

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-000375**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Jul-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0349**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Side Panel
Procedural	Procedural	Description:	

Reference Description: Missed MT Transverse Indication by QC on Side Panel 3022 (Seg 12CE)**Description of Non-Conformance:**

This Quality Assurance Inspector (QA) performed random verification of Magnetic Particle Testing (MT) on weld joint identified as SP-3022-001-048 between T-Stiffener to Side Plate for OBG Segment 12CE. This QA Inspector discovered one (1) rejectable Transverse Indication measuring approximately 5 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians.

**Applicable reference:**

AWS D1.5 (02) Section 6.26.2 - "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Who discovered the problem: Subhasis Bera**Name of individual from Contractor notified:** Hu Guihua**Time and method of notification:** 1630 hours, verbal**Name of Caltrans Engineer notified:** Bill Howe**Time and method of notification:** 0930 hours, verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name: Liu Famen

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
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Reviewed By:	Wahbeh, Mazen	SMR
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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: 05.03.06-000338

Subject: NCR No. ZPMC-0349

Reference Description: Missed MT Transverse Indication by QC on Side Panel 3022 (Seg 12CE)

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:** 12

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 repair procedure to engineer for review.

Transmitted by: Bill Howe

Attachments: ZPMC-0349

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: 05.03.06-000338

Subject: NCR No. ZPMC-0349

Dated: 24-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000343 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ABF has notified ZPMC of the missed MT indications and ZPMC has completed the necessary repairs. ABF is also conducting an investigation of why ZPMC is experiencing cracking of welds.

ABF has notified ZPMC of the missed MT indications and ZPMC has completed the necessary repairs. ABF has taken action by hiring several MT technicians to perform overchecks of several types of welds due to the amount of missed indications. ABF is also conducting an investigation of why ZPMC is experiencing cracking of welds. This investigation is being performed by both onsite ABF personnel as well as welding experts hired by ABF for this purpose. Recently CT has brought in their own welding consultant to discuss ABF findings and preventive actions. Preventive actions such as increased preheats have been discussed with ZPMC. When the investigation is completed, ABF will submit the findings to ZPMC and CT. ABF will continue to perform overchecks until we are sure this issue is corrected and preventive actions are implemented. ZPMC will submit the repair documents at a later date to close this NCR.

Submitted by:

Attachment(s): ABF-NPR-000343R00

Caltrans' comments:

Status: AAP

Date: 09-Sep-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-0349 at that time.

Submitted by: Wright, Doug

Date: 09-Sep-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000338

Subject: NCR No. ZPMC-0349

Dated: 09-Dec-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000343 **Rev:** 01

Contractor's Proposed Resolution:

Reference Resolution: Attached is documentation of the weld repairs and the NDT showing the weld is acceptable. Furthermore ABFJV has conducted training with the MT inspectors to improve inspections.

Attached is documentation of the weld repairs and the NDT showing the weld is acceptable. Furthermore ABFJV has conducted training with the MT inspectors to improve inspections. Based on this ZPMC is requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000343R01;

Caltrans' comments:

Status: CLO

Date: 13-Dec-2009

The documentation submitted has been reviewed by the Engineer and is found to be acceptable.

Submitted by: Chao, Ching

Date: 13-Dec-2009

Attachment(s):



No. B-523

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-12-08

REGARDING: NCR-000378(ZPMC-0352) NCR-000375(ZPMC-0349)

With this letter of response, ZPMC requests closure for CALTRANS NCR-000378(ZPMC-0352) & NCR-000375(ZPMC-0349), what mentioned that QA observed missed MT indication.

ZPMC acknowledged these issues and has written internal NCRs, CWR & WWR. After the repairing NDT were done to warrant these welds quality.

To enhance our MT inspection, training was performed to all the MT inspectors by ABF's QCM. So ZPMC provide internal NCRs, CWR, WWR, NDT documentations and Training Record, hoping CALTRANS could take a review and consider close these NCRs.

ATTACHMENT:

NCR-B-242

NCR-B-244

NCR-000378(ZPMC-0352)

NCR-000375(ZPMC-0349)

B-CWR-652

B-WR-6628

B787-MT-12728

B787-MT-12728R1

B787-12546R1

Jay Z
12/08/09



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-244
 NCR 编号: (ZPMC-0349)

Item: Missed MT Indication
 名称描述: MT 漏检

Item Number:
 件号: N/A

Drawing:
 图号: SP3022

Location: BAY 7
 位置:

Date:
 日期: 2009-08-21

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

During random MT on weld joint identified as SP3022-001-048 between T-stiffener to Side Plate for OBG Segment 12CE. This QA Inspector discovered one rejected Transverse Indication measuring approximately 5 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians..

在对斜地板焊缝 SP3022-001-048 (OBG 12CE) 进行 MT 抽检的过程中, 加州检验员发现一处 5mm 长度的 MT 线性缺陷。位于 T 肋筋板与底板的焊缝。

参考标准: AWS D1.5 章节 6.26.2.

Work By: [Signature] Prepared by: [Signature] 8/21/09 Reviewed by QCE: [Signature]
 施工方: [Signature] 准备: [Signature] 质量工程师批准: [Signature]
 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: 确认分报告正确。 Confirm and issue repair report.

Prepared by: [Signature] 2009.08.26 Approved by QCA: _____
 准备 质量经理批准

Reason for Nonconformance:

不符合原因: 漏检测缺陷, 在检验范围外。
 Discover linear defect out of inspection area.

预防措施: 增加抽检长度, 加强检验。
 Enlarge inspection length and inspection

Approved by/批准: [Signature]

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: _____



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

Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0349

Document No: 05.03.06-000338

Reference Description: Missed MT Transverse Indication by QC on Side Panel 3022 (Seg 12CE)

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: 12

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 repair procedure to engineer for review.

Transmitted by: Bill Howe

Comments: ZPMC-0349

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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 DIVISION OF ENGINEERING SERVICES
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 Quality Assurance and Source Inspection



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 (707) 649-5453
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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, P.R. China

Report No: NCR-000375

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 30-Jul-2009

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

NCR #: ZPMC-0349

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

Bridge No: 34-0006

Component: OBG Side Panel

Reference Description: Missed MT Transverse Indication by QC on Side Panel 3022 (Seg 12CE)

Description of Non-Conformance:

This Quality Assurance Inspector (QA) performed random verification of Magnetic Particle Testing (MT) on weld joint identified as SP-3022-001-048 between T-Stiffener to Side Plate for OBG Segment 12CE. This QA Inspector discovered one (1) rejectable Transverse Indication measuring approximately 5 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians.



Applicable reference:

AWS D1.5 (02) Section 6.26.2 - "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Who discovered the problem: Subhasis Bera

Name of individual from Contractor notified: Hu Guihua

Time and method of notification: 1630 hours, verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 0930 hours, verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name: Liu Famen

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	SP3022A	报告编号 Report No.	B-WR6628
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG SIDE PLATE 12B-D6	NDT报告编号 Report No.of NDT	B787-MT-12546
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

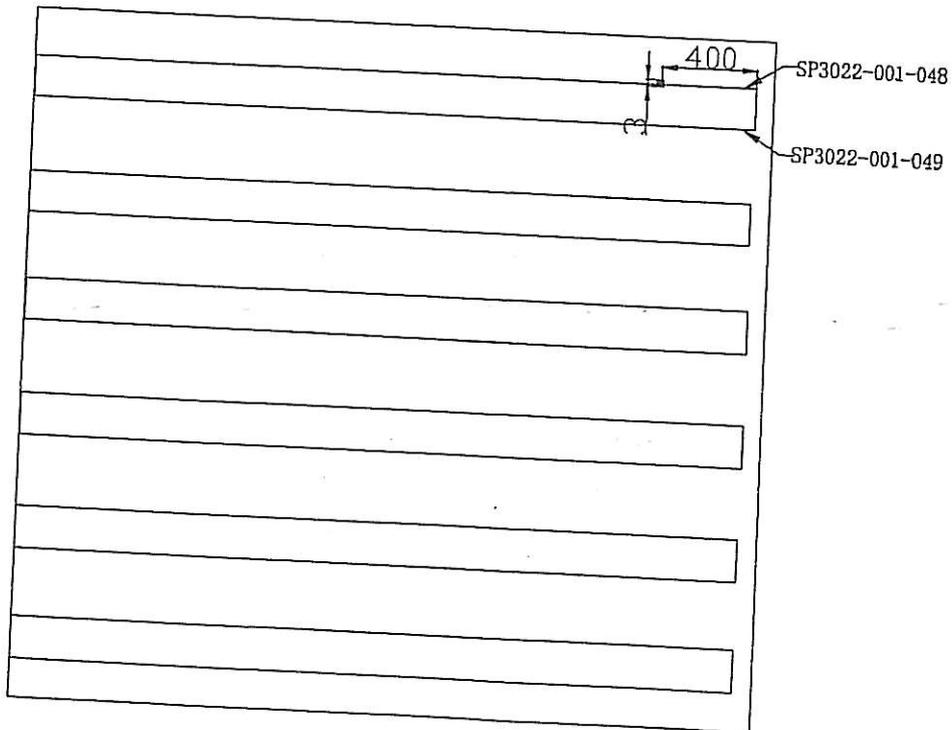
Description of welding discontinuity:

One pore was found by use of MT on SP3022-001-048.
(MT探伤发现1处气孔。)

检验员 (Inspector): Xu Huaxiang 日期(Date): 09.07.29

焊缝返修位置示意图:

Draft of welding discontinuity:



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): 2009.7.29

处理意见

Disposition:

1. 采用打磨的方法去除气孔;
 2. 焊接前按照焊接返修工艺规程(WPS)准备焊缝接头形式;
 3. 作100%VT与MT检查, 确保缺陷完全去除;
 4. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接;
 5. 打磨焊缝区域使其与母材平齐;
 6. 对修补区域作100%VT与MT检测;
1. Remove the defects by means of grinding cleanly.
 2. Prepare excavation in accordance with an approved repair WPS prior to welding.
 3. Perform VT 100% of the repair area to insure removal of the defects.
 4. Preheat and weld according to the relevant repair WPS.
 5. Following welding grind the weld flush with base metal.
 6. Perform 100% VT and MT of repair area.

工艺: Niutiefeng
Technical engineer
2009.7.29

审核: Lu Jianhua
Approved by

日期
Date 2009.8.11



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	SP3022A	报告编号 Report No.	B-WR6628
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG SIDE PLATE 12B-D6	NDT报告编号 Report No.of NDT	B787-MT-12546
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): 2009. 7. 29

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1 WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1	工艺员 technologist	Niutie feng 2009. 7. 29.
返修 (碳刨) 前预热温度 Preheat temperature before gouging	NA	返修的缺陷 Description of discontinuity	pore
焊前处理检查 Inspection before welding	ACU	焊前预热温度 Preheat temperature before welding	80°C
最大碳刨深度 Max. depth of gouging	2mm	碳刨总长 Total length of gouging	50mm
焊工 welder	066459 Tom xiangbo	焊接类型 welding type	SMAW
焊接电流 Current	160A	焊接电压 Voltage	24V
返修后检查 Inspection After repairing:		焊接位置 position	2F
外观检查 VT result	Acc	检验员 Inspector	Liu.F.W 08126531
NDT复检 NDT result	ACU	探伤员 NDT person	Xuhtan
日期 Date	09-08-05	日期 Date	09. 28. 05
见证: Witness/Review:			
备注: Remark:			

#R787-QCP-900



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-242 (ZPMC-0352)

Item: one longitudinal linear indication on LD002-039-011
名称描述: 在 LD002-039-011 上发现裂纹

Item Number:
件号: OBG
Longitudinal Diaphragms

Drawing:
图号: OBG LD002-039-011

Location: OBG LD
位置: BAY 3

Date:
日期: 2009-8-5

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

During random verification Magnetic Particle Testing (MT) for the OBG Longitudinal Diaphragms at Bay #3. The Caltrans Quality Assurance Inspector (QA) observed one (1) longitudinal linear indication approximately 11 mm in length in the weld metal on LD002-039-011. Linear Indication was discovered after ZPMC QC MT acceptance.

在三车间 OBG 纵桁上随机做 MT 的过程中, 加州检验员发现一条 11MM 长的裂纹在 LD002-039-011 上。此裂纹时在 ZPMC QC MT 接受之后发现的。

Work By: [Signature] Prepared by: ZhangWei Reviewed by QCE: ZhuoShuangbao
施工方: 2009.08.20 准备: 2009.08.21 质量工程师批准: 2009.8.21
 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: 确认并出具报告. Confirm and issue repair report.

Prepared by: [Signature] Approved by QCA: _____
准备: 2009.08.20 质量经理批准

Reason for Nonconformance:

不符合原因: 在检测范围外, 线性缺陷被检测到.
Discover linear defect out of inspection area.

Prevention of Re-occurrence:

预防措施: 如做焊工培训, 抽检位置随机化.

Enhance supervision welding and random inspection percentage.

Approved by/批准: [Signature] 2008.30

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

Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Document No: 05.03.06-000341

Subject: NCR No. ZPMC-0352

Reference Description: Missed MT Longitudinal Indication by QC on Longitudinal Diaphragm

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:

During random verification Magnetic Particle Testing (MT) for the OBG Longitudinal Diaphragms at Bay # 3. The Caltrans Quality Assurance Inspector (QA) observed one (1) longitudinal linear indication approximately 1 Imm in length in the weld metal on LD002-039-011. Linear Indication was discovered after ZPMC QC MT acceptance.

Action Required and/or Action Taken:

Submit repair procedure to engineer for approval.

Transmitted by: Bill Howe

Attachments: ZPMC-0352

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-000378

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 05-Aug-2009

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

NCR #: ZPMC-0352

Type of problem:

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

Reference Description: Missed MT Longitudinal Indication by QC on Longitudinal Diaphragm

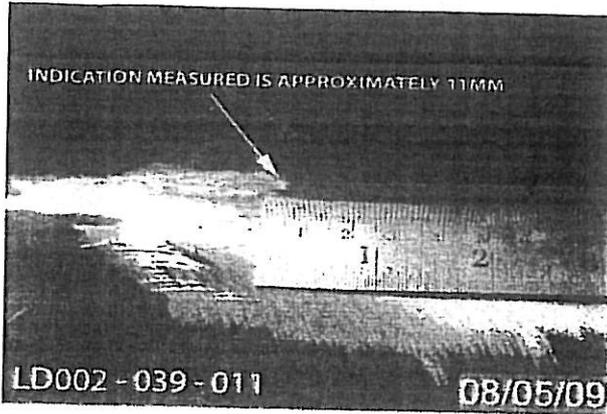
Description of Non-Conformance:

During random verification Magnetic Particle Testing (MT) for the OBG Longitudinal Diaphragms at Bay # 3. The Caltrans Quality Assurance Inspector (QA) observed one (1) longitudinal linear indication approximately 11mm in length in the weld metal on LD002-039-011. Linear Indication was discovered after ZPMC QC MT acceptance.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 (02) Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

Who discovered the problem: Sandeep Kumar Naddi

Name of individual from Contractor notified: Zeng Jian Ping

Time and method of notification: 1100 hours, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 0700 hours, Verbal

QC Inspector's Name: Zhang Yaxu

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



关键焊缝返修报告
Critical Welding Repair Report (CWR)

版本
Rev. No.:

1

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	LD2	报告编号 Report No.:	B-CWR652
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG PLATE PANEL SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-12728
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

We found one longitudinal crack on the LD002-039-011

Y=2200mm L=20mm

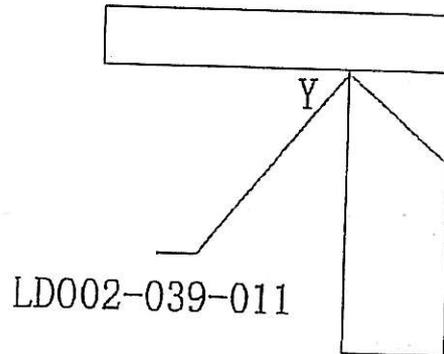
Welder ID No. (焊工编号): 208035 Position:(位置): 2F

检验员 (Inspector): Xu Hua xiang

日期 (Date): 2009-08.04

焊缝返修位置示意图:

Draft of Welding Discontinuity:



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State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial SVE Date: 8/12/2009

产生原因:

Cause:

1. 火焰加热时, 水汽没有完全的去掉或者这个区域预热不够;

1. Moisture wasn't completely removed during drying operation (preheating) or the area wasn't preheated sufficiently.

车间负责人 (Foreman):

Li Zhigang

日期 (Date):

09.08.07

处理意见

Disposition:

1. 这次返修时, QC和Leader CWI到现场对打磨, 焊接进行指导和监控工作以保证返修按照处理意见进行;
2. 整个返修的过程, QC和Leader CWI应该有批准CWR的复印件;
3. 去除热影响区域上在各个方向上不小于25mm范围内的油漆;
4. 采用打磨的方法去除裂纹, 打磨返修范围为沿缺陷焊缝每一端加50mm;
5. 如果打磨时母材损伤, 则在返修前将损伤区域打磨干净。如果打磨时或打磨后根部间隙大于5mm, 提交CWR报告给加州工程师批准, 那么在这个位置的焊缝采用CJP焊缝, 并在打磨去除焊缝后对其及进行MT检测;
6. 焊接前按照焊接返修工艺规程(WPS)准备焊接接头形式;
7. 返修前, VT和MT检测确认返修区域没有裂纹及其他缺陷存在;
8. 返修前, MT确认裂纹没有延伸到母材, 如果发现裂纹延伸到母材, 提交CWR给工程师批准;
9. 按照批准的焊接返修工艺规程(WPS)进行预热和焊接;
10. 将修补区域打磨与母材或相邻焊缝平齐;
11. 返修后进行100%VT和MT检测, 检测范围包括修补区域(包括沿缺陷焊缝每一端加50mm)的正面及反面焊缝, 其中对于CJP焊缝, NDT方法为UT和MT。

1. QC and a Lead CWI shall be present, direct and supervise all grinding and welding operations during this repair to ensure the repair is per the disposition requirements
2. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
3. Remove paint $\geq 25\text{mm}$ in all direction of HAZ prior to MT.
4. Remove cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs;
5. If base metal is damaged by grinding, the damaged area shall be ground clean prior to performing weld repair. If gap $> 5\text{mm}$ is found during or after grinding, a separate CWR to make the weld joint a CJP is required in that location, and perform MT after performing grinding the defects away.
6. Prepare excavation in accordance with an approved repair WPS prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free;
8. Perform MT on the weld metal adjacent to the repair area to ensure that crack did not propagate into base metal. If crack is discovered in base metal, approval of a separate CWR is required before continuing with repair work.
9. Preheat and weld according to the approved repair WPS.
10. Grind the repaired area flush with base metal or the adjacent weld.
11. Perform 100%VT and MT inspection to all repaired welds (along with an additional 50mm at each end of the weld repair) which include the near side and far side on the upper Perform UT and MT inspection to CJP weld.

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 Pursuant to Section 5-1.02 of the
 Standard Specifications

Initial SJE Date: 09/12/2009

工艺:

Technical Engineer:

Niu Zhenfeng

审核:

Approved By:

Li Jianhua
for chenbin

日期:

Date:

09.08.07



关键焊缝返修报告

版本
Rev. No.:

Critical Welding Repair Report (CWR)

1

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	LD2	报告编号 Report No.:	B-CWR652
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG PLATE PANEL SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-12728
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 返修前, QC确认有效的预热, 以将水汽全部去除。

1. QC shall verify sufficient preheat has been applied, to remove moisture, prior to welding.

车间负责人 (Foreman):

Li Zhigang

日期 (Date):

09.08.07

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:	Niu Tiejun 09.08.07
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	NA	返修的缺陷 Description of Discontinuity:	Crack
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	237°C
最大碳刨深度 Max. Depth of Gouge:	NA	碳刨总长 Total Length of Gouge:	NA
焊工 Welder:	044830	焊接类型 Welding Type:	FCAW
焊接电流 Current:	165	焊接电压 Voltage:	21.2
		焊接位置 Position:	2F
		焊接速度 Speed:	114
返修后检查 Inspection After Repair:			
外观检查 VT Result:	Acc	检验员 Inspector:	chen xi
		日期 Date:	2009.08.15.
NDT复检 NDT Result:	Acc	探伤员 NDT Person:	Jin Jian tang
		日期 Date:	8/15
见证: Witness/Review:			
备注: Remark:			

#R787-QCP-900

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State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial SJE Date: 8/12/2009



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12728

DATE日期 2009.08.04

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: LD2	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
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER
MAGNETIZING METHOD 磁化方法: Continuous magnetic yoke 磁轭式连续法	PROCEDURE NO. 程序编号: ZPQC-MT-01
PARTICLE TYPE 磁粉类型: Dry magnet powder 干磁粉	MODEL NO. 样式编号 B910S
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	CALIBRATION DUE DATE 仪器校正有效期: Dec. 28 th , 2009
WELDING PROCESS 焊接方法: FCAW	MODEL NO. 样式编号 B910S
	CURRENT 电流: AC
	YOKE SPACING 磁轭间距: 70~150mm
	Material & thickness 母材, 厚度: A709M-345T2-X
	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			
LD002-039-001						
LD002-039-002						*
LD002-039-003						*
LD002-039-004				ACC.		10%MT
LD002-039-005				ACC.		10%MT
LD002-039-006				ACC.		100%MT
LD002-039-007						*
LD002-039-008						*
LD002-039-009						*
LD002-039-010				ACC.		100%MT
LD002-039-012				ACC.		10%MT
* LD002-039-003, LD002-039-004, LD002-039-005, LD002-039-009, LD002-039-012 were MT inspection and ACC, which is the result of required 10% MT.						
* LD002-039-003, LD002-039-004, LD002-039-005, LD002-039-009, LD002-039-012 焊缝经MT检测合格, 累积检测长度已经达到了此批要求的10%检测长度。						
LD002-039-011	1	LONGITUDINAL CRACK	20		REJ.	100%MT

AFTER HSR1(B)-7250

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EXAMINED BY 主操 Xu hua xiano <i>Xu Hua Xiano</i>	REVIEWED BY 审核 <i>Sam Kwong chuang</i>
LEVEL - II SIGN 签名 / DATE 日期 <i>L. J. [Signature]</i> 09.08.04	LEVEL - II SIGN 签名 / DATE 日期 <i>[Signature]</i> 09.08.04
质检经理 / QCM <i>[Signature]</i>	用户 CUSTOMER <i>[Signature]</i>
签字 SIGN / 日期 DATE <i>[Signature]</i> 8/4/09	签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12728R1 DATE日期 2009.08.15 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: LD2 PLATE PANEL SPLICE		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 , 2009
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 14/25mm
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			
LD002-039-011	1R1			ACC.		100%MT

AFTER B-CWR652

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EXAMINED BY 主探 Jin jian ting <i>Jin Jian ting</i> LEVEL - II SIGN 签名 / DATE日期 09.08.15	REVIEWED BY 审核 <i>Sun Guo cheng</i> LEVEL-II SIGN / DATE日期 09.28.11
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-000423**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0349**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: 30-Jul-2009**Description of Non-Conformance:**

This Quality Assurance Inspector (QA) performed random verification of Magnetic Particle Testing (MT) on weld joint identified as SP-3022-001-048 between T-Stiffener to Side Plate for OBG Segment 12CE. This QA Inspector discovered one (1) rejectable Transverse Indication measuring approximately 5 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians.

Contractor's proposal to correct the problem:

Perform weld repair with NDT verification.

Corrective action taken:

Contractor provided documentation of the weld repairs and the NDT showing the weld is acceptable. Furthermore ABFJV has conducted training with the MT inspectors to improve inspections.

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 Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric **Quality Assurance Inspector****Reviewed By:** Wahbeh, Mazen **QA Reviewer**