

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-000946**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 14-Dec-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0905**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Steel Barrier E2-SB1-049
Procedural	Procedural	Description: 8 Missed VT cracks by QC	

Reference Description: QA found 8 missed VT cracks after ZPMC had tested and accepted the welds on the OBG Steel Barrier E2-SB1-049

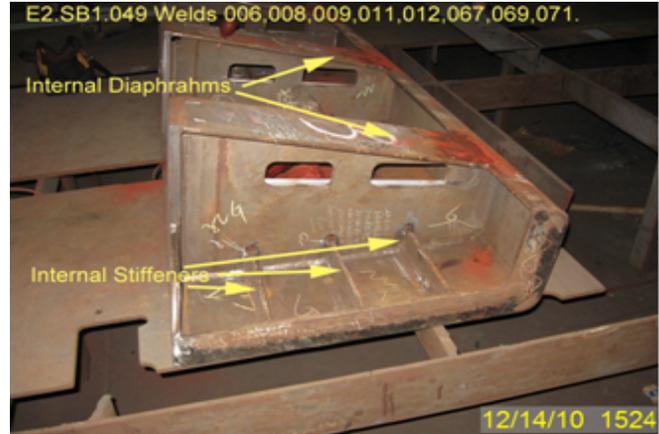
Description of Non-Conformance:

During Quality Assurance (QA) Visual Testing (VT) verification of welds located on OBG steel barrier E2-SB1-049, Caltrans QA inspectors discovered the following issues:

- 8 Longitudinal cracks measuring approximately 3mm to 15mm were found with VT.
- The cracks were verified using Magnetic Particle Testing (MT).
- The welds are fillet welds joining the stiffeners to the internal diaphragms.
- The location of each crack is in the crater area of the welds where the weld wraps through the "key hole" in the diaphragm.
- The welds are not SPCM.
- The steel barrier is located in Bay 1
- The members and weld numbers are identified as follows:
E2-SB1-049-006, 008, 009, 011, 012, 067, 069, 071.
- The notice of witness Inspection Number (NWIT) is 07777. The Longitudinal Linear Indications are located within an area that has been previously inspected by ZPMC Quality Control (QC) personal. As per contract documents ZPMC is required to perform 100% visual testing (VT) of these welds.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum the contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents”

AWS D1.5 (02) Section 6.26.1.1 – “The weld shall have no cracks.”

Who discovered the problem: Manuel Teall

Name of individual from Contractor notified: Wang Wen Bin

Time and method of notification: 15:30_12/14/10_Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 14:00_12/15/10_Verbal

QC Inspector's Name: Tian Lei

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
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Reviewed By:	Wahbeh, Mazen	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: 15-Dec-2010

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

Dear: Mr. Charles Kanapicki
Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Document No: 05.03.06-000902

Subject: NCR No. ZPMC-0905

Reference Description: QA found 8 missed VT cracks after ZPMC had tested and accepted the welds on the OBG Steel Barrier E2-SB1-049

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: Other **Lift:**

Remarks:

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Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences.,A response for the resolution of this issue is expected within 7 days.

Transmitted by: Ching Chao

Attachments: ZPMC-0905

cc: Peter Siegenthaler, Stanley Ku, Contract Files, Ching Chao, Laraine Woo, Bill Casey

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000902

Subject: NCR No. ZPMC-0905

Dated: 23-Dec-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000886 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution:

ZPMC-0905
Please see ZPMC's comments

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000886R00;

Caltrans' comments:

Status: CLO

Date: 27-Dec-2010

The proposed resolution is acceptable. This NCR is considered closed.

Submitted by: Woo, Laraine

Attachment(s):

Date: 27-Dec-2010



No. B-948

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-12-22

REGARDING: NCR-000948(ZPMC-0905)

ZPMC acknowledged this problem and has issued an internal NCR. ZPMC has removed the unspecified wrapping welds and is providing NDT documentation after the grinding to show the indication has been removed. ABFJV has noted which inspector was responsible for this missed inspections and is monitoring his performance as well as all inspector performance, if he continues to miss indications disciplinary action will be undertaken. Based on these actions, ZPMC requests closure of this NCR.

ATTACHMENT:

NCR-000948(ZPMC-0905)

VT AFTER COVER PASS

B787-MT-34886

A handwritten signature in black ink, appearing to be 'L. W.' or similar, written in a cursive style.

12/22/2010



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:

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04-SF-80-13.2 / 13.9
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Job Name: SAS Superstructure
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Document No: 05.03.06-000902
Subject: NCR No. ZPMC-0905

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Material Location: Other

Lift:

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Transmitted by: Ching Chao

Attachments: ZPMC-0905

cc: Peter Siegenthaler, Stanley Ku, Contract Files, Ching Chao, Laraine Woo, Bill Casey

File: 05.03.06

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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-000946**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 14-Dec-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0905**Type of problem:**Welding Concrete Other Welding Curing Procedural **Bridge No:** 34-0006Joint fit-up Coating Other **Component:** OBG Steel Barrier E2-SB1-049Procedural Procedural **Description:** 8 Missed VT cracks by QC

Reference Description: QA found 8 missed VT cracks after ZPMC had tested and accepted the welds on the
 OBG Steel Barrier E2-SB1-049

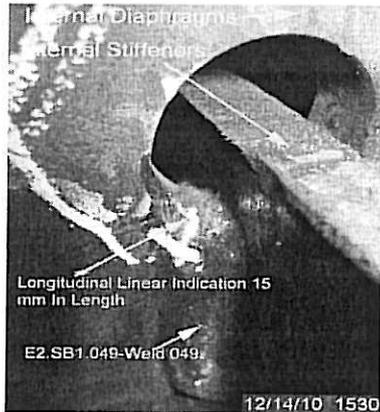
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



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Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 14:00_12/15/10_Verbal

QC Inspector's Name: Tian Lei

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

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Inspected By: Tsang, Eric

SMR

Reviewed By: Wahbeh, Mazen

SMR



Visual Weld Inspection Report
焊缝目视检查报告

周数

日期

64#

2010.12.21

Girder/ 梁: OBG A plate

Tower/ 塔: NA

Representative:
 质检代表:

CWI:
 检验员: Tianlei 10022261

Quality Assurance Manager
 ~Approval
 质量控制经理:

Caltrans Contract No.
 加州合同编号: 04-0120F4

Project No.:
 项目名称: San Francisco Oakland Bay Bridge 美国
 海湾大桥

Project No.:
 项目编号: ZP06-787

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受 或拒收
E2-SB1-049-006	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
E2-SB1-049-008	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
E2-SB1-049-009	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
E2-SB1-049-011	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
E2-SB1-049-012	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
E2-SB1-049-067	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
E2-SB1-049-069	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
E2-SB1-049-071	068554	2F	Supercored 71H(Φ1.4)	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA

After root weld

After CWR or WRR No.:

After cover pass

After HSR No.:

Others

#R787-QCP-603

BAY 1

"✓" is no defects. "X" is defects. "NA" is not applicable.



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-34886 DATE日期 2010.12.22 PAGE OF页码 1/1 Revision No: 0

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

DRAWING NO. E2-SB1-049 CALTRANS CONTRACT NO.:
 图号: STEEL BARRIER 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 , 2010
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EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 DA-400S	SERIAL NO. 连续编号 17371
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MAGNETIZING METHOD Continuous magnetic yoke
 磁化方法 磁轭式连续法 CURRENT AC
 电流

PARTICLE TYPE Dry magnet powder
 磁粉类型 干磁粉 YOKE SPACING 70~150mm
 磁轭间距

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-X 12MM
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WELDING PROCESS FCAW TYPE OF JOINT T JOINT
 焊接方法 焊缝类型

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			
E2-SB1-049-006				ACC.		100%
E2-SB1-049-008				ACC.		100%
E2-SB1-049-009				ACC.		100%
E2-SB1-049-011				ACC.		100%
E2-SB1-049-012				ACC.		100%
E2-SB1-049-067				ACC.		100%
E2-SB1-049-069				ACC.		100%
E2-SB1-049-071				ACC.		100%
BLANK						

EXAMINED BY主探
Wang Wei 2010.12.22

REVIEWED BY审核
Gu Yunum 2010.12.22

LEVEL - II SIGN 签名 / DATE日期
Li J. ...

LEVEL-II SIGN / DATE日期
 用户CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE

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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-000846**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 27-Dec-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0905**Type of problem:**

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

Date the Non-Conformance Report was written: 14-Dec-2010**Description of Non-Conformance:**

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Contractor's proposal to correct the problem:

Contractor will remove the indications by grinding, and NDT will be performed after grinding. Contractor will identify the CWI, and issue an internal NCR to him. Contractor will monitor his performance, and disciplinary action will be taken if the inspector misses the indications further.

Corrective action taken:

Contractor repaired the weld by grinding and provided the NDT report subsequently. The NDT report shows the welds are now in conformance with the contract requirement.

Did corrective action require Engineer's approval?

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Yes No

If so, name of Engineer providing approval:

Date:

Is Engineer's approval attached? Yes No

Comments:

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Inspected By: Ng,Michael

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer