welded yet now.

We have educated the workers and QC guy how to deal with the SPCM welding repair. If gouging depth over the 65% penetration, the welding repair can't be performed until the approval of the engineer.

That point in the nonconformance report have been checked by VT and NDT, right now we provide the reference report to prove that the weld attain the regular quality.

So ZPMC considers NCR-000134 can be closed.

Please reference attached documentation for acceptance and closure the NCR-000134.

**ATTACHMENT:**

NCR-000134 (ZPMC-0128)

The welding repair report

The final NDT and VT reports

*Zhao Shuangbao*

*2008.8.9*

*ABF QCM*  
*3 DEC. 08*



# Nonconformance Report

## 不符合项报告

Project Name: S.F.O.B.B 项目名称: 美国加州海湾大桥	NCR Number: NCR-000134 (ZPMC-0128) NCR 编号: NCR-B-068
Item: repair SPCM plate without engineer approval 名称描述: SPCM 板的返修无工程师批准	Item Number: _____ 件号: _____
Location: OBG Assembly Shop 位置: 桥面拼装车间	Drawing Number: SEG013A, SEG013B 图号: SEG013A, SEG013B
Date: _____ 日期: 2008-6-10	

### Description of Nonconformance:

不符合项状态描述:

The Contractor performed repair of SPCM material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPCM weld joint# SEG013A-007 (joint between side panels SP33A and SP45A) and in SPCM weld joint# SEG013B-014.

ZPMC 在没有得到工程师批准就返修了 SPCM 材料。焊缝碳刨的深度超过了焊缝尺寸的 65%。这发生在 SPCM 焊缝 SEG013A-007 (边顶板 SP33A 和 SP45A 之间的焊缝) 和 SPCM 焊缝 SEG013B-014 上。

Work By: Huqiang Prepared by: Fu Luohang Reviewed by QCE: Zhao Shuangbao  
 施工方: 08.06.11 准备: 2008.6.10 质量工程师批准: 2008.6.10

Drawing Error     Material Defect     Fabrication Error     Other  
 图纸错误                      材料缺陷                      制作错误                      其他原因

Disposition:     Use as is                       Repair                       Reject  
 处理措施:                      回用                      返修                      拒收

### Recommendation:

建议 1. 严格按照施工程序施工。 Operate according to approved procedure.  
 2. 加强与现场 QC 沟通。 Communicate with QC.

Prepared by: Lu Guang Bin Approved by QCA: Huqiang 08.6.11  
 准备: 08.11/6 质量经理批准

### Reason for Nonconformance:

不符合原因: 施工队私自  
 未得到工程师批准对焊缝返修, 且碳刨过深  
 Performed repair of SPCM material without prior engineer approved and depth of weld excavation for the repaired

预防措施 对施工队批评指正, 并加强现场监控  
 Educate the workers and enhance the inspection on the spot.

Approved by/批准: Lu Guang Bin 08.11/6

### Technical Justification for Use-As-Is/Repair:    Attachment                      Non-attachment

回用或返修的技术依据:                      附件                      无附件  
加强对操作人员的培训和教育, 严格按照焊接工艺文件执行, 加强现场监控避免  
此类事故发生并出具焊缝返修报告进行作补。 Educate the workers to operate per welding  
procedure Enhance inspection on the spot. Repair according to welding repair report.  
 Reviewed/批准: Nin Kefeng 08.11/6

Verification:     Acceptable                       Unacceptable  
 确认:                      可接受                      不可接受

Verified by QCI/质检确认: \_\_\_\_\_ Reviewed by QCA/质检主任审核: \_\_\_\_\_



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607

Date: 30-May-2008

Contract No: 04-0120F4  
04-SF-80-13.2 / 13.9

Dear: Mr. Charles Kanapicki  
Attention: Mr. Dave Williams Consultant  
Subject: NCR No. ZPMC-0128

Job Name: SAS Superstructure  
Document No: 05.03.06-000109

Reference Description: Repair of SPMC material

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: OBG

Lift:

### Remarks:

The Contractor performed repair of SPMC material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPMC weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPMC weld joint# SEG-013B-014.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance to prevent future occurrences.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0128

cc: Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, Ching Chao

File: 05.03.06

**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF ENGINEERING SERVICES**  
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690 Walnut Ave. St. 150  
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(707) 649-5453  
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Contract #: 04-0120F4  
Cty: SF/ALA Rte: 80 PM: 13.2/13.9  
File #: 69.25B

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

**Location:** Changxing Island, Shanghai, PRC

**Report No:** NCR-000134

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 14-May-2008

**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

**NCR #:** ZPMC-0128

**Type of problem:**

Welding  Concrete  Other

Welding  Curing  Procedural  Bridge No: 34-0006

Joint fit-up  Coating  Other  Component: SEG-013A, SEG-013B

Procedural  Procedural  Descriptor: OBG Segment Assembly

**Reference Description:** Repair of SPMC material

**Description of Non-Conformance:**

The Contractor performed repair of SPMC material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPMC weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPMC weld joint# SEG-013B-014.

**Applicable reference:**

AWS D1.5, Section 12.17.3 Critical Weld Repairs: "Except as provided in 12.17.2, all welded repairs shall be considered critical. They include, but are not limited to the following: ...

(5) Corrections requiring weld removal and rewelding except as provided in 12.17.2(4)...."

AWS D1.5, Section 12.17.2(4): "The depth of groove weld excavation shall not exceed 65 percent of the weld size shown on the drawings."

AWS D1.5, Section 12.17.4 Approval: "All critical repairs to base metal and welds shall be approved by the Engineer prior to beginning the repair and shall be documented giving details of the type of discontinuity and extent of repair."

**Who discovered the problem:** QA Inspector Steve Hall

**Name of individual from Contractor notified:** ABFJV QC Inspector Mr. Steve Lawton

**Time and method of notification:** 5/14/08 1900hrs

**Name of Caltrans Engineer notified:** Stanley Ku

**Time and method of notification:** 5/19/08 1300hrs Verbal

**QC Inspector's Name:** ZPMC QC Inspector Mr. Chen Chih-Ming

**Was QC Inspector aware of the problem:**  Yes  No

**Contractor's proposal to correct the problem:**

**Comments:**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry, 916-227-5719, who represents the Office

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

*( Continued Page 2 of 2 )*

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of Structural Materials for your project.

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**Inspected By:**    Lowry,Patrick

SMR

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**Reviewed By:**    Lowry,Patrick

SMR





# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-569

DATE 2008.04.20

PAGE 1 OF 2

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: SP45A AND SP57A  
部件名称DRAWING NO.: SEG13A  
图号CALTRANS CONTRACT NO.: 04-0120F4  
加州工程编号REFERENCING CODE 参考规范  
AWS D1.5-2002ACCEPTANCE STANDARD 接受标准  
AWS D1.5-2002(Table 6.3)PROCEDURE NO. 程序编号  
ZPQC-UT-01WELDING PROCESS 焊接方法  
SAWJOINT TYPE 焊缝类型  
BUTTCALIBRATION DUE DATE 仪器校正有效期  
Dec. 28, 2008EQUIPMENT 设备  
UT SCOPEMANUFACTURER 制造商  
PANAMETRICSMODEL NO. 样式编号  
EPOCH-4BSERIAL NO. 序列编号  
071565311, 061488510,  
061495811, 070152011,CALIBRATION BLOCK 试块  
AWS IIW BLOCK TYPE IICOUPLANT 耦合剂  
C.M.CMATERIAL/THICKNESS 材料厚度  
A709M-345F2-X / A709M-345T2-X / 16mm

### TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5 MHz	18x18 mm				
Changchao	0°	2.5 MHz	20 mm	Reference Level 参考灵敏度			20dB

Base metal inspected per AWS D1.5-2002 Section 6.19.5

0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)						
									a	b	c	d	Length 长度		
SEG013A-007	1	68.3	A	2	34	35	4	-5	10	79	5	+6	815	REJ.	
	2	68.3	A	2	39	35	4	0	5	74	6	+4	976	REJ.	
	3	68.3	A	2	37	35	4	-2	10	79	5	+3	1035	REJ.	
	4	68.3	A	2	25	35	4	-14	5	78	3	+3	1140	REJ.	
	5	68.3	A	2	31	35	5	-9	5	84	1	0	1500	REJ.	
	6	68.3	A	2	34	35	4	-5	4	76	4	+3	1770	REJ.	
	7	68.3	A	2	34	35	4	-5	4	76	4	+3	1800	REJ.	

EXAMINED BY 主操

REVIEWED BY 审核:

LEVEL-II SIGN /

DATE

2008.04.20

LEVEL-II SIGN /

DATE

2008.04.20

质量经理 / QCM

用户 CUSTOMER

Hufrang

2008.5.6

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



REPORT OF ULTRASONIC EXAMINATION

REPORT NO. 报告编号 B787-UT-569

DATE 2008.04.20

PAGE 2 OF 2

Revision No: 0

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置						
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Face'A' 距表面深度	From'X' 距X	From'Y' 距Y		
SEG013A-007	8	68.3	A	2	35	35	4	-4	25	80	3	0	1890	REJ.	
	9	68.3	A	2	44	35	4	+5	6	77	4	+2	2045	REJ.	
	10	68.3	A	2	46	35	4	+8	7	73	5	+4	2340	REJ.	
	11	68.3	A	2	46	35	4	+8	6	78	3	0	2410	REJ.	
	12	68.3	A	2	46	35	4	+8	6	78	7	0	2440	REJ.	
	13	68.3	A	2	46	35	4	+8	6	78	3	0	2500	REJ.	
	14	68.3	A	2	31	35	4	-8	6	81	2	+3	2690	REJ.	
	15	68.3	A	2	32	35	5	-8	7	82	2	0	3105	REJ.	
	16	68.3	A	2	42	35	5	+2	8	83	2	0	4110	REJ.	
	17	68.3	A	2	36	35	4	-3	5	80	3	0	4225	REJ.	
	18	68.3	A	2	37	35	5	-3	7	85	1	0	4280	REJ.	
	19	68.3	A	2	40	35	5	0	6	84	1	+3	4620	REJ.	
	20	68.3	A	2	33	35	5	-7	7	86	0	0	4740	REJ.	
	21	68.3	A	2	48	35	4	+9	5	73	5	0	4785	REJ.	
	22	68.3	A	2	48	35	4	+9	5	75	4	-4	5765	REJ.	
SP045-01-001		68.3				35								ACC.	

BLANK

EXAMINED BY 主探

Zshu [Signature]

LEVEL - II SIGN / DATE 2008.04.20

质量经理 / QCM

Hu Gang 2008.5.6

签字 SIGN / 日期 DATE

REVIEWED BY 审核:

Li [Signature] 2008.04.20

LEVEL - II SIGN / DATE

用户 CUSTOMER

签字 SIGN / 日期 DATE



# 焊缝返修报告

版本 Rev. No.

