

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-000313

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 06-Jun-2009

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

NCR #: ZPMC-0287

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: SB002-012, OBG Segment 1BW
Procedural	Procedural	Description:	

Reference Description: Missed UT Indication by QC, Weld SB002-012-004, Segment 1BW

Description of Non-Conformance:

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint SB002-012-004 for Suspender Bracket SB002-012 (Segment 1BW). QA Inspector discovered a class "A" rejectable indication measuring approximately 53mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT technicians.



Applicable reference:

AWS D1.5-02 Section 6 Table 6.3

Who discovered the problem: Subhasis Bera

Name of individual from Contractor notified: Chang Baoqan

Time and method of notification: 1400 hours, 06-06-09, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 800 hours, 06-08-09, Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name: Zhuzhong Hai

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Skyler Guest, (86) 1500.042.2360, who represents the Office of Structural Materials for your project.

Inspected By:	Guest,Skyler	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: 14-Jun-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: 05.03.06-000276

Subject: NCR No. ZPMC-0287

Reference Description: Missed UT Indication by QC, Weld SB002-012-004, Segment 1BW

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:** 01

Remarks:

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint SB002-012-004 for Suspender Bracket SB002-012 (Segment 1BW). QA Inspector discovered a class "A" rejectable indication measuring approximately 53mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT technicians. See NCR report No. ZPMC-287 for details.

Action Required and/or Action Taken:

Propose a resolution for the identified recurring non-conformance which constitutes a systematic problem in quality control with revised procedures to prevent future occurrences. A response for the resolution of this issue is expected within 14 days.

Transmitted by: Ching Chao

Attachments: ZPMC-0287

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: 05.03.06-000276

Subject: NCR No. ZPMC-0287

Dated: 07-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000286 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000286R00;

Caltrans' comments:

Status: CLO

Date: 10-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-0287 is closed.

Submitted by: Wright, Doug

Date: 10-Aug-2009

Attachment(s):



No. B-433

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-8-6

REGARDING: NCR-000313 (ZPMC-0287)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000313 (ZPMC-0287)**. We agree what describe in the non-conformance report, and instructed the QC guy to enhance the responsibility and reduce the working speed, and then prepared one weld repair report prior perform the weld repair, per the require in the description in WRR, we have done the weld repair and complete with the UT re-inspection. Right now provide the documentation to support the good quality of the repair areas.

So base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000313 (ZPMC-0287)**.

Please reference attached documentation for acceptance and closure the **NCR-000313 (ZPMC-0287)**.

ATTACHMENT:

NCR-000313 (ZPMC-0287)

ZPMC internal NCR

The weld repair report

The final VT/UT reports

Zhao Shuangbao

2009. 8. 6



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-197 (ZPMC-0287)	
Item: Missed UT indication by QC. 名称描述: UT 漏检	Item Number: 件号: OBG 1BW	Drawing: 图号: 1BW	
Location: OBG 1BW 位置:		Date: 日期: 2009-06-20	

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

Caltrans Quality Assurance inspector performed 10% verification ultrasonic testing on weld joint SB002-012-004 for Suspender bracket SB002-012(segment 1BW) QA inspector discovered a class "A" rejectable indication measuring approximately 53mm in length, This weld was previously tested and accepted by ZPMC Quality Control UT technicians.

加州检验员在对悬索支架 SB002-012-004 这条焊缝做 UT 时发现一个 A 级缺陷, 长度大约为 53mm..而这条焊缝之前被 ZPMC 的 QC UT 接受。

Work By: L.L. Luning Prepared by: Wayne Reviewed by QCE: Zhao Shuangdao
 施工方: 2009.06.20 准备: 09.6.20 质量工程师批准:

Drawing Error Material Defect Fabrication Error Other 6.20
 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: 重新确认该缺陷, 出具报告(返修)
 Re-confirm this class "A" rejectable indication and issue related reports for reparing.

Prepared by: L.L. Luning Approved by QCA: _____
 准备: 2009.06.20 质量经理批准

Reason for Nonconformance:

不符合原因:
A级缺陷没有检测出。
 A class "A" rejectable indication wasn't discovered.

Prevention of Re-occurrence:

预防措施: 加强技能培训
 Enhance trainings to improve the skills.

Approved by/批准:

L. Lin #6.12

Technical Justification for Use-As-Is/Repair:
回用或返修的技术依据:

Attachment
附件

Non-attachment
无附件

Reviewed /批准: _____

Verification: Acceptable
确认: 可接受

Unacceptable
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
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: 14-Jun-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: 05.03.06-000276

Subject: NCR No. ZPMC-0287

Reference Description: Missed UT Indication by QC, Weld SB002-012-004, Segment 1BW

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Action Required and/or Action Taken:

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Transmitted by: Ching Chao

Attachments: ZPMC-0287

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

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Contract #: 04-0120F4

Cty: 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-000313

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 06-Jun-2009

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

NCR #: ZPMC-0287

Type of problem:

Welding Concrete Other Welding Curing Procedural

Bridge No: 34-0006

Joint fit-up Coating Other

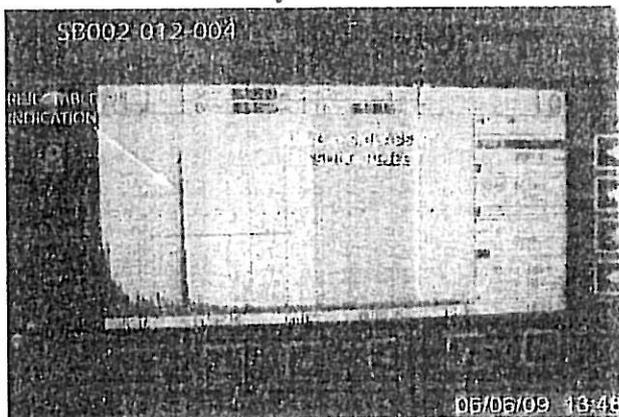
Component: SB002-012, OBG Segment 1BW

Procedural Procedural Description:

Reference Description: Missed UT Indication by QC, Weld SB002-012-004, Segment 1BW

Description of Non-Conformance:

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint SB002-012-004 for Suspender Bracket SB002-012 (Segment 1BW). QA Inspector discovered a class "A" rejectable indication measuring approximately 53mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT technicians.



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Name of individual from Contractor notified: Chang Baoqan

Time and method of notification: 1400 hours, 06-06-09, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 800 hours, 06-08-09, Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name: Zhuzhong Hai

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Skyler Guest, (86) 1500.042.2360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

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	SB12W	报告编号 Report No.	B-WR6713
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SUSPENDER BRACK ET	NDT报告编号 Report No.of NDT	B787-UT-7920
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.

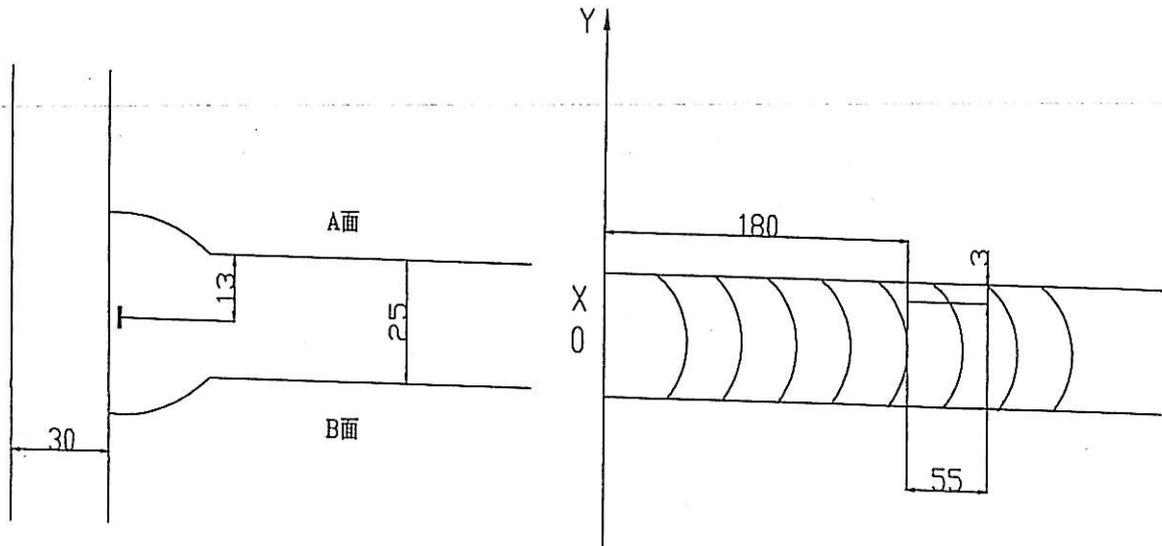
(UT探伤发现的缺陷总长度小于最大允许长度。) SB002-012-004

检验员 (Inspector): Huang Jing 日期(Date): 09.06.08

Huang Jing

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: SB002-012-004

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): 09.06.13

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

09.06.13

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	SB12W	报告编号 Report No.	B-WR6713
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SUSPENDER BRACK ET	NDT报告编号 Report No.of NDT	B787-UT-7920
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): 09.06.13

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	HexiaoLin 09-08-03
返修(碳刨)前预热温度 Preheat temperature before gouging	85	返修的缺陷 Description of discontinuity	slag
焊前处理检查 Inspection before welding	Air	焊前预热温度 Preheat temperature before welding	95
最大碳刨深度 Max. depth of gouging	14	碳刨总长 Total length of gouging	95
焊工 welder	062737	焊接类型 welding type	FCW
焊接电流 Current	278	焊接电压 Voltage	29.6
		焊接位置 position	26
		焊接速度 Speed	500
返修后检查 Inspection After repairing:			
外观检查 VT result	Air	检验员 Inspector	Zhu Zhonghan 07072101
NDT复检 NDT result	ACC	探伤员 NDT person	Huang Jing
日期 Date	09.06.14	日期 Date	09.06.14
见证: Witness/Review:			
备注: Remark:			



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-7920 DATE 2009.06.08 PAGE 1 OF 1 Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

ITEMS NAME: SUSPENDER BRACKET DRAWING NO.: SB12W CONTRACTOR: CALTRANS
 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 T-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 30/25/35/20/22mm

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				

Base metal inspected per AWS D1.5-2002 Section 6.19.5 Reference Level 参考灵敏度 0° UT OK. 20dB

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		
SB002-012-004	1	70	A	1	41	34	1	+6	55	41	13	-3	180	REJ.	100%

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EXAMINED BY 主探 <u>Huang Jing</u> LEVEL - II SIGN / DATE 9.06.08	REVIEWED BY 审核 <u>Sun Yin</u> LEVEL - II SIGN / DATE 9.06.08
质量经理 / QCM <u>Lu Jianhua</u> 签字 SIGN / 日期 DATE 6.8.	用户 CUSTOMER 签字 SIGN / 日期 DATE



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-7920R1 DATE 2009.06.14 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: SUSPENDER BRACKET DRAWING NO.: SB12W 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 T- 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 IIW BLOCK TYPE II C.M.C A709M-345T2-X 30/25/35/20/22mm

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			
SB002-012-004	1R1	70				34									ACC.	100%

AFTER B-WR6713

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EXAMINED BY 主探 Huang jing <i>Huang jing</i> LEVEL - II SIGN / DATE <i>9.26.09</i>	REVIEWED BY 审核 <i>Zshu...</i> LEVEL - II SIGN / DATE <i>9.26.09</i>
质量经理 / QCM <i>Lu...</i> 签字 SIGN / 日期 DATE <i>6.14.</i>	用户CUSTOMER 签字 SIGN / 日期 DATE

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-000269**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0287**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: 06-Jun-2009**Description of Non-Conformance:**

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint SB002-012-004 for Suspender Bracket SB002-012 (Segment 1BW). QA Inspector discovered a class "A" rejectable indication measuring approximately 53mm in length. This weld was previously tested and accepted by ZPMC Quality Control (QC) UT technicians.

Contractor's proposal to correct the problem:

Repair area in question and perform subsequent NDT.

Corrective action taken:

Contractor submitted WRR as well as UT and VT reports to verify that repair was performed in conformance with Contract specifications.

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

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