

**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-000725**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 01-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0688**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> Sgement 9DW
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b> Missed MT Indications by QC	

**Reference Description:** Missed MT Indications by QC in OBG Segment 9DW**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DW, this QA Inspector discovered the following issue:

On April 30, 2010:

- Three transverse linear indications, one measuring approximately 9mm and two indications measuring approximately 5mm in length at Longitudinal Diaphragm (LD) LD3A to Floor beam (FB) FB11A.
- Weld is identified as SEG055B-034 and designated as a Fracture Critical Weld (FCW).
- The weld is a 14mm Complete Joint Penetration (CJP) T-joint joining LD 3A shear plate identified as X39B to FB web plate identified as X47C (Seismic Performance Critical Material SPCM).
- The indications are clearly marked on the material.

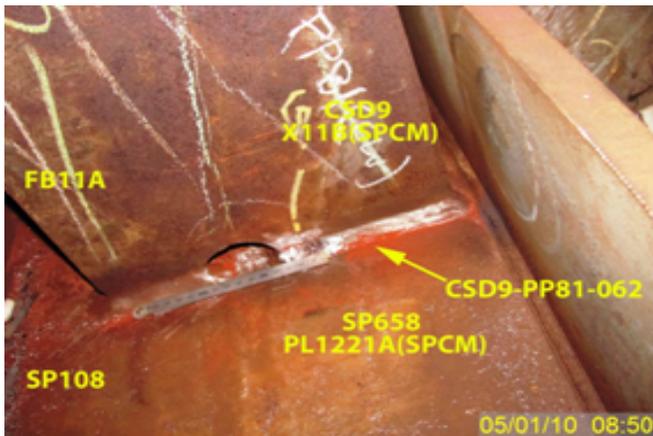
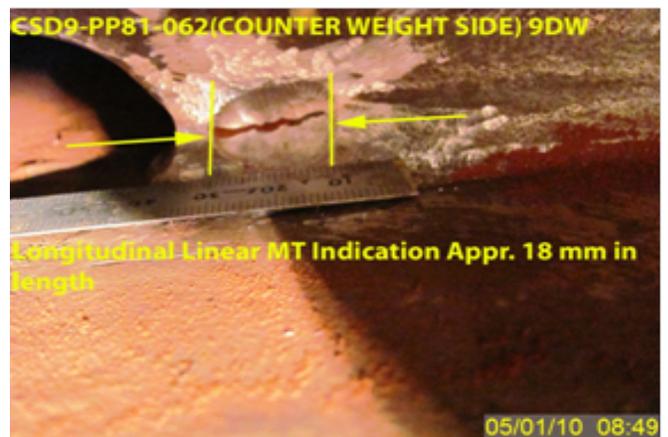
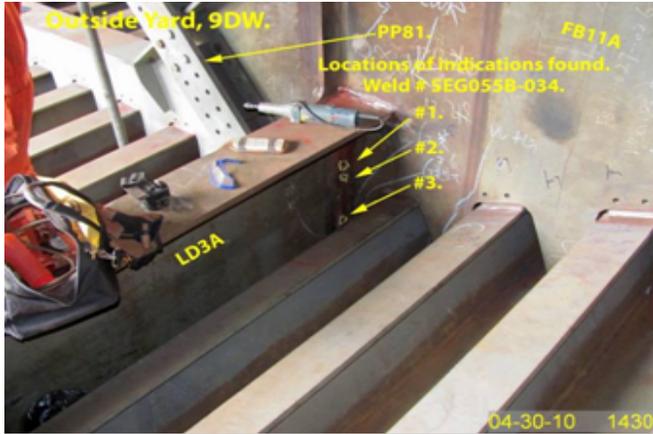
On May 1, 2010:

- One (1) Longitudinal linear indication measuring approximately 18mm in length.
- The Y location is 7mm from the cope hole.
- The indication is clearly marked on the material near the weld.
- The weld is identified as: CSD9-PP81-062.
- The weld is designated as Seismic Performance Critical Member (SPCM).
- The weld is located at PP81 (Counter Weight Side).
- The weld is a Fillet Weld T-joint joining the Corner Assembly Diaphragm identified as X11B (SPCM) to Side Plate identified as SP658 (SPCM).
- OBG segment 9DW is located west of Bay #14.

The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 3 )



## 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 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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**Who discovered the problem:** Amit K. Juvekar, Subhasis Bera

**Name of individual from Contractor notified:** Wei Jian Bo

**Time and method of notification:** 900 hours, 05/01/10, Verbal

**Name of Caltrans Engineer notified:** Stanley Ku, Sean Eagen

**Time and method of notification:** 1030 hours, 05/02/10, Verbal

**QC Inspector's Name:** Tang Ya Jun

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

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

N/A

**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.

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<b>Inspected By:</b>	Tsang, Eric	SMR
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<b>Reviewed By:</b>	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:** 03-May-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:** 05.03.06-000683

**Subject:** NCR No. ZPMC-0688

**Reference Description:** Missed MT Indications by QC in OBG Segment 9DW

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:** 09

### Remarks:

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DW, this QA Inspector discovered the following issue:

On April 30, 2010:

- Three transverse linear indications, one measuring approximately 9mm and two indications measuring approximately 5mm in length at Longitudinal Diaphragm (LD) LD3A to Floor beam (FB) FB11A.
- Weld is identified as SEG055B-034 and designated as a Fracture Critical Weld (FCW).
- The weld is a 14mm Complete Joint Penetration (CJP) T-joint joining LD 3A shear plate identified as X39B to FB web plate identified as X47C (Seismic Performance Critical Material SPCM).
- The indications are clearly marked on the material.

On May 1, 2010:

- One (1) Longitudinal linear indication measuring approximately 18mm in length.
- The Y location is 7mm from the cope hole.
- The indication is clearly marked on the material near the weld.
- The weld is identified as: CSD9-PP81-062.
- The weld is designated as Seismic Performance Critical Member (SPCM).
- The weld is located at PP81 (Counter Weight Side).
- The weld is a Fillet Weld T-joint joining the Corner Assembly Diaphragm identified as X11B (SPCM) to Side Plate identified as SP658 (SPCM).
- OBG segment 9DW is located west of Bay #14.

The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

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# NCT

( Continued Page 2 of 2 )

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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:** Sean Eagen      Transportation Engineer

**Attachments:**    ZPMC-0688

**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:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000683

**Subject:** NCR No. ZPMC-0688

**Dated:** 20-May-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000669 Rev: 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC has repaired the welds in question and is providing NDT documentation to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC has repaired the welds in question and is providing NDT documentation to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000669R00;

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**Caltrans' comments:**

**Status:** CLO

**Date:** 25-May-2010

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0688 is closed.

**Submitted by:** Eagen, Sean

**Date:** 25-May-2010

**Attachment(s):**



No. B-761

## LETTER OF RESPONSE

**TO:** American Bridge/Flour

**DATE:** 2010-5-13

**REGARDING:** NCR-000573(ZPMC-0546) NCR-000709(ZPMC-0676)

NCR-000717(ZPMC-0684) NCR-000718(ZPMC-0685)

N CR-000723(ZPMC-0686) NCR-000725(ZPMC-0688)

NCR-000731(ZPMC-0694)

ZPMC is providing the NDT records show these indications have been removed and repaired and are acceptable now. Based on this, ZPMC is requesting closure of these NCRs.

**ATTACHMENT:**

NCR-000573(ZPMC-0546)

B787-MT-22771 R1

B787-MT-17456 R1

NCR-000709(ZPMC-0676)

B787-UT-12343 R1

NCR-000717(ZPMC-0684)

B787-MT-22391 R1

NCR-000718(ZPMC-0685)

B787-MT-22402 R1

NCR-000723(ZPMC-0686)

B787-MT-22550 R1

NCR-000725(ZPMC-0688)

B787-MT-22579 R1

B787-MT-22687 R1

NCR-000731(ZPMC-0694)

B787-UT-12730 R1

A handwritten signature in black ink, appearing to be 'Ley' followed by a flourish.

5/18/10



**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:** 31-Dec-2009

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

**Dear:** Mr. Charles Kanapicki  
**Attention:** Mr. Thomas Nilsson Project/Fabrication Manager  
**Subject:** NCR No. ZPMC-0546

**Job Name:** SAS Superstructure  
**Document No:** 05.03.06-000536

**Reference Description:** MT Indications discovered after ZPMC's NDT testing and acceptance in Segment 7CW

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 the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7CW, this Quality Assurance Inspector (QA) discovered the following issues:

- Two (2) Longitudinal linear indication measuring approximately 20mm and 25mm in length.
- The welds are identified as: CSD3-PP55-025, 026 (30 mm) and CSD2-PP53-018 (25 mm).
- The welds are a Fillet Weld type joining the Edge Plate (EP59A) stiffeners to Corner Assembly (CA37A) web plates.
- The OBG 7CW segment is located at in front of Blast Shop.

The Notice of Witness Inspection Number (NWI) is 004947. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

**Action Required and/or Action Taken:**

Submit a repair procedure to the engineer for approval. Provide the ZPMC MT technician additional training and equipment to ensure these types of indications are identified in the future.

**Transmitted by:** Bill Howe Sr. Transportation Engineer  
**Attachments:** ZPMC-0546

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

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



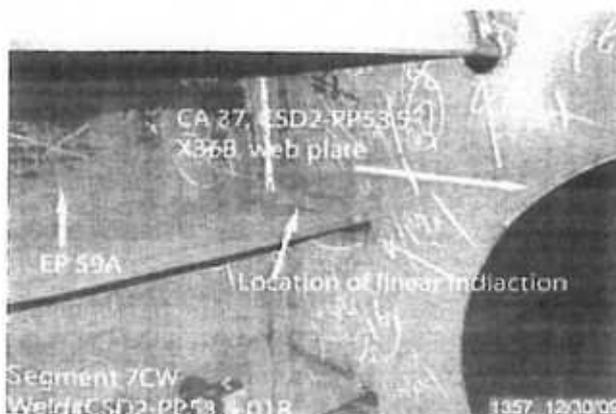
Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: 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-000573**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0546**Type of problem:**Welding  Concrete  Other Welding  Curing  Procedural  **Bridge No:** 34-0006Joint fit-up  Coating  Other  **Component:** Segment 7CW Corner AssemblyProcedural  Procedural  **Description:** Missed MT indication by QC**Reference Description:** MT Indications discovered after ZPMC's NDT testing and acceptance in Segment 7CW**Description of Non-Conformance:**

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7CW, this Quality Assurance Inspector (QA) discovered the following issues:

