

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-000765

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 14-Jun-2010

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

NCR #: ZPMC-0727

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Crossbeam 9 Side and Bottom Panel
Procedural	Procedural	Description:	

Reference Description: ZPMC performed weld removal of two SPCM welds without prior Engineer's approval or an approved CWR.

Description of Non-Conformance:

During Quality Assurance (QA) random in-process observations of the fabrication of Cross Beam CB9, this QA inspector discovered the following issue:

- On June 14, 2010, ZPMC performed the 2nd time removal of two Seismic Performance Critical Material (SPCM) weld joints identified as CB202A-009-018 & 006 without prior Engineer's approval or an approved Critical Weld Repair (CWR) Report.
- The welds are Complete Joint Penetration (CJP) joining the SPCM bottom panels to the SPCM side panels in CB9.
- The affected panels are identified as bottom panels BP205A and BP204A, side panels SP202A and SP205A. These members are identified as SPCM.
- Excavation length on these two welds was approximately 1 meter on each weld.
- Cross Beam 9 (CB9) is located in the Trial Assembly.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

AWS D1.5 (02)

-Section 12.17: Repair welding shall be defined as any welding, including removal of weld or base metal in preparation for welding, necessary to correct unacceptable discontinuities in materials or workmanship.

-Section 12.17.3: Critical Weld Repairs. Except as provided in 12.17.2, all welded repairs shall be considered critical. They include, but are not limited to the following:

(5) Corrections requiring weld removal and rewelding except as provided in 12.17.2(4).

(6) All welding to correct errors in fabrication such as improper cutting, punching, drilling, machining, assembly, etc.

-Section 12.17.4: Approval. All critical repairs to base metal and welds shall be approved by the Engineer prior to beginning the repair and shall be documented giving details of the type of discontinuity and extent of repair.

Who discovered the problem: Shailesh Wadkar

Name of individual from Contractor notified: CK Chan

Time and method of notification: 16:30_6/14/10_Email

Name of Caltrans Engineer notified: Sean Eagen

Time and method of notification: 08:30_6/15/10_Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

QC Inspector's Name: Wu Zhi Cheng and Li Jia

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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

Reviewed By: Devey, Jim

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-Jun-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: 05.03.06-000723

Subject: NCR No. ZPMC-0727

Reference Description: ZPMC performed weld removal of two SPCM welds without prior Engineer’s approval or an approved CWR.

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: Xbeam **Lift:** 08

Remarks:

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 - Excavation length on these two welds was approximately 1 meter on each weld.
 - Cross Beam 9 (CB9) is located in the Trial Assembly.

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: Sean Eagen Transportation Engineer
Attachments: ZPMC-0727

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: 05.03.06-000723

Subject: NCR No. ZPMC-0727

Dated: 02-Sep-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000685 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing the weld repair report for and is providing the NDT after repair to show that the weld is acceptable.

ZPMC is providing the weld repair report for and is providing the NDT after repair to show that the weld is acceptable. ZPMC has issued an internal NCR to inform all affected parties that this type of action is unacceptable. In addition, ABFJV has had discussions with the ZPMC QA Manager and he has agreed to increase CWI presence in all areas to prevent a lapse in QC oversight in the future. Based on these actions and submitted documents, ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000685R01;

Caltrans' comments:

Status: CLO

Date: 14-Sep-2010

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

Submitted by: Woo, Laraine

Date: 14-Sep-2010

Attachment(s):



No. B-816

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-7-8

REGARDING: NCR-000765(ZPMC-0727)

ZPMC has written an internal NCR to address the requirement of CWR prior to start the welding repair. ABFJV QCM has met with ZPMC's QA manager to discuss this issue and has emphasized the requirement to the quality department. Refresh training has been performed to all the CWIs. ZPMC is providing the CWR & NDT records show the welds in question are acceptable. Based on this, ZPMC is requesting closure of this NCR.

ATTACHMENT:

N CR-000765(ZPMC-0727)

B-JC59R0

B-CWR1658

B787-MT-24634

B787-UT-13698

B787-MT-24689

B787-UT-13733

A handwritten signature in black ink, appearing to be 'L. M.' or similar, written in a cursive style.

7/8/10



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:

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OAKLAND CA 95607

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Date: 14-Jun-2010

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

NCR #: ZPMC-0727

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

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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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

Reviewed By: Devey, Jim

SMR



焊缝返修报告

Welding Repair Report

WJ-Rev/No
0

项目名称 Project Name	SF088	文件编号 Drawing No.	CRU	焊接项目 Project ID	S-0001000
合同号 Contract No.	04-0120F4	附件名称 Items Name	规格 Spec	NDT报告编号 Report No of NDT	NA
项目编号 Project No.	ZP06-787				

焊缝缺陷描述

Description of welding discontinuity:

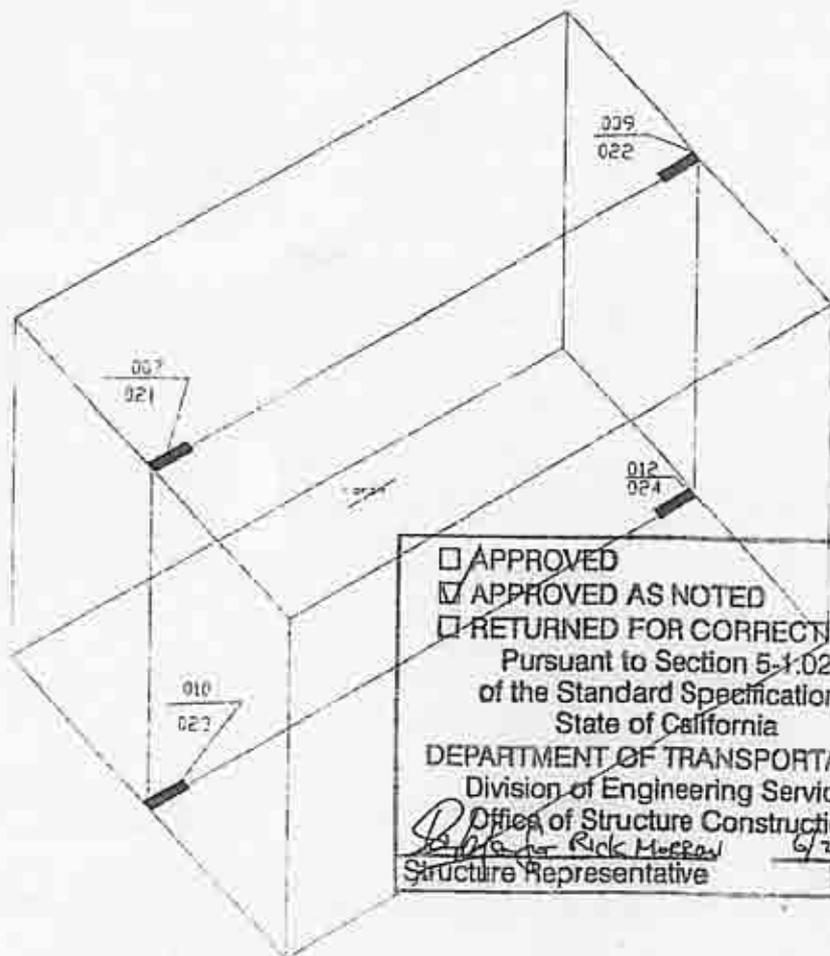
CB9中隔板土角焊缝错误碳刨，角焊缝需改为CJP焊缝 具体为CB202A-009-007/021,009/022,010/023,012/024分别改为CB202A-009-007,009,010,012。
 For CB9 corner weld gouging error, filler shall be changed to CJP weld, the welds (CB202A-009-007/021,009/022,010/023,012/024) revised to CB202A-009-007,009,010,012

检验员 (Inspector): Li Jia 日期(Date): 2010-06-19

焊缝返修位置示意图

Draft of welding discontinuity:

400%



APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION
 Pursuant to Section 5-1.02
 of the Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
 Office of Structure Construction
Rick Moberg
 Structure Representative

Date: 6/28/2010

Work was completed prior to Department receiving this report

产生原因

Caused:

焊工工人在钎焊前没有看清楚焊型编号

Worker didn't review weld ID carefully before gouging caused error

车间负责人(Foreman): *Hu Jinhong* 日期(Date): 10.06.19

处理意见

Disposition :

1. QC和CWI在整个修补过程中都应在场并指导以确保返修按照处理意见以及AWS D1.5要求进行;
 2. 准备一个正确的接头形式;
 3. 在返修前对返修区域作100%VT检查以确认无缺陷存在;
 4. 如果发现有缺陷,通过打磨的方法去除所有缺陷以确认缺陷完全被消除,并重复第三步以确认缺陷完全被消除;
 5. 根据批准的焊接返修工艺规程(WPS)进行预热及焊接;
 6. 焊后将焊接区域打磨至与母材光滑平齐;
 7. 对返修区域作NDT检查(UT,MT和VT);
-
1. QC and CWI should be present to witness the repair, direct and supervise all repair operations during this repair to ensure the repair is per the disposition requirements, and the AWS D1.5 code requirements.
 2. Prepare the joint according to the approved WPS.
 3. Perform 100%VT of the repair area to ensure no defects exist.
 4. Remove all defects by grinding to ensure all defects are completely removed if defects exist, and repeat "step 3" to assure complete removal of all defects if necessary.
 5. Preheat and weld according to the approved WPS.
 6. Grind the weld flush after welding.
 7. Perform relevant NDT (UT, MT and VT) to the repair area.

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications

[Signature] Date: 10/26/2019

工艺:
Technical engineer *He Xiaolin*

审核:
Approved by *L. Zuh*

日期
Date 10.06.19



焊缝返修报告

版本 (Rev. No)

Welding Repair Report

0

项目名称 Project Name	合同号 SFCBB	物料名称 Drawing No.	规格 CR6	报告日期 Revision	备注/说明 B-CAM (code)
合同号 Contract No.	04-0120F4	物料名称 Items Name	规格 CR6	NDT报告编号 Report No. of NDT	NA
项目编号 Project No.	ZP08-787				

纠正措施:

Correction action to prevent re occurrence:

培训和教育碳刨工, 碳刨前看清楚焊缝编号, 经QC确认后再碳刨。

Train and educate gouger to review weld ID carefully and check by QC before gouging

车间负责人(Foreman): *Ha Yu zhai* 日期(Date): 10.06.19

参照的WPS编号 Repair WPS No.	WPS-B-T-2232-TC- U5-F-2 WPS-B-P-2214-TC- -U5b-FCM	工艺员 technologist	Hexiaolv 10.06.19
返修(碳刨)前预热温度 Preheat temperature before gouging	170°C	返修的缺陷 Description of discontinuity	SLang
焊前处理检查 Inspection before welding	Acc	焊前预热温度 Preheat temperature before welding	172°C
最大碳刨深度 Max. depth of gouging	8mm	碳刨总长 Total length of gouging	500mm
焊工 welder	066326	焊接类型 welding type	SAW
焊接电流 Current	120 / 125	焊接电压 Voltage	24 / 25
		焊接位置 position	2/4A
		焊接速度 Speed	100 / 110

返修后检查
Inspection After repairing:

外观检查 VT result	Acc	检验员 Inspector	<i>[Signature]</i>	日期 Date	2010.6.30
NDT复检 NDT result	UTAC RTAC	探伤员 NDT person	<i>[Signature]</i>	日期 Date	2010.6.30

见证:
Witness/Review:备注:
Remark

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Advised to Section 5-1.02 of the
Standard Specifications
Date: 10/29/2010

#R787-QCP-701

Notification for Engineer's Review & Approval

(ALL) Fitment/Repair: Excessive Root Gap - Lap/Overlap Fillet Weld to CJP per Submittal 2008.

INFORMATION:

Lot/Segment: B9 Measured Gap Size (mm): N/A

Component(s)/Member(s): D12301, B2034, E22029, Bp201 SPCM Member: Yes No

Piece Mark(s) Related: DL201A, DL206A, DL209B (5pc), DL205A (5/12)

Weld ID#: LP200A-B209 107/021, 509/022, 010/023, 012/024

All Specific Y-locations, Reference Point, Length of Repair (For Intermittent Welds):

See attached drawings for details

- Attached Location Layout Sketch? Yes No
- Is the weld a repair or new joint fit up? Repair New Joint
- If the repair requires a CWR, has a CWR submitted for Engineer's Approval? Yes No *CWR Req'd*
- The cause of this repair: (Select all applicable)
 - misaligned member exceeding the fit-up tolerance
 - error in cutting/ uneven cut member
 - flatness or straightness issue
 - other, please specify Operation error *-ET*

Engineer's Approval: Yes/No Reviewed by: ET Date: 2010.6.15 Time: 16:00
 Comments: CWR is required.

AGREEMENT:

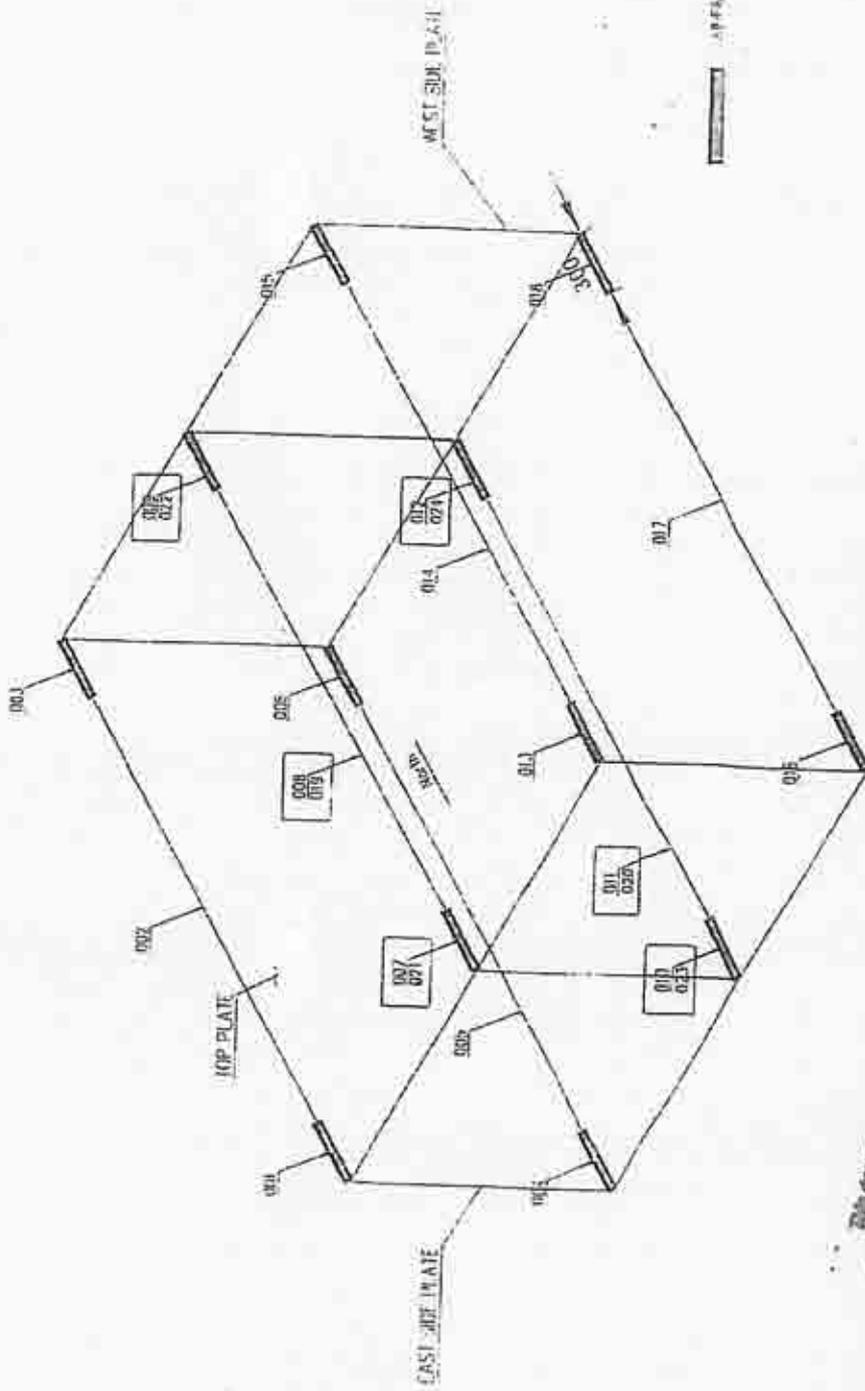
- The Contractor agrees to perform the following work in the above referenced locations.
- To incorporate the detail changes to the weld map.
 - To reflect the changes in the shop drawings/as-built drawings.
 - To reflect the changes on the QA Database. (i.e., CJP weld, Intermittent weld length, UT inspection)
 - To follow the repair method described in Sec. 6.2 of Submittal 2008; RFCO 63.
 - To provide inspection notification to CT for witnessing and inspecting the work indicated in the checklist below prior to starting.

RECEIVED 15 JUN 2010
16:14
W. Johnson

CT INSPECTOR CHECKLIST:

	Yes	No	Insp. ID#	Date
Copy of the applicable WPS in English.	<input type="checkbox"/>	<input type="checkbox"/>		
Acceptable Joint Prep; Proper Steel Backing.	<input type="checkbox"/>	<input type="checkbox"/>		
The CJP weld extends at least 50mm beyond either side of the out of tolerance root gap repair.	<input type="checkbox"/>	<input type="checkbox"/>		
The CJP weld does have reinforcing fillets equal to the replaced fillet welds.	<input type="checkbox"/>	<input type="checkbox"/>		
Acceptable 100% MT result to the backgrounded area.	<input type="checkbox"/>	<input type="checkbox"/>		
Acceptable 100% UT result to the CJP weld.	<input type="checkbox"/>	<input type="checkbox"/>		
The CJP weld preparation does have a 3:1 slope or smoother transition at the ends.	<input type="checkbox"/>	<input type="checkbox"/>		

This document is APPROVED
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant to Section 5-1.02 of the
 Standard Specifications
 Initial: *ET* Date: 6/15/2010



CROSSBEAM ASSEMBLY DIAGRAM

This document is APPROVED BY
 NAME: [Signature]
 TITLE: [Signature]
 DATE: 6/29/2010

REVISIONS
 1. [Signature]
 2. [Signature]
 3. [Signature]

ZPMC

2010-6-15 9:54:55 Monday



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-24634 DATE日期 2010.07.05 PAGE OF页码 1/1 Revision No: 0

PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS	
DRAWING NO. 图号: CB9 CROSS BEAM		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4	
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 th , 2010
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-345T2-X 22/16/14/12mm
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	CORNER JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
CB202A-007				ACC.		100%MT
CB202A-009				ACC.		100%MT
CB202A-010				ACC.		100%MT
CB202A-012				ACC.		100%MT
AFTER B-CWR1658						
BLANK						

EXAMINED BY 主探 <u>Wang Wei</u> <u>Way Wei</u> 10.07.05 LEVEL-II SIGN 签名 / DATE日期 质量经理 / QCM	REVIEWED BY 审核 <u>Zhou Dongyun</u> LEVEL-II SIGN / DATE日期 10.07.05 用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-13733 DATE 2010.07.04 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: CROSS BEAM DRAWING NO.: CB202A 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 T-JOINT Dec. 28ST, 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-345F2-X 12/14mm

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	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		
CB202A-009-018		70												ACC.	100%
CB202A-009-006		70												ACC.	100%

AFTER B-CWR1639

BLANK

EXAMINED BY 主操 Tang xingshan 2010.07.04 REVIEWED BY 审核 Xu Yonggang 2010.07.04

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



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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-000758**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 14-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0727**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: 14-Jun-2010**Description of Non-Conformance:**

During Quality Assurance (QA) random in-process observations of the fabrication of Cross Beam CB9, this QA inspector discovered the following issue:

-On June 14, 2010, ZPMC performed the 2nd time removal of two Seismic Performance Critical Material (SPCM) weld joints identified as CB202A-009-018 & 006 without prior Engineer's approval or an approved Critical Weld Repair (CWR) Report.

-The welds are Complete Joint Penetration (CJP) joining the SPCM bottom panels to the SPCM side panels in CB9.

-The affected panels are identified as bottom panels BP205A and BP204A, side panels SP202A and SP205A. These members are identified as SPCM.

-Excavation length on these two welds was approximately 1 meter on each weld.

-Cross Beam 9 (CB9) is located in the Trial Assembly.

Contractor's proposal to correct the problem:

Submit form required for approval to change fillet weld to CJP.

Corrective action taken:

The Contractor has submitted the appropriate form for changing weld joint type along with the required CWR and applicable NDT documentation verifying weld meets Contract weld quality 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, who represents the Office of Structural Materials for your project.

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Inspected By: Simonis,Jim

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer