

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, China

Report No: NCR-000839

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 12-Sep-2010

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

NCR #: ZPMC-0801

Type of problem:

Welding

Concrete

Other

Welding

Curing

Procedural

Bridge No: 34-0006

Joint fit-up

Coating

Other

Component: CB18 Floorbeam FB3168A

Procedural

Procedural

Description:

Reference Description: Excessive Heat Utilized during Heat Straightening of CB18 Floorbeam FB3168A

Description of Non-Conformance:

During the Quality Assurance random in-process observations of the fabrication of OBG Crossbeam CB18, Quality Assurance observed the following:

- During the fit up of the Floorbeam Diaphragms on CB18, ZPMC personnel appear to have overheated the flange base metal. The material was heated to a bright red/yellow condition.
- AWS D1.5 2002 defines the color of material heated to 650C as a "dull red color".
- The corner diaphragm flange is identified as X3735A.
- The weld joint number nearest to the heated area is identified as FB3168-003-026.
- The area being heated is approximately 65 mm from the above mentioned weld joint.
- The length of the heated area is approximately 110 mm parallel to the above mentioned weld joint.
- CB18 is located in sub assembly Bay # 6.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS 1.5 2002 section 3.7.3 "Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat as approved by the Engineer. The temperature of the heated areas as measured by approved methods shall not exceed 600°C [1100°F] for quenched and tempered steel nor 650°C [1200°F] (a dull, red color) for other steels. The part to be heated for straightening shall be substantially free of stress and from external forces, except those stresses resulting from the mechanical straightening method used in conjunction with the application of heat."

Who discovered the problem: Surendra Prabhu

Name of individual from Contractor notified: Mr.Wang wen bin

Time and method of notification: 1515 Hrs, 09/12/10, Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 9:30_9/13/10_Email

QC Inspector's Name: Mr. Zhang zhi wei

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

NA

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



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: 13-Sep-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-0801

Job Name: SAS Superstructure
Document No: 05.03.06-000796

Reference Description: Excessive Heat Utilized during Heat Straightening of CB18 Floorbeam FB3168A

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:**

Remarks:

- During the Quality Assurance random in-process observations of the fabrication of OBG Crossbeam CB18, Caltrans Quality Assurance observed the following:
- During the fit up of the Floorbeam Diaphragms on CB18, ZPMC personnel appear to have overheated the flange base metal. The material was heated to a bright red/yellow condition.
 - AWS D1.5 2002 defines the color of material heated to 650C as a "dull red color".
 - The corner diaphragm flange is identified as X3735A.
 - The weld joint number nearest to the heated area is identified as FB3168-003-026.
 - The area being heated is approximately 65 mm from the above mentioned weld joint.
 - The length of the heated area is approximately 110 mm parallel to the above mentioned weld joint.
 - CB18 is located in sub assembly Bay #6.

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

Attachments: ZPMC-0801

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: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000796

Subject: NCR No. ZPMC-0801

Dated: 19-Oct-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000808 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has performed hardness testing on the heated area and is providing the results for the Department's review.

ZPMC has performed hardness testing on the heated area and is providing the results for the Department's review. Also attached is the NDT done on the adjacent welds to show they were not adversely affected by the heating. In the future, work crews who perform overheating will be fined in order to pay for the overheated part. This financial penalty will be a deterrent to workers performing overheating. In this case, ZPMC conducted hardness testing of the heated area (Area 1-5) and an adjacent area unaffected by overheating to show that the heating did not adversely affect the material hardness. After heating, ZPMC performed NDT and is providing the result to show the material is acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000808R00;

Caltrans' comments:

Status: CLO
Date: 20-Oct-2010

The proposed resolution is acceptable. This NCR is closed.

Submitted by: Woo, Laraine

Attachment(s):

Date: 20-Oct-2010



No. B-911

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-10-14

REGARDING: NCR-000839(ZPMC-0801)

ZPMC acknowledged this problem and has released an internal NCR. ZPMC performed hardness test to the overheated area what was found to be acceptable. ZPMC is providing the hardness analysis report of the overheated material for engineer's reviewal. To prevent this problem from happening again ZPMC QA personnel have talked over this with the project manager and an internal warning report was released to all the production departments who charge the working bays after then to address this issue. Based on this and with the attached NDT records, ZPMC is requesting closure of this NCR.

ATTACHMENT:

NCR-000839(ZPMC-0801)

B787-MT-30071

HARDNESS TESTING RESULTS OF ZPMC-0801

A handwritten signature in black ink, appearing to be 'fey' followed by a flourish.

80/18/20/0



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: 13-Sep-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: 05.03.06-000796
Subject: NCR No. ZPMC-0801
Reference Description: Excessive Heat Utilized during Heat Straightening of CB18 Floorbeam FB3168A

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:

Remarks:

During the Quality Assurance random in-process observations of the fabrication of OBG Crossbeam CB18, Caltrans Quality Assurance observed the following:

- During the fit up of the Floorbeam Diaphragms on CB18, ZPMC personnel appear to have overheated the flange base metal. The material was heated to a bright red/yellow condition.
- AWS D1.5 2002 defines the color of material heated to 650C as a "dull red color".
- The corner diaphragm flange is identified as X3735A.
- The weld joint number nearest to the heated area is identified as FB3168-003-026.
- The area being heated is approximately 65 mm from the above mentioned weld joint.
- The length of the heated area is approximately 110 mm parallel to the above mentioned weld joint.
- CB18 is located in sub assembly Bay #6.

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
Attachments: ZPMC-0801

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

Report No: NCR-000839

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 12-Sep-2010

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

NCR #: ZPMC-0801

Type of problem:

Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: CB18 Floorbeam FB3168AProcedural Procedural Description:

Reference Description: Excessive Heat Utilized during Heat Straightening of CB18 Floorbeam FB3168A

Description of Non-Conformance:

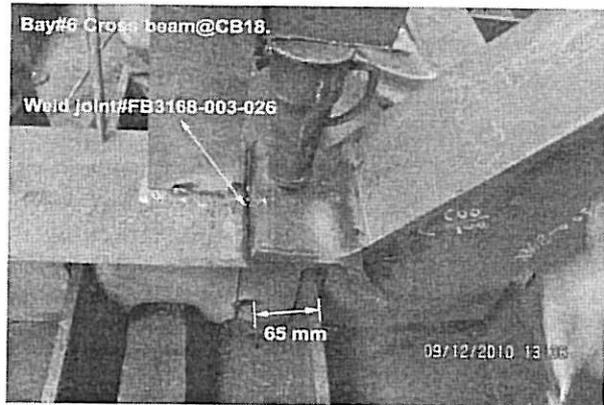
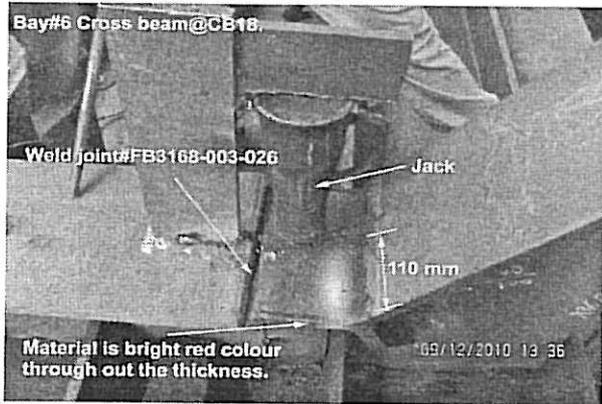
During the Quality Assurance random in-process observations of the fabrication of OBG Crossbeam CB18, Quality Assurance observed the following:

- During the fit up of the Floorbeam Diaphragms on CB18, ZPMC personnel appear to have overheated the flange base metal. The material was heated to a bright red/yellow condition.
- AWS D1.5 2002 defines the color of material heated to 650C as a "dull red color".
- The corner diaphragm flange is identified as X3735A.
- The weld joint number nearest to the heated area is identified as FB3168-003-026.
- The area being heated is approximately 65 mm from the above mentioned weld joint.
- The length of the heated area is approximately 110 mm parallel to the above mentioned weld joint.
- CB18 is located in sub assembly Bay # 6.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS 1.5 2002 section 3.7.3 "Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat as approved by the Engineer. The temperature of the heated areas as measured by approved methods shall not exceed 600°C [1100°F] for quenched and tempered steel nor 650°C [1200°F] (a dull, red color) for other steels. The part to be heated for straightening shall be substantially free of stress and from external forces, except those stresses resulting from the mechanical straightening method used in conjunction with the application of heat."