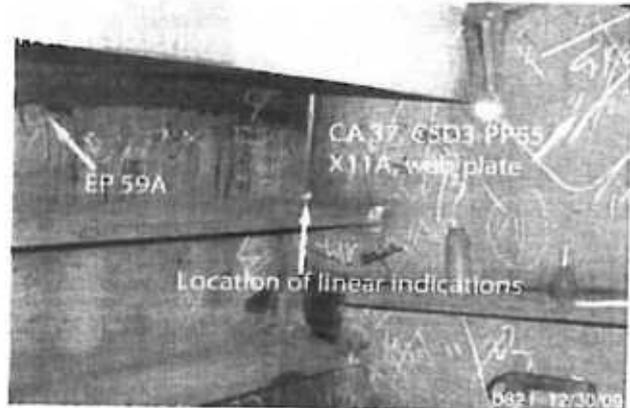
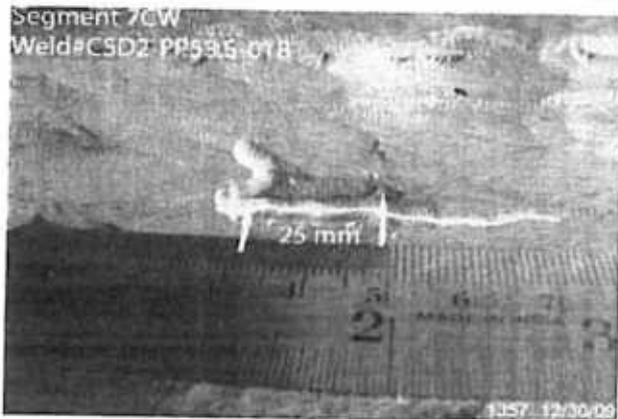
- Two (2) Longitudinal linear indication measuring approximately 20mm and 25mm in length.
- The welds are identified as: CSD3-PP55-025, 026 (30 mm) and CSD2-PP53.5-018 (25 mm).
- The welds are a Fillet Weld type joining the Edge Plate (EP59A) stiffeners to Corner Assembly (CA37A) web plates.
- The OBG 7CW segment is located at in front of Blast Shop.

The Notice of Witness Inspection Number (NWIT) is 004947. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.



## 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 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks."

**Who discovered the problem:** Hiranch Patel

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

**Time and method of notification:** 1045 hours, 12/31/09, Email

**Name of Caltrans Engineer notified:** Bill Howe

**Time and method of notification:** 1100 hours, 12/30/09, Verbal

**QC Inspector's Name:** Zhang Wei

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

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

N/A

### 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, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

**Inspected By:** Carreon, Albert

Lead Reviewer/Task Leader

**Reviewed By:** Wahbeh, Mazen

SMR







DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 510-376-8234 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 16-Apr-2010

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

Dear: Mr. Charles Kanapicki  
Attention: Mr. Thomas Nilsson Project/Fabrication Manager  
Subject: NCR No. ZPMC-0676

Job Name: SAS Superstructure  
Document No: 05.03.06-000666

Reference Description: Missed UT indications by QC on Segment 9DE: Edge Plate to Deck Plate weld and Edge Plate Stiffener to FL3 weld

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: 09

### Remarks:

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DE, this QA Inspector discovered the following issues:

- Two (2) longitudinal linear indications measuring approximately 310mm and 30mm in length.
- The indications dBs rating are +6 and +4.
- Material thickness is 18mm.
- The depth of the indications is approximately 11mm and 13mm.
- The welds are identified as SEG056\*-045 at Panel Point (PP) PP81.5 and EP148-022 at PP 81.
- The welds are designated as Seismic Performance Critical Material (SPCM).
- The indications are clearly marked on or near the weld.
- The Y distance for the indications are 50 mm from PP81.5 and 0 mm from EP148A.
- Weld SEG056\*-045 is a Complete Joint Penetration (CJP) Corner joint, joining the Edge Plate PL1336C(SPCM) to Deck Plate PL1314A (Non SPCM).
- Weld EP148-022 is a Complete Joint Penetration (CJP) "T" joint, joining the Edge Plate stiffener RS89F (Non SPCM) to FB24A plate PLX24D (SPCM).
- Segment 9DE is located outside of Paint shop.

### Action Required and/or Action Taken:

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

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0676

02.02:15.04  
05.03.06-000666,NCT

Received  
NCT-000666 19 Apr 10 Page 1 of 2

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NCT

( Continued Page 2 of 2 )

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cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Jason Tom, Bill Casey

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  
City: SF/ALA Rtc: 80 PM: 13.2/13.9  
File #: 69.25B

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P.R. China

Report No: NCR-000709

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 15-Apr-2010

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

NCR #: ZPMC-0676

### Type of problem:

Welding  Concrete  Other   
Welding  Curing  Procedural  Bridge No: 34-0006  
Joint fit-up  Coating  Other  Component: Segment 9DE Edge Panel  
Procedural  Procedural  Description: Missed UT Indications by QC

Reference Description: Missed UT indications by QC on Segment 9DE: Edge Plate to Deck Plate weld and Edge Plate Stiffener to FL3 weld

### Description of Non-Conformance:

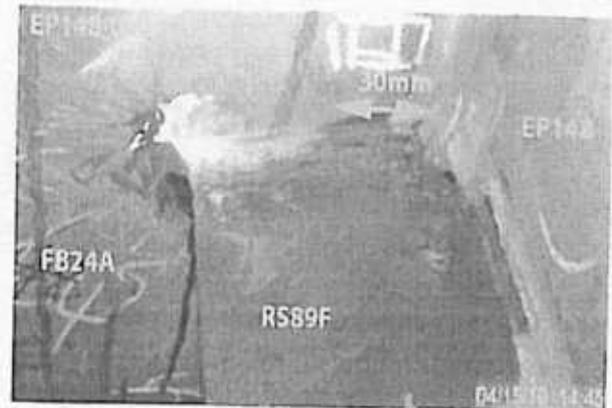
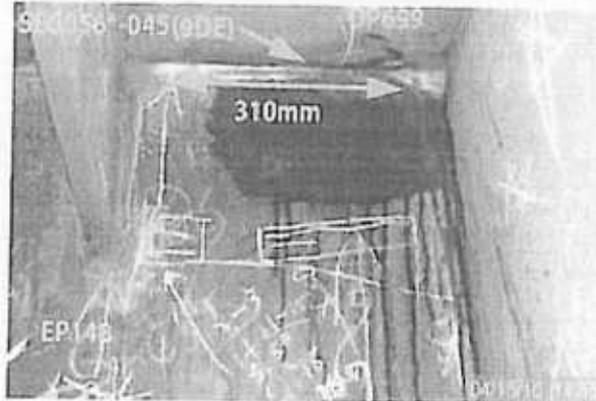
During the Quality Assurance (QA) Ultrasonic Testing (UT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DE, this QA Inspector discovered the following issues:

- Two (2) longitudinal linear indications measuring approximately 310mm and 30mm in length.
- The indications dBs rating are +6 and +4.
- Material thickness is 18mm.
- The depth of the indications is approximately 11mm and 13mm.
- The welds are identified as SEG056\*-045 at Panel Point (PP) PP81.5 and EP148-022 at PP 81.
- The welds are designated as Seismic Performance Critical Material (SPCM).
- The indications are clearly marked on or near the weld.
- The Y distance for the indications are 50 mm from PP81.5 and 0 mm from EP148A.
- Weld SEG056\*-045 is a Complete Joint Penetration (CJP) Corner joint, joining the Edge Plate PL1336C (SPCM) to Deck Plate PL1314A (Non SPCM).
- Weld EP148-022 is a Complete Joint Penetration (CJP) "T" joint, joining the Edge Plate stiffener RS89F (Non SPCM) to FB24A plate PLX24D (SPCM).
- Segment 9DE is located outside of Paint shop.

The Notice of Witness Inspection (NWIT) No. is 005523. The indication is located in an area previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform hundred (100%) percent UT inspection of this weld.

## QUALITY ASSURANCE – NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



### Applicable reference:

AWS D1.5-02 Section 6; Table 6.3 specifies a class "A" indication as having a rating of 10dBs and under for material thicknesses 8mm through 20mm.

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."

Who discovered the problem: Subhasis Bera

Name of individual from Contractor notified: Wang Heng

Time and method of notification: 1500 hours, 04-15-10, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 0830 hours, 04-16-10, Verbal

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem:  Yes  No

Contractor's proposal to correct the problem:

N/A

### 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, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

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Inspected By: Tsang, Eric

SMR

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Reviewed By: Wahbeh, Mazen

SMR



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-12343R1      DATE 2010.05.05      PAGE 1 OF 1      Revision No: 0

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

ITEMS NAME: 9DE WEB AND DECK PLATE SPLICE      DRAWING NO.: SEG056\*      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  
 SMAW      T-JOINT      Dec. 28<sup>ST</sup>, 2010

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  
 AWS IIV BLOCK TYPE II      C.M.C      A709M-345T2-X      14/20mm

### 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
SEG056*-045	1R1	70				32									ACC.	100%

AFTER B-WR12121

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EXAMINED BY 主探 Wei Chao 20/0.05.05      REVIEWED BY 审核 Huang jing 20/0.05.05  
 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



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:** 26-Apr-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:** 05.03.06-000674

**Subject:** NCR No. ZPMC-0684

**Reference Description:** QC Missed 2 MT Transverse Indications on Segment 9EE U-Rib Deck Diaphragm welds

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:** 09

### Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) Transverse linear crack like indication measuring approximately 12 mm in length.
- The weld is identified as DP369-001-082 @ Panel Point-084.
- The weld is a Fillet Weld T-joint joining the Deck Plate (DP369) to Deck panel diaphragm plate.
- OBG 9EE segment is located at the front side of OBG Blast Shop-1.

- One (1) Transverse linear indication measuring approximately 10 mm in length.
- Weld is a Complete Joint Penetration (CJP) Weld joining the Deck panel Diaphragm to U-Rib.
- Weld Identification number is DP477-001-137 @ Panel Point-083.
- Deck panel Diaphragm is identified as X1E.
- U-Rib is Identified as R18D.
- Location Panel Point (PP83).
- The OBG 9EE Segment is located at the back side of Painting Shop.

- The Notice of Witness Inspection Number (NWIT) is 005583.
- The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

### 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.

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## NCT

*( Continued Page 2 of 2 )*

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**Transmitted by:** Sean Eagen      Transportation Engineer

**Attachments:**    ZPMC-0684

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

**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, P.R. China

**Report No:** NCR-000717

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

**Date:** 25-Apr-2010

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

**NCR #:** ZPMC-0684

**Type of problem:**

**Welding**  **Concrete**  **Other**

**Welding**  **Curing**  **Procedural**  **Bridge No:** 34-0006

**Joint fit-up**  **Coating**  **Other**  **Component:** Segment 9EE U-Rib Deck Panel Diaphragm

**Procedural**  **Procedural**  **Description:** Missed MT Indications by QC

**Reference Description:** QC Missed 2 MT Transverse Indications on Segment 9EE U-Rib Deck Diaphragm welds

**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

-One (1) Transverse linear crack like indication measuring approximately 12 mm in length.

-The weld is identified as DP369-001-082 @ Panel Point-084.

-The weld is a Fillet Weld T-joint joining the Deck Plate (DP369) to Deck panel diaphragm plate.

-OBG 9EE segment is located at the front side of OBG Blast Shop-1.

-One (1) Transverse linear indication measuring approximately 10 mm in length.

-Weld is a Complete Joint Penetration (CJP) Weld joining the Deck panel Diaphragm to U-Rib.

-Weld Identification number is DP477-001-137 @ Panel Point-083.

-Deck panel Diaphragm is identified as X1E.

-U-Rib is Identified as R18D.

-Location Panel Point (PP83).

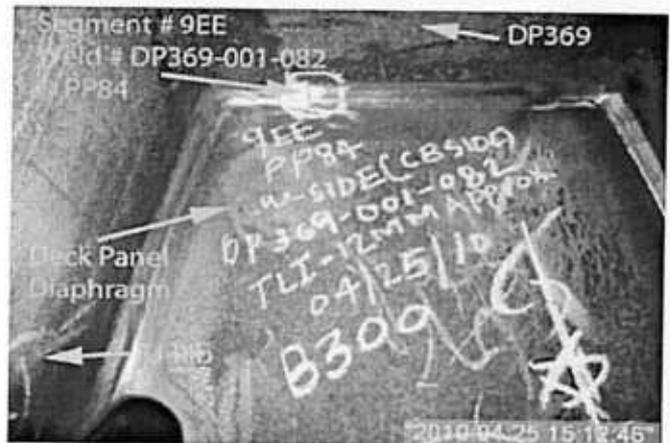
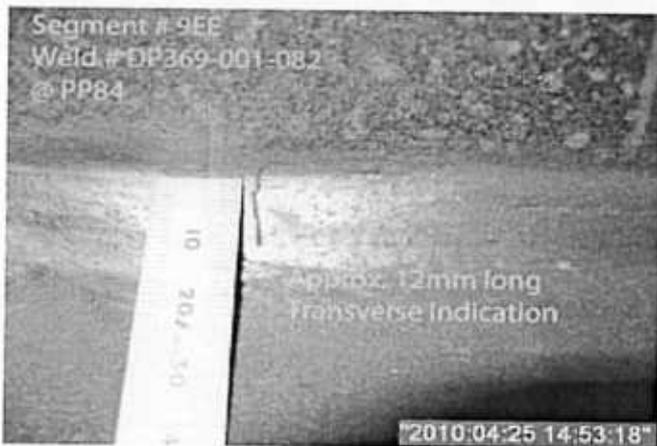
-The OBG 9EE Segment is located at the back side of Painting Shop.

-The Notice of Witness Inspection Number (NWIT) is 005583.

-The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



## 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 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks

**Who discovered the problem:** Vikram Singh, Manoj Prabhune

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

**Time and method of notification:** 18:30 hours, 04/25/10, Email

**Name of Caltrans Engineer notified:** Sean Eagen, Stanley Ku

**Time and method of notification:** 09:00 hours, 04/26/10, Verbal

**QC Inspector's Name:** Wang Lu, Li Ping

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

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

N/A

## 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

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, 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>	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:** 27-Apr-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:** 05.03.06-000675

**Subject:** NCR No. ZPMC-0685

**Reference Description:** Missed MT Transverse Indication by QC on Segment 9EE Floor Beam Flange to Deck Diaphragm Weld

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:** 09

**Remarks:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) transverse crack measuring approximately 10mm in length in the fillet weld joining the Deck Panel Diaphragm (X1D) to Floor Beam Web Flange (X6F) at panel point 85.
- The Y location is 10800mm from the termination of the weld on the crossbeam side.
- The indication is clearly marked near the weld.
- The weld is identified as: SSD19-PP085-004.
- OBG segment 9EE is located north of the blast shop.
- The Notice of Witness Inspection Number (NWIT) is 005583. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

**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:** Sean Eagen Transportation Engineer

**Attachments:** ZPMC-0685

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

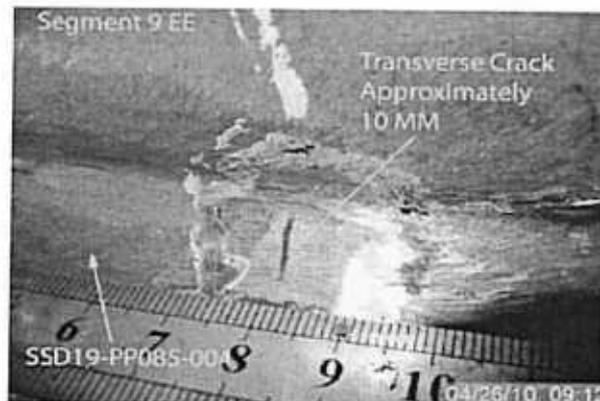
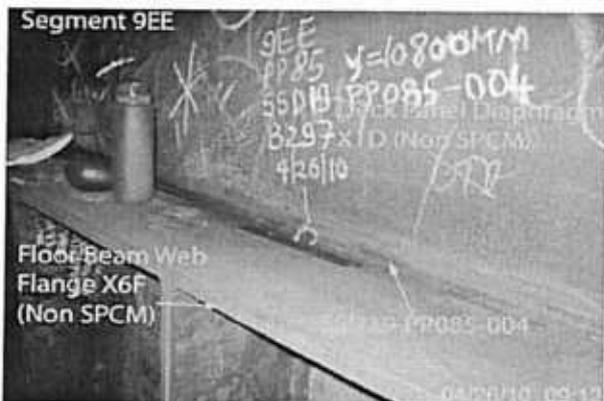
(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: 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-000718**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 26-Apr-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0685**Type of problem:**Welding  Concrete  Other Welding  Curing  Procedural  Bridge No: 34-0006Joint fit-up  Coating  Other  Component: Segment 9EE Floor Beam FlangeProcedural  Procedural  Description: Missed MT Transverse Indications by QC**Reference Description:** Missed MT Transverse Indication by QC on Segment 9EE Floor Beam Flange to Deck Diaphragm Weld**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) transverse crack measuring approximately 10mm in length in the fillet weld joining the Deck Panel Diaphragm (X1D) to Floor Beam Web Flange (X6F) at panel point 85.
- The Y location is 10800mm from the termination of the weld on the crossbeam side.
- The indication is clearly marked near the weld.
- The weld is identified as: SSD19-PP085-004.
- OBG segment 9EE is located north of the blast shop.
- The Notice of Witness Inspection Number (NWIT) is 005583. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

**Applicable reference:**

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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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 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

**Who discovered the problem:** Anand Upadhye

**Name of individual from Contractor notified:** Yang Chao

**Time and method of notification:** 1000 hours, 04/26/10, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen, Stanley Ku

**Time and method of notification:** 0700 hours, 4/27/10, Verbal

**QC Inspector's Name:** Li Ping

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

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

N/A

**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.

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**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:** 30-Apr-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:** 05.03.06-000681

**Subject:** NCR No. ZPMC-0686

**Reference Description:** Missed MT indication by QC on Segment 9DW Deck Panel to Diaphragm

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:** 09

### Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9DW, this QA Inspector discovered the following issue:

- One (1) Longitudinal linear crack like indication measuring approximately 20 mm in length.
- The weld is identified as DP260-001-061 @ Panel Point 081.
- The weld is a Fillet Weld T-joint joining the Deck Plate to Deck Panel Diaphragm plate.
- The plate number for Deck Plate is identified as PL307A (Non SPCM).
- Deck panel diaphragm plate is identified as X1E (Non SPCM).
- The indication is clearly marked on the material near the weld.
- OBG Segment 9DW is located at the back side of OBG Bay #14.
- The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

### 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:** Sean Eagen Transportation Engineer

**Attachments:** ZPMC-0686

**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao, Bill Casey  
**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, P.R. China

**Report No:** NCR-000723

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

**Date:** 29-Apr-2010

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

**NCR #:** ZPMC-0686

### Type of problem:

Welding  Concrete  Other

Welding  Curing  Procedural

**Bridge No:** 34-0006

Joint fit-up  Coating  Other

**Component:** OBG Segment 9DW Deck Panel

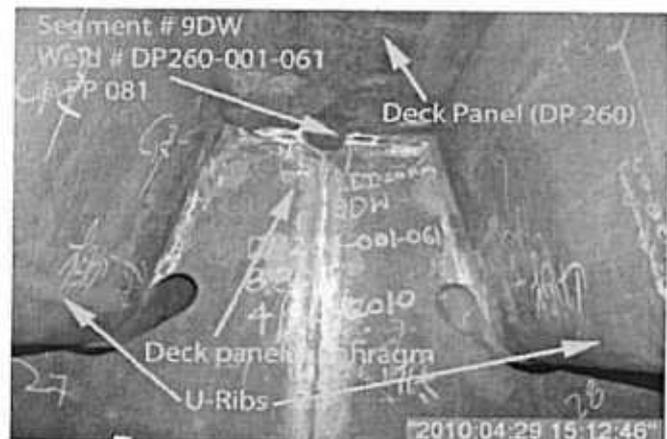
Procedural  Procedural  **Description:** Missed MT Indication by QC

**Reference Description:** Missed MT indication by QC on Segment 9DW Deck Panel to Diaphragm

### Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9DW, this QA Inspector discovered the following issue:

- One (1) Longitudinal linear crack like indication measuring approximately 20 mm in length.
- The weld is identified as DP260-001-061 @ Panel Point 081.
- The weld is a Fillet Weld T-joint joining the Deck Plate to Deck Panel Diaphragm plate.
- The plate number for Deck Plate is identified as PL307A (Non SPCM).
- Deck panel diaphragm plate is identified as X1E (Non SPCM).
- The indication is clearly marked on the material near the weld.
- OBG Segment 9DW is located at the back side of OBG Bay #14.
- The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.



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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 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

**Who discovered the problem:** Vikram Singh

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

**Time and method of notification:** 18:30 hours, 04/29/10, Email

**Name of Caltrans Engineer notified:** Sean Eagen

**Time and method of notification:** 09:00 hours, 04/30/10, Verbal

**QC Inspector's Name:** Wang Lu

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

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

N/A

**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.

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<b>Inspected By:</b> Tsang, Eric	SMR
<b>Reviewed By:</b> Wahbeh, Mazen	SMR

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# REPORT OF MAGNETIC PARTICLE EXAMINATION

## 磁粉检测报告

REPORT NO. 报告编号 B787-MT-22550R1      DATE日期 2010.05.13      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: DP260 9DW DECK PLATE U-RIB      CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4

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<sup>ST</sup>, 2010

EQUIPMENT 设备 MT YOKE      MANUFACTURER 制造商 PARKER      MODEL NO. 样式编号 B310S      SERIAL NO. 连续编号 5395 5617 5620

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  WELDING 焊接件  CASTING 铸件  FORGING 锻造      Material & thickness 母材, 厚度 A709M-345 14/12mm

WELDING PROCESS 焊接方法 SMAW      TYPE OF JOINT 焊缝类型 T-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			
DP260-001-061	1R1			ACC.		100%MT

AFTER B-CWR1459 REV0

BLANK

EXAMINED BY 主探 Su Wei Su Wei 2010.05.13	REVIEWED BY 审核 Su Gong Chang 2010.05.13
LEVEL - II SIGN 签名 / DATE日期 质量经理 / QCM	LEVEL-II SIGN / DATE日期 用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



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:** 03-May-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:** 05.03.06-000683

**Subject:** NCR No. ZPMC-0688

**Reference Description:** Missed MT Indications by QC in OBG Segment 9DW

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:** 09

### Remarks:

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DW, this QA Inspector discovered the following issue:

On April 30, 2010:

- Three transverse linear indications, one measuring approximately 9mm and two indications measuring approximately 5mm in length at Longitudinal Diaphragm (LD) LD3A to Floor beam (FB) FB11A.
- Weld is identified as SEG055B-034 and designated as a Fracture Critical Weld (FCW).
- The weld is a 14mm Complete Joint Penetration (CJP) T-joint joining LD 3A shear plate identified as X39B to FB web plate identified as X47C (Seismic Performance Critical Material SPCM).
- The indications are clearly marked on the material.

On May 1, 2010:

- One (1) Longitudinal linear indication measuring approximately 18mm in length.
- The Y location is 7mm from the cope hole.
- The indication is clearly marked on the material near the weld.
- The weld is identified as: CSD9-PP81-062.
- The weld is designated as Seismic Performance Critical Member (SPCM).
- The weld is located at PP81 (Counter Weight Side).
- The weld is a Fillet Weld T-joint joining the Corner Assembly Diaphragm identified as X11B (SPCM) to Side Plate identified as SP658 (SPCM).
- OBG segment 9DW is located west of Bay #14.

The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

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## NCT

( Continued Page 2 of 2 )

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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:** Sean Eagen      Transportation Engineer

**Attachments:** ZPMC-0688

**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao, Bill Casey  
**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 #: 04-0120F4Cty: 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-000725**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 01-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0688**Type of problem:**

**Welding**        **Concrete**        **Other**      
**Welding**        **Curing**        **Procedural**        **Bridge No:** 34-0006  
**Joint fit-up**        **Coating**        **Other**        **Component:** Sgement 9DW  
**Procedural**        **Procedural**        **Description:** Missed MT Indications by QC

**Reference Description:** Missed MT Indications by QC in OBG Segment 9DW**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DW, this QA Inspector discovered the following issue:

On April 30, 2010:

- Three transverse linear indications, one measuring approximately 9mm and two indications measuring approximately 5mm in length at Longitudinal Diaphragm (LD) LD3A to Floor beam (FB) FB11A.
- Weld is identified as SEG055B-034 and designated as a Fracture Critical Weld (FCW).
- The weld is a 14mm Complete Joint Penetration (CJP) T-joint joining LD 3A shear plate identified as X39B to FB web plate identified as X47C (Seismic Performance Critical Material SPCM).
- The indications are clearly marked on the material.

On May 1, 2010:

- One (1) Longitudinal linear indication measuring approximately 18mm in length.
- The Y location is 7mm from the cope hole.
- The indication is clearly marked on the material near the weld.
- The weld is identified as: CSD9-PP81-062.
- The weld is designated as Seismic Performance Critical Member (SPCM).
- The weld is located at PP81 (Counter Weight Side).
- The weld is a Fillet Weld T-joint joining the Corner Assembly Diaphragm identified as X11B (SPCM) to Side Plate identified as SP658 (SPCM).
- OBG segment 9DW is located west of Bay #14.

The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.



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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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**Who discovered the problem:** Amit K. Juvekar, Subhasis Bera

**Name of individual from Contractor notified:** Wei Jian Bo

**Time and method of notification:** 900 hours, 05/01/10, Verbal

**Name of Caltrans Engineer notified:** Stanley Ku, Sean Eagen

**Time and method of notification:** 1030 hours, 05/02/10, Verbal

**QC Inspector's Name:** Tang Ya Jun

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

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

N/A

**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.

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**Inspected By:** Tsang, Eric

SMR

**Reviewed By:** Wahbeh, Mazen

SMR

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# REPORT OF MAGNETIC PARTICLE EXAMINATION

## 磁粉检测报告

REPORT NO. 报告编号 B787-MT-22579R1      DATE日期 2010.05.16      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: SEG055B      CALTRANS CONTRACT NO.: 加州工程编号: 04-0120F4  
 9DW LONGITUDINAL DIAPHRAGM

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<sup>ST</sup>, 2010

EQUIPMENT 设备: MT YOKE      MANUFACTURER 制造商: PARKER      MODEL NO. 样式编号: B310S      SERIAL NO. 连续编号: 5395 5617 5620

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:  WELDING 焊接件      Material & thickness 母材, 厚度: A709M-345T2/F2-X  
 CASTING 铸件      14mm  
 FORGING 锻造

WELDING PROCESS 焊接方法: SMAW      TYPE OF JOINT 焊缝类型: CORNER 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			
SEG055B-034	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT

AFTER B-CWR1460 REV0

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EXAMINED BY主探: Ding Acheng *Ding Acheng* 2010.05.16      REVIEWED BY审核: SILWEN *SILWEN* 2010.05.16  
 LEVEL-II SIGN 签名 / DATE日期      LEVEL-II SIGN / DATE日期

质量经理 / QCM      用户CUSTOMER  
 签字 SIGN / 日期 DATE      签字 SIGN / 日期 DATE





**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:** 07-May-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:** 05.03.06-000689

**Subject:** NCR No. ZPMC-0694

**Reference Description:** Missed UT indication by QC on Segment 10AE Side Plate to Side Plate Weld

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:** 10

**Remarks:**

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 10AE, this QA Inspector discovered the following issue:

- One (1) Class "A" indication measuring approximately 20mm in length.
- The Indication D-rating is +3dBs.
- The weld is identified as SEG060A-013.
- The thickness of the side plates are 16mm and depth of the indication approximately 10mm.
- The weld is a Complete Joint Penetration (CJP) butt weld joining the side plate SP549B (PL1072B) to side plate SP589B (PL1074B).
- The "Y" location is approximately 2060mm from one edge of this side plate at PP87 west side.
- The indication is clearly marked by the QA on/near the weld.
- This weld joint is designated as Seismic Performance Critical Member (SPCM).
- OBG Segment 10AE is located in the outside yard on the west side of Bay 14.

The Notice of Witness Inspection Number (NWIT) is 005666. The indications are located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% UT inspection of this weld.

**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:** Sean Eagen Transportation Engineer  
**Attachments:** ZPMC-0694

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**NCT**

*( Continued Page 2 of 2 )*

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**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao, Bill Casey  
**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 #: 04-0120F4Cty: 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-000731**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 06-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0694**Type of problem:**Welding  Concrete  Other Welding  Curing  Procedural  Bridge No: 34-0006Joint fit-up  Coating  Other  Component: OBG Segment 10AE Side PlateProcedural  Procedural  Description: Missed UT Indication by QC**Reference Description:** Missed UT indication by QC on Segment 10AE Side Plate to Side Plate Weld**Description of Non-Conformance:**

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 10AE, this QA Inspector discovered the following issue:

- One (1) Class "A" indication measuring approximately 20mm in length.
- The Indication D-rating is +3dBs.
- The weld is identified as SEG060A-013.
- The thickness of the side plates are 16mm and depth of the indication approximately 10mm.
- The weld is a Complete Joint Penetration (CJP) butt weld joining the side plate SP549B (PL1072B) to side plate SP589B (PL1074B).
- The "Y" location is approximately 2060mm from one edge of this side plate at PP87 west side.
- The indication is clearly marked by the QA on/near the weld.
- This weld joint is designated as Seismic Performance Critical Member (SPCM).
- OBG Segment 10AE is located in the outside yard on the west side of Bay 14.

The Notice of Witness Inspection Number (NWIT) is 005666. The indications are located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% UT inspection of this weld.

**Applicable reference:**

AWS D1.5-2002, Section 6, Table 6.3; "Specifies a class A indication as having a dBs rating of +10 and lower for weld thicknesses 8mm through 20mm."

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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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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**Who discovered the problem:** Vibin Kumar S  
**Name of individual from Contractor notified:** Li Man Kit  
**Time and method of notification:** 1730 hours, 05/06/10, Email  
**Name of Caltrans Engineer notified:** Stanley Ku  
**Time and method of notification:** 0840 hours, 05/07/10, Verbal  
**QC Inspector's Name:** Zhang Wei  
**Was QC Inspector aware of the problem:**  Yes  No  
**Contractor's proposal to correct the problem:**  
N/A

**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.

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<b>Inspected By:</b> Tsang, Eric	SMR
<b>Reviewed By:</b> Wahbeh, Mazen	SMR

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# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-12730R1      DATE 2010.05.18      PAGE 1 OF 1      Revision No: 0

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

ITEMS NAME: 10AE SIDE PLATE      DRAWING NO.: SEG060      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  
 SMAW      BUTT      Dec. 28<sup>ST</sup>, 2010

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  
 AWS IIV BLOCK TYPE II      C.M.C      A709M-345F2-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°	2.5MHz	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
SEG060A-013	1R1	70				34									ACC.	100%

AFTER B-WR12324

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EXAMINED BY 主探 <i>Kuang jing</i> 2010.05.18 LEVEL - I SIGN / DATE	REVIEWED BY 审核 <i>WU Chao</i> 2010.05.18 LEVEL - II SIGN / DATE
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质量经理 / QCM _____ 签字 SIGN / 日期 DATE	用户 CUSTOMER _____ 签字 SIGN / 日期 DATE
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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-000660**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0688**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>Description:</b>	

**Date the Non-Conformance Report was written:** 01-May-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DW, this QA Inspector discovered the following issue:

On April 30, 2010:

- Three transverse linear indications, one measuring approximately 9mm and two indications measuring approximately 5mm in length at Longitudinal Diaphragm (LD) LD3A to Floor beam (FB) FB11A.
- Weld is identified as SEG055B-034 and designated as a Fracture Critical Weld (FCW).
- The weld is a 14mm Complete Joint Penetration (CJP) T-joint joining LD 3A shear plate identified as X39B to FB web plate identified as X47C (Seismic Performance Critical Material SPCM).
- The indications are clearly marked on the material.

On May 1, 2010:

- One (1) Longitudinal linear indication measuring approximately 18mm in length.
- The Y location is 7mm from the cope hole.
- The indication is clearly marked on the material near the weld.
- The weld is identified as: CSD9-PP81-062.
- The weld is designated as Seismic Performance Critical Member (SPCM).
- The weld is located at PP81 (Counter Weight Side).
- The weld is a Fillet Weld T-joint joining the Corner Assembly Diaphragm identified as X11B (SPCM) to Side Plate identified as SP658 (SPCM).
- OBG segment 9DW is located west of Bay #14.

The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

