

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, P.R. China**Report No:** NCR-000938**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 12-Dec-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0899**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Segment 12AE/12BE Bottom Splice
Procedural	Procedural	Description:	

Reference Description: ZPMC performed welding without an approved WPS and following its min. preheat temperature requirement in Segment 12AE/12BE Bottom Splice

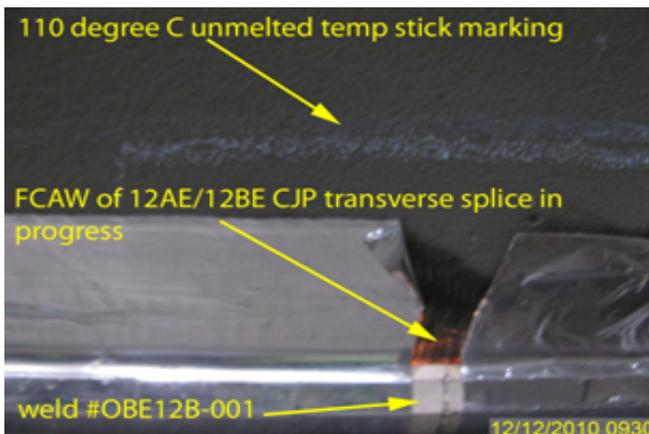
Description of Non-Conformance:

During the Quality Assurance (QA) random in-process visual inspection of the OBG segments in the Trial Assembly area, this QA inspector discovered the following issue:

- Welding was performed using a Welding Procedure Specification (WPS-B-T-2231T-ESAB) that has not been approved.
- The WPS specifies a minimum preheat value of 110 degrees Celsius for material up to 40mm in thickness, however, the minimum preheat temperature was not met within 75mm adjacent from the point of welding.

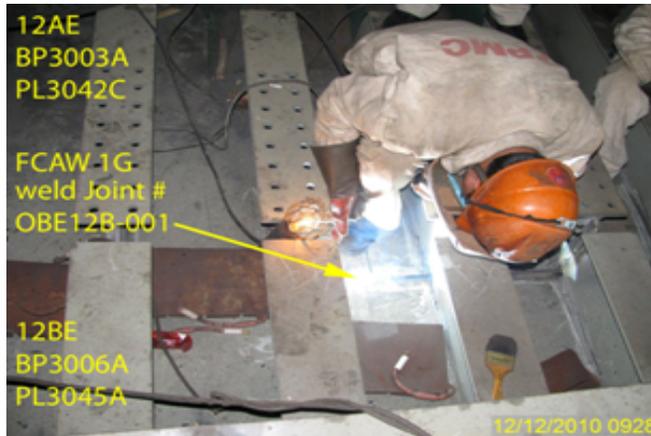
Location: Segment 12AE/12BE

- Bottom Plate transverse Complete Joint Penetration (CJP) splice (Weld ID# OBE12B-001).
- Bottom Plates splice is identified as BP3003A (PL3042C) in 12AE; BP3006A (PL3045A) in 12BE.
- The material of the Bottom Plates is 30mm in thickness.
- Members are Non-Seismic Performance Critical Members (non-SPCM).
- Welding was being performed using the Flux Cored Arc Welding (FCAW) process in the 1G (flat) position.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 (2002), Sections: 4.2 Preheat and Interpass Temperature Requirements, 4.2.7 When the base metal is below the temperature listed for the welding process being used and the thickness of material being welded, it shall be preheated (except as otherwise provided) in such a manner that the steel on which weld metal is being deposited is at or above the specified minimum temperature for a distance equal to the thickness of the part being welded, but not less than 75 mm [3 in.] in all directions from the point of welding.

Welding Procedure Specification (WPS) WPS-B-T-2231T-ESAB

Who discovered the problem: Dan Hernandez

Name of individual from Contractor notified: Gai Hai Zhou

Time and method of notification: 0935, 12/12/10, Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 1800, 12/12/10, Email

QC Inspector's Name: Wang Li Yang

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Tsang, Eric	SMR
Reviewed By:	Wahbeh, Mazen	SMR

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000895

Subject: NCR No. ZPMC-0899

Dated: 27-Jan-2011

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000917 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: The WPS has since been approved by the Department and ZPMC is providing the NDT of the weld to show that it is acceptable.

The WPS has since been approved by the Department and ZPMC is providing the NDT of the weld to show that it is acceptable. The QC responsible for this incident has been reminded to ensure the welders are welding in accordance with the WPS. To prevent future incidents of welding with unapproved WPS, ZPMC will submit WPS earlier for approval before they are required. Based on this ZPMC request closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000917R00;

Caltrans' comments:

Status: CLO

Date: 27-Jan-2011

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0899 is closed.

Submitted by: Eagen, Sean

Date: 27-Jan-2011

Attachment(s):



No. B-970

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2011-1-21

REGARDING: NCR-000938(ZPMC-0899)

The unsatisfied welds have been removed and welded according WPS. ZPMC QC enhanced the welding and temperature control during welding. After welding, all the NDT inspections have been acceptable. ZPMC is providing the NDT reports to show the result. The non-conformance in NCR has been cleared. Please consider to close this NCR.

ATTACHMENT:

NCR-000938(ZPMC-0899)

B787-UT-18752

B787-MT-32732

Zhangwei
1/21/2011.

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, P.R. China

Report No: NCR-000938

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 12-Dec-2010

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

NCR #: ZPMC-0899

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

Bridge No: 34-0006

Component: Segment 12AE/12BE Bottom Splice

Reference Description: ZPMC performed welding without an approved WPS and following its min. preheat temperature requirement in Segment 12AE/12BE Bottom Splice

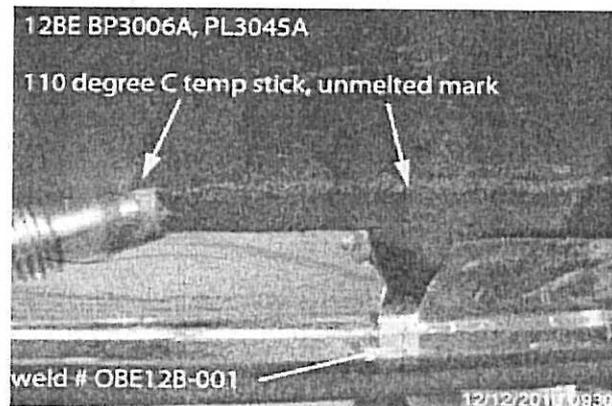
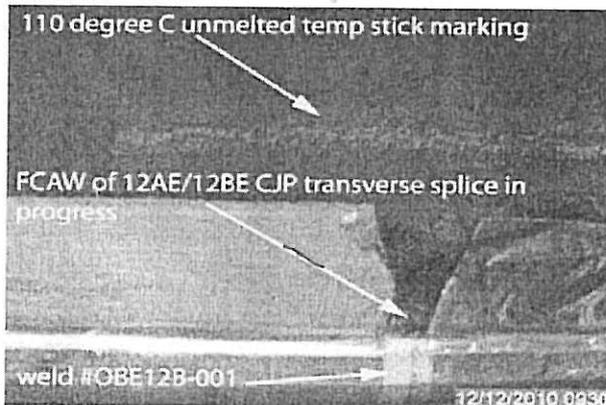
Description of Non-Conformance:

During the Quality Assurance (QA) random in-process visual inspection of the OBG segments in the Trial Assembly area, this QA inspector discovered the following issue:

- Welding was performed using a Welding Procedure Specification (WPS-B-T-2231T-ESAB) that has not been approved.
- The WPS specifies a minimum preheat value of 110 degrees Celsius for material up to 40mm in thickness, however, the minimum preheat temperature was not met within 75mm adjacent from the point of welding.

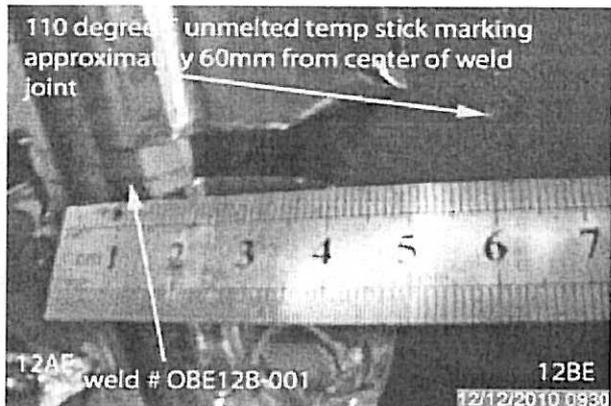
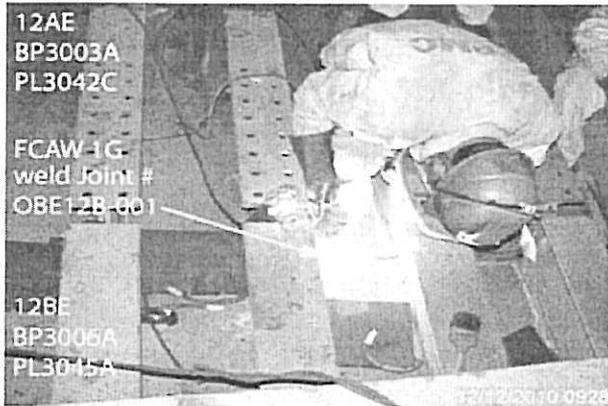
Location: Segment 12AE/12BE

- Bottom Plate transverse Complete Joint Penetration (CJP) splice (Weld ID# OBE12B-001).
- Bottom Plates splice is identified as BP3003A (PL3042C) in 12AE; BP3006A (PL3045A) in 12BE.
- The material of the Bottom Plates is 30mm in thickness.
- Members are Non-Seismic Performance Critical Members (non-SPCM).
- Welding was being performed using the Flux Cored Arc Welding (FCAW) process in the 1G (flat) position.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 (2002), Sections: 4.2 Preheat and Interpass Temperature Requirements, 4.2.7 When the base metal is below the temperature listed for the welding process being used and the thickness of material being welded, it shall be preheated (except as otherwise provided) in such a manner that the steel on which weld metal is being deposited is at or above the specified minimum temperature for a distance equal to the thickness of the part being welded, but not less than 75 mm [3 in.] in all directions from the point of welding.

Welding Procedure Specification (WPS) WPS-B-T-2231T-ESAB

Who discovered the problem: Dan Hernandez

Name of individual from Contractor notified: Gai Hai Zhou

Time and method of notification: 0935, 12/12/10, Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 1800, 12/12/10, Email

QC Inspector's Name: Wang Li Yang

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Tsang, Eric	SMR
Reviewed By:	Wahbeh, Mazen	SMR



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-32732		DATE日期 2011.01.01		PAGE OF页码 1/1	Revision No: 0	
PROJECT NO. 工程编号: ZP06-787			CONTRACTOR: 用户: CALTRANS			
DRAWING NO. 图号: 12AE+12BE OBE12			CALTRANS CONTRACT NO.: 加州工程编号 04-0050F4			
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2011			
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 KOREA	MODEL NO. 样式编号 MP-A2L	SERIAL NO. 连续编号 MP104			
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC			
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm			
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2 28mm			
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	BUTT JOINT			
WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
OBE12B-001				ACC.		100%MT
BLANK						
EXAMINED BY主探 huang zhengchao <i>Huang Zhengchao</i>			REVIEWED BY 审核 <i>Yao Chao</i>			
LEVEL - II SIGN 签名 / DATE日期 2011-1-1			LEVEL-II SIGN / DATE日期 2011-1-1			
质量经理 / QCM <i>[Signature]</i>			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-18752 DATE 2011.01.01 PAGE 1 OF 1 Revision No: 0

PROJECT NO.: 工程编号 ZP06-787 CONTRACTOR: CALTRANS

ITEMS NAME: 12AE+12BE DRAWING NO.: OBE12 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 Sound Path 声程

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 SMAW JOINT TYPE 焊缝类型 BUTT JOINT CALIBRATION DUE DATE 仪器校正有效期 Dec. 28ST, 2011

EQUIPMENT 设备 UT SCOPE MANUFACTURER 制造商 GE MODEL NO. 样式编号 USM33 SERIAL NO. 序列编号 01p8hw

CALIBRATION BLOCK 试块 AWS IIW BLOCK TYPE II COUPLANT 耦合剂 C.M.C MATERIAL/THICKNESS 材料厚度 A709M-345T2 28mm

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°	2.5MHz	18×18mm				
Changchao	0°	2.5MHz	20mm	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
OBE12B-001		70°				42									ACC	100%UT

BLANK

EXAMINED BY 主探 DING BAOHUA <i>Ding Baohua</i> LEVEL - II SIGN / DATE: 2011-1-1	REVIEWED BY 审核 Wang Zhehua <i>Wang Zhehua</i> LEVEL - II SIGN / DATE: 2011-1-1
质量经理 / QCM <i>Ding Baohua</i>	用户CUSTOMER _____
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

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, P.R. China**Report No:** NCS-000927**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 27-Jan-2011**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0899**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component:
Procedural	Procedural	Description:	

Date the Non-Conformance Report was written: 12-Dec-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) random in-process visual inspection of the OBG segments in the Trial Assembly area, this QA inspector discovered the following issue:

- Welding was performed using a Welding Procedure Specification (WPS-B-T-2231T-ESAB) that has not been approved.
- The WPS specifies a minimum preheat value of 110 degrees Celsius for material up to 40mm in thickness, however, the minimum preheat temperature was not met within 75mm adjacent from the point of welding.

Location: Segment 12AE/12BE

- Bottom Plate transverse Complete Joint Penetration (CJP) splice (Weld ID# OBE12B-001).
- Bottom Plates splice is identified as BP3003A (PL3042C) in 12AE; BP3006A (PL3045A) in 12BE.
- The material of the Bottom Plates is 30mm in thickness.
- Members are Non-Seismic Performance Critical Members (non-SPCM).
- Welding was being performed using the Flux Cored Arc Welding (FCAW) process in the 1G (flat) position.

Contractor's proposal to correct the problem:

Contractor proposes to remove the welds, and re-weld according to an approved WPS. Contractor will perform the NDT, and provide the NDT report to prove the welds are acceptable. To avoid recurrence, WPS will be submitted for Engineer's approval earlier.

Corrective action taken:

Contractor removed the welds, and re-welded according to the WPS which has subsequently been approved. The NDT report submitted showed that the welds are acceptable.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:****Date:****Is Engineer's approval attached?**

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Yes No

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 Wahbeh, Mazen 818-292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Ng,Michael	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer
