

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
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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-000284**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 19-May-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0258**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Segment 1AAE
Procedural	Procedural	Description:	

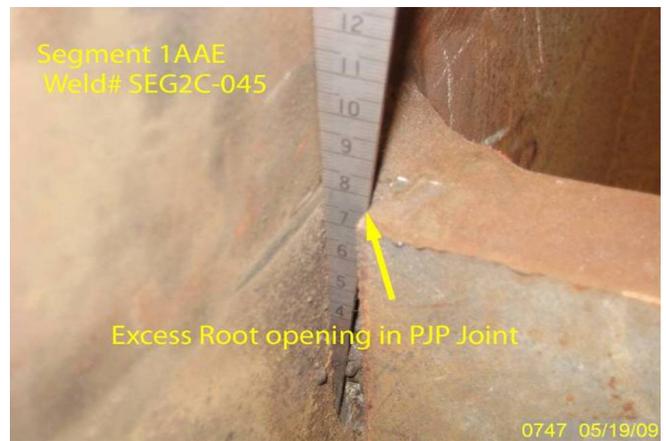
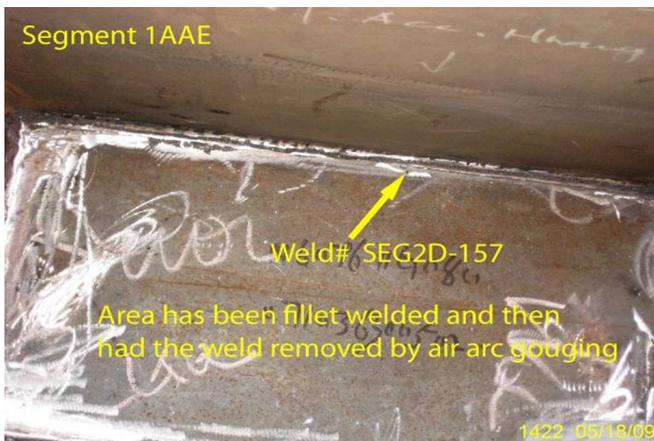
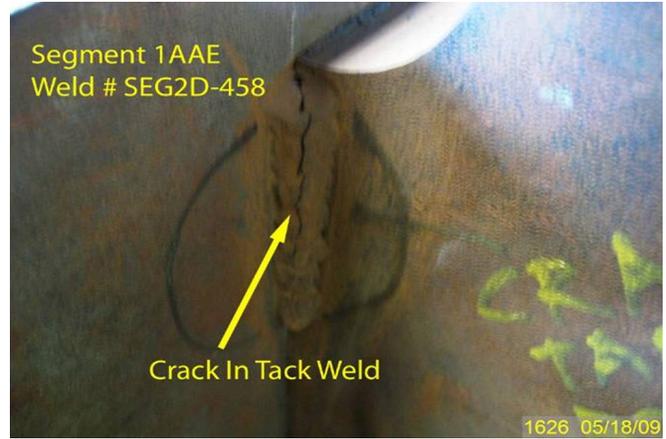
Reference Description: Missed MT/VT by QC, Segment 1AAE**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector found the following indications and discontinuities by Visual Testing (VT) and Magnetic Particle Testing (MT) on welds previously inspected and accepted by ZPMC Quality Control (QC) Inspectors.

- Four linear indications (transverse) were discovered by MT on weld joint# Seg2-036 (corner assembly joint). After removing the indications by grinding, the resulting weld was accepted by ZPMC-QC and Caltrans-QA.
- Joint offset (misalignment) was found in weld #Seg2-021 and Seg2-019. The measured offset is approximately 5mm.
- SEG2C-045 - PJP weld root opening is approximately 8 mm. SEG2E-137 - PJP weld root opening exceeds allowable tolerances of WPS-B-T-2333-Tc-U4b-F.
- SEG2E-458- Crack in tack weld
- SEG2D-157- Drawings require tight fit. The joint has been fillet welded. The weld has been removed by arc gouging resulting in base metal damage. This area cannot be measured for compliance with the tolerances for tight fit due to melted weld metal and base metal at the joint.
- SEG2D- The fit-up at the end plate and deck plate exceeds the allowable 2mm tolerance. The measured gap is approximately 8mm.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

1. AWS D1.5 (02) Section 3.3.3: "Parts to be joined by groove welds shall be carefully aligned. Where the parts are effectively restrained against bending due to eccentricity in alignment, the offset from theoretical alignment shall not exceed 10 percent of the thickness of the thinner part joined, but in no case shall be more than 3 mm [118 in.]. In correcting misalignment in such cases, the parts shall not be drawn in to a greater slope than 12 mm [U2 in.] in 300 mm [12 in.]. Measurement of offset shall be based upon the centerline of parts unless otherwise shown on the drawings."
2. Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

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.”

3. AWS D1.5 (02) Section 6.26.2: “Welds that are subject to MT in addition to visual inspection shall have no Cracks”

4. AWS D1.5 (02) Section 3.3.2: “The root opening between parts to be joined by PJP groove welds parallel to the member length (bearing joints excepted) shall be zero, or as small as practicable.”

5. WPS-B-T-2333-Tc-U4b-F

6. AWS D1.5 (02) Section 3.5.1.10: “Where tight fit of intermediate stiffeners is specified, it shall be defined as allowing a gap of up to 2 mm [1/16 in.] between stiffener and flange.”

Who discovered the problem: Hiranch Patel

Name of individual from Contractor notified: Wang Wen Bin

Time and method of notification: 05/19/09, 16:30, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 05/21/09, 11:00, Verbal

QC Inspector's Name: Shen Xie Jun

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By:	Guest,Skylar	SMR
Reviewed By:	Wahbeh,Mazen	SMR



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Tel: 021-56856666 ext 207061 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 28-May-2009

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

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Document No: 05.03.06-000244

Subject: NCR No. ZPMC-0258

Reference Description: Missed MT/VT by QC, Segment IAAE

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: OBG **Lift:**

Remarks:

Caltrans Quality Assurance (QA) Inspector found the following indications and discontinuities by Visual Testing (VT) and Magnetic Particle Testing (MT) on welds previously inspected and accepted by ZPMC Quality Control (QC) Inspectors.

1. Four linear indications (transverse) were discovered by MT on weld joint# Seg2-036 (corner assembly joint). After removing the indications by grinding, the resulting weld was accepted by ZPMC-QC and Caltrans-QA.
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6. SEG2D- The fit-up at the end plate and deck plate exceeds the allowable 2mm tolerance. The measured gap is approximately 8mm.

Action Required and/or Action Taken:

A response for the resolution of this issue is expected within 14 days.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0258

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, 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: 05.03.06-000244

Subject: NCR No. ZPMC-0258

Dated: 22-Jun-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000251 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ABF has instructed ZPMC to provide the necessary repairs to bring segment 1AAE into compliance with contract requirements.

ABF has instructed ZPMC to provide the necessary repairs to bring segment 1AAE into compliance with contract requirements. All 6 items are currently being reworked, which includes removal of stiffeners with root gaps exceeding 5mm. ABF issued a stop work order to prevent grouting prior to repair. ZPMC has honored this letter and is in process with repairs. ZPMC has released and fined personnel who were involved in the fabrication and inspection of these segments and held discussions with CVM's on code compliance. ABF has held discussions with our inspectors of preventive action measures to ensure this type of condition does not happen again. ZPMC will provide inspection reports at a later date to close this NCR.

Submitted by:

Attachment(s): ABF-NPR-000251R00

Caltrans' comments:

Status: AAP

Date: 24-Jun-2009

The response is acceptable, but the Non-Conformance is not closed.

Please provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0258 at that time.

Submitted by: Wright, Doug

Date: 24-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000244

Subject: NCR No. ZPMC-0258

Dated: 24-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000251 **Rev:** 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has written an internal NCR providing corrective and preventive actions to be taken as well as provided all relative inspection documents. ZPMC requests closure of this NCR.

ZPMC has written an internal NCR providing corrective and preventive actions to be taken as well as provided all relative inspection documents. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000251R01

Caltrans' comments:

Status: REJ

Date: 28-Aug-2009

The proposed resolution is not acceptable. There is no documentation attached.

Please discuss with the Department's representatives in Shanghai to determine the repairs and documentation required to close this Non-Conformance.

Submitted by: Wright, Doug

Date: 28-Aug-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000244

Subject: NCR No. ZPMC-0258

Dated: 14-Sep-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000251 **Rev:** 02

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has attached supporting documents of inspection and requests closure of this NCR.
ZPMC has attached supporting documents of inspection and requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000251R02;

Caltrans' comments:

Status: CLO

Date: 24-Sep-2009

Contractor has submitted all required documentation

Submitted by: Chao, Ching

Date: 24-Sep-2009

Attachment(s):



No. B-454

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-8-19

REGARDING: NCR-000284 (ZPMC-258)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000284 (ZPMC-258)**.

There is 6 items in the NCR, the explanation is following:

- 1) The crack had been removed at that time and the welds had been verified NDT by ZPMC and CT.
- 2) The misalignment had been corrected and the weld had been repaired with B-WR5828. CT had completed the NDT.
- 3) For these location, the stiffener had been removed and replace a new one. MT was accepted by ZPMC and CT.
- 4) The crack on the tack weld had been removed by grinding at that time, MT was confirmed.
- 5) For correcting the gap, ZPMC replace a new plate. MT was confirmed.
- 6) According to the RFI-ZPM-702 and B-WR5642, ZPMC corrected the exceeded gap. The final MT was completed by ZPMC and CT.

so base on the above explanation and attached documentations, ZPMC applies to close the Caltrans's report **NCR-000284 (ZPMC-258)**.

Please reference attached document for acceptance and closure the **NCR-000284 (ZPMC-258)**.

ATTACHMENT:

NCR-000284 (ZPMC-258)

ZPMC internal NCR

The final VT/MT/UT inspection reports

The welding repair report

The approved RFI

Zhao Shuangbao

2009.8.19



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-166 (ZPMC-0258)	
Item: Missed MT/VT by Quality Control 名称描述: MT 和 VT 漏检	Item Number: 件号: OBG 1AAE	Drawing: 图号: SEG2	
Location: OBG 1AAE 位置:		Date: 日期: 2009-06-03	

Description of Nonconformance:

Caltrans Quality Assurance (QA) Inspector found the following indications and discontinuities by VT and MT on welds previously inspected and accepted by ZPMC QC and ABF QA Inspectors.

1. Four linear indications (transverse) were discovered by MT on weld joint #Seg2-036 (corner assembly joint). After removing the indications by grinding, the resulting weld was accepted by ZPMC-QC and Caltrans-QA.
2. Joint offset (misalignment) was found in weld #Seg2-021 and Seg2-019. The measured offset is approximately 5mm.
3. SEG2C-045-PJP weld root opening is approximately 8mm. SEG2E-137-PJP weld root opening exceeds allowable tolerances of WPS-B-T-2333-Tc-U4b-F.
4. SEG2E-458-Crack in tack weld.
5. SEG2D-157-Drawings require tight fit. The joint has been fillet welded. The weld has been removed by arc gouging resulting in base metal damage. This area cannot be measured for compliance with the tolerances for tight fit due to melted and base metal at the joint.
6. SEG2D- The fir-up at the end plate and deck plate exceeds the allowable 2mm tolerance. The measured gap is approximately 8mm.

加洲检验员在对被 ZPMC 检验员 VT 和 MT 接受的焊缝做 VT 和 MT 复检的时候发现如下缺陷:

- 1、在焊缝 SEG2-036 上, MT 发现 4 处横向裂纹。ZPMC 打磨去除后有 QC 和加洲检验员确认。
- 2、在焊缝 SEG2-021 和 SEG2-019 上, 发现焊缝接头错边, 错边量是 5 毫米。
- 3、在焊缝 SEG2C-045 上发现根部间隙为 8 毫米。在焊缝 SEG2E-137 上发现根部间隙超过使用的 WPS (WPS-B-T-2333-Tc-U4b-F) 的允许值。
- 4、在焊缝 SEG2E-458 上发现点焊裂纹。
- 5、焊缝 SEG2D-157, 图纸要求紧密贴合, 不需要焊接。但 ZPMC 对此烧焊 (角焊缝), 后来用碳刨去除焊缝并伤到母材。此区域现已经被 ZPMC 用硅胶密封, 无法测量间隙。
- 6、在图纸 SEG2D 上, 1AAE 箱体内部端板 (顶板与第一层插板之间的小盖板) 与顶板之间的装配间隙超过 2 毫米, 加洲有测量到 8 毫米间隙。现在此区域已经被硅胶密封。

Work By:	Prepared by: Shen Xuejun	Reviewed by QCE:
施工方:	准备: 2009.6.3. 质量工程师批准:	Other:
<input type="checkbox"/> Drawing Error 图纸错误	<input type="checkbox"/> Material Defect 材料缺陷	<input checked="" type="checkbox"/> Fabrication Error 制作错误
<input type="checkbox"/> Other 6/3/09 其他原因		

Disposition: <input type="checkbox"/> Use as is	<input checked="" type="checkbox"/> Repair	<input type="checkbox"/> Reject
处理措施: 回用	返修	拒收

Recommendation:

- 建议:
- 1) 施工队在制作前, 必须理解图纸的要求;
 - 2) 严格按照 WPS 进行烧焊和返修;
 - 3) 加强对施工队的管理和监控.
- 1) Review drawing completely before fabrication;
 - 2) Perform welding and repair according to approved WPS;
 - 3) Enhance management and supervision on-site.

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

Reason for Nonconformance:

- 不符合原因:
- ①. 装配前未看图纸的要求 -> Didn't review drawing requirement completely.
 - ②. 未按照相关 WPS 要求预热.
 - ③. 装配前未能打磨.
- 2) Didn't perform preheat according to WPS requirement.
 - 3) Didn't grind before assembly.

Prevention of Re-occurrence:

- 预防措施:
- ①. 加强对施工队的责任心培训
1) Train work team to improve their responsibility ...
 - ②. 打磨工、冷作工、电焊工各工种之间加强沟通
2) Enhance communication with grinder, cool worker and welder
 - ③. 严格按照相关 WPS 进行烧焊, 以及相关的返修 WPS
3) Perform welding and relevant repair according to relevant WPS.
- Approved by/批准: 陈年秋 2009.6.4

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

See the attachment.

Reviewed /批准: Lingshitune 09.6.13.

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: _____

Attachment for NCR-B-166 (ZPMC-0258)

回用或返修技术依据：(Technical Justification for Use-As-Is/Repair)

1. 已返修。
2. 根据 WR 进行处理，调整错边量满足公差要求。
3. 换板重新装配、焊接。
4. 已打磨去除。
5. 提交 FCN，去除密封胶并检测装配间隙，间隙大于 2mm 处增加垫板，垫板与密封板焊接，与顶板紧密贴合不焊，检测装配间隙合格后重新采用密封胶密封处理。
6. 去除密封胶，密封板上增加垫板，垫板与密封板焊接连接，与顶板紧密贴合不焊，检测装配间隙合格后重新采用密封胶密封处理。

1. The defects have been repaired.
2. Adjust the misalignments to meet the tolerance according to the relevant WR.
3. Remove the plates and replace.
4. The defects have been repaired.
5. Submit a relevant FCN. Remove the silica gel, and check the gap between seal plates and deck plate. For any gap which is larger than 2mm, provide an added shim plate tight fit to deck plate and fillet welded to the seal plate.
6. Remove the silica gel, and provide an added shim plate, which is tight fit to deck plate and fillet welded to the seal plate.

Ling shihua

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Tel: 021-56856666 ext 207061 Fax:

follows

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 28-May-2009

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0258

Job Name: SAS Superstructure
Document No: 05.03.06-000244

Reference Description: Missed MT/VT by QC, Segment 1AAE

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:

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Action Required and/or Action Taken:

A response for the resolution of this issue is expected within 14 days.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0258

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, 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 #: 04-0120F4Cty: 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-000284

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 19-May-2009

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

NCR #: ZPMC-0258

Type of problem:Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: OBG Segment IAAEProcedural Procedural Description:

