

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-000421**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 24-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0395**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Segment 12CW, 12BW
Procedural	Procedural	Description: Missed MT indications	

Reference Description: Missed MT Indications by QC on Stiffeners to Side Panel Weld Joints**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector was provided an inspection request for Magnetic Particle Testing (MT) of the OBG Side Plates located in Bay #6. This Caltrans Quality Assurance (QA) Inspector observed a total of Twelve (12) transverse linear indications. The indication lengths measured approximately 4mm to 10mm in length. The Side Plates are identified as SP3042-001 (12CW) and SP3053-001 (12BW).

The affected weld designations are as follows:

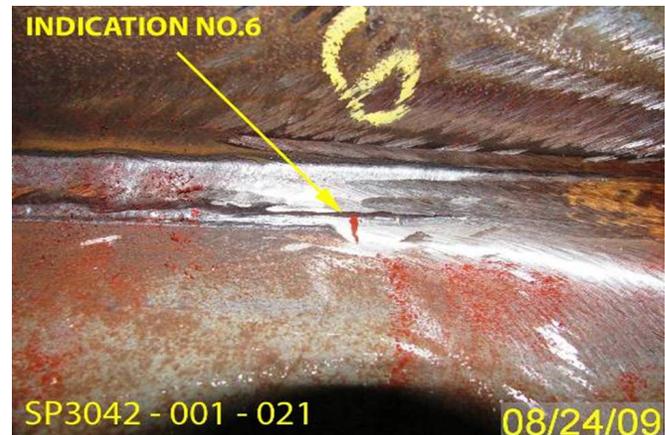
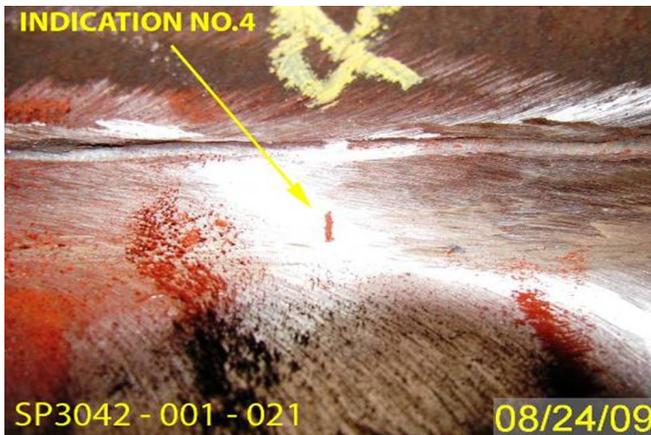
SP3042-001-021 - Six (6) Transverse linear indications

SP3042-001-019 - One (1) Transverse linear indication

SP3042-001-018 - Three (3) Transverse linear indications

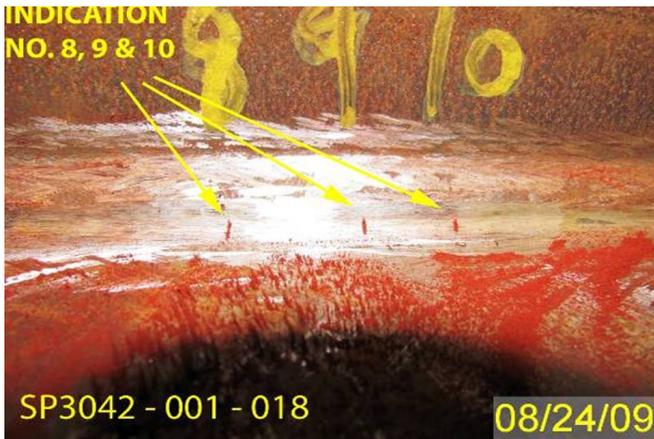
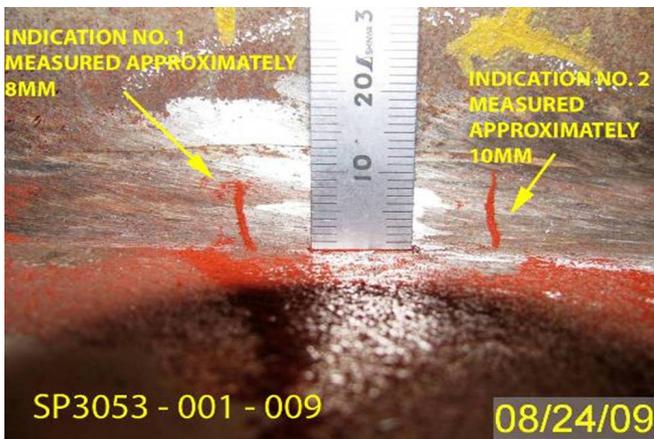
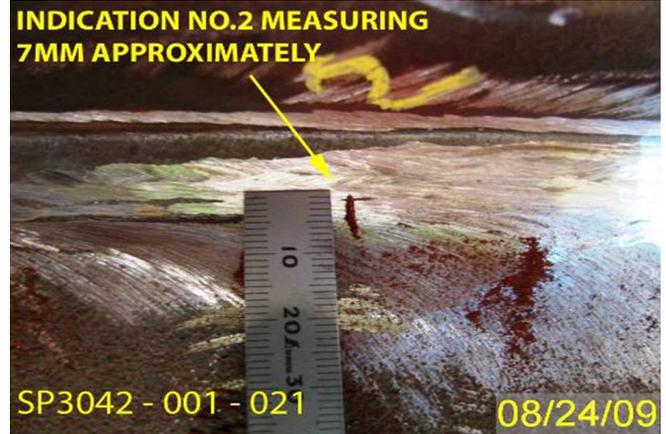
SP3053-001-009 - Two (2) Transverse linear indications

The above mentioned Side Plates had been welded on the gantry with automatic FCAW by electrode Super cored 71H (1.4 diameter) (E71T-1) using WPS-B-T-2132-3. These welds had been previously tested and accepted by ZPMC NDT personnel.



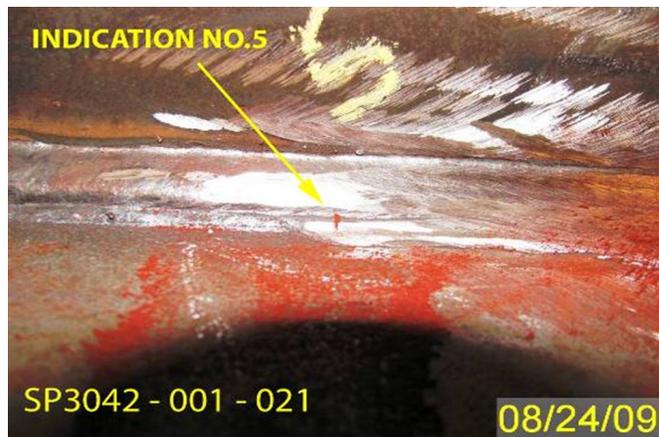
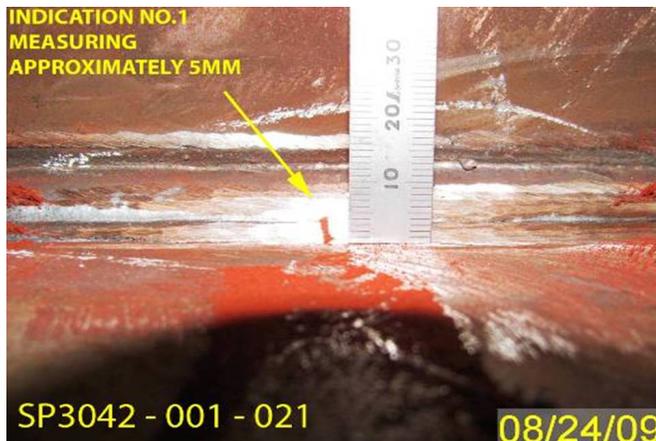
QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)



Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

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: Naddi Sandeep Kumar

Name of individual from Contractor notified: Hu Gui Hua

Time and method of notification: 1600 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 1300 hours, Verbal

QC Inspector's Name: Huang Min

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: 23-Sep-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: 05.03.06-000384

Subject: NCR No. ZPMC-0395

Reference Description: Missed MT Indications by QC on Stiffeners to Side Panel Weld Joints

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:** N/A

Remarks:

Caltrans Quality Assurance (QA) Inspector was provided an inspection request for Magnetic Particle Testing (MT) of the OBG Side Plates located in Bay #6. This Caltrans Quality Assurance (QA) Inspector observed a total of Twelve (12) transverse linear indications. The indication lengths measured approximately 4mm to 10mm in length. The Side Plates are identified as SP3042-001 (12CW) and SP3053-001 (12BW).

The affected weld designations are as follows:

- SP3042-001-021 - Six (6) Transverse linear indications
- SP3042-001-019 - One (1) Transverse linear indication
- SP3042-001-018 - Three (3) Transverse linear indications
- SP3053-001-009 - Two (2) Transverse linear indications

The above mentioned Side Plates had been welded on the gantry with automatic FCAW by electrode Super cored 71H (1.4 diameter) (E71T-1) using WPS-B-T-2132-3. These welds had been previously tested and accepted by ZPMC NDT personnel.

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval.

Transmitted by: Bill Howe

Attachments: ZPMC-0395

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: 05.03.06-000384

Subject: NCR No. ZPMC-0395

Dated: 16-Oct-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000386 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ABFJV QCM has implemented training with ZPMC to improve the quality of inspections. ABFJV will provide documentation showing attendance by ZPMC QC inspectors and the subject of training.

ABFJV QCM has implemented training with ZPMC to improve the quality of inspections. ABFJV will provide documentation showing attendance by ZPMC QC inspectors and the subject of training. Topics to be covered during the instruction are: inspection of equipment prior to use, proper conditions for inspection, proper technique for MT, and UT. In addition, ABFJV has committed to perform overchecks in both the Tower and OBG. This will serve two purposes, first to monitor if the training is effective at reducing the number of missed indications and second to ensure missed indications are prevented.

Documentation of repairs and subsequent NDT specific to this report will be transmitted through Daily Welding Reports and will be available in the documentation data base. Based on this course of action, ZPMC is requesting that this proposed resolution be approved with action pending. Once training records are available to be transmitted, ZPMC will request closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000386R00

Caltrans' comments:

Status: REJ

Date: 19-Oct-2009

The proposed resolution for training the QC inspectors is acceptable. However, documentation of repairs and subsequent NDT specific to this NCR should be submitted, along with the training records, and reviewed by the Department prior to closure of the NCR.

Submitted by: Chao, Ching

Date: 19-Oct-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000384

Subject: NCR No. ZPMC-0395

Dated: 27-Jan-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000386 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is attaching requested NDT and repair documentation. Based on this documentation and steps taken by the ABFJV QCM, ZPMC requests closure of this NCR.

ZPMC is attaching requested NDT and repair documentation. Based on this documentation and steps taken by the ABFJV QCM, ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000386R01;

Caltrans' comments:

Status: CLO

Date: 02-Feb-2010

The documentation received is sufficient to close this NCR.

Submitted by: Howe, Bill

Date: 02-Feb-2010

Attachment(s):



No. B-562

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-1-8

REGARDING: NCR-000421(ZPMC-0395)

With this letter of response, ZPMC requests closure of CT NCR-000421(ZPMC-0395), what mentioned that QA observed missed MT indications in SP3042 & SP3053.

ZPMC acknowledged this problem and has issued internal NCR. Attached is documentation of the repair of the missed indications and subsequent NDT what shows the welds are acceptable.

Based on these actions and the attached documentation, ZPMC requests closure of this NCR.

ATTACHMENT:

NCR-B-265(ZPMC-0395)

NCR-000421(ZPMC-0395)

B-CWR938

B787-MT-16172

B787-MT-16172R1

B-CWR895

B787-MT-15371

B787-MT-15371R1

[Handwritten signature]
1/8/10



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-265 (ZPMC-0395)
Item: Missed MT Indications 名称描述: MT 漏检	Item Number: 件号:	Drawing: 图号: 12CW 12BW
Location: bay 6 位置: 6 车间	Date: 日期: 2009-9-30	

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

CT Inspector was provided an inspection request for MT of the OBG Side Plate in bay 6. This inspector observed a total of 12 transverse linear indications. The indication lengths measured approximately 4mm to 10mm in length. The side plates are identified as SP3042-001(12CW) and SP3053-001 (12BW). The affected panels are as follows:
 SP3042 - 10 Transverse linear indications
 SP3053 - 2 Transverse linear indications
 The above mentioned side plates had been welded on the gantry with automatic FCAW by electrode super cored 71H using WPS-B-T-2132-3. These welds had been previously tested and accepted by ZPMC.

加州检验员在对 6 车间斜底板进行 MT 检验, 发现 12 处线性缺陷, 长度从 4mm~10mm 不等。涉及的斜底板编号: SP3042-001(12CW) SP3053-001(12BW).
 SP3042 共 10 处线性缺陷
 SP3053 共 2 处线性缺陷
 以上焊缝使用 FCAW 71H 焊条按 WPS-B-T-2132-3 进行焊接。这些焊缝已经由 ZPMC 检验并接受。

参考标准: 标书章节 8.3; AWS D1.5 章节 6.26.2

Work By: *Liliny* Prepared by: *...* Reviewed by QCE: *Zhao Shuang*
 施工方: 准备: 质量工程师批准: *9.30*

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

重新MT检测, 打磨去除, 不能去除者返修.
 Re-inspection by use of MT. ~~is~~ remove the defect by grinding and repairing.

Recommendation:

建议: 返工 Repair.

Prepared by: WZHY 20/01/08
准备

Approved by QCA: _____
质量经理批准

Reason for Nonconformance:

不符合原因:

比例范围外发现裂纹

The crack was found without in the inspection area.

Prevention of Re-occurrence:

预防措施:

扩大检验比例

Enlarge inspection proportion.

Approved by/批准: WZHY 20/01/08

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: _____



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333 Burma Road
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Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 23-Sep-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: 05.03.06-000384

Subject: NCR No. ZPMC-0395

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Material Location: OBG

Lift: N/A

Remarks:

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Transmitted by: Bill Howe

Attachments: ZPMC-0395

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)



Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

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Who discovered the problem: Naddi Sandeep Kumar

Name of individual from Contractor notified: Hu Gui Hua

Time and method of notification: 1600 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 1300 hours, Verbal

QC Inspector's Name: Huang Min

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

DEPARTMENT OF TRANSPORTATION
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Bay Area Branch
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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-000421

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 24-Aug-2009

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

NCR #: ZPMC-0395

Type of problem:

Welding Concrete Other
 Welding Curing Procedural **Bridge No:** 34-0006
 Joint fit-up Coating Other **Component:** OBG Segment 12CW, 12BW
 Procedural Procedural **Description:** Missed MT indications

Reference Description: Missed MT Indications by QC on Stiffeners to Side Panel Weld Joints

Description of Non-Conformance:

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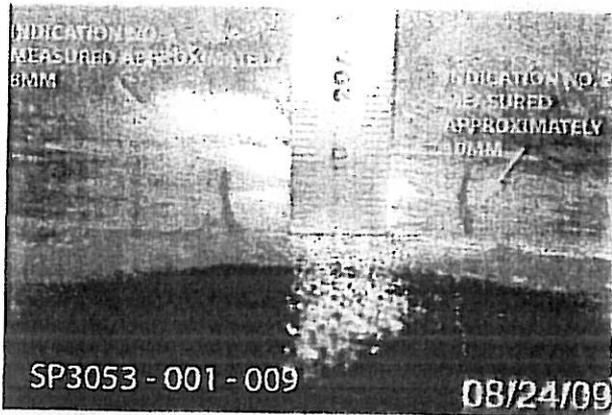
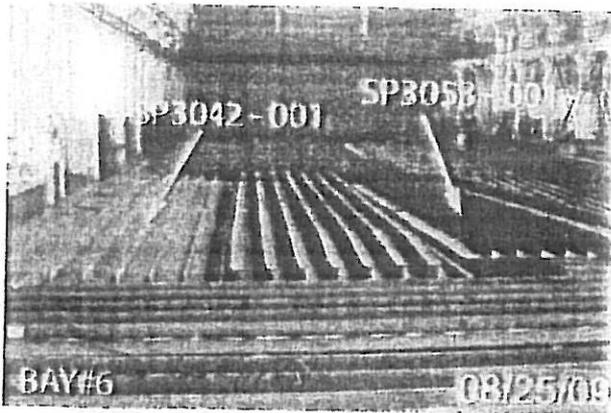
SP3042-001-018 - Three (3) Transverse linear indications

SP3053-001-009 - Two (2) Transverse linear indications

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT
(Continued Page 2 of 3)





关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SP3042A	报告编号 Report No.:	B-CWR938
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG SIDE PLATE 12C-E8	NDT 报告编号 NDT Report No.:	B787-MT-16172
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SP3042-001-001检测时, 发现1处横向裂纹。
 在对SP3042-001-009检测时, 发现2处横向裂纹。
 在对SP3042-001-013检测时, 发现1处横向裂纹。
 在对SP3042-001-017检测时, 发现6处横向裂纹。
 在对SP3042-001-019检测时, 发现5处横向裂纹。

在对SP3042-001-008检测时, 发现1处横向裂纹。
 在对SP3042-001-012检测时, 发现2处横向裂纹。
 在对SP3042-001-015检测时, 发现2处横向裂纹。
 在对SP3042-001-018检测时, 发现2处横向裂纹。
 在对SP3042-001-021检测时, 发现7处横向裂纹。

Welder ID No. (焊工编号): 209554/051246/053609

Position:(位置): 2F

One transverse crack was found by use of MT on SP3042-001-001.
 One transverse crack was found by use of MT on SP3042-001-008.
 Two transverse cracks were found by use of MT on SP3042-001-009.
 Two transverse cracks were found by use of MT on SP3042-001-012.
 One transverse crack was found by use of MT on SP3042-001-013.
 Two transverse cracks were found by use of MT on SP3042-001-015.
 Six transverse cracks were found by use of MT on SP3042-001-017.
 Two transverse cracks were found by use of MT on SP3042-001-018.
 Five transverse cracks were found by use of MT on SP3042-001-019.
 Seven transverse cracks were found by use of MT on SP3042-001-021.

All cracks were extended to material.
 Please see the detail data from MT report!

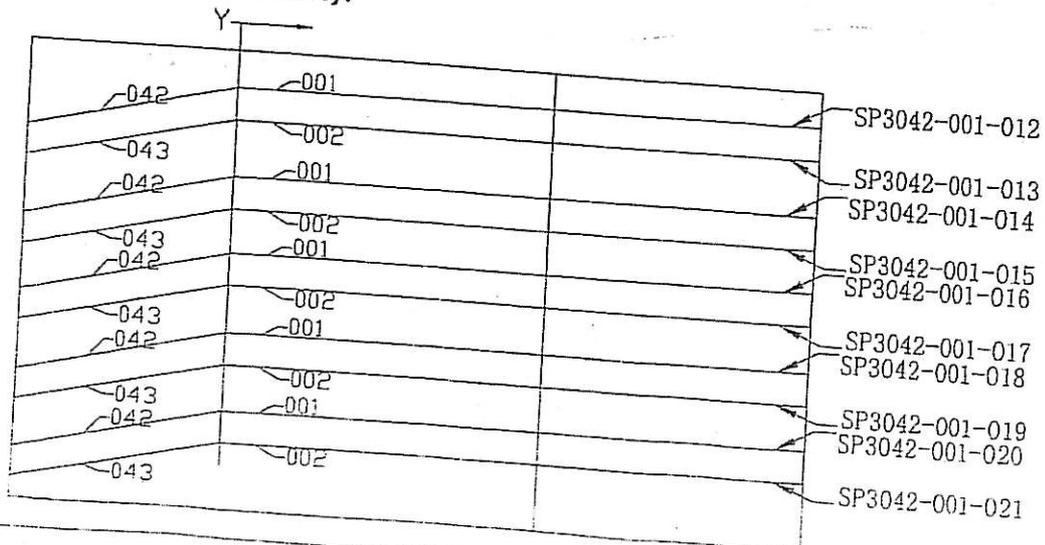
<input type="checkbox"/> APPROVED	
<input checked="" type="checkbox"/> APPROVED AS NOTED	
<input type="checkbox"/> RETURNED FOR CORRECTION	
Pursuant to Section 5-1.02 of the Standard Specifications State of California	
DEPARTMENT OF TRANSPORTATION	
Division of Engineering Services	
Office of Structure Construction	
SSE for RM Structure Representative	11/27/09 Date

检验员 (Inspector): Xu Huaxiang

日期 (Date): 2009-11-26

焊缝返修位置示意图:

Draft of Welding Discontinuity:



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): Zhang Guiming

日期 (Date): 09.11.26

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. 将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹, 打磨前预热至65° C。对于单个裂纹返修, 打磨返修范围为沿缺陷焊缝每一端加50mm, 对于多个裂纹的返修, 打磨返修范围为多个裂纹最外端的返修加长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, 则在继续返修前另需递交文件给工程师予以审核批准, 并按照被批准的方法将角焊缝改成CJP焊缝;
- 6. 焊接前按照新的焊接返修工艺准备焊接接头形式;
- 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, 同时靠近裂纹的母材也要做MT, 防止裂纹延伸到母材。如果在母材上发现裂纹, 则另外需CWR, 且只有当这份另出的CWR批准后才能继续返修;
- 8. 将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接, 预热温度为160° C-230° C;
- 9. 焊接后WPS要求进行后热, 后热温度为230° C-315° C, 后热时间至少1个小时;
- 10. 后热后将焊缝逐渐冷却到周围环境温度, 并控制冷却速率不超过50° C每小时;
- 11. 后热后将修补区域打磨与母材或相邻焊缝平齐;
- 12. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查;
- 13. 返修后根据图纸进行MT检测, 并按照合同10-1.59 "钢结构" 中的 "检测和试验" 要求进行附加MT检测。对于CJP焊缝, NDT为VT, MT和UT。

<input type="checkbox"/> APPROVED	
<input checked="" type="checkbox"/> APPROVED AS NOTED	
<input type="checkbox"/> RETURNED FOR CORRECTION	
DEPARTMENT OF TRANSPORTATION Division of Engineering Services Office of Structure Construction	
SJE for RM	11/27/09
Structure Representative	Date

- 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 ≥ 25 mm in all direction of HAZ prior to MT.
- 4. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs, and 50mm beyond the outermost cracks for multiple 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 mm is found during or after grinding, comply with the notification on changing fillet weld to CJP which is submitted for Engineer's review and approval form.
- 6. Prepare excavation in accordance with the New Repair Procedure prior to welding.
- 7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal along cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal and only after this new CWR's approval can continue the repair. *CRACKS EXIST IN B.M., DO NOT ENTIRE EXCAVATION AREA PRIOR TO WELDING.*
- 8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the preheat shall between 160° C-230° C.
- 9. Perform post weld heating according to repair WPS, the postheat shall between 230° C-315° C and for one hour minimum.
- 10. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° C per hour.
- 11. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.
- 12. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.
- 13. Perform MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'inspection testing'. NDT include VT, MT and UT if it is a CJP weld.

工艺:

Technical Engineer: Hexiaoli

审核:

Approved By: Luyantian

日期:

Date: 09.11.26



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SP3042A	报告编号 Report No.:	B-CWR938
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG SIDE PLATE 12C-E8	NDT 报告编号 NDT Report No.:	B787-MT-16172
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):

Zhang Guiming

日期 (Date):

09.11.26

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-Repair	工艺员 Technologist:	He Xiaobin 09.19.26
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	80	返修的缺陷 Description of Discontinuity:	crack
焊前处理检查 Inspection Before Welding:	Au	焊前预热温度 Preheat Temperature Before Welding:	140
最大碳刨深度 Max. Depth of Gouge:	2	碳刨总长 Total Length of Gouge:	29 x 100
焊工 Welder:	Wang Zhonghua 053753	焊接类型 Welding Type: SMAW	焊接位置 Position: 2G(2F)
焊接电流 Current:	170	焊接电压 Voltage: 24	焊接速度 Speed: 110

返修后检查

Inspection After Repair:

外观检查 VT Result:	Au	检验员 Inspector:	Xu Xianping 07072071	日期 Date:	09.12.10.
NDT复检 NDT Result:	All	探伤员 NDT Person:	Yahua Xiang	日期 Date:	10.07.06.

见证:

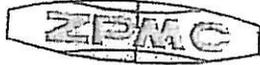
Witness/Review:

备注:

Remark:

<input type="checkbox"/> APPROVED
<input checked="" type="checkbox"/> APPROVED AS NOTED
<input type="checkbox"/> 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
SSE for 27
Structure Representative
11/27/09
Date

#R787-QCP-900



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-16172		DATE日期 2009.11.26	PAGE OF页码 1/4	Revision No: 0
PROJECT NO. 工程编号: ZP06-787	CONTRACTOR: 用户: CALTRANS		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4	
DRAWING NO. 图号: SP3042A	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
REFERENCING CODE 参考规范编码 AWS D1.5-2002	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620	
EQUIPMENT 设备 MT YOKE	MAGNETIZING METHOD 磁化方法 Continuous magnetic yoke 磁轭式连续法	CURRENT 电流 AC	YOKE SPACING 磁轭间距 70~150mm	
PARTICLE TYPE 磁粉类型 Dry magnet powder 干磁粉	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	TYPE OF JOINT 焊缝类型 T-JOINT	
WELDING PROCESS 焊接方法 FCAW				

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			
SP3042-001-001	1	transverse crack	8			
SP3042-001-002					REJ.	Y=2190
SP3042-001-003				ACC.		10%MT
SP3042-001-004				ACC.		10%MT
SP3042-001-005				ACC.		10%MT
SP3042-001-006				ACC.		10%MT
SP3042-001-007				ACC.		10%MT
SP3042-001-008	1	transverse crack	6	ACC.		10%MT
SP3042-001-009	1	transverse crack	6		REJ.	Y=3430
	2	transverse crack	5		REJ.	Y=710
SP3042-001-010					REJ.	Y=4425
SP3042-001-012	1	transverse crack	6	ACC.		10%MT
	2	transverse crack	6		REJ.	Y=2300
SP3042-001-013	1	transverse crack	5		REJ.	Y=2990
SP3042-001-014				ACC.	REJ.	Y=2100
						10%MT

EXAMINED BY主探 Xu Huaxiang LEVEL-II SIGN 签名 / DATE日期 09.11.26 质量经理 / QCM	REVIEWED BY 审核 Sun Wei LEVEL-II SIGN 签名 / DATE日期 09.11.26 用户 CUSTOMER
签字 SIGN / 日期 DATE (FORM# ZPQC-MT01)	签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

REPORT NO. 报告编号 B787-MT-16172

磁粉检测报告

PROJECT NO.

DATE日期 2009.11.26

PAGE OF页码 2/4

Revision No: 0

工程编号: ZP06-787

CONTRACTOR:

用户: CALTRANS

DRAWING NO.

SP3042A

CALTRANS CONTRACT NO.:

04-0120F4

图号:

OBG SIDE PLATE 12C-E8

加州工程编号

REFERENCING CODE

ACCEPTANCE STANDARD

PROCEDURE NO.

CALIBRATION DUE DATE

参考规范编码

接受标准

程序编号

仪器校正有效期

AWS D1.5-2002

AWS D1.5-2002

ZPQC-MT-01

Dec. 28th, 2009

EQUIPMENT 设备

MANUFACTURER 制造商

MODEL NO. 样式编号

SERIAL NO. 连续编号

MT YOKE

PARKER

B310S

5395 5617 5620

MAGNETIZING METHOD

Continuous magnetic yoke

CURRENT

AC

磁化方法

磁轭式连续法

电流

PARTICLE TYPE

Dry magnet powder

YOKE SPACING

70~150mm

磁粉类型

干磁粉

磁轭间距

MATERIAL TO BE

WELDING 焊接件

Material & thickness

A709M-345T2-X

EXAMINED

CASTING 铸件

母材, 厚度

16/22/18mm

检测材料

FORGING 锻造

TYPE OF JOINT

T-JOINT

WELDING PROCESS

FCAW

焊缝类型

WELD I.D.
焊缝编号

DISCONTINUITY不连续性

WELD I.D. 焊缝编号	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SP3042-001-015	1	transverse crack	5			
	2	transverse crack	4		REJ.	Y=1800
SP3042-001-016				ACC.		Y=3160
	1	transverse crack	6		REJ.	10%MT
SP3042-001-017	2	transverse crack	5		REJ.	Y=210
	3	transverse crack	6		REJ.	Y=3170
	4	transverse crack	5		REJ.	Y=3560
	5	transverse crack	4		REJ.	Y=4220
	6	transverse crack	8		REJ.	Y=4600
	1	transverse crack	8		REJ.	Y=4710
SP3042-001-018	2	transverse crack	7		REJ.	Y=2200
	1	transverse crack	11		REJ.	Y=2880
SP3042-001-019	2	transverse crack	8		REJ.	Y=1050
	3	transverse crack	5		REJ.	Y=1765
	4	transverse crack	6		REJ.	Y=2210
					REJ.	Y=2520

EXAMINED BY主探

Xu Huaxiang

LEVEL - II SIGN 签名 / DATE日期

质量经理 / QCM

签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REVIEWED BY 审核

LEVEL-II SIGN / DATE日期

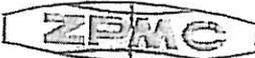
用户CUSTOMER

签字 SIGN / 日期 DATE

Xu Hua Xiang
11/26

Su Wei
11/26

Lu Pan
11/26/09



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-16172

DATE日期 2009.11.26

PAGE OF页码 3/4

Revision No: 0

PROJECT NO.

工程编号:

ZP06-787

CONTRACTOR:

用户:

CALTRANS

DRAWING NO.

SP3042A

CALTRANS CONTRACT NO.:

04-0120F4

图号:

OBG SIDE PLATE 12C-EB

加州工程编号

REFERENCING CODE

参考规范编码

AWS D1.5-2002

EQUIPMENT 设备

MT YOKE

MAGNETIZING METHOD

磁化方法

PARTICLE TYPE

磁粉类型

MATERIAL TO BE

EXAMINED

检测材料

WELDING PROCESS

焊接方法

ACCEPTANCE STANDARD

接受标准

AWS D1.5-2002

MANUFACTURER 制造商

PARKER

Continuous magnetic yoke

磁轭式连续法

Dry magnet powder

干磁粉

WELDING 焊接件

CASTING 铸件

FORGING 锻造

FCAW

PROCEDURE NO.

程序编号

ZPQC-MT-01

MODEL NO. 样式编号

B310S

CURRENT

电流

CALIBRATION DUE DATE

仪器校正有效期

Dec. 28ST, 2009

SERIAL NO. 连续编号

5395 5617 5620

AC

YOKE SPACING

磁轭间距

70~150mm

Material & thickness

母材, 厚度

A709M-345T2-X

16/22/18mm

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			
	5	transverse crack	4		REJ.	Y=3554
SP3042-001-020				ACC.		10%MT
SP3042-001-021	1	transverse crack	7		REJ.	Y=540
	2	transverse crack	5		REJ.	Y=990
	3	transverse crack	4		REJ.	Y=1200
	4	transverse crack	10		REJ.	Y=1280
	5	transverse crack	6		REJ.	Y=1610
	6	transverse crack	5		REJ.	Y=4910
	7	transverse crack	3		REJ.	Y=5260
SP3042-001-042				ACC.		100%MT
SP3042-001-043				ACC.		100%MT
SP3042-001-044				ACC.		100%MT
SP3042-001-045				ACC.		100%MT
SP3042-001-046				ACC.		100%MT
SP3042-001-047				ACC.		100%MT
				ACC.		100%MT

EXAMINED BY主探

Xu Huaxiang

LEVEL - II SIGN 签名 / DATE日期

质量经理 / QCM

签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REVIEWED BY 审核

LEVEL-II SIGN / DATE日期

用户CUSTOMER

签字 SIGN / 日期 DATE

Xu Huaxiang
11.26

Lu Jinhua 11/26/09

Su Wei
11.26



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-16172R1 DATE日期 2010.01.06 PAGE OF页码 2/2 Revision No: 0

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

DRAWING NO. 图号: SP3042A CALTRANS CONTRACT NO.: 加州工程编号: 04-0120F4
 OBG SIDE PLATE 12C-E8

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. 28ST, 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: WELDING 焊接件 Material & thickness 母材,厚度: A709M-345T2-X
 CASTING 铸件 16/22/18mm
 FORGING 锻造

WELDING PROCESS 焊接方法: SMAW 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			
	2R1			ACC.		
SP3042-001-019	1R1			ACC.		
	2R1			ACC.		
	3R1			ACC.		
	4R1			ACC.		
	5R1			ACC.		
SP3042-001-021	1R1			ACC.		
	2R1			ACC.		
	3R1			ACC.		
	4R1			ACC.		
	5R1			ACC.		
	6R1			ACC.		
	7R1			ACC.		

AFTER B-CWR938

BLANK

EXAMINED BY 主探 Xu Huaxiang Xu Huaxiang 10.01.06 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Su Wei Su Wei 10.01.06 LEVEL-II SIGN / DATE日期
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



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.:	SP3053A	报告编号 Report No.:	E-CWR895
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG SIDE PLATE 12 B-C4	NDT 报告编号 NDT Report No.:	B787-MT-15371
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SP3053-001-004检测时, 发现6处横向裂纹。
 在对SP3053-001-006检测时, 发现4处横向裂纹。
 在对SP3053-001-007检测时, 发现4处横向裂纹。
 在对SP3053-001-008检测时, 发现1处横向裂纹。
 在对SP3053-001-009检测时, 发现1处横向裂纹。
 在对SP3053-001-010检测时, 发现3处横向裂纹。

Welder ID No. (焊工编号): 045218/045260

Position:(位置): 2G/3G

Six transverse cracks were found by use of MT on SP3053-001-004.
 Four transverse cracks were found by use of MT on SP3053-001-006.
 Four transverse cracks were found by use of MT on SP3053-001-007.
 One transverse crack was found by use of MT on SP3053-001-008.
 One transverse crack was found by use of MT on SP3053-001-009.
 Three transverse cracks were found by use of MT on SP3053-001-010.

This document is APPROVED
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant to Section 5-1.02 of the
 Standard Specifications
 Initial: SFE Date: 11/12/09

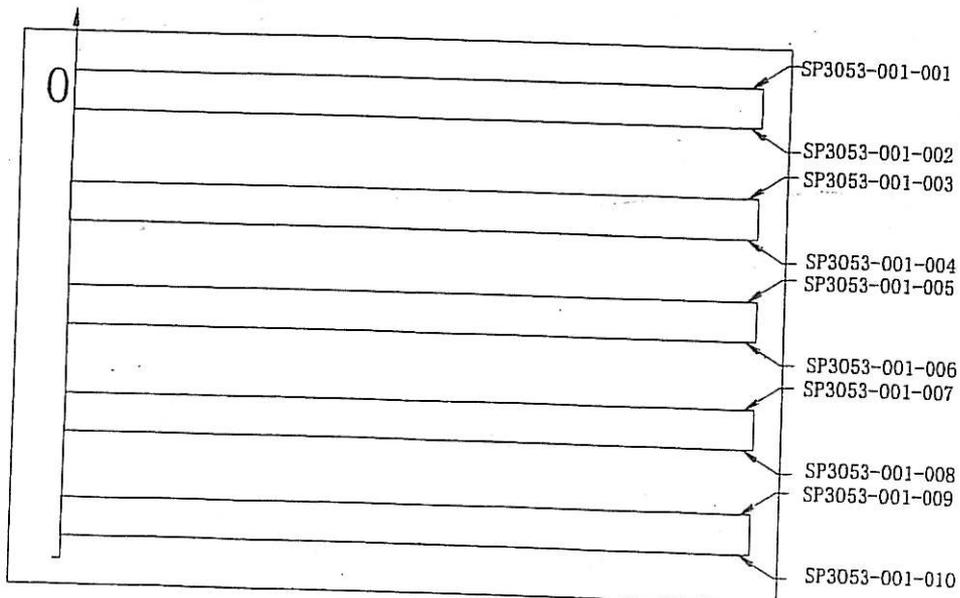
Please see the detail data from MT report!

Xu Huaxiang
 检验员 (Inspector): Xu Huaxiang

日期 (Date): 2009-11-05

焊缝返修位置示意图:

Draft of Welding Discontinuity:



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):

Zhang Guiming

日期 (Date):

09.11.10

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. 将杂物以及MT检测遗留的残留物清理干净。然后采用打磨的方法去除裂纹, 打磨前预热至65° C。对于单个裂纹返修, 打磨返修范围为沿缺陷焊缝每一端加50mm, 对于多个裂纹的返修, 打磨返修范围为多个裂纹最外端的返修加长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, 则在继续返修前另需递交文件给工程师予以审核批准, 并按照被批准的方法将角焊缝改成CJP焊缝;
6. 焊接前按照焊新的接返修工艺准备焊缝接头形式;
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, 同时靠近裂纹的母材也要做MT, 保证没有裂纹延伸到母材。如果在母材上发现裂纹, 则另外需CWR, 且只有当这份另出的CWR批准后才能继续返修;
8. 将杂物以及MT检测遗留的残留物清理干净。按照WPS进行预热和焊接, 预热温度为160° C-230° C;
9. 焊接后WPS要求进行后热, 后热温度为230° C-315° C, 后热时间至少1个小时;
10. 后热后将焊缝逐渐冷却到周围环境温度, 并控制冷却速率不超过50° C每小时;
11. 后热后将修补区域打磨与母材或相邻焊缝平齐;
12. 在焊缝冷却至环境温度至少经过48小时以后进行NDT检查。
13. 返修后根据图纸进行MT检测, 并按照合同10-1.59 “钢结构” 中的“检测和试验” 要求进行附加MT检测。对于CJP焊缝, NDT为VT, MT和UT。

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. Clean the excavation area of all loose debris including MT powder. Preheat to 65° C before removing cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs, and 50mm beyond the outermost cracks for multiple 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, comply with the notification on changing fillet weld to CJP which is submitted for Engineer's review and approval form.
6. Prepare excavation in accordance with the New Repair Procedure prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, and also MT shall be performed on the base metal laying abroad cracks to ensure that no cracks were propagated to the base metal. Separate CWR approval is needed if cracks are found in the base metal, and only after this new CWR's approval can continue the repair.
8. Clean excavation area of all loose debris including MT powder after excavation. Preheat and weld according to repair WPS, the minimum preheat shall between 160° C-230° C.
9. Perform post weld heating according to repair WPS, the postheat shall between 230° C-315° C and for one hour minimum.
10. Allow the weld to cool to ambient temperature gradually. Control cooling rate after PWHT to no more than 50° C per hour.
11. Grind the repaired area flush with base metal or the adjacent weld after post weld heating.
12. Wait 48 hours at least after the repair area has cooled to ambient temperature before performing NDT.
13. Perform MT inspection to all repair area according to Contract Drawings along with all additional NDT required by the applicable notes Special Provision Section 10-1.59 'Steel Structure', subsection 'inspect on testing'. NDT include VT, MT and UT if it is a CJP weld.

工艺:

Technical Engineer:

Xu Donghai

审核:

Approved By:

Long Jianhua

日期:

Date: 09.11.10



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.:	SP3053A	报告编号 Report No.:	B-CWR895
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG SIDE PLATE 1 2B-C4	NDT 报告编号 NDT Report No.:	B787-M5T-15371
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):

Zhang Guiming

日期 (Date):

07.11.10

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-FCM -Repair	工艺员 Technologist:	Xu Dongkai 07.11.10
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	75°C	返修的缺陷 Description of Discontinuity:	Crack
焊前处理检查 Inspection Before Welding:	Ac	焊前预热温度 Preheat Temperature Before Welding:	170°C
最大碳刨深度 Max. Depth of Gouge:	NA	碳刨总长 Total Length of Gouge:	1900mm
焊工 Welder:	053753	焊接类型 Welding Type:	SMAW
焊接电流 Current:	165A	焊接电压 Voltage:	22V
		焊接位置 Position:	2E
		焊接速度 Speed:	97mm/min

返修后检查**Inspection After Repair:**

外观检查 VT Result:	Acc	检验员 Inspector:	Lijian	日期 Date:	2010.1.3.
NDT复检 NDT Result:	MT: Acc	探伤员 NDT Person:	Huang Jing	日期 Date:	2010.1.5.

见证:

Witness/Review:

备注:

Remark:

This document is APPROVED
State of California
DEPARTMENT OF INDUSTRIAL RELATIONS
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial STE Date: 11/12/09

#R787-QCP-900



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-15371 DATE日期 2008.11.05 PAGE OF 页码 1/2 Revision No: 0

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

DRAWING NO. 图号: SP3053A CALTRANS CONTRACT NO.: 加州工程编号 04-D120F4

REFERENCING CODE 参考规范代码: DBG SIDE PLATE 12B-C4 ACCEPTANCE STANDARD 接受标准: AWS D1.5-2002

EQUIPMENT 设备: MT YOKE MANUFACTURER 制造商: PARKER PROCEDURE NO. 程序编号: ZPQC-MT-01 CALIBRATION DUE DATE 校准位正有效期: Dec. 26th, 2008

MAGNETIZING METHOD 磁化方法: Continuous magnetic yoke 磁轭式连续法 MODEL NO. 样式编号: B310S SERIAL NO. 连续编号: 5395 5617 5620

PARTICLE TYPE 磁粉类型: Dry magnet powder 干磁粉 CURRENT 电流: AC

MATERIAL TO BE EXAMINED 检测材料: WELDING 焊接件 Yoke Spacing 磁轭间距: 70~150mm

WELDING PROCESS 焊接方法: FCAW Material & thickness 母材, 厚度: A709M-345F2-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			
SP3053-001-001				ACC.		100%MT
SP3053-001-002				ACC.		100%MT
SP3053-001-003				ACC.		100%MT
SP3053-001-004	1	transverse crack	10		REJ.	Y=530
	2	transverse crack	14		REJ.	Y=6170
	3	transverse crack	10		REJ.	Y=7150
	4	transverse crack	12		REJ.	Y=7480
	5	transverse crack	14		REJ.	Y=8230
	6	transverse crack	12		REJ.	Y=8550
SP3053-001-005				ACC.		100%MT
SP3053-001-006	1	transverse crack	10		REJ.	Y=1130
	2	transverse crack	12		REJ.	Y=7970
	3	transverse crack	10		REJ.	Y=8280
	4	transverse crack	17		REJ.	Y=8530
SP3053-001-007	1	transverse crack	14		REJ.	Y=1850

EXAMINED BY 主操: Xu Huaxiang
 LEVEL-II SIGN 签名: Xu Huaxiang DATE 日期: 01/11/05
 质量经理 / QCM

REVIEWED BY 审核: [Signature]
 LEVEL-II SIGN 签名: [Signature] DATE 日期: 01/11/05
 用户 CUSTOMER

签字 SIGN / 日期 DATE
 (FORM# ZPQC-MT01)

签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

REPORT NO. 报告编号 B787-MT-15371 磁粉检测报告
 PROJECT NO. DATE日期 2009.11.05 PAGE OF 页码 2/2 Revision No: 0

工程编号: ZP06-787 CONTRACTOR: 用户: CALTRANS

DRAWING NO. 图号: BP3053A CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4

REFERENCING CODE 参考标准代码 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. 28th, 2009

EQUIPMENT 设备 MT YOKE MANUFACTURER 制造商 PARKER MODEL NO. 样式编号 B310S SERIAL NO. 连续编号 5385 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 WELDING 焊接件 CASTING 铸件 FORGING 锻造 Material & thickness 母材, 厚度 A709M-345F2-X

WELDING PROCESS 焊接方法 FCAW TYPE OF JOINT 焊缝类型 16/20mm 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			
	2	transverse crack	10			
	3	transverse crack	12		REJ.	Y=2700
	4	transverse crack	6		REJ.	Y=3110
SP3053-001-008	1	transverse crack	12		REJ.	Y=3750
SP3053-001-009	1	transverse crack	14		REJ.	Y=1490
SP3053-001-010	1	transverse crack	10		REJ.	Y=1710
	2	transverse crack	14		REJ.	Y=5850
	3	transverse crack	12		REJ.	Y=6830
AFTER HSR1(B)-7336						
BLANK						

EXAMINED BY 主检
 Xu Huaxiang 09.11.05
 LEVEL-II SIGN 签名 / DATE 日期
 质量经理 / QOM Lu Jianhua 01.6
 签字 SIGN / 日期 DATE

REVIEWED BY 审核
 Sun 09.11.05
 LEVEL-II SIGN 签名 / DATE 日期
 用户 CUSTOMER
 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-15371R1 DATE日期 2010.01.05 PAGE OF页码 1/2 Revision No: 0

PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS	
DRAWING NO. 图号: SP3053A OBG SIDE PLATE 12B-C4		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 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-345F2-X 16/20mm
WELDING PROCESS 焊接方法	SMAW	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			
SP3053-001-004	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
SP3053-001-006	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
SP3053-001-007	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
SP3053-001-008	1R1			ACC.		100%MT

EXAMINED BY 主探 Huang jing <i>Huang Jing</i>	REVIEWED BY 审核 <i>Su wei</i>
LEVEL - II SIGN 签名 / DATE日期 质量经理 / QCM <i>10.01.05</i>	LEVEL-II SIGN / DATE日期 用户CUSTOMER <i>10.01.05</i>
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-000497**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 03-Feb-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0395**Type of problem:**

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

Date the Non-Conformance Report was written: 24-Aug-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector was provided an inspection request for Magnetic Particle Testing (MT) of the OBG Side Plates located in Bay #6. This Caltrans Quality Assurance (QA) Inspector observed a total of Twelve (12) transverse linear indications. The indication lengths measured approximately 4mm to 10mm in length. The Side Plates are identified as SP3042-001 (12CW) and SP3053-001 (12BW).

The affected weld designations are as follows:

SP3042-001-021 - Six (6) Transverse linear indications

SP3042-001-019 - One (1) Transverse linear indication

SP3042-001-018 - Three (3) Transverse linear indications

SP3053-001-009 - Two (2) Transverse linear indications

The above mentioned Side Plates had been welded on the gantry with automatic FCAW by electrode Super cored 71H (1.4 diameter) (E71T-1) using WPS-B-T-2132-3. These welds had been previously tested and accepted by ZPMC NDT personnel.

Contractor's proposal to correct the problem:

Repair missed indications and perform required NDT.

Corrective action taken:

The Contractor submitted records of a CWR along with the follow-up NDT reports verifying the repairs were made and the welds are in conformance with Contract specifications. The QCM has provided additional training to NDT technicians and purchased new equipment. An internal NCR was also issued.

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 152.1675.3703, who represents the Office of

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Structural Materials for your project.

Inspected By: Simonis,Jim

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer
