

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, China**Report No:** NCR-000781**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Jun-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0743**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** SEG11AE, PP97 LD2A flange to FB10A**Procedural****Procedural****Description:****Reference Description:** Missed UT Indication**Description of Non-Conformance:**

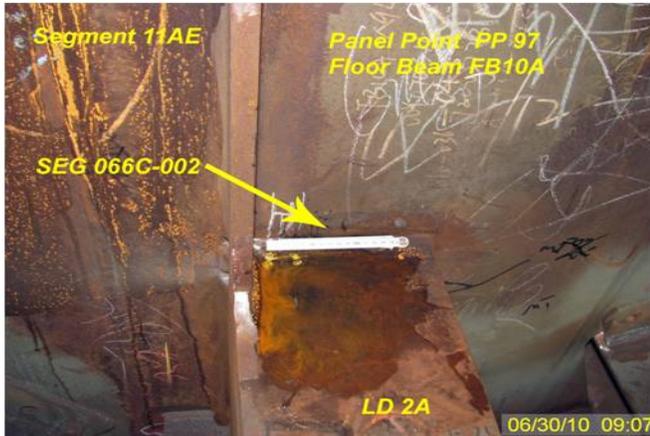
During the Quality Assurance Ultrasonic Testing (UT) verification of welds located on Segment 11AE, QA discovered the following issue:

- One (1) Class "A" rejectable indication measuring approximately 30 mm in length.
- The weld is a Complete Joint Penetration (CJP) 'T' joint single bevel groove weld joining the Longitudinal Diaphragm (LD2A) Flange, to the Floor beam FB10A Web, on the West side of Panel Point 97.
- The indication db rating was (+3).
- The thickness of the LD flange plate is 25 mm.
- Depth of the indication is 21 mm.
- The "Y" location is approximately 10mm measured from end of the flange.
- The weld is identified as SEG066C-002.
- The indication is clearly marked near the weld.
- Segment 11AE is located in the segment repair yard south of the fabrication bay 14.
- This weld joint is designated as Non Seismic Performance Critical Weld Member (Non-SPCM).

The Notice of Witness Inspection Number (NWIT) is 006079. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5-2002, Section 6, Table 6.3. Specifies a class A indication as having a decibel rating of (+8) and lower for weld thicknesses 21mm through 38mm.

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: Art Peterson

Name of individual from Contractor notified: Mr. Wang Wei An

Time and method of notification: 1630 hours_06/29/10_Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 6/30/10, 18:30, Email

QC Inspector's Name: Mr. Wu Shi Gao

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.

Inspected By:	Devey,Jim	SMR
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Reviewed By:	Wahbeh,Mazen	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: 02-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-0743

Job Name: SAS Superstructure
Document No: 05.03.06-000739

Reference Description: Missed UT Indication

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:** 11

Remarks:

During the Quality Assurance Ultrasonic Testing (UT) verification of welds located on Segment 11AE, QA discovered the following issue:

- One (1) Class "A" rejectable indication measuring approximately 30 mm in length.
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The Notice of Witness Inspection Number (NWIT) is 006079. 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: Laraine Woo Transportation Engineer

NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0743

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: 05.03.06-000739

Subject: NCR No. ZPMC-0743

Dated: 30-Aug-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000757 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the missed indication and is providing the weld repair report and NDT performed after the repair to show it is acceptable.

ZPMC has repaired the missed indication and is providing the weld repair report and NDT performed after the repair to show it is acceptable. ZPMC QA has discussed this issue with their NDT Department head to reduce missed indications in UT by ensuring inspectors are not over tasked to perform inspections too quickly. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000757R00;

Caltrans' comments:

Status: CLO

Date: 08-Sep-2010

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

Submitted by: Woo, Laraine

Date: 08-Sep-2010

Attachment(s):



No. B-860

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-8-28

REGARDING: NCR-000781(ZPMC-0743)

For this case, ZPMC has issue an internal NCR to address this issue and ZPMC QA personnel have talked with the head of the NDT department. The missed indications have been repaired and were tested to be acceptable. ZPMC is providing the WRR and NDT record for review. Based on this, please consider closure of this NCR.

ATTACHMENT:

NCR-000781(ZPMC-0743)

B-WR14860

B787-UT-14802

Zhao jia neng

2010/8/28



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: 02-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: 05.03.06-000739
Subject: NCR No. ZPMC-0743
Reference Description: Missed UT Indication

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

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Lift: 11

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NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0743

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

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, China

Report No: NCR-000781

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 30-Jun-2010

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

NCR #: ZPMC-0743

Type of problem:

Welding **Concrete** **Other**

Welding **Curing** **Procedural**

Joint fit-up **Coating** **Other**

Procedural **Procedural** **Description:**

Bridge No: 34-0006

Component: SEG11AE, PP97 LD2A flange to FB10A

Reference Description: Missed UT Indication

Description of Non-Conformance:

During the Quality Assurance Ultrasonic Testing (UT) verification of welds located on Segment 11AE, QA discovered the following issue:

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



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Who discovered the problem: Art Peterson

Name of individual from Contractor notified: Mr. Wang Wei An

Time and method of notification: 1630 hours_06/29/10_Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 6/30/10, 18:30, Email

QC Inspector's Name: Mr. Wu Shi Gao

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.

Inspected By: Devey,Jim

SMR

Reviewed By: Wahbeh,Mazen

SMR



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	<u>SEG066C</u>	报告编号 Report No.	B-WR14860
合同号 Contract No.:	04-0120F4	部件名称 Items Name	<u>11AE LONGITUDINAL</u> <u>DIAPHRAGM</u>	NDT报告编号 Report No. of NDT	<u>B787-UT-14802</u>
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述: (普通UT探伤发现的缺陷长度小于最大允许长度)

(Description of welding discontinuity): Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

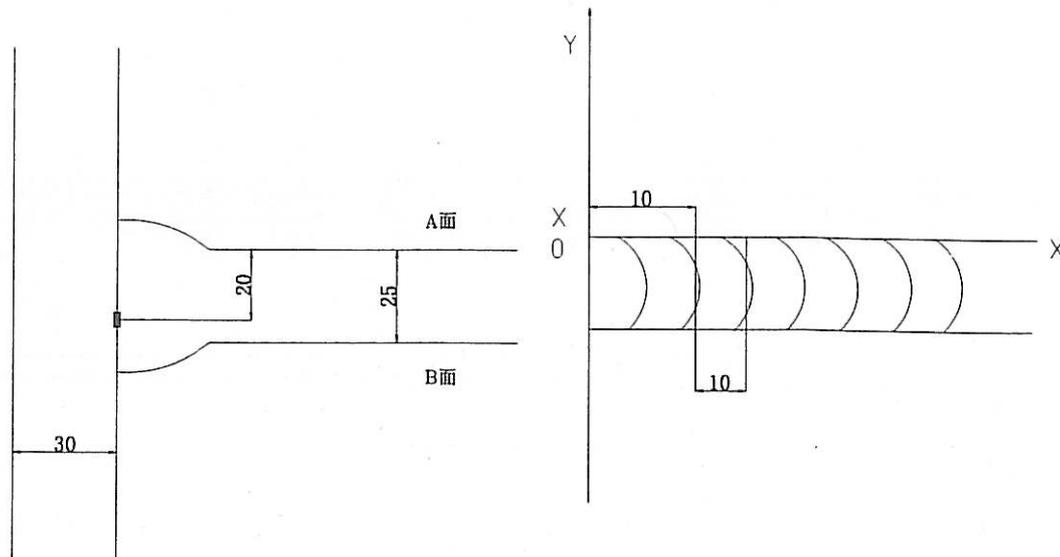
焊缝编号为: SEG066C-002

检验员 (Inspector): Sun Yin
Sun Yin

日期(Date): 2010.08.28

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: SEG066C-002

产生原因:

Caused:

1. 焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman):

日期(Date):

处理意见

Disposition :

1. 从缺陷距离端面较近一侧 ($D \leq 0.65T$, D为缺陷深度, T为板厚) 采用碳刨或打磨的方法去除焊缝缺陷;

2. 参照返修焊接工艺规程 (WPS) 准备正确的接头型式, 预热和焊接;

3. 将修补区域打磨到与母材或邻近焊缝平齐;

4. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge ($D \leq 0.65T$, "D" is depth of defects, "T" is thickness of metal) to remove all defects;

2. Follow repair WPS for joint preparation, preheat, and weld deposit;

3. Grind the repaired area flush with base metal or the adjacent weld;

4. Check the welds according to the working drawings.

工艺: *Hexing Lin* 8.28
Technical engineer

审核:
Approved by

日期
Date



焊缝返修报告

Welding Repair Report

版本 Rev. No.

