

**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-000875

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

**Date:** 24-Oct-2010

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

**NCR #:** ZPMC-0837

### Type of problem:

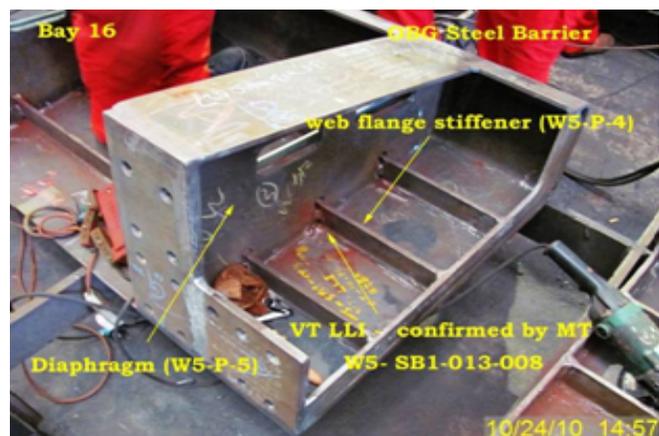
|                     |                   |  |                                      |
|---------------------|-------------------|--|--------------------------------------|
| <b>Welding</b>      | <b>Concrete</b>   | <b>Other</b>   |                                      |
| <b>Welding</b>      | <b>Curing</b>     | <b>Procedural</b>                                    | <b>Bridge No:</b> 34-0006            |
| <b>Joint fit-up</b> | <b>Coating</b>    | <b>Other</b>   | <b>Component:</b> OBG Steel Barriers |
| <b>Procedural</b>   | <b>Procedural</b> | <b>Description:</b> QA found 4 Missed VT indications |                                      |

**Reference Description:** QA found 4 missed VT cracks after ZPMC had tested and accepted these welds for the steel barriers

### Description of Non-Conformance:

During random Quality Assurance (QA) visual verification of welds located on OBG Component steel barrier, Caltrans (CT) QA Inspectors discovered the following issues:

- Four Longitudinal cracks measuring approximately 20 to 25mm in length.
- The cracks were found on barriers identified as W5-SB1-013-008, W5- SB1-032-002, W5- SB1-029-042, and W5- SB2-002-033.
- These welds are fillet welds, joining the diaphragm (W5-P-5) to the web stiffener (W5-P-4).
- The indications are clearly marked on the material near the weld.
- OBG Component Steel barriers are located in Bay#16.
- The indications were discovered visually and confirmed by Magnetic particle Testing (MT) by Caltrans QA.
- The Notice of Witness Inspection Number (NWIT) is 007081. The Longitudinal Linear Indications are located within an area that had been previously inspected by ZPMC Quality Control (QC) personnel. As per contract documents ZPMC is required to perform 100% Visual Testing (VT) of these welds.



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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**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.”

Contract change order- CCO 77- 3.2- “Prior to submitting components for formal acceptance, the contractor shall implement in-process verification that shall include the following:

3.2.3 “All contract required visual inspections have been performed and is documented on the component as being acceptable”.

**Who discovered the problem:** Vibin Kumar.S and Pandaram Pillai

**Name of individual from Contractor notified:** Peter Ferguson

**Time and method of notification:** 13:30\_10-25-10\_Email

**Name of Caltrans Engineer notified:** Laraine Woo

**Time and method of notification:** 15:00\_10-25-10\_Email

**QC Inspector's Name:** Ma Qian Li

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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|                      |             |     |
|----------------------|-------------|-----|
| <b>Inspected By:</b> | Tsang, Eric | SMR |
| <b>Reviewed By:</b>  | Devey, Jim  | SMR |

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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
 333 Burma Road  
 Oakland CA 94607  
 Tel: Fax:

**NON-CONFORMANCE REPORT TRANSMITTAL**

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

**Date:** 27-Oct-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:** 05.03.06-000832

**Subject:** NCR No. ZPMC-0837

**Reference Description:** QA found 4 missed VT cracks after ZPMC had tested and accepted these welds for the steel barriers

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:**

During random Quality Assurance (QA) visual verification of welds located on OBG Component steel barrier, Caltrans (CT) QA Inspectors discovered the following issues:

- Four Longitudinal cracks measuring approximately 20 to 25mm in length.
- The cracks were found on barriers identified as W5-SB1-013-008, W5- SB1-032-002, W5- SB1-029-042, and W5- SB2-002-033.
- These welds are fillet welds, joining the diaphragm (W5-P-5) to the web stiffener (W5-P-4).
- The indications are clearly marked on the material near the weld.
- OBG Component Steel barriers are located in Bay#16.
- The indications were discovered visually and confirmed by Magnetic particle Testing (MT) by Caltrans QA.
- The Notice of Witness Inspection Number (NWIT) is 007081. The Longitudinal Linear Indications are located within an area that had been previously inspected by ZPMC Quality Control (QC) personnel. As per contract documents ZPMC is required to perform 100% Visual Testing (VT) of these welds.

**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:** Laraine Woo Transportation Engineer

**Attachments:** ZPMC-0837

**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao, 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:** 05.03.06-000832

**Subject:** NCR No. ZPMC-0837

**Dated:** 28-Oct-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000815 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has repaired the indications noted in the NCR and is providing NDT documentation after the repair to show the indication has been removed

ZPMC has repaired the indications noted in the NCR and is providing NDT documentation after the repair to show the indication has been removed. ABFJV has noted which inspector was responsible for this missed indications 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.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000815R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 31-Oct-2010

Contractor repaired and provided acceptable NDT records to close the issues. The proposed resolution is acceptable. This NCR is closed.

**Submitted by:** Woo, Laraine

**Date:** 31-Oct-2010

**Attachment(s):**



No. B-921

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-10-28**

**REGARDING: NCR-000875(ZPMC-0837)**

ZPMC acknowledged the indications were missed, ZPMC has repaired the indications and is providing the NDT record to show the acceptance of this weld. Based on this, ZPMC is requesting closure of this NCR.

**ATTACHMENT:**

NCR-000875(ZPMC-0837)

B787-MT-31379

*Wagner*

*2010-10-28*







# REPORT OF MAGNETIC PARTICLE EXAMINATION

## 磁粉检测报告

REPORT NO. 报告编号 B787-MT-31381

DATE日期 2010.10.26

PAGE OF页码 1/1

Revision No: 0

|   |   |  |   |
|---|---|--|---|
| PROJECT NO.<br>工程编号: ZP06-787               |   | CONTRACTOR:<br>用户: CALTRANS                |   |
| DRAWING NO.<br>图号: W5<br>steel barrier      |   | CALTRANS CONTRACT NO.:<br>加州工程编号 04-0120F4 |   |
| REFERENCING CODE<br>参考规范编码<br>AWS D1.5-2002 | ACCEPTANCE STANDARD<br>接受标准<br>AWS D1.5-2002  | PROCEDURE NO.<br>程序编号<br>ZPQC-MT-01        | CALIBRATION DUE DATE<br>仪器校正有效期<br>Dec. 28 <sup>ST</sup> , 2010 |
| EQUIPMENT 设备<br>MT YOKE                     | MANUFACTURER 制造商<br>USA   | MODEL NO. 样式编号<br>#ES-X                    | SERIAL NO. 连续编号<br>14243  |
| MAGNETIZING METHOD<br>磁化方法                  | Continuous magnetic yoke<br>磁轭式连续法  | CURRENT<br>电流                              | AC  |
| PARTICLE TYPE<br>磁粉类型                       | Dry magnet powder<br>干磁粉  | YOKE SPACING<br>磁轭间距                       | 70~150mm  |
| MATERIAL TO BE<br>EXAMINED<br>检测材料          | <input checked="" type="checkbox"/> WELDING 焊接件<br><input type="checkbox"/> CASTING 铸件<br><input type="checkbox"/> FORGING 锻造 | Material & thickness<br>母材,厚度              | A709M-345T2-X<br>12mm   |
| WELDING PROCESS<br>焊接方法                     | SMAW  | TYPE OF JOINT<br>焊缝类型                      | T-JOINT   |

### DISCONTINUITY不连续性

| WELD I.D.<br>焊缝编号 | INDICATION<br>指示 | TYPE<br>类型 | LENGTH IN mm<br>长度 | ACCEPT<br>接受 | REJECT<br>拒收 | REMARKS<br>备注 |
|-------------------|------------------|------------|--------------------|--------------|--------------|---------------|
|                   |                  |            |                    |              |              |               |

AFTER B-CWR2060

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EXAMINED BY主探

Huang Zhengchao

LEVEL - II SIGN 签名 / DATE日期

质量经理 / QCM

he jianhua 2010.10.26

签字 SIGN / 日期 DATE

REVIEWED BY 审核

Wang Wei

LEVEL-II SIGN / DATE日期

用户CUSTOMER

签字 SIGN / 日期 DATE



# REPORT OF MAGNETIC PARTICLE EXAMINATION

## 磁粉检测报告

REPORT NO. 报告编号 B787-MT-31382

DATE日期 2010.10.26

PAGE OF页码 1/1

Revision No: 0

PROJECT NO.

ZP06-787

CONTRACTOR:

CALTRANS

工程编号:

用户:

DRAWING NO.

W5

CALTRANS CONTRACT NO.:

图号:

steel barrier

加州工程编号

04-0120F4

REFERENCING CODE

ACCEPTANCE STANDARD

PROCEDURE NO.

CALIBRATION DUE DATE

参考规范编码

接受标准

程序编号

仪器校正有效期

AWS D1.5-2002

AWS D1.5-2002

ZPQC-MT-01

Dec. 28<sup>ST</sup>, 2010

EQUIPMENT 设备

MANUFACTURER 制造商

MODEL NO. 样式编号

SERIAL NO. 连续编号

MT YOKE

USA

#ES-X

14243

MAGNETIZING METHOD

Continuous magnetic yoke

CURRENT

AC

磁化方法

磁轭式连续法

电流

PARTICLE TYPE

Dry magnet powder

YOKE SPACING

70~150mm

磁粉类型

干磁粉

磁轭间距

MATERIAL TO BE

WELDING 焊接件

Material & thickness

A709M-345T2-X

EXAMINED

CASTING 铸件

母材,厚度

12mm

检测材料

FORGING 锻造

WELDING PROCESS

SMAW

TYPE OF JOINT

T-JOINT

焊接方法

焊缝类型

DISCONTINUITY不连续性

WELD I.D.

焊缝编号

INDICATION

指示

TYPE

类型

LENGTH IN mm

长度

ACCEPT

接受

REJECT

拒收

REMARKS

备注

W5-SB1-013-008

ACC.

100%MT

AFTER B-CWR2061

BLANK

EXAMINED BY主探

Huang Zhengchao

*Huang Zhengchao*

REVIEWED BY审核

Wang Wei

*2010.10.26*

LEVEL-II SIGN 签名 / DATE日期

质量经理 / QCM

签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

LEVEL-II SIGN / DATE日期

用户CUSTOMER

签字 SIGN / 日期 DATE

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



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 690 Walnut Ave. St. 150  
 Vallejo, CA 94592-1133  
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 (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-000875  
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV **Date:** 24-Oct-2010  
**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0837

**Type of problem:**

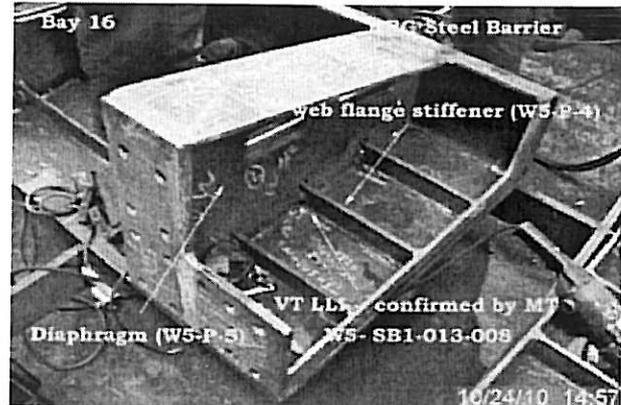
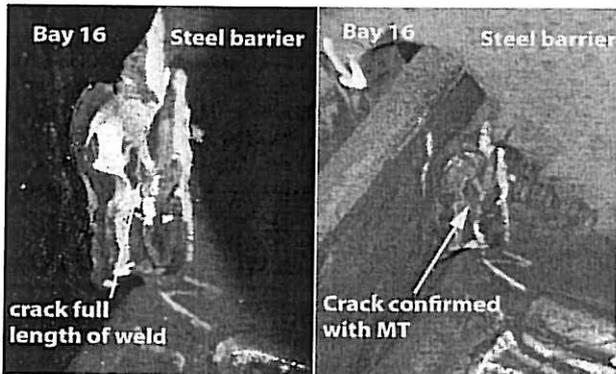
Welding  Concrete  Other   
 Welding  Curing  Procedural  Bridge No: 34-0006  
 Joint fit-up  Coating  Other  Component: OBG Steel Barriers  
 Procedural  Procedural  Description: QA found 4 Missed VT indications

**Reference Description:** QA found 4 missed VT cracks after ZPMC had tested and accepted these welds for the steel barriers

**Description of Non-Conformance:**

During random Quality Assurance (QA) visual verification of welds located on OBG Component steel barrier, Caltrans (CT) QA Inspectors discovered the following issues:

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**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.”

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3.2.3 “All contract required visual inspections have been performed and is documented on the component as being acceptable”.

**Who discovered the problem:** Vibin Kumar.S and Pandaram Pillai

**Name of individual from Contractor notified:** Peter Ferguson

**Time and method of notification:** 13:30\_10-25-10\_Email

**Name of Caltrans Engineer notified:** Laraine Woo

**Time and method of notification:** 15:00\_10-25-10\_Email

**QC Inspector's Name:** Ma Qian Li

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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|                      |             |     |
|----------------------|-------------|-----|
| <b>Inspected By:</b> | Tsang, Eric | SMR |
| <b>Reviewed By:</b>  | Devey, Jim  | SMR |

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**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-000835**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Nov-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0837**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:** 24-Oct-2010**Description of Non-Conformance:**

During random Quality Assurance (QA) visual verification of welds located on OBG Component steel barrier, Caltrans (CT) QA Inspectors discovered the following issues:

- Four Longitudinal cracks measuring approximately 20 to 25mm in length.
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**Contractor's proposal to correct the problem:**

Contractor proposes to repair the weld indication, and provide NDT report to prove the weld is acceptable. Contractor will monitor the inspector who missed the indication, and take disciplinary action should be continuously making similar mistakes.

**Corrective action taken:**

Contractor repaired and provided acceptable NDT records to close the issues. Contractor identified the inspector responsible and is monitoring his performance.

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

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## QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

( *Continued Page 2 of 2* )

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**Yes    No**

**Comments:**

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|                      |              |                             |
|----------------------|--------------|-----------------------------|
| <b>Inspected By:</b> | Ng,Michael   | Quality Assurance Inspector |
| <b>Reviewed By:</b>  | Wahbeh,Mazen | QA Reviewer                 |

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