

**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, PR China**Report No:** NCR-000787**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 06-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0749**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** Doubler plate to Infill Plate**Procedural****Procedural****Description:****Reference Description:** Missed UT indication**Description of Non-Conformance:**

During random 10% verification of Ultrasonic Testing (UT) of Doubler Plate to Infill Plate, Quality Assurance Inspector (QA) discovered the following issues:

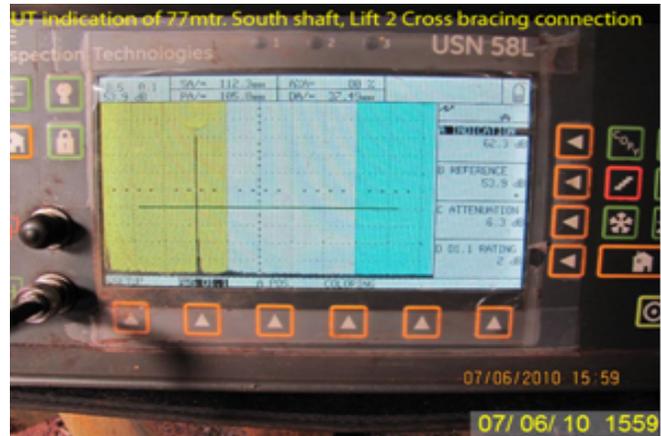
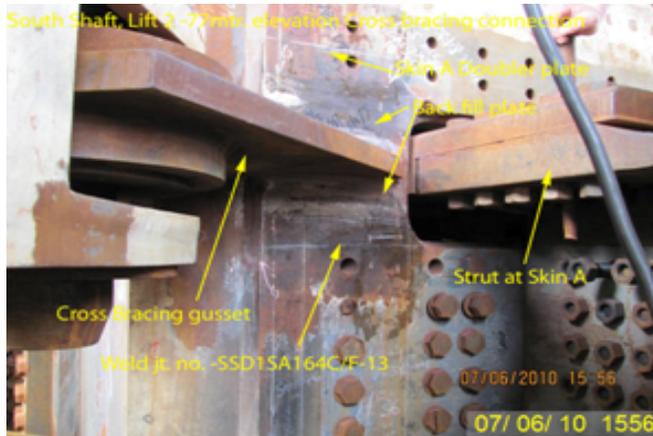
- One Class "B" non-conforming longitudinal indication measuring approximately 60 mm in length found in CJP weld between doubler plate and infill plate, at 77m level of South Shaft, Lift 2.
- The weld is identified as SSD1-SA164C/F-13.
- The discontinuity rating is Class "B" reject.
- Depth of the discontinuity is approximately 37mm from Face A, Y location found to be 15mm from Strut side.
- Material thickness is 50mm.
- The member is located in Tower Trial assembly(Lift2/Lift 3) area, Heavy Dock .

The Notice of Witness of Inspection is #006134. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control(QC)personnel.

Please refer to pictures below.

# 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 Section 6.26.3.1; "Welds that are subject to UT in addition to visual inspection shall be acceptable if they meet the following requirements:... (1) Welds subject to tensile stress under any condition of loading shall conform to the requirements of Table 6.3... (2) Welds subject to compressive stress shall conform to the requirements of Table 6.4."

AWS D1.5-02 Section 6; Table 6.4 specifies welds >38mm through 60mm having a dbb rating of -1 & 0 being a class B indication. Any indication in this category having a length greater than 20 mm shall be rejected.

**Who discovered the problem:** Baskar Govindarajan

**Name of individual from Contractor notified:** Mr. Bi De wei

**Time and method of notification:** 1400 hours, 07/06/10, Verbal

**Name of Caltrans Engineer notified:** Jim Reid

**Time and method of notification:** 1330 hours, Verbal

**QC Inspector's Name:** Mr. Zhu Feng

**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, who represents the Office of Structural Materials for your project.

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**Inspected By:** Ng, Michael

QA Inspector

**Reviewed By:** Devey, Jim

SMR

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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
 333 Burma Road  
 Oakland CA 94607  
 Tel: 510-286-0539 Fax: 510-286-0550

**NON-CONFORMANCE REPORT TRANSMITTAL**

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

**Date:** 08-Jul-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-0749

**Job Name:** SAS Superstructure  
**Document No:** 05.03.06-000745

**Reference Description:** Missed UT indication/Tower/Lift 2 Infill Plate

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:** Tower **Lift:** 02

**Remarks:**

During random 10% verification of Ultrasonic Testing (UT) of Doubler Plate to Infill Plate, Quality Assurance Inspector (QA) discovered the following issues:

- One Class "B" non-conforming longitudinal indication measuring approximately 60 mm in length found in CJP weld between doubler plate and infill plate, at 77m level of South Shaft, Lift 2.
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**Action Required and/or Action Taken:**

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# NCT

( Continued Page 2 of 2 )

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Propose a resolution for this non-conformance and provide documentation that the deficiency has been brought into compliance with the contract requirements. Propose a resolution that addresses the apparent failure of Quality Control to identify the indication. Additionally, provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

The response for the resolution of this issue is requested within 7 days.

**Transmitted by:** Gina Rizzardo          Transportation Engineer

**Attachments:**    ZPMC-0749

**cc:**    Rick Morrow, Gary Pursell, Mark Woods

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000745

**Subject:** NCR No. ZPMC-0749

**Dated:** 08-Sep-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000772 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** The NDT shows that the indication is no longer present and the weld is acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC has repaired the indication noted in the non conformance report, as there is a dispute on whether the weld which had the indication found by CT was previously inspected by ZPMC or not, ZPMC is providing the NDT to resolve this issue. The NDT shows that the indication is no longer present and the weld is acceptable. Based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000772R00;

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### Caltrans' comments:

**Status:** AAP

**Date:** 12-Sep-2010

This proposed resolution is accepted with action pending. This NCR will be considered closed once the proper NDT documentation is submitted and reviewed.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 12-Sep-2010



No. T-161

## LETTER OF RESPONSE

**TO: American Bridge/Flour JV**

**DATE: 2010-09-06**

**REGARDING: NCR-000787(ZPMC-0749)**

ZPMC received NCR-000787(ZPMC-0749), it mentioned that CT inspectors found indication on weld ssd1-sa164c/f-13.

Once CT inspector found indication on this weld, ZPMC realized this problem and performed repair work under approval of CT site inspector. Finally this weld was checked by CT and green tagged.

As a conscientious attitude and to improve welding quality, we have already inculcated the welder to perform carefully, and welding must be covered by QC.

Here attached related NDT reports show the weld is sound finally.

Basing on above information, ZPMC hope CT could take a review and close the NCR.

**ATTACHMENT:**

**NCR-000787(ZPMC-0749)**

**T787-UT-3165**

*Zhang Li*

*2010.9.08*

Pictures



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
333 Burma Road  
Oakland CA 94607  
Tel: 510-286-0539 Fax: 510-286-0550

**NON-CONFORMANCE REPORT TRANSMITTAL**

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

**Date:** 08-Jul-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:** 05.03.06-000745

**Subject:** NCR No. ZPMC-0749

**Reference Description:** Missed UT indication/Tower/Lift 2 Infill Plate

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:** Tower **Lift:** 02

**Remarks:**

During random 10% verification of Ultrasonic Testing (UT) of Doubler Plate to Infill Plate, Quality Assurance Inspector (QA) discovered the following issues:

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- The member is located in Tower Trial assembly(Lift2/Lift 3) area, Heavy Dock .

The Notice of Witness of Inspection is #006134. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control(QC)personnel.

**References:**

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

02.02.15.04  
NCT-05.03.06-000745.NCT

Received  
NCT-000745 09 Jul 10 Page 1 of 2

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## NCT

( Continued Page 2 of 2 )

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Propose a resolution for this non-conformance and provide documentation that the deficiency has been brought into compliance with the contract requirements. Propose a resolution that addresses the apparent failure of Quality Control to identify the indication. Additionally, provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

The response for the resolution of this issue is requested within 7 days.

**Transmitted by:** Gina Rizzardo      Transportation Engineer

**Attachments:** ZPMC-0749

**cc:** Rick Morrow, Gary Pursell, Mark Woods

**File:** 05.03.06

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

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

**Location:** Changxing Island, Shanghai, PR China

**Report No:** NCR-000787

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

**Date:** 06-Jul-2010

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

**NCR #:** ZPMC-0749

### Type of problem:

Welding  Concrete  Other

Welding  Curing  Procedural

Joint fit-up  Coating  Other

Procedural  Procedural  Description:

**Bridge No:** 34-0006

**Component:** Doubler plate to Infill Plate

**Reference Description:** Missed UT indication

### Description of Non-Conformance:

During random 10% verification of Ultrasonic Testing (UT) of Doubler Plate to Infill Plate, Quality Assurance Inspector (QA) discovered the following issues:

-One Class "B" non-conforming longitudinal indication measuring approximately 60 mm in length found in CJP weld between doubler plate and infill plate, at 77m level of South Shaft, Lift 2.

-The weld is identified as SSD1-SA164C/F-13.

-The discontinuity rating is Class "B" reject.

-Depth of the discontinuity is approximately 37mm from Face A, Y location found to be 15mm from Strut side.

- Material thickness is 50mm.

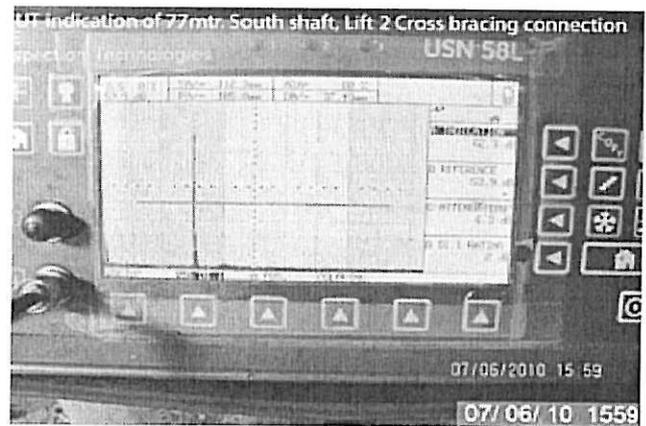
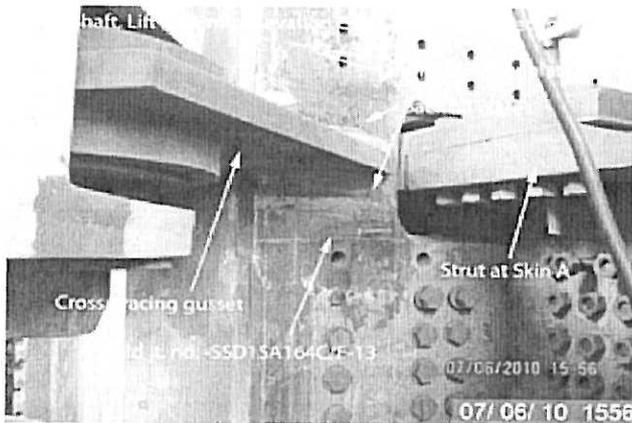
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The Notice of Witness of Inspection is #006134. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control(QC)personnel.

Please refer to pictures below.

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



### Applicable reference:

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**Who discovered the problem:** Baskar Govindarajan

**Name of individual from Contractor notified:** Mr. Bi De wei

**Time and method of notification:** 1400 hours, 07/06/10, Verbal

**Name of Caltrans Engineer notified:** Jim Reid

**Time and method of notification:** 1330 hours, Verbal

**QC Inspector's Name:** Mr. Zhu Feng

**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, who represents the Office of Structural Materials for your project.

**Inspected By:** Ng, Michael

QA Inspector

**Reviewed By:** Devey, Jim

SMR

## NCR PROPOSED RESOLUTION

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

**Attention:** Siegenthaler, Peter  
Resident Engineer

**Ref:** 05.03.06-000745

**Subject:** NCR No. ZPMC-0749

**Dated:** 16-Sep-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000772 Rev: 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC is providing the NDT to show that the repair was successful and the indication removed. Based on this, ZPMC requests closure of this NCR.

ZPMC is providing the NDT to show that the repair was successful and the indication removed. Based on this, ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000772R01;

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**Caltrans' comments:**

**Status:** CLO

**Date:** 26-Sep-2010

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0749 is closed.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 26-Sep-2010



No. T-161

## LETTER OF RESPONSE

TO: American Bridge/Flour JV  
DATE: 2010-09-06  
REGARDING: NCR-000787(ZPMC-0749)

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ATTACHMENT:  
NCR-000787(ZPMC-0749)  
T787-UT-3165

*Zhang Li*  
2010.9.08

Pictures



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333 Burma Road  
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Tel: 510-286-0539 Fax: 510-286-0550

### NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 08-Jul-2010

Contract No: 04-0120F4

04-SF-80-13.2 / 13.9

Dear: Mr. Charles Kanapicki  
Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Job Name: SAS Superstructure

Document No: 05.03.06-000745

Subject: NCR No. ZPMC-0749

Reference Description: Missed UT indication/Tower/Lift 2 Infill Plate

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- Non-Conformance Resolved.

Material Location: Tower

Lift: 02

**Remarks:**

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02.07.15.04  
NCT-05.03.06-000745.NCT

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NCT-000745 09 Jul 10 Page 1 of 2

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NCT

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Transmitted by: Gina Rizzardo      Transportation Engineer

Attachments:    ZPMC-0749

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File: 05.03.06

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

**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

Location: Changxing Island, Shanghai, PR China

Report No: NCR-000787

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Date: 06-Jul-2010

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

NCR #: ZPMC-0749

Type of problem:

- Welding  Concrete  Other
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- Joint fit-up  Coating  Other
- Procedural  Procedural  Description:

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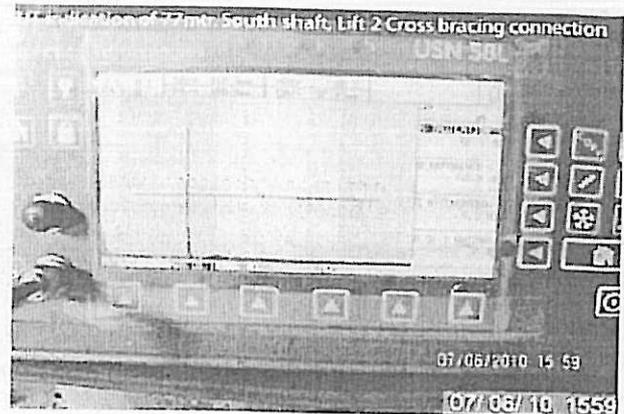
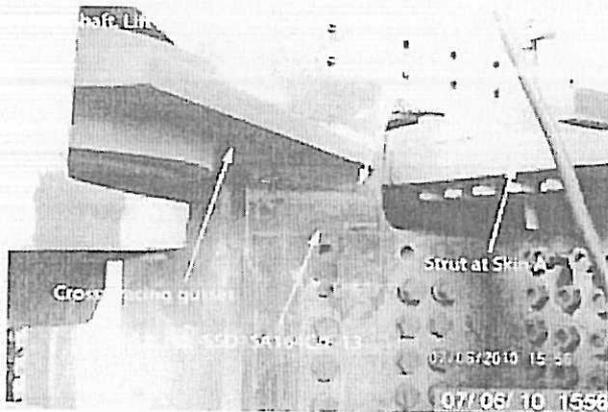
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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )



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Time and method of notification: 1400 hours, 07/06/10, Verbal

Name of Caltrans Engineer notified: Jim Reid

Time and method of notification: 1330 hours, Verbal

QC Inspector's Name: Mr. Zhu Feng

Was QC Inspector aware of the problem:  Yes  No

Contractor's proposal to correct the problem:

N/A

### Comments:

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Inspected By: Ng.Michael

QA Inspector

Reviewed By: Devey.Jim

SMR



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 T787-UT-3165      DATE 2010.07.16      PAGE 1 OF 1      Revision No: 0

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

ITEMS NAME: SECOND LIFTING TOWER(S)      DRAWING NO.: SSD1-SA164C/F      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 IIW BLOCK TYPE II      C.M.C      A709M-HPS-485WT2-Z/A709M-345T2-Z      50mm

### 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	60°	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
SSD1-SA164C/F-13		70				34									ACC.	100%
		60				33									ACC.	100%
BLANK																

EXAMINED BY 主探 <i>Xin Baigang</i> 2010.07.16 LEVEL - II SIGN / DATE	REVIEWED BY 审核 <i>Dan Guangsheng</i> 2010.07.16 LEVEL - II SIGN / DATE
质量经理 / QCM <i>Lo Shunshun</i> 2010.7.16 签字 SIGN / 日期 DATE	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



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, PR China**Report No:** NCS-000795**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 24-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0749**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:** 06-Jul-2010**Description of Non-Conformance:**

During random 10% verification of Ultrasonic Testing (UT) of Doubler Plate to Infill Plate, Quality Assurance Inspector (QA) discovered the following issues:

- One Class "B" non-conforming longitudinal indication measuring approximately 60 mm in length found in CJP weld between doubler plate and infill plate, at 77m level of South Shaft, Lift 2.
- The weld is identified as SSD1-SA164C/F-13.
- The discontinuity rating is Class "B" reject.
- Depth of the discontinuity is approximately 37mm from Face A, Y location found to be 15mm from Strut side.
- Material thickness is 50mm.
- The member is located in Tower Trial assembly(Lift2/Lift 3) area, Heavy Dock .

The Notice of Witness of Inspection is #006134. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control(QC)personnel.

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

Contractor will repair the indication noted and provide NDT documentation showing weld meets contract requirements.

**Corrective action taken:**

Contractor completed the weld repair, and submitted NDT documentation showing weld now in conformance with contract requirements.

**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:**

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 , who represents the Office of Structural Materials for your project.

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**Inspected By:**    Ng,Michael

Quality Assurance Inspector

**Reviewed By:**    Devey,Jim

QA Reviewer