

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, PRC **Report No:** NCR-000264
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 08-May-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0238

Type of problem:

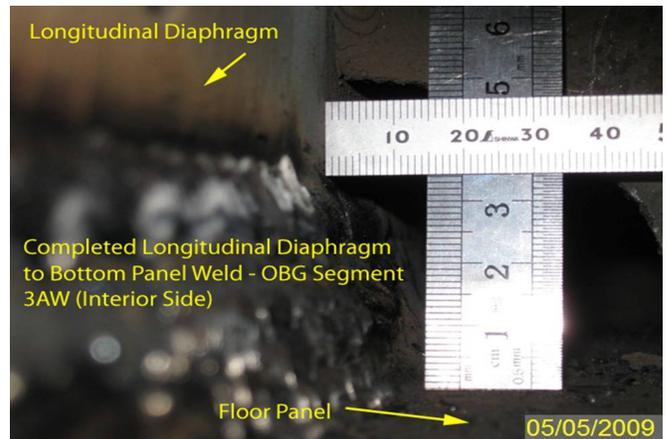
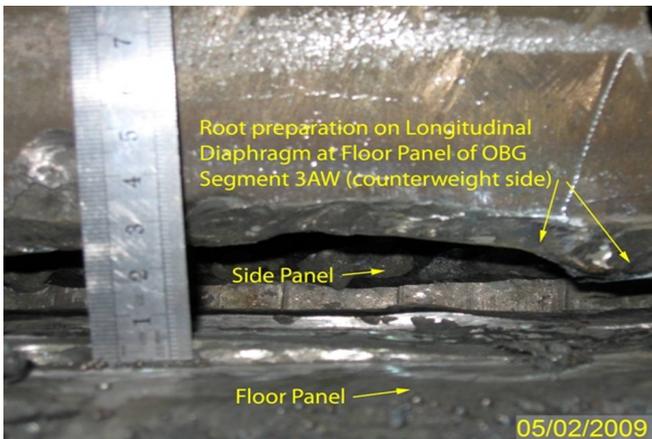
Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Segment 3AW
Procedural	Procedural	Description:	

Reference Description: Inconsistent Bevel and Excessive/Inconsistent Root Opening at Longitudinal Diaphragm-Bottom Panel-Side Panel Joint

Description of Non-Conformance:

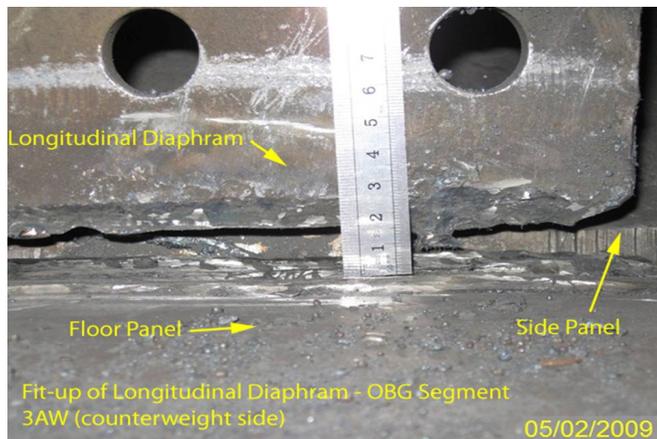
Caltrans Quality Assurance (QA) Inspector observed inconsistent bevel and excessive/inconsistent root opening at segment splice 3AW-3BW. This occurred where the segments were unzipped and adjusted for proper segment alignment at the longitudinal diaphragm - bottom panel - side panel joints. The panels affected are:

- BP101A, SP025A, LD017-003(Working Point W3, Segment 3AW)
- BP103A, SP070B, LD018-003(Working Point W4, Segment 3AW)



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 2002 section(s):

3.2.1 "Surfaces and edges to be welded shall be smooth, uniform, and free from fins, tears, cracks, and other discontinuities which would adversely affect the quality or strength of the weld."

3.2.3 "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide."

Who discovered the problem: Rory O'Kane

Name of individual from Contractor notified: Larry Lue

Time and method of notification: 05/08/09, 10:30, Verbal

Name of Caltrans Engineer notified: Stanley Ku, Ching Chao

Time and method of notification: 05/09/09, 16:00, Email

QC Inspector's Name: Shi Lin

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 Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

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: 021-56856666 ext 207061 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 15-May-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: 05.03.06-000230

Subject: NCR No. ZPMC-0238

Reference Description: Inconsistent Bevel and Excessive/Inconsistent Root Opening at Longitudinal Diaphragm-Bottom Panel-Side Panel Joint

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:

Caltrans Quality Assurance (QA) Inspector observed inconsistent bevel and excessive/inconsistent root opening at segment splice 3AW-3BW. This occurred where the segments were unzipped and adjusted for proper segment alignment at the longitudinal diaphragm - bottom panel - side panel joints. The panels affected are:

- BP101A, SP025A, LD017-003(Working Point W3, Segment 3AW)
- BP103A, SP070B, LD018-003(Working Point W4, Segment 3AW)

Action Required and/or Action Taken:

Please propose a resolution for the identified non-conformance to prevent future occurrences.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0238

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, Doug Wright, 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: 05.03.06-000230

Subject: NCR No. ZPMC-0238

Dated: 27-May-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000234 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC have finished welded this weld joint. This weld joint is a CJP, therefore weld will be subsequently backgouged and inspected.

ZPMC have finished welded this weld joint. This weld joint is a CJP, therefore weld will be subsequently backgouged and inspected. ZPMC to submit the welding repair report as well as all related inspection documentation at a later date.

Submitted by:

Attachment(s): ABF-NPR-000234R00

Caltrans' comments:

Status: AAP

Date: 09-Jun-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-0238 at that time.

Submitted by: Wright, Doug

Date: 09-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000230

Subject: NCR No. ZPMC-0238

Dated: 27-Jul-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000234 Rev: 01

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-000234R01;

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-0238 is closed.

Submitted by: Wright, Doug

Date: 10-Aug-2009

Attachment(s):



No. B-408

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-7-20

REGARDING: NCR-000264 (ZPMC-0238)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000264 (ZPMC-0238)**. As the comments of the NPR "please provide the documentation of the weld repairs that were performed and that the repairs were acceptable", therefore we submit the attached weld repair report and VT/UT report, to support the build up repair for base metal is good quality and accepted by the visual and NDT inspection.

So base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000264 (ZPMC-0238)**.

Please reference attached documentation for acceptance and closure the **NCR-000264 (ZPMC-0238)**.

ATTACHMENT:

NCR-000264 (ZPMC-0238)

ZPMC internal NCR

The closed WRR

The final VT/UT report

Zhao Shuangbao

2009. 7. 20



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-B-154(NCR-000264)
 NCR 编号:

Item: Inconsistent Bevel and Excessive Root opening
 名称描述: 坡口不一致且超大间隙
 Item Number: NA
 件号:
 Drawing: 3AW
 图号:

Location: 3AW
 位置:
 Date: 2009-5-20
 日期:

Description of Nonconformance:
 不符合项状态描述:
 Caltrans Quality Assurance Inspector observe inconsistent bevel an excessive root opening at segment at splice 3AW+3BW. This occurred where the segments were unzipped and adjusted for proper segment alignment at the longitudinal diaphragm -bottom panel -side panel joints. The panels affected are:
 BP101A.SP025A.LD017-003(Working point W3 ,Segment 3AW)
 BP103A,SP070B.LD018-003(Working point W4 ,Segment 3AW)
 加州检验员在 3AW+3BW 位置的纵桁刨下来重新安装后发现装配间隙超标用以及坡口开的不规整。与之相关的接头涉及的板单元有:
 BP101A.SP025A.LD017-003 (对接线 W3, 3AW)
 BP103A,SP070B.LD018-003 (对接线 W4, 3AW)

Work By: Xiaofan Lin
 施工方:
 Prepared by: Wayne
 准备: 09.5.20
 Reviewed by QCE: Zhao Shuangbao
 质量工程师批准:
 Drawing Error Material Defect Fabrication Error Other
 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:

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

Reason for Nonconformance:
 不符合原因: The misalignment exceeded requirement at 3AW and 3BW and removed longitudinal diaphragm and gapped base metal and assembly gap exceeded requirement.
 由于 3AW+3BW 箱梁在现形调整到位后折角处错位比较大。故需将纵桁石梁刨除，并刨除时刨伤母材导致装配间隙较大。
 预防措施: Enhance supervision and inspection, and educate worker.
 加强 监控 检查 或对 工人进行教育。
 Approved by/批准: Gao Jun 2009.5.21

Technical Justification for Use-As-Is/Repair: Attachment Non-attachment
 回用或返修的技术依据: 对重新数控纵桁 LD17 并按照图纸要求装配。无附件
 Reviewed /批准: 修正后 BMR 508 进行修磨。12 级修 5-25-09
 Verification: Acceptable Unacceptable
 确认: 可接受 不可接受 Re-cutting by longitudinal diaphragm LD17, and repair LD18 according to B-4RS039.
 Verified by QCI/质检确认: _____ Reviewed by OCA/质检主任审核: _____



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NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 15-May-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-0238

Job Name: SAS Superstructure
Document No: 05.03.06-000230

Reference Description: Inconsistent Bevel and Excessive/Inconsistent Root Opening at Longitudinal Diaphragm-Bottom Panel-Side Panel Joint

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Material Location: OBG

Lift:

Remarks:

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Action Required and/or Action Taken:

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Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0238

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, Doug Wright, Ching Chao

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, PRC

Report No: NCR-000264

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 08-May-2009

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

NCR #: ZPMC-0238

Type of problem:

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

Bridge No: 34-0006

Component: OBG Segment 3AW

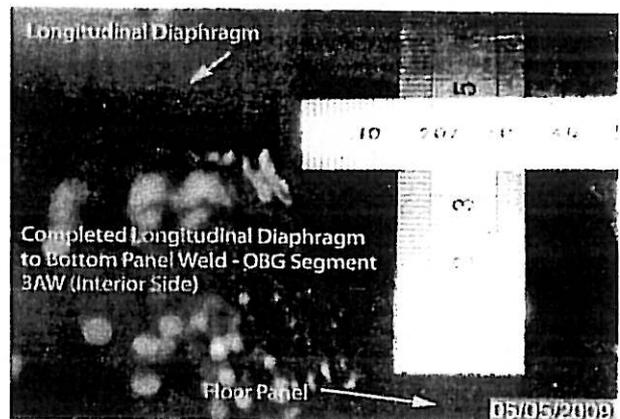
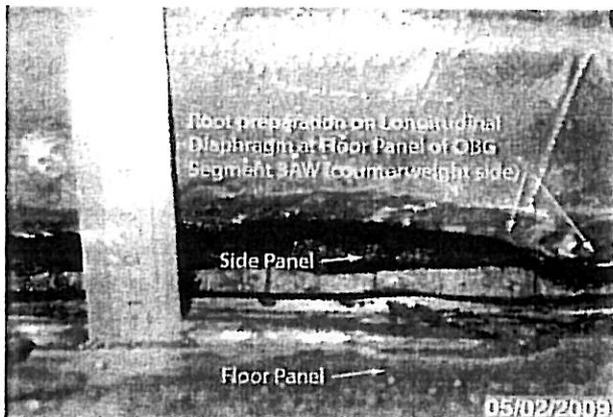
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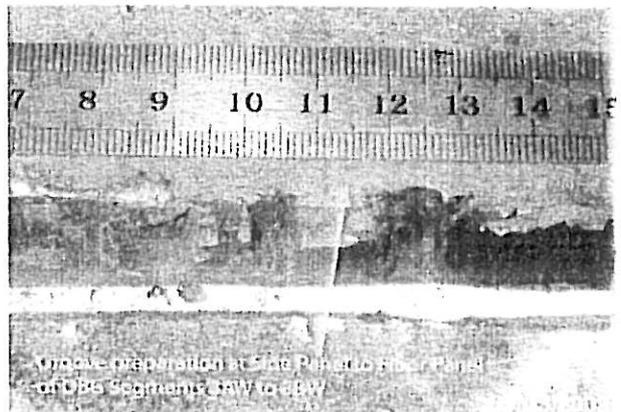
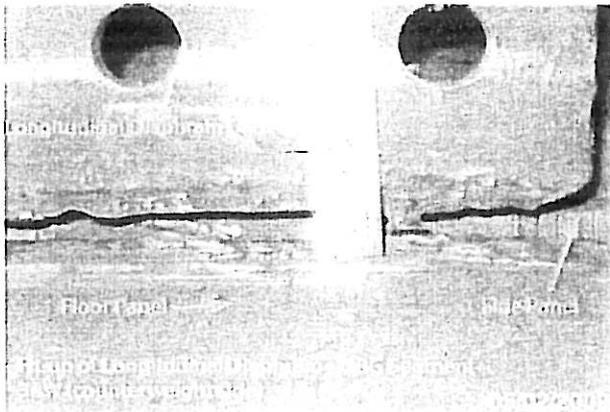
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



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3.2.3 "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide."

Who discovered the problem: Rory O'Kane

Name of individual from Contractor notified: Larry Lue

Time and method of notification: 05/08/09, 10:30, Verbal

Name of Caltrans Engineer notified: Stanley Ku, Ching Chao

Time and method of notification: 05/09/09, 16:00, Email

QC Inspector's Name: Shi Lin

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 purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, +(86) 1500.042.2372, 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

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	SEG14C	报告编号 Report No.	B-WR5084
合同号 Contract No.:	04-0120F4	部件名称 Items Name	纵筋 LD18F Longitudinal diaphragm	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787		LD18F		

焊缝缺陷描述:

Description of welding discontinuity:

经检查发现 3AE箱体内纵筋 LD18F 刨下后尺寸严重不足, 无法满足图纸的尺寸要求! 具体见附图!

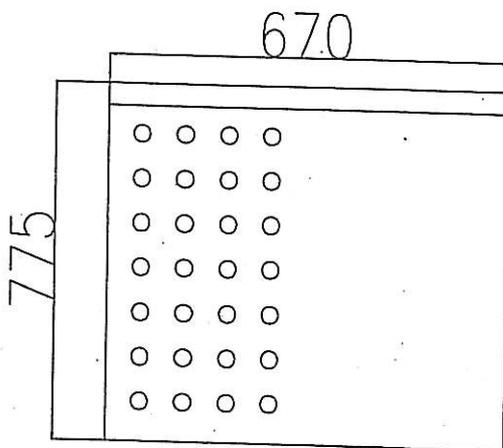
After inspection 3AE inner longitudinal LD18F, the size was shorter than drawing requirement, see the following draft.

检验员 (Inspector): shilin 日期(Date): 09.05.30

焊缝返修位置示意图:

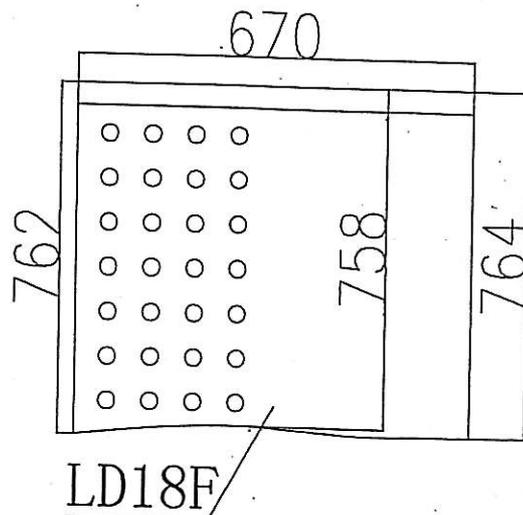
Draft of welding discontinuity:

图纸要求尺寸



Drawing requirement size

实际测量尺寸



Actually Size

产生原因:

Caused:

工人操作失误, 导致母材损伤。

The worker operated error caused base metal gouged.

车间负责人(Foreman): *lizhigang* 日期(Date): *09.06.02*

处理意见

Disposition :

1. 根据批准的焊接工艺规程WPS准备坡口形式;
2. 做100%VT确保缺陷被去除;
3. 在坡口对侧加钢衬垫, 具体参见AWS D1.5.3.13;
4. 根据批准的焊接工艺规程WPS进行预热及焊接;
5. 焊后去除钢衬垫, 将焊缝打磨至与母材平齐;
6. 根据图纸要求进行检测。

1. Prepare excavation with relevant WPS.
2. VT to verify repair area is free of all defects.
3. Add steel backing at the back of groove according to AWS D1.5.3.13;
4. Preheat and weld according to the relevant WPS.
5. Gouge off the steel backing and grind the weld flush with base metal after welding;
6. Perform NDT inspection of the weld according to the working drawings.

工艺: *Mintietong*
Technical engineer

09.06.02

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	SEG14C	报告编号 Report No.	B-WR5084
合同号 Contract No.:	04-0120F4	部件名称 Items Name	纵筋 LD18F Longitudinal diaphragm LD18F	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

培训和教育碳刨工, 提高操作水平。

Train and educate gouger to improve operation skill.

车间负责人(Foreman): *Li Zhigang* 日期(Date): *09.06.02*

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1	工艺员 technologist	<i>Miu Tietang</i> <i>09.06.02</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>173°C</i>	返修的缺陷 Description of discontinuity	<i>Dimension of the base metal is insufficient</i> <i>母材尺寸不足</i>
焊前处理检查 Inspection before welding	<i>ACC</i>	焊前预热温度 Preheat temperature before welding	<i>173°C</i>
最大碳刨深度 Max. depth of gouging	<i>NA</i>	碳刨总长 Total length of gouging	<i>NA</i>
焊工 welder	<i>062092</i>	焊接类型 welding type	<i>FCAW</i>
焊接电流 Current	<i>292</i>	焊接电压 Voltage	<i>29</i>
		焊接位置 position	<i>1G</i>
		焊接速度 Speed	<i>257</i>
返修后检查 Inspection After repairing:			
外观检查 VT result	<i>ACC</i>	检验员 Inspector	<i>Shi Lin</i>
		日期 Date	<i>09.06.04</i>
NDT复检 NDT result	<i>ACC</i>	探伤员 NDT person	<i>Sun Yan</i>
		日期 Date	<i>09.07.17</i>
见证: Witness/Review:			
备注: Remark:			



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-7660 DATE 2009.07.18 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: OBG PLATE PANEL DRAWING NO.: SEG14C CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 SPLICE 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
 NA NA 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-345 14mm

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	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		
LD18F		0				20								ACC.	100%

BASE METAL PER B-WR5084

BLANK

EXAMINED BY 主探 REVIEWED BY 审核
Hem Feng 29.07.18 *Su Wei* 29.07.18

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
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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, PRC**Report No:** NCS-000262**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 24-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0238**Type of problem:**

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

Date the Non-Conformance Report was written: 08-May-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed inconsistent bevel and excessive/inconsistent root opening at segment splice 3AW-3BW. This occurred where the segments were unzipped and adjusted for proper segment alignment at the longitudinal diaphragm - bottom panel - side panel joints. The panels affected are:

-BP101A, SP025A, LD017-003(Working Point W3, Segment 3AW)

-BP103A, SP070B, LD018-003(Working Point W4, Segment 3AW)

Contractor's proposal to correct the problem:

Perform Repair to area in question and submit subsequent NDT reports.

Corrective action taken:

Contractor submitted WRR, as well as VT and UT reports confirming that the welds were completed 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