Who discovered the problem: Surendra Prabhu

Name of individual from Contractor notified: Mr. Wang wen bin

Time and method of notification: 1515 Hrs, 09/12/10, Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 9:30_9/13/10_Email

QC Inspector's Name: Mr. Zhang zhi wei

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

NA

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



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-30071		DATE 日期 2010.10.04	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: FB3168 FLOOR 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 ST , 2010	
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 KOREA	MODEL NO. 样式编号 MP-A2L	SERIAL NO. 连续编号 MP1690	
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/F2-X 14/20/25 mm	
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T 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			
FB3168-003-031				ACC.		100%MT
FB3168-003-032				ACC.		100%MT
AFTER HSR1(B)9486						
BLANK						

EXAMINED BY 主探 Chang Fangjie <u>Chang Fangjie</u> 2010.10.04 LEVEL-II SIGN 签名 / DATE 日期 质量经理 / QCM <u>Lu Jianhua</u> 2010.10.04 签字 SIGN / 日期 DATE	REVIEWED BY 审核 <u>Li Liming</u> 2010.10.04 LEVEL-II SIGN / DATE 日期 用户 CUSTOMER _____ 签字 SIGN / 日期 DATE
--	---

HARDNESS TESTING RESULTS FOR FB3168-003-026

Area	Test ID					FB3168-003-026 Hardness Testing Analysis					Meets Requirement?
	A*	B*	C*	D*	E*	Average Value**	Corresponding Brinell Hardness Value***	Approximate Tensile Strength (ksi)****	Minimum Tensile Strength (ksi)****		
1	163	187	165	163	184	171	172	84	65	YES	
2	166	174	171	189	184	175	176	86	65	YES	
3	157	166	174	161	174	167	169	83	65	YES	
4	174	159	181	175	166	172	172	84	65	YES	
5	189	181	194	175	190	187	185	89	65	YES	
Outside HAZ	185	177	189	189	183	185	185	89	65	YES	

*All values are Brinell Hardness

**High and low values excluded when determining average value

*** Per Table 3 ASTM A370-07b

**** For Grade 50[345], per Table 1, ASTM A709/A709M-05

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-000824**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 20-Oct-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0801**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: 12-Sep-2010**Description of Non-Conformance:**

During the Quality Assurance random in-process observations of the fabrication of OBG Crossbeam CB18, Quality Assurance observed the following:

- During the fit up of the Floorbeam Diaphragms on CB18, ZPMC personnel appear to have overheated the flange base metal. The material was heated to a bright red/yellow condition.
- AWS D1.5 2002 defines the color of material heated to 650C as a "dull red color".
- The corner diaphragm flange is identified as X3735A.
- The weld joint number nearest to the heated area is identified as FB3168-003-026.
- The area being heated is approximately 65 mm from the above mentioned weld joint.
- The length of the heated area is approximately 110 mm parallel to the above mentioned weld joint.
- CB18 is located in sub assembly Bay # 6.

Contractor's proposal to correct the problem:

Contractor will perform hardness test on the heated area, and submit the results to the Department for review. NDT will be performed on the adjacent welds to show the welds are not adversely affected by the heating. Contractor will in pose fine on the work crew perform overheating.

Corrective action taken:

Contractor performed the hardness testing of the heated area and the adjacent area affected by overheating to show that the heating did not adversely affect the material. NDT was performed, and material result is acceptable. Contractor has issued notification to fine the work crew who performed the heating.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:****Date:****Is Engineer's approval attached?**

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

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 Wahbeh, Mazen 818-292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Ng,Michael	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer