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG066C	报告编号 Report No.	B-WR14860
合同号 Contract No.:	04-0120F4	部件名称 Items Name	11AE LONGITUDINAL	NDT报告编号 Report No.of NDT	B787-UT-14802
项目编号 Project No.:	ZP06-787		DIAPHRAGM		

纠正措施:

Correction action to prevent re occurrence:

1. 加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): *Hu Y. Zhang* 日期(Date): 8.28

参照的WPS编号 Repair WPS No.	<input type="checkbox"/> WPS-345-SMAW-1G(1F)- Repair <input type="checkbox"/> WPS-345-FCAW-1G(1F)- Repair-1 <input type="checkbox"/> WPS-345-SMAW-2G(2F)-Repair <input type="checkbox"/> WPS-345-FCAW-2G(2F)-Repair-1 <input type="checkbox"/> WPS-345-SMAW-3G(3F)- Repair <input type="checkbox"/> WPS-345-SMAW-4G(4F)- Repair <input type="checkbox"/> WPS-345-SMAW-1G(1F)-FCM-Repair <input type="checkbox"/> WPS-345-SMAW-2G(2F)-FCM-Repair <input type="checkbox"/> WPS-345-SMAW-3G(3F)-FCM-Repair <input type="checkbox"/> WPS-345-SMAW-4G(4F)-FCM-Repair <input type="checkbox"/> 其他	工艺员 technologist	<i>He Xianglin</i> 8.28
返修(碳刨)前预热温度 Preheat temperature before gouging	108°C	返修的缺陷 Description of discontinuity	IF
焊前处理检查 Inspection before welding	ACC	焊前预热温度 Preheat temperature before welding	121°C
最大碳刨深度 Max. depth of gouging	8mm	碳刨总长 Total length of gouging	100
焊工 welder	200113	焊接类型 welding type	SMAW
焊接电流 Current	181	焊接电压 Voltage	25.1
		焊接位置 position	2G
		焊接速度 Speed	165
返修后检查 Inspection After repairing:			
外观检查 VT result	ACC	检验员 Inspector	<i>Li Yaohua 0720201</i>
NDT复检 NDT result	<i>AK</i>	探伤员 NDT person	<i>San Yin</i>
日期 Date		日期 Date	2010.8.28
日期 Date		日期 Date	2010.8.29
见证: Witness/Review:			
备注: Remark:			

#R787-QCP-900



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-14802R1 DATE 2010.08.29 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: 11AE LONGITUDINAL DIAPHRAGM 部件名称	DRAWING NO.: SEG066C 图号	CALTRANS CONTRACT NO.: 04-0120F4 加州工程编号
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REFERENCING CODE 参考规范 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002(Table 6.3)	PROCEDURE NO. 程序编号 ZPQC-UT-01
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WELDING PROCESS 焊接方法 FCAW	JOINT TYPE 焊缝类型 CORNER-JOINT	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2010
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EQUIPMENT 设备 UT SCOPE	MANUFACTURER 制造商 PANAMETRICS	MODEL NO. 样式编号 EPOCH-4B	SERIAL NO. 序列编号 071565311, 061488510, 061495811, 070152011,
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CALIBRATION BLOCK 试块 AWS IIW BLOCK TYPE II	COUPLANT 耦合剂 C.M.C	MATERIAL/THICKNESS 材料厚度 A709M-345T2/F2-X 25/30mm
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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	Depth from Surface 距表面深度	From X 距X	From Y 距Y			
SEG066C-002	1R1	71	A			43									ACC	100%

AFTER B-WR14860

BLANK

EXAMINED BY 主探 <i>Sun Yin</i> 10.28.29 LEVEL - II SIGN / DATE	REVIEWED BY 审核 <i>Sun Wei</i> 10.28.29 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, China**Report No:** NCS-000753**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 07-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0743**Type of problem:**

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

Date the Non-Conformance Report was written: 30-Jun-2010**Description of Non-Conformance:**

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Contractor's proposal to correct the problem:

Repair said indication and perform NDT required to verify weld quality.

Corrective action taken:

Contractor supplied post repair NDT documentation verifying weld is in conformance with Contract weld quality requirements. Contractor has also taken action directly with NDT Technicians to avoid similar issues in the future.