## Welding Repair Report

**0**

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG13A	报告编号 Report No.	B-WR261
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SP45A AND SP57A	NDT报告编号 Report No.of NDT	B787-UT-569
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

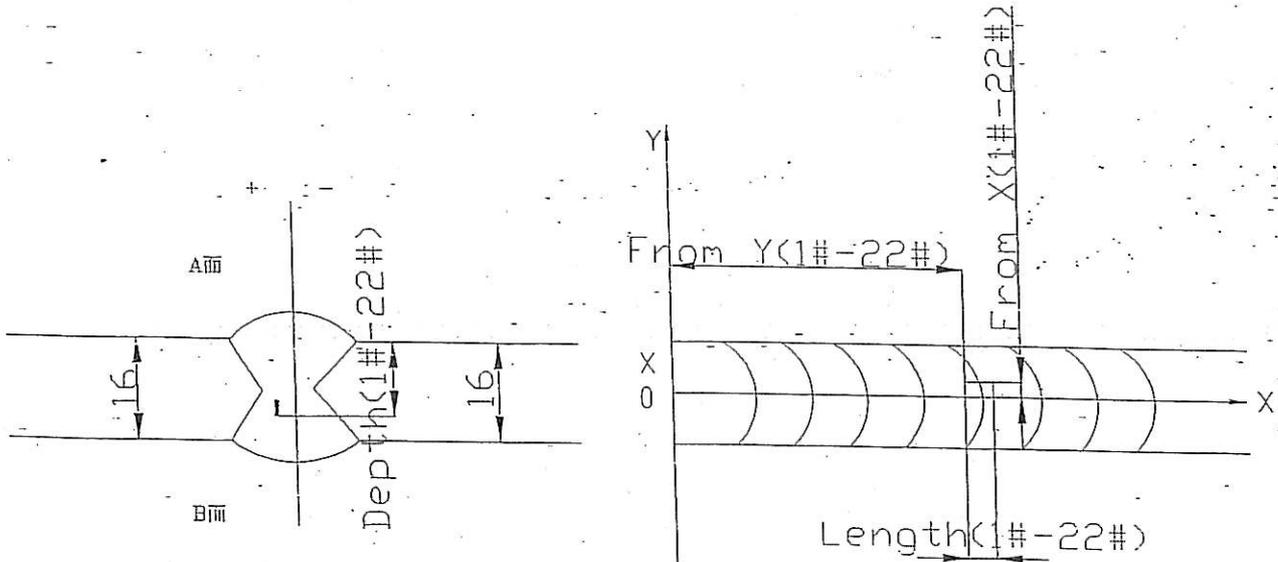
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) SEG013A-007

检验员 (Inspector): E Shuidin 日期(Date): 2008.04.20  
E Shuidin 日期(Date): 08.04.20

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: SEG013A-007

Please see the detail data from UT report!

产生原因:

Caused:

1. 焊道未及时处理干净。
1. Did not clear the weld pass completely in time.

车间负责人(Foreman): Lv Guangbin

日期(Date): 2018.04.21

处理意见

Disposition :

1. 从B面采用碳刨或打磨的方法去除焊缝缺陷，碳刨之前必须进行预热，温度不低于65°C;
  2. 准备正确的接头型式，具体参照返修焊接工艺规程 (WPS);
  3. 采用MT或其它无损检测方法保证缺陷完全被清除;
  4. 预热及焊接要求参照已批准的返修焊接工艺规程 (WPS) 执行;
  5. 将修补区域打磨到与母材或邻近焊缝平齐;
  6. 根据批准的车间图纸检查焊缝.
- 
1. Gouge or grind to remove all the defects from the Face B. Preheat prior to gouging to a minimum temperature of 65°C;
  2. Prepare excavation according to the approved repair WPS;
  3. Perform MT or other NDT methods of the area to insure the removal of the defects;
  4. Preheat and weld according to the relevant repair WPS;
  5. Grind the repaired area flush with base metal or the adjacent weld;
  6. Check the welds according to the working drawings.

工艺: *Ling Shihua*  
Technical engineer

审核: *Hu Guang*  
Approved by

日期 *2018.04.21*  
Date



# 焊缝返修报告

## Welding Repair Report

版本 Rev. No.

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No.	SEG13A	报告编号 Report No.	B-WR261
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SP45A AND SP57A	NDT报告编号 Report No. of NDT	B787-UT-569
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1. 加强焊接监控和道间清理。
1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): Lv Guangbin 日期(Date): 2008.04.21

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1	工艺员 technologist	Ling shihua
返修(碳刨)前预热温度 Preheat temperature before gouging	70°C	返修的缺陷 Description of discontinuity	内部缺陷
焊前处理检查 Inspection before welding	ACU	焊前预热温度 Preheat temperature before welding	65°C
最大碳刨深度 Max. depth of gouging	9mm	碳刨总长 Total length of gouging	540mm
焊工 welder	Guo Dong liang 028714	焊接类型 welding type	FCAW
焊接电流 Current	282A	焊接电压 Voltage	30V
		焊接位置 position	1G
		焊接速度 Speed	500mm/min

返修后检查

Inspection After repairing:

外观检查 VT result	Au.	检验员 Inspector	B. L. Zhang	日期 Date	Apr. 28. 2008
NDT复检 NDT result	RT	探伤员 NDT person	Xue Hui hong	日期 Date	08.08.30
见证: Witness/Review:					
备注: Remark:					





# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-569 R1

DATE 2008.04.30

PAGE 1 OF 1

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: SP45A AND SP57A

DRAWING NO.: SEG13A

CALTRANS CONTRACT NO.: 04-0120F4

部件名称

图号

加州工程编号

REFERENCING CODE 参考规范

ACCEPTANCE STANDARD 接受标准

PROCEDURE NO. 程序编号

AWS D1.5-2002

AWS D1.5-2002(Table 6.3)

ZPQC-UT-01

WELDING PROCESS 焊接方法

JOINT TYPE 焊缝类型

CALIBRATION DUE DATE 仪器校正有效期

FCAW

BUTT

Dec. 28, 2008

EQUIPMENT 设备

MANUFACTURER 制造商

MODEL NO. 样式编号

SERIAL NO. 序列编号

UT SCOPE

PANAMETRICS

EPOCH-4B

071565311, 061488510,  
061495811, 070152011,

CALIBRATION BLOCK 试块

COUPLANT 耦合剂

MATERIAL/THICKNESS 材料厚度

W BLOCK TYPE II

C.M.C

A709M-345F2-X / A709M-345T2-X / 16mm

### TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70 °	2.5 MHz	18x18 mm				
Changchao	0 °	2.5 MHz	20 mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5

0 ° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY						
									不连续位置(mm)						
a	b	c	d	Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From X 距X	From Y 距Y							
SEG013A-007	IRI	68.3	A	2		35	5	+2	10	83	2	0	4110	REJ.	

### BLANK


EXAMINED BY 主探

REVIEWED BY 审核:

LEVEL - II SIGN / DATE

LEVEL - II SIGN / DATE

质量经理 / QCM

用户CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-569 R2      DATE 2008.05.02      PAGE 1 OF 1      Revision No: 0

PROJECT NO.: 工程编号 ZP06-787      CONTRACTOR: CALTRANS  
 部件名称: SP45A AND SP57A      图号: SEG13A      CALTRANS CONTRACT NO.: 04-0120F4  
 加州工程编号

REFERENCING CODE 参考规范: AWS D1.5-2002      ACCEPTANCE STANDARD 接受标准: AWS D1.5-2002 (Table 6.3)      PROCEDURE NO. 程序编号: ZPQC-UT-01  
 WELDING PROCESS 焊接方法: FCAW      JOINT TYPE 焊缝类型: BUTT      CALIBRATION DUE DATE 仪器校正有效期: Dec. 28, 2008

EQUIPMENT 设备: UT SCOPE      MANUFACTURER 制造商: PANAMETRICS      MODEL NO. 样式编号: EPOCH-4B      SERIAL NO. 序列编号: 071565311, 061488510, 061495811, 070152011  
 CALIBRATION BLOCK 试块: AWS IIV BLOCK TYPE II      COUPLANT 耦合剂: C.M.C      MATERIAL/THICKNESS 材料厚度: A709M-345F2-X / A709M-345T2-X / 16mm

TRANSDUCER 探头							
MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70 °	2.5 MHz	18x18 mm				
Changchao	0 °	2.5 MHz	20 mm				

Base metal inspected per AWS D1.5-2002 Section 6.19.5      Reference Level 参考灵敏度: 0 ° UT OK.      20dB

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注	
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)							
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From X 距X	From Y 距Y			
SEG013A-007	IR2	68.4				32										

BLANK


EXAMINED BY 主探: Xu Ronggong      2008.05.02  
 LEVEL - II SIGN / DATE

REVIEWED BY 审核: Xue Maoping      2008.05.02  
 LEVEL - II SIGN / DATE

质量经理 / QCM: Hu Gang      2008.05.06  
 签字 SIGN / 日期 DATE

用户 CUSTOMER: \_\_\_\_\_  
 签字 SIGN / 日期 DATE



## NCR PROPOSED RESOLUTION

**To:** CALTRANS - SAS Superstructure  
333 Burma Road  
Oakland CA 94607

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000109

**Subject:** NCR No. ZPMC-0128

**Dated:** 01-Oct-2008

**Contract No.:** 04-0120F4  
04-SF-80-13.2 / 13.9

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000071 Rev: 02

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### Contractor's Proposed Resolution:

**Reference Resolution:** APPROVED, ACTION PENDING should be an option for those NCRs where Caltrans agrees with our proposed resolution but where the actual corrective action and/or supporting documentation is forthcoming.

ABFJV respectfully requests that the status of this NCR be changed to APPROVED, ACTION PENDING

It appears from the response that the Department agrees with ABFJV's proposed resolution and will close the NCR when the acceptable documentation is submitted. Therefore, ABFJV respectfully requests that the status of this NCR be changed to APPROVED, ACTION PENDING.

**Submitted by:** Kanapicki, Charles

**Attachment(s):** ABF-NPR-000071R02

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### Caltrans' comments:

**Status:** AAP

**Date:** 02-Oct-2008

The response is acceptable, but the Non-Conformance is not closed.

Please provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0128 at that time.

**Submitted by:** Wright, Doug

**Attachment(s):** NPR CT Comments

**Date:** 02-Oct-2008

## NCR PROPOSED RESOLUTION

**To:** CALTRANS - SAS Superstructure  
333 Burma Road  
Oakland CA 94607

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000109

**Subject:** NCR No. ZPMC-0128

**Dated:** 03-Dec-2008

**Contract No.:** 04-0120F4  
04-SF-80-13.2 / 13.9

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000071 **Rev:** 03

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC requests closure of this NCR.

ZPMC has attached the requested documents and now requests closure of NCR ZPMC-0128.

**Submitted by:**

**Attachment(s):** ABF-NPR-000071R03; documents to close this NCR

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**Caltrans' comments:**

**Status:** CLO

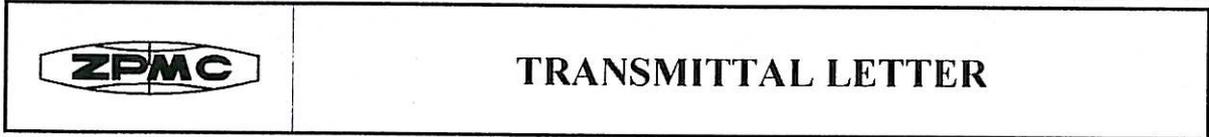
**Date:** 16-Dec-2008

The proposed resolution is acceptable. An internal ZPMC NCR was written, and the welding repair report for the repair is included. Also, the welds in question have been accepted by VT, MT, and UT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0128 is closed.

**Submitted by:** Wright, Doug

**Date:** 16-Dec-2008

**Attachment(s):**



PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 08/11/2008

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: NCR-000134(ZPMC-0128)FOR CLOSURE

SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.B-288FOR CLOSURE.
- (2) COPY OF NCR WITH NUMBER NCR-000134(ZPMC-0128).
- (3) COPY OF INTERNAL NCR NCR-B-068
- (4) COPY OF WELDING REPAIR REPORT
- (5) COPY OF NDT AND VT REPORTS

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:



\_\_\_\_\_  
PLAN HOLDER

RECEIVED 11 AUG 2008  
1358

\_\_\_\_\_  
DATE



\_\_\_\_\_  
COMPANY

\_\_\_\_\_  
PHONE NO.

PLAN NUMBER: N/A

#R787-QCP-102



No. B-289

## LETTER OF RESPONSE

**TO: American Bridge/Flour JV**

**DATE: 2008-8-9**

**REGARDING: NCR-000134 (ZPMC-0128)**

With this letter of response, ZPMC requests closure for Caltrans **NCR-000134 (ZPMC-0128)**. ZPMC agrees what describe in the nonconformance report about SEG013A-007, but we must point out there is a false for SEG13B-014, it is not welded yet now.

We have educated the workers and QC guy how to deal with the SPCM welding repair. If gouging depth over the 65% penetration, the welding repair can't be performed until the approval of the engineer.

That point in the nonconformance report have been checked by VT and NDT, right now we provide the reference report to prove that the weld attain the regular quality.

So ZPMC considers **NCR-000134** can be closed.

Please reference attached documentation for acceptance and closure the **NCR-000134**.

**ATTACHMENT:**

**NCR-000134 (ZPMC-0128)**

**The welding repair report**

**The final NDT and VT reports**

*Zhao Shuangbao*

*2008.8.9.*



# Nonconformance Report

## 不符合项报告

Project Name: S.F.O.B.B 项目名称: 美国加州海湾大桥		NCR Number: NCR-000134 (ZPMC-0128) NCR 编号: NCR-B-068	
Item: repair SPCM plate without engineer approval 名称描述: SPCM 板的返修无工程师批准		Item Number: 件号:	Drawing Number: 图号: SEG013A, SEG013B
Location: OBG Assembly Shop 位置: 桥面拼装车间		Date: 2008-6-10 日期:	

### Description of Nonconformance:

不符合项状态描述:

The Contractor performed repair of SPCM material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPCM weld joint# SEG013A-007 (joint between side panels SP33A and SP45A) and in SPCM weld joint# SEG013B-014.

ZPMC 在没有得到工程师批准就返修了 SPCM 材料。焊缝碳刨的深度超过了焊缝尺寸的 65%。这发生在 SPCM 焊缝 SEG013A-007 (边顶板 SP33A 和 SP45A 之间的焊缝) 和 SPCM 焊缝 SEG013B-014 上。

Work By: Huoliang Prepared by: Jinshang Reviewed by QCE: Zhaoshuangbao  
 施工方: 08.06.11 准备: 2008.6.10 质量工程师批准: 2008-6-10

Drawing Error     Material Defect     Fabrication Error     Other  
 图纸错误    材料缺陷    制作错误    其他原因

Disposition:     Use as is     Repair     Reject  
 处理措施:    回用    返修    拒收

### Recommendation:

建议 1. 严格按照施工程序施工。 Operate according to approved procedure.  
2. 加强与现场 QC 沟通。 Communicate with QC.

Prepared by: Ly Guang Bin Approved by QCA: Huogang 08.6.11  
 准备    质量经理批准

### Reason for Nonconformance:

不符合原因: 未得到工程师批准对焊缝返修且碳刨过深  
 Performed repair of SPCM material without prior Engineer approved and depth of weld excavation for the repaired.

预防措施 对施工队批评指正并加强现场监控  
 Educate the workers and enhance the inspection on the spot.

Approved by/批准: Ly Guang Bin 08.11/6

Technical Justification for Use-As-Is/Repair:     Attachment     Non-attachment  
 回用或返修的技术依据:    附件    无附件

加强对操作人员的培训和教育, 严格按照焊接工艺文件执行, 加强现场监控避免此类事件发生并试焊缝返修报告进行培训。  
 Educate the workers to operate per welding procedure. Enhance inspection on the spot. Repair according to welding repair report.

Reviewed/批准: Nimkefeng 08.11/6

Verification:     Acceptable     Unacceptable  
 确认:    可接受    不可接受

Verified by QCI/质检确认: \_\_\_\_\_ Reviewed by QCA/质检主任审核: \_\_\_\_\_



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607

Date: 30-May-2008

Contract No: 04-0120F4

04-SF-80-13.2 / 13.9

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Dave Williams Consultant

Document No: 05.03.06-000109

Subject: NCR No. ZPMC-0128

Reference Description: Repair of SPMC material

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: OBG

Lift:

### Remarks:

The Contractor performed repair of SPMC material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPMC weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPMC weld joint# SEG-013B-014.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance to prevent future occurrences.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0128

cc: Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, Ching Chao

File: 05.03.06

**DEPARTMENT OF TRANSPORTATION**  
 DIVISION OF ENGINEERING SERVICES  
 Office of Structural Materials  
 Quality Assurance and Source Inspection



Bay Area Branch  
 690 Walnut Ave. St. 150  
 Vallejo, CA 94592-1133  
 (707) 649-5453  
 (707) 649-5493

Contract #: 04-0120F4  
 Cty: SF/ALA Rte: 80 PM: 13.2/13.9  
 File #: 69.25B

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

**Location:** Changxing Island, Shanghai, PRC

**Report No:** NCR-000134

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 14-May-2008

**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

**NCR #:** ZPMC-0128

### Type of problem:

Welding  Concrete  Other   
 Welding  Curing  Procedural  Bridge No: 34-0006  
 Joint fit-up  Coating  Other  Component: SEG-013A, SEG-013B  
 Procedural  Procedural  Descriptor: OBG Segment Assembly

**Reference Description:** Repair of SPMC material

### Description of Non-Conformance:

The Contractor performed repair of SPMC material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPMC weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPMC weld joint# SEG-013B-014.

### Applicable reference:

AWS D1.5, Section 12.17.3 Critical Weld Repairs: "Except as provided in 12.17.2, all welded repairs shall be considered critical. They include, but are not limited to the following: ...

(5) Corrections requiring weld removal and rewelding except as provided in 12.17.2(4)...."

AWS D1.5, Section 12.17.2(4): "The depth of groove weld excavation shall not exceed 65 percent of the weld size shown on the drawings."

AWS D1.5, Section 12.17.4 Approval: "All critical repairs to base metal and welds shall be approved by the Engineer prior to beginning the repair and shall be documented giving details of the type of discontinuity and extent of repair."

**Who discovered the problem:** QA Inspector Steve Hall

**Name of individual from Contractor notified:** ABFJV QC Inspector Mr. Steve Lawton

**Time and method of notification:** 5/14/08 1900hrs

**Name of Caltrans Engineer notified:** Stanley Ku

**Time and method of notification:** 5/19/08 1300hrs Verbal

**QC Inspector's Name:** ZPMC QC Inspector Mr. Chen Chih-Ming

**Was QC Inspector aware of the problem:**  Yes  No

**Contractor's proposal to correct the problem:**

### Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry, 916-227-5719, who represents the Office

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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of Structural Materials for your project.

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**Inspected By:** Lowry,Patrick

SMR

**Reviewed By:** Lowry,Patrick

SMR

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# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO.报告编号 B787-UT-569

DATE 2008.04.20

PAGE 1 OF 2

Revision No: 0

PROJECT NO.:工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: SP45A AND SP57A

DRAWING NO.:SEG13A

CALTRANS CONTRACT NO.: 04-0120F4  
加州工程编号

部件名称

图号

REFERENCING CODE 参考规范

ACCEPTANCE STANDARD 接受标准

PROCEDURE NO. 程序编号

AWS D1.5-2002

AWS D1.5-2002(Table 6.3)

ZPQC-UT-01

WELDING PROCESS 焊接方法

JOINT TYPE 焊缝类型

CALIBRATION DUE DATE 仪器校正有效期

SAW

BUTT

Dec. 28, 2008

EQUIPMENT 设备

MANUFACTURER 制造商

MODEL NO. 样式编号

SERIAL NO. 序列编号

UT SCOPE

PANAMETRICS

EPOCH-4B

071565311,061488510,

CALIBRATION BLOCK 试块

COUPLANT 耦合剂

MATERIAL/THICKNESS 材料厚度

AWS IIW BLOCK TYPE II

C.M.C

A709M-345F2-X/ A709M-345T2-X / 16mm

### TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5 MHz	18x18 mm				
Changchao	0°	2.5 MHz	20 mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5

0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY						
									不连续位置(mm)						
a	b	c	d	Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From X 距X	From Y 距Y							
SEG013A-007	1	68.3	A	2	34	35	4	-5	10	79	5	+6	815	REJ.	
	2	68.3	A	2	39	35	4	0	5	74	6	+4	976	REJ.	
	3	68.3	A	2	37	35	4	-2	10	79	5	+3	1035	REJ.	
	4	68.3	A	2	25	35	4	-14	5	78	3	+3	1140	REJ.	
	5	68.3	A	2	31	35	5	-9	5	84	1	0	1500	REJ.	
	6	68.3	A	2	34	35	4	-5	4	76	4	+3	1770	REJ.	
	7	68.3	A	2	34	35	4	-5	4	76	4	+3	1800	REJ.	

EXAMINED BY 主探

REVIEWED BY 审核:

*Zhuo*  
LEVEL-II SIGN / DATE 2008.04.20

*C. Wang*  
LEVEL-II SIGN / DATE 2008.04.20

质量经理 / QCM

用户CUSTOMER

*Huang* 2008.5.6

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



REPORT OF ULTRASONIC EXAMINATION

REPORT NO. 报告编号 B787-UT-569

DATE 2008.04.20

PAGE 2 OF 2

Revision No: 0

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置						
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Face'A' 距表面深度	From'X' 距X	From'Y' 距Y		
SEG013A-007	8	68.3	A	2	35	35	4	-4	25	80	3	0	1890	REJ.	
	9	68.3	A	2	44	35	4	+5	6	77	4	+2	2045	REJ.	
	10	68.3	A	2	46	35	4	+8	7	73	5	+4	2340	REJ.	
	11	68.3	A	2	46	35	4	+8	6	78	3	0	2410	REJ.	
	12	68.3	A	2	46	35	4	+8	6	78	7	0	2440	REJ.	
	13	68.3	A	2	46	35	4	+8	6	78	3	0	2500	REJ.	
	14	68.3	A	2	31	35	4	-8	6	81	2	+3	2690	REJ.	
	15	68.3	A	2	32	35	5	-8	7	82	2	0	3105	REJ.	
	16	68.3	A	2	42	35	5	+2	8	83	2	0	4110	REJ.	
	17	68.3	A	2	36	35	4	-3	5	80	3	0	4225	REJ.	
	18	68.3	A	2	37	35	5	-3	7	85	1	0	4280	REJ.	
	19	68.3	A	2	40	35	5	0	6	84	1	+3	4620	REJ.	
	20	68.3	A	2	33	35	5	-7	7	86	0	0	4740	REJ.	
	21	68.3	A	2	48	35	4	+9	5	73	5	0	4785	REJ.	
	22	68.3	A	2	48	35	4	+9	5	75	4	-4	5765	REJ.	
SP045-01-001		68.3				35								ACC.	

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EXAMINED BY 主探

Zshuipin

LEVEL - II SIGN /

DATE

2008.04.20

REVIEWED BY 审核:

Li Cuming 2008.04.20

LEVEL - II SIGN /

DATE

DATE

质量经理 / QCM

Hu Gang 2008.5.6

用户 CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



# 焊缝返修报告

版本 Rev. No.

## Welding Repair Report

**0**

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG13A	报告编号 Report No.	B-WR261
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SP45A AND SP57A	NDT报告编号 Report No.of NDT	B787-UT-569
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

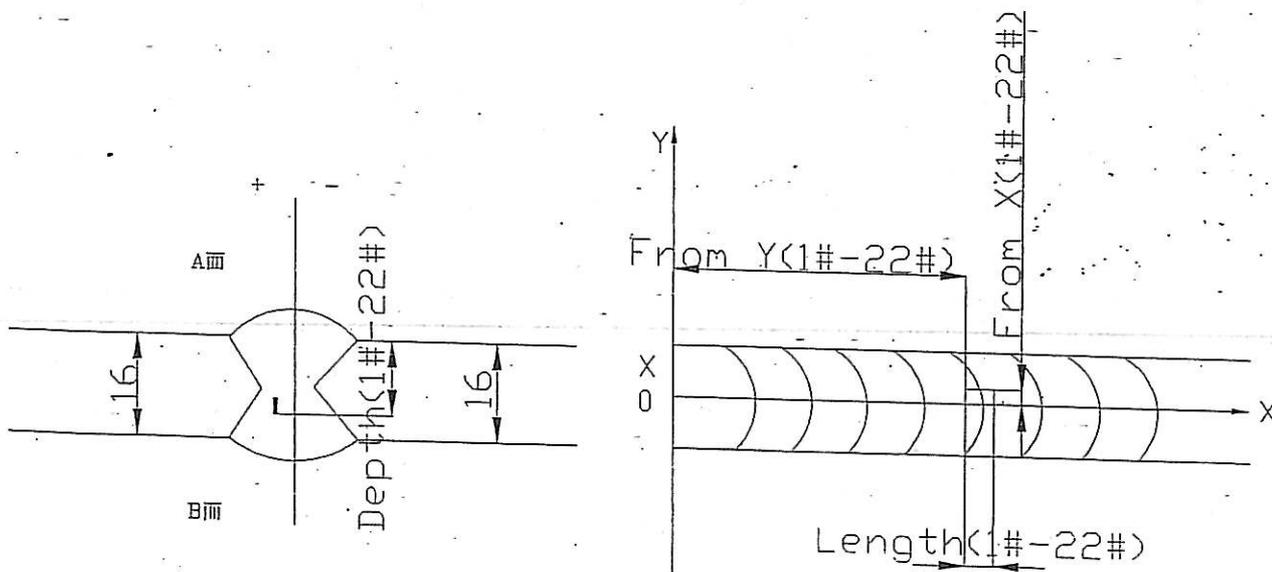
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) SEG013A-007

检验员 (Inspector): E Shuidin 日期(Date): 2008.04.20  
E Shuidin 日期(Date): 08.04.20

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: SEG013A-007

Please see the detail data from UT report!

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman): *Lu Guangbin*

日期(Date): *2018.04.21*

处理意见

Disposition :

1. 从B面采用碳刨或打磨的方法去除焊缝缺陷，碳刨之前必须进行预热，温度不低于65℃；
2. 准备正确的接头型式，具体参照返修焊接工艺规程（WPS）；
3. 采用MT或其它无损检测方法保证缺陷完全被清除；
4. 预热及焊接要求参照已批准的返修焊接工艺规程（WPS）执行；
5. 将修补区域打磨到与母材或邻近焊缝平齐；
6. 根据批准的车间图纸检查焊缝。

1. Gouge or grind to remove all the defects from the Face B. Preheat prior to gouging to a minimum temperature of 65°C;
2. Prepare excavation according to the approved repair WPS;
3. Perform MT or other NDT methods of the area to insure the removal of the defects;
4. Preheat and weld according to the relevant repair WPS;
5. Grind the repaired area flush with base metal or the adjacent weld;
6. Check the welds according to the working drawings.

工艺: *Ling Shilua*  
Technical engineer

审核: *Hu Guang*  
Approved by

日期 *2018.04.21*  
Date



# 焊缝返修报告

版本 Rev. No.

## Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No.	SEG13A	报告编号 Report No.	B-WR261
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SP45A AND SP57A	NDT报告编号 Report No. of NDT	B787-UT-569
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1. 加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): Lv Guangbin 日期(Date): 2008.04.21

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1	工艺员 technologist	Ling Shikun
返修(碳刨)前预热温度 Preheat temperature before gouging	70°C	返修的缺陷 Description of discontinuity	内部缺陷
焊前处理检查 Inspection before welding	ACU	焊前预热温度 Preheat temperature before welding	65°C
最大碳刨深度 Max. depth of gouging	9mm	碳刨总长 Total length of gouging	540mm
焊工 welder	Guo Dong Liang 048714	焊接类型 welding type	FCAW
焊接电流 Current	282A	焊接电压 Voltage	30V
		焊接位置 position	1G
		焊接速度 Speed	500mm/min

返修后检查

Inspection After repairing:

外观检查 VT result	Acu	检验员 Inspector	B. L. Zhang	日期 Date	Apr. 28. 2008
NDT复检 NDT result	22J	探伤员 NDT-person	Xue Haiyang	日期 Date	4.28.08

见证:

Witness/Review:

备注:

Remark:





# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-569 R1

DATE 2008.04.30

PAGE 1 OF 1

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: SP45A AND SP57A  
部件名称

DRAWING NO.: SEG13A  
图号

CALTRANS CONTRACT NO.: 04-0120F4  
加州工程编号

REFERENCING CODE 参考规范  
AWS D1.5-2002

ACCEPTANCE STANDARD 接受标准  
AWS D1.5-2002(Table 6.3)

PROCEDURE NO. 程序编号  
ZPQC-UT-01

WELDING PROCESS 焊接方法  
FCAW

JOINT TYPE 焊缝类型  
BUTT

CALIBRATION DUE DATE 仪器校正有效期  
Dec. 28, 2008

EQUIPMENT 设备  
UT SCOPE

MANUFACTURER 制造商  
PANAMETRICS

MODEL NO. 样式编号  
EPOCH-4B

SERIAL NO. 序列编号  
071565311, 061488510,  
061495811, 070152011,

CALIBRATION BLOCK 试块  
WS IIV BLOCK TYPE II

COUPLANT 耦合剂  
C.M.C

MATERIAL/THICKNESS 材料厚度  
A709M-345F2-X/ A709M-345T2-X / 16mm

### TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70 °	2.5 MHz	18x18 mm				
Changchao	0 °	2.5 MHz	20 mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5

0 ° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)						
									a	b	c	d	Length 长度		
SEG013A-007	1R1	68.3	A	2		35	5	+2	10	83	2	0	4110	REJ.	

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EXAMINED BY 主探  
Xue Haining 2008.04.30  
LEVEL - II SIGN / DATE

REVIEWED BY 审核:  
Z. Shady 2008.04.30  
LEVEL - II SIGN / DATE

质量经理 / QCM  
Hu Kang 2008.5.6

用户 CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-569 R2

DATE 2008.05.02

PAGE 1 OF 1

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

ITEMS NAME: SP45A AND SP57A  
部件名称DRAWING NO.: SEG13A  
图号

CONTRACTOR: CALTRANS

CALTRANS CONTRACT NO.: 04-0120F4  
加州工程编号REFERENCING CODE 参考规范  
AWS D1.5-2002ACCEPTANCE STANDARD 接受标准  
AWS D1.5-2002 (Table 6.3)PROCEDURE NO. 程序编号  
ZPQC-UT-01WELDING PROCESS 焊接方法  
FCAWJOINT TYPE 焊缝类型  
BUTTCALIBRATION DUE DATE 仪器校正有效期  
Dec. 28, 2008EQUIPMENT 设备  
UT SCOPEMANUFACTURER 制造商  
PANAMETRICSMODEL NO. 样式编号  
EPOCH-4BSERIAL NO. 序列编号  
071565311, 061488510,  
061495811, 070152011,CALIBRATION BLOCK 试块  
AWS IIV BLOCK TYPE IICOUPLANT 耦合剂  
C.M.CMATERIAL/THICKNESS 材料厚度  
A709M-345F2-X / A709M-345T2-X / 16mm

### TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70 °	2.5 MHz	18x18 mm				
Changchao	0 °	2.5 MHz	20 mm				

Base metal inspected per AWS D1.5-2002 Section 6.19.5

0 ° UT OK.

20dB

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注		
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)								
									a	b	c	d	Length 长度			Sound Path 声程	Depth from Surface 距表面深度
SEG013A-007	1R2	68.4				32											
BLANK																	

EXAMINED BY 主探

LEVEL - II SIGN

DATE

REVIEWED BY 审核:

LEVEL - II SIGN

DATE

质量经理 / QCM

签字 SIGN / 日期 DATE

用户 CUSTOMER

签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)



**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, PRC**Report No:** NCS-000122**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 12-Dec-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0128**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b>
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b>	

**Date the Non-Conformance Report was written:** 14-May-2008**Description of Non-Conformance:**

The Contractor performed repair of SPMC material without prior Engineer approval. Depth of weld excavation for the repairs exceeded 65% of the weld size. This was observed in SPMC weld joint# SEG-013A-007 (joint between side panels SP-33A and SP-45A) and in SPMC weld joint# SEG-013B-014.

**Contractor's proposal to correct the problem:**

The Contractor provided documents that include: welding repair report, acceptable VT, MT, and UT reports.

**Corrective action taken:**

Closed by Caltrans Construction. METS closed the NCR based on Construction's direction.

**Did corrective action require Engineer's approval?** Yes No**If so, name of Engineer providing approval:** Stanley Ku and Doug Wright **Date:** 12-Dec-2008**Is Engineer's approval attached?** Yes No Email of concurrence to close NCR is on file.**Comments:**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Sang Le, who represents the Office of Structural Materials for your project.

**Inspected By:** Dautermann, Peter

Quality Assurance Inspector

**Reviewed By:** Dautermann, Peter

QA Reviewer