

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



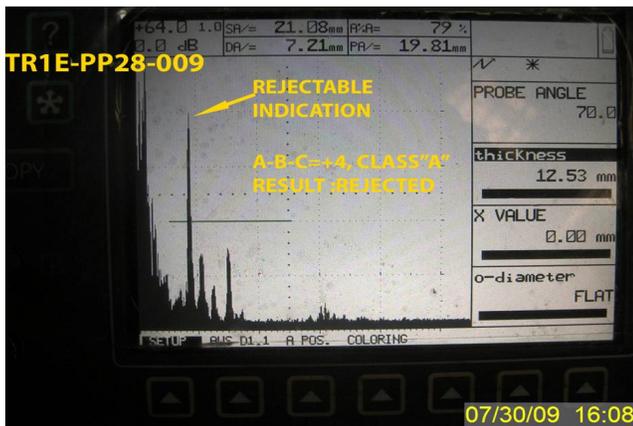
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-000374**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Jul-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0348**Type of problem:**

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

Reference Description: Missed UT indications by QC on Traveler Rail Bracket TR1E**Description of Non-Conformance:**

This Quality Assurance Inspector (QA) performed random verification of Ultrasonic Testing (UT) on weld joint identified as TR1E-PP28-009 for OBG Traveler Rail Bracket. This QA Inspector discovered one (1) class "A" rejectable indication measuring approximately 25 mm in length. This weld was previously tested and accepted by ZPMC QC UT technicians.

**Applicable reference:**

-AWS D1.5-02 Section 6 Table 6.3

-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:** Yn Kim

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 1730 hours, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 0900 hours, Verbal

QC Inspector's Name: Xu Hongmin

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:	Tsang, Eric	SMR
----------------------	-------------	-----

Reviewed By:	Wahbeh, Mazen	SMR
---------------------	---------------	-----



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: 16-Aug-2009

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: 05.03.06-000337

Subject: NCR No. ZPMC-0348

Reference Description: Missed UT indications by QC on Traveler Rail Bracket TR1E

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:

This Quality Assurance Inspector (QA) performed random verification of Ultrasonic Testing (UT) on weld joint identified as TR1E-PP28-009 for OBG Traveler Rail Bracket. This QA Inspector discovered one (1) class "A" rejectable indication measuring approximately 25 mm in length. This weld was previously tested and accepted by ZPMC QC UT technicians.

Action Required and/or Action Taken:

Submit weld repair to engineer for approval.

Transmitted by: Bill Howe

Attachments: ZPMC-0348

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000337

Subject: NCR No. ZPMC-0348

Dated: 24-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000342 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ABF has notified ZPMC of this nonconformance and instructed the same UT operator to recheck this weld. ABF has discussed UT technique issues with ZPMC to prevent further nonconformances.

ABF has notified ZPMC of this nonconformance and instructed the same UT operator to recheck this weld. The UT operator verified the indication was an unacceptable Class "A" indication and has since marked the part for repair. ABF has discussed UT technique issues with ZPMC to prevent further nonconformances. ZPMC will submit repair reports at a later date to close this NCR.

Submitted by:

Attachment(s): ABF-NPR-000342R00

Caltrans' comments:

Status: AAP

Date: 28-Aug-2009

The response is acceptable, but the Non-Conformance is not closed.

Please provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0348 at that time.

Submitted by: Wright, Doug

Date: 28-Aug-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000337

Subject: NCR No. ZPMC-0348

Dated: 27-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000342 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has attached the repair and inspection documents needed for closure of this NCR. Also ZPMC generated an internal NCR to document corrective and preventive actions.

ZPMC has attached the repair and inspection documents needed for closure of this NCR. Also ZPMC generated an internal NCR to document corrective and preventive actions. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000342R01;

Caltrans' comments:

Status: CLO

Date: 31-Aug-2009

The proposed resolution is acceptable. The welding repair report is included, and the weld in question has been accepted by VT and UT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0348 is closed.

Submitted by: Wright, Doug

Date: 31-Aug-2009

Attachment(s):



No. B-460

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-8-25

REGARDING: NCR-000374 (ZPMC-348)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000374 (ZPMC-348)**. We agree what describe in the non-conformance report, and considered that the limit space for the transducer, we have made this issue with the ABF and CT to reduce the size of probe that can ensure the scanning distance and areas will be enough to make the final conclusion.

By the way we have re-check for the point by UT and performed the weld repair, and then complete with the UT inspection at final, we provide the weld repair report and NDT acceptable report to support the good quality of the TR1E-PP028-009.

so base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000374 (ZPMC-348)**.

Please reference attached document for acceptance and closure the **NCR-000374 (ZPMC-348)**.

ATTACHMENT:

ZPMC internal NCR

NCR-000374 (ZPMC-348)

The weld repair report

The complete UT report

Zhao Shuangbao

2009. 8. 25



Nonconformance Report

不符合项报告

Project Name: S.F.O.B.B 项目名称: 美国加州海湾大桥		NCR Number: NCR 编号: NCR-B-238 (ZPMC-0348)
Item: Missed UT indications by QC on TR1E 名称描述: TR1E 做 UT 漏检	Item Number: 件号: OBG TR1E	Drawing: 图号: OBG TR1E
Location: OBG TR1E 位置:	Date: 日期: 2009-8-21	

Description of Nonconformance:
不符合项状态描述:

This Quality Assurance Inspector (QA) performed random verification of Ultrasonic Testing (UT) on weld joint identified as TR1E-PP28-009 for OBG Traveler Rail Bracket. This QA Inspector discovered one(1) class "A" rejectable indication measuring approximately 25mm in length. This weld was previously tested and accepted by ZPMC QC UT technicians.

加洲检验员在维修行车支座 TR1E-PP028-009 上做 UT 复探时发现一长度约为 25 毫米的 A 类缺陷。此焊缝之前已经通过 ZPMC 的 UT 检验。

Work By: Li Li Prepared by: Shen Longjun Reviewed by QCE: Zhao Shuangbao
 施工方: 准备: 2009.8.21 质量工程师批准:

Drawing Error Material Defect Fabrication Error Other 8.21
 图纸错误 材料缺陷 制作错误 其他原因

Disposition: Use as is Repair Reject
 处理措施: 回用 返修 拒收

Recommendation:
建议: 发出维修报告并严格按照程序返修
 Issue repair report and perform according to repair procedure

Prepared by: Li Li Approved by QCA: _____
 准备: 2009.8.21 质量经理批准

Reason for Nonconformance:
不符合原因: 缺陷漏检 Discover defect.

Prevention of Re-occurrence:
预防措施: 改变探头大小, 减小探头前沿距离, 保证足够的扫查距离及覆盖面积. change probe size and reduce distance from end of part to ensure scanning distance and area.

Approved by/批准: Li Li 2009.8.21

Technical Justification for Use-As-Is/Repair: Attachment Non-attachment
回用或返修的技术依据: 附件 无附件

Reviewed /批准: _____

Verification: Acceptable Unacceptable
确认: 可接受 不可接受

Verified by QCI/质检确认: _____ Reviewed by QCA/质检主任审核: _____

#R787-QCP-1300



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: 16-Aug-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-0348

Job Name: SAS Superstructure
Document No: 05.03.06-000337

Reference Description: Missed UT indications by QC on Traveler Rail Bracket TR1E

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:

This Quality Assurance Inspector (QA) performed random verification of Ultrasonic Testing (UT) on weld joint identified as TR1E-PP28-009 for OBG Traveler Rail Bracket. This QA Inspector discovered one (1) class "A" rejectable indication measuring approximately 25 mm in length. This weld was previously tested and accepted by ZPMC QC UT technicians.

Action Required and/or Action Taken:

Submit weld repair to engineer for approval.

Transmitted by: Bill Howe

Attachments: ZPMC-0348

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, 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 #: 04-0120F4
 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-000374

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 30-Jul-2009

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

NCR #: ZPMC-0348

Type of problem:

Welding Concrete Other

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

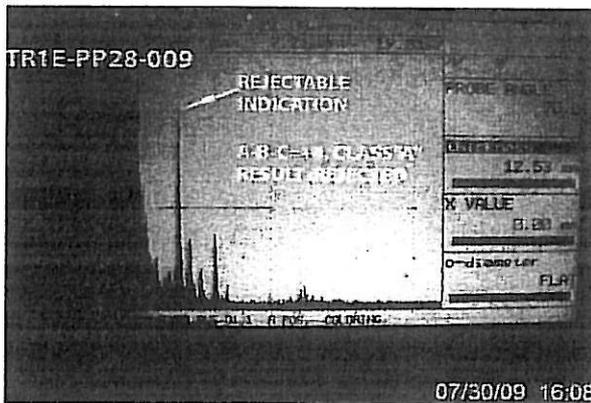
Joint fit-up Coating Other **Component:** OBG Traveler Rail Bracket

Procedural Procedural Description:

Reference Description: Missed UT indications by QC on Traveler Rail Bracket TR1E

Description of Non-Conformance:

This Quality Assurance Inspector (QA) performed random verification of Ultrasonic Testing (UT) on weld joint identified as TR1E-PP28-009 for OBG Traveler Rail Bracket. This QA Inspector discovered one (1) class "A" rejectable indication measuring approximately 25 mm in length. This weld was previously tested and accepted by ZPMC QC UT technicians.



Applicable reference:

-AWS D1.5-02 Section 6 Table 6.3

-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: Yn Kim

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 1730 hours, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 0900 hours, Verbal

QC Inspector's Name: Xu Hongmin

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: Tsang, Eric

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	TR1E	报告编号 Report No.	B-WR6777
合同号 Contract No.:	04-0120F4	部件名称 Items Name	TRAVELER RAILS	NDT报告编号 Report No.of NDT	B787-UT-6752-1
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

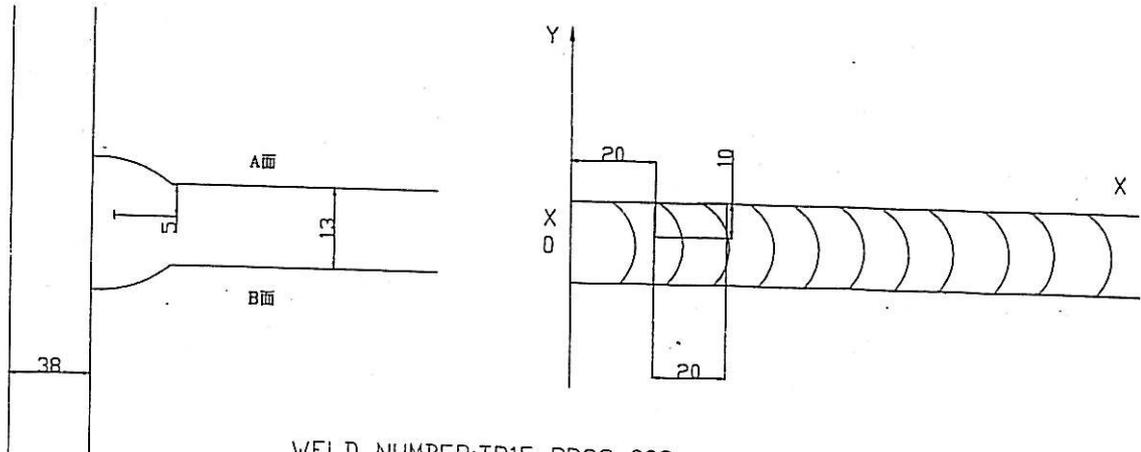
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) TR1E-PP28-009

检验员 (Inspector): Han feng 日期(Date): 09.07.31

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER:TR1E-PP28-009

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): Zhang Guiming 日期(Date): 09-08-04

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. 焊前对修补区域进行VT检测保证缺陷完全被清除;
 4. 将修补区域打磨到与母材或邻近焊缝平齐;
 5. 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. Verify with VT no defects remain in the weld joint prior to welding;
 4. Grind the repaired area flush with base metal or the adjacent weld;
 5. Check the welds according to the working drawings.

工艺: Hexiaolin
Technical engineer

09-08-04

审核:
Approved by

日期
Date



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	TR1E	报告编号 Report No.	B-WR6777
合同号 Contract No.:	04-0120F4	部件名称 Items Name	TRAVELER RAILS	NDT报告编号 Report No.of NDT	B787-UT-6752-1
项目编号 Project No.:	ZP06-787				

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): Zhang Guiming 日期(Date): 09.08.04

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1 WPS-345-SMAW-4 G(4F)-Repair	工艺员 technologist	Hexiao Lin 09.08.04.
返修(碳刨)前预热温度 Preheat temperature before gouging	NA	返修的缺陷 Description of discontinuity	夹渣
焊前处理检查 Inspection before welding	ALL	焊前预热温度 Preheat temperature before welding	100°C
最大碳刨深度 Max. depth of gouging	5mm	碳刨总长 Total length of gouging	40mm
焊工 welder 215248	焊接类型 welding type SMAW	焊接位置 position	2G
焊接电流 Current 121A	焊接电压 Voltage 21V	焊接速度 Speed	98mm/min
返修后检查 Inspection After repairing:			
外观检查 VT result ALL	检验员 Inspector Liyang Xu hongmin	日期 Date	2009.08.17
NDT复检 NDT result An	探伤员 NDT person	日期 Date	2009.08.18
见证: Witness/Review:			
备注: Remark:			



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-6752-1 DATE 2009.07.31 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: OBG TRAVELER RAILS DRAWING NO.: TR1E, TR1D, TR1B 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
 FCAW CORNER-JOINT Dec. 28ST, 2009

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 13/38mm

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		
TR1E-PP28-009	1	70	A	1	41	33	0	+8	20	30	5	-10	20	REJ.	100%

BLANK

EXAMINED BY 主探 Han feng <i>Han feng 07.07.09</i>	REVIEWED BY 审核 Sun Y. n <i>Sun Y. n 07.07.09</i>
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

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-000370**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 02-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0348**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-Jul-2009**Description of Non-Conformance:**

This Quality Assurance Inspector (QA) performed random verification of Ultrasonic Testing (UT) on weld joint identified as TR1E-PP28-009 for OBG Traveler Rail Bracket. This QA Inspector discovered one (1) class "A" rejectable indication measuring approximately 25 mm in length. This weld was previously tested and accepted by ZPMC QC UT technicians.

Contractor's proposal to correct the problem:

Repair area in question and perform the required NDT.

Corrective action taken:

Contractor submitted Welding Repair Report (WRR 6777) along with the required UT report confirming that the repair is 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?** 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 Jim Simonis: 1347 246 3441, who represents the Office of Structural Materials for your project.

Inspected By: Simonis, Jim Quality Assurance Inspector**Reviewed By:** Wahbeh, Mazen QA Reviewer