Reference Description: Missed MT/VT by QC, Segment IAAE

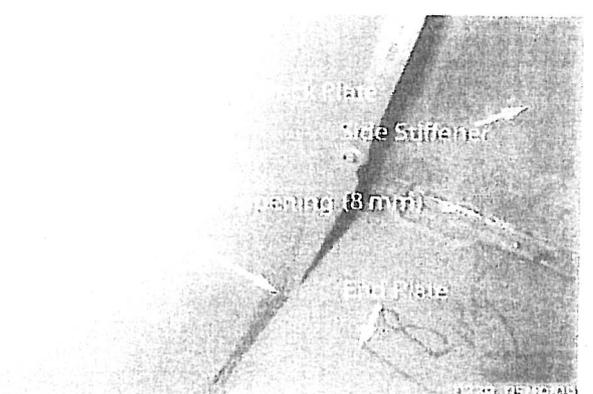
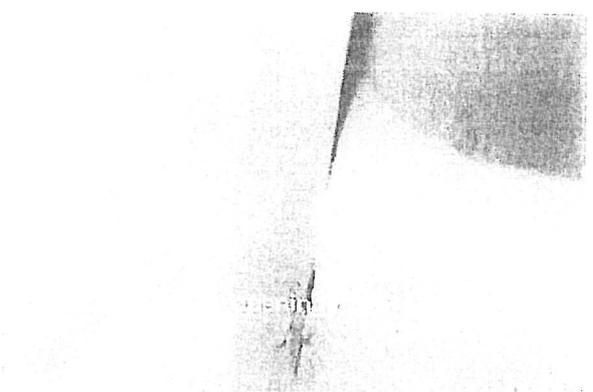
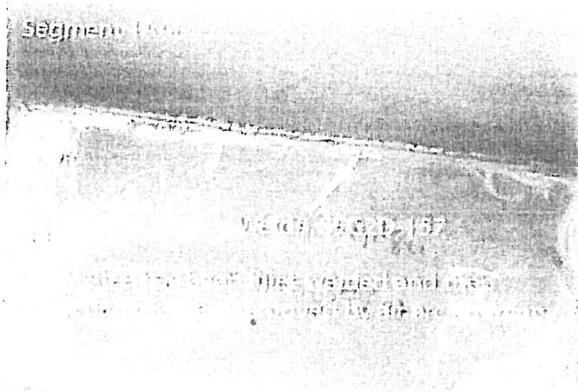
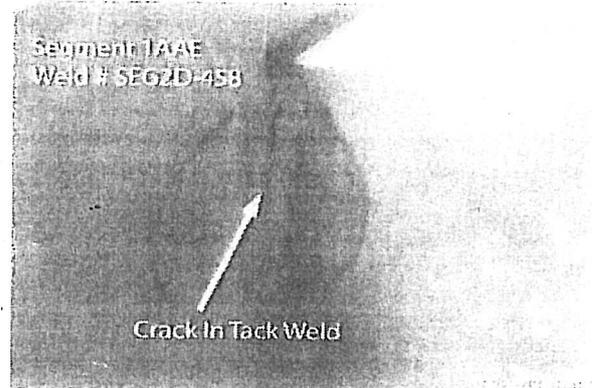
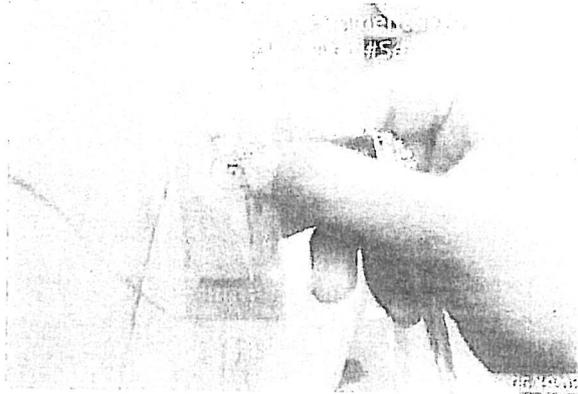
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

1. AWS D1.5 (02) Section 3.3.3: "Parts to be joined by groove welds shall be carefully aligned. Where the parts are effectively restrained against bending due to eccentricity in alignment, the offset from theoretical alignment shall not exceed 10 percent of the thickness of the thinner part joined, but in no case shall be more than 3 mm [1/8 in.]. In correcting misalignment in such cases, the parts shall not be drawn in to a greater slope than 12 mm [1/2 in.] in 300 mm [12 in.]. Measurement of offset shall be based upon the centerline of parts unless otherwise shown on the drawings."
2. Special Provisions Section 8.3 - "Quality Control (QC) shall be the responsibility of the Contractor. As a

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

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.”

3. AWS D1.5 (02) Section 6.26.2: “Welds that are subject to MT in addition to visual inspection shall have no Cracks”

4. AWS D1.5 (02) Section 3.3.2: “The root opening between parts to be joined by PJP groove welds parallel to the member length (bearing joints excepted) shall be zero, or as small as practicable.”

5. WPS-B-T-2333-Tc-U4b-F

6. AWS D1.5 (02) Section 3.5.1.10: “Where tight fit of intermediate stiffeners is specified, it shall be defined as allowing a gap of up to 2 mm [1/16 in.] between stiffener and flange.”

Who discovered the problem: Hiranah Patel

Name of individual from Contractor notified: Wang Wen Bin

Time and method of notification: 05/19/09, 16:30, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 05/21/09, 11:00, Verbal

QC Inspector's Name: Shen Xie Jun

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler	SMR
Reviewed By: Wabbeh, Mazen	SMR



焊缝返修报告
Welding Repair Report

版本
Rev. No.:

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SEG2	报告编号 Report No.:	B-WR5828
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAE	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

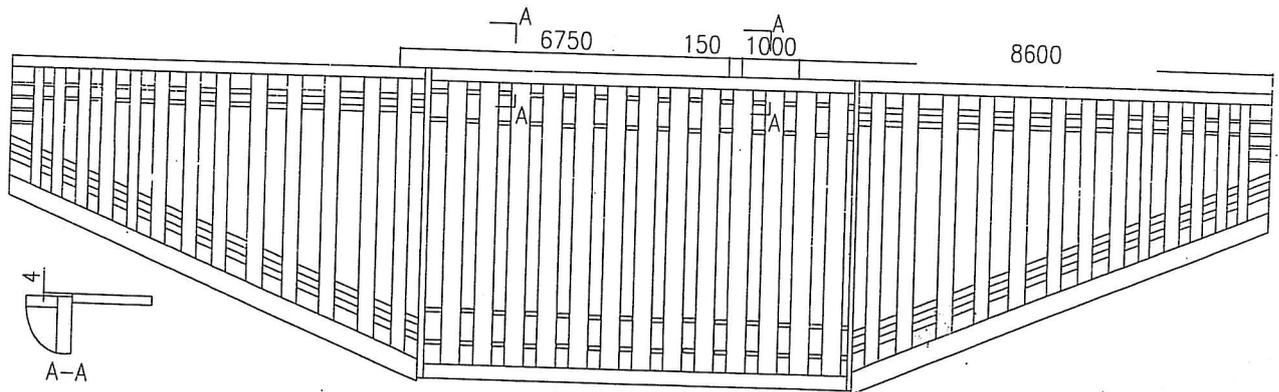
胡国兴队制作1AAE整体焊后，顶板与顶板筋板在图示位置存在错位。

After welding 1AAE fabricated by work team: Hu Guoxing, the misalignment existed on deck plate and stiffener.

检验员 (Inspector): *Li Zhijiang* 日期 (Date): 2009.06.25.

焊缝返修位置示意图:

Draft of Welding Discontinuity:



产生原因:

Cause:

焊工操作失误, 导致焊接变形。

The welder operated error caused welding distortion.

车间负责人 (Foreman):

Chen Piyshen

日期 (Date):

09.06.26

处理意见

Disposition :

1. 将错边超差区域端封板与顶板筋板之间的焊缝碳刨到约20mm(不得刨穿)深度后, 采用热切割(割缝间隙尽可能小)将焊缝分开。碳刨前根据相应的WPS进行预热。碳刨时不得伤及母材;
 2. 采用打磨或碳刨的方法去除返修区域筋板与顶板筋板之间的角焊缝。碳刨前根据相应的WPS进行预热;
 3. 打磨去除缺陷, 并进行MT检测;
 4. 采用外力调整错边量及平整度到公差要求的范围内;
 5. 根据相应的返修WPS准备焊接接头;
 6. 根据相应的WPS预热及焊接;(先焊接端封板及顶板筋板之间焊缝)
 7. 打磨返修区域使与周边母材平滑过渡;
 8. 根据图纸要求对返修区域进行VT及NDT检测。
1. Gouge the misaligned weld between end bulkhead and deck stiffener to the depth of about 20mm(No gouging through), and then divide the weld by heat cutting. (The cutting gap shall be as soon as narrow.) Preheat prior to gouging according to the WPS and note not to damage base metal.
 2. Remove the fillet weld between deck stiffener and stiffeners in the repaired area by grinding and gouging. Preheat prior to gouging according to the WPS.
 3. Remove the defects by grinding and perform MT.
 4. Adjust the misalignment and flatness to meet the requirement of shop drawing by outer force.
 5. Prepare the excavation according to the WPS.
 6. Preheat and weld according to the WPS.(Perform welding between end bulkhead and deck stiffener first.)
 7. Grind the repaired area flush to base metal.
 8. Perform VT and NDT according to shop drawings.

工艺:

Technical Engineer:

Niu Tiefang

审核:

Approved By:

日期:

Date:

09.06.26



焊缝返修报告

版本
Rev. No.:

0

Welding Repair Report

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SEG2	报告编号 Report No.:	B-WR5828
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAE	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

培训和教育操作工, 减少焊接变形。

Train and educate the operators to reduce welding distortion.

车间负责人 (Foreman):

Chen Pijsheh 日期 (Date): 07.06.26

参照的WPS编号 Repair WPS No.:	WPS-345+485-FCAW-2G(2F)-Repair WPS-345+485-FCAW-3G(3F)-Repair WPS-345+485-SMAW-3G(3F)-Repair WPS-345+485-SMAW-4G(4F)-Repair	工艺员 Technologist:	Min Tiet-ey 09.06.26
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:		返修的缺陷 Description of Discontinuity:	misalignment
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	137℃
最大碳刨深度 Max. Depth of Gouge:	22mm	碳刨总长 Total Length of Gouge:	775mm
焊工 Welder:	045218 045218	焊接类型 Welding Type:	SMAW
焊接电流 Current:	170	焊接电压 Voltage:	25
		焊接位置 Position:	新
		焊接速度 Speed:	124

返修后检查

Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Chen xi	日期 Date:	7.1
NDT复检 NDT Result:	After gouging out Acc	探伤员 NDT Person:	Sun Gong chun	日期 Date:	09.07.1

见证:

Witness/Review:

备注:

Remark:

#R787-QCP-900



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-8002 DATE 2009.07.16 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: OBG 1AAE DRAWING NO.: SEG2 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

REFERENCING CODE 参考规范 ACCEPTANCE STANDARD 接受标准 PROCEDURE NO. 程序编号
 AWS D1.5-2002 AWS D1.5-2002(Table 6.3) ZPQC-UT-01

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 FCAW BUTT Dec. 28ST, 2009

EQUIPMENT 设备 MANUFACTURER 制造商 MODEL NO. 样式编号 SERIAL NO. 序列编号
 UT SCOPE PANAMETRICS EPOCH-4B 071565311, 061488510,
 061495811, 070152011,

CALIBRATION BLOCK 试块 COUPLANT 耦合剂 MATERIAL/THICKNESS 材料厚度
 AWS IIW BLOCK TYPE II C.M.C A709M-345 25/38 mm

TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5MHz	18×18mm				
Changchao	0°	2.5MHz	20mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5 0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)						
									a	b	c	d	Length 长度		
SEG2-001		70				34								ACC.	100%

AFTER B-WR5828

BLANK

EXAMINED BY 主探 Sun yin <i>Sun Yin</i> LEVEL - II SIGN / DATE 09.07.16	REVIEWED BY 审核 <i>Zyhuifin</i> LEVEL - II SIGN / DATE 09.07.16
质量经理 / QCM	用户 CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-8003 DATE 2009.07.16 PAGE 1 OF 2 Revision No: 0

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

ITEMS NAME: OBG 1AAE DRAWING NO.: SEG2 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

REFERENCING CODE 参考规范 ACCEPTANCE STANDARD 接受标准 PROCEDURE NO. 程序编号
 AWS D1.5-2002 AWS D1.5-2002(Table 6.3) ZPQC-UT-01

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 FCAW T JOINT Dec. 28ST, 2009

EQUIPMENT 设备 MANUFACTURER 制造商 MODEL NO. 样式编号 SERIAL NO. 序列编号
 UT SCOPE PANAMETRICS EPOCH-4B 071565311, 061488510,
 061495811, 070152011,

CALIBRATION BLOCK 试块 COUPLANT 耦合剂 MATERIAL/THICKNESS 材料厚度
 AWS IIW BLOCK TYPE II C.M.C A709M-485F2-X 22mm

TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5MHz	18×18mm				
Changchao	0°	2.5MHz	20mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5 0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)						
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y		
SEG2A-017		70				34								ACC.	100%
SEG2A-018		70				34								ACC.	100%
SEG2A-019		70				34								ACC.	100%
SEG2A-020		70				34								ACC.	100%
SEG2A-021		70				34								ACC.	100%
SEG2A-022		70				34								ACC.	100%
SEG2B-015		70				34								ACC.	100%

EXAMINED BY 主探 REVIEWED BY 审核
 Sun yin Zshuqin

LEVEL - II SIGN / DATE LEVEL - II SIGN / DATE
 9-27-16 9-27-16

质量经理 / QCM 用户 CUSTOMER

签字 SIGN / 日期 DATE 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-12347		DATE日期 2009.07.17	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: SEG2A/B OBG 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 , 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-485F2-X 22 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			
SEG2A-017				ACC.		100%MT
SEG2A-018				ACC.		100%MT
SEG2A-019				ACC.		100%MT
SEG2A-020				ACC.		100%MT
SEG2A-021				ACC.		100%MT
SEG2A-022				ACC.		100%MT
SEG2B-015				ACC.		100%MT
SEG2B-016				ACC.		100%MT
SEG2B-017				ACC.		100%MT
SEG2B-018				ACC.		100%MT
SEG2B-019				ACC.		100%MT
SEG2B-020				ACC.		100%MT
SEG2B-021				ACC.		100%MT
SEG2B-022				ACC.		100%MT

EXAMINED BY主探 Chang Fangjie <i>chang fangjie</i> LEVEL - II SIGN 签名 / DATE日期 <i>09-27-11</i>	REVIEWED BY审核 <i>Sung-ung chaus</i> LEVEL-II SIGN / DATE日期 <i>09-27-11</i>
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	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-12554 DATE日期 2009.07.28 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: SEG2C OBG SEGMENT 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. 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 CASTING 铸件 FORGING 锻造 Material & thickness 母材,厚度 A709M-345T2-X 28/38/35mm

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			
SEG2C-041				ACC.		100%MT
SEG2C-046				ACC.		100%MT
SEG2C-045				ACC.		100%MT
SEG2C-130				ACC.		100%MT
SEG2C-148				ACC.		100%MT
SEG2C-002				ACC.		100%MT
SEG2C-004				ACC.		100%MT
SEG2C-086				ACC.		100%MT
SEG2C-104				ACC.		100%MT
SEG2C-106				ACC.		100%MT
SEG2C-116				ACC.		100%MT
SEG2C-149				ACC.		100%MT
SEG2C-150				ACC.		100%MT
SEG2C-127				ACC.		100%MT

EXAMINED BY主探 Ding Acheng REVIEWED BY 审核 Sun Gongchang
 LEVEL - II SIGN 签名 DATE日期 07.28 LEVEL-II SIGN 1) DATE日期 07.28

质量经理 / QCM [Signature] 用户CUSTOMER [Blank]
 签字 SIGN / 日期 DATE [Signature] 签字 SIGN / 日期 DATE [Blank]

B-V 31097



周数 85#
日期 2009.06.18

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号		04-0120F4		Girder/梁:		OBG Segment		NA					
Project No.: 项目名称		San Francisco Oakland Bay Bridge 美国海湾大桥		Tower/塔:		Quality Control Representative: 质检代表:							
Project No.: 项目编号:		ZP06-787		Quality Assurance Manager ~Approval 质量控制经理:		CWI: 检验员:							
Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG2E-137	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-227	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-347	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-305	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-429	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-387	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-343	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-301	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-425	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2E-383	206258	3G	supercored 71h Φ 1.4	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
<input type="checkbox"/> After root weld <input type="checkbox"/> After CWR or WRR No.:													
#R787-QCP-603											<input type="checkbox"/> After cover pass <input type="checkbox"/> After HSR No.:		
											<input type="checkbox"/> Others		

"✓" is no defects. "X" is defects. "NA" is not applicable.



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12555 DATE日期 2009.07.28 PAGE OF页码 1/3 Revision No: 0

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

DRAWING NO. 图号: SEG2E OBG SEGMENT 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. 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 CASTING 铸件 FORGING 锻造 Material & thickness 母材,厚度 A709M-345T2-X 45/28mm

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			
SEG2E-151				ACC.		100%MT
SEG2E-241				ACC.		100%MT
SEG2E-109				ACC.		100%MT
SEG2E-190				ACC.		100%MT
SEG2E-150				ACC.		100%MT
SEG2E-240				ACC.		100%MT
SEG2E-355				ACC.		100%MT
SEG2E-313				ACC.		100%MT
SEG2E-361				ACC.		100%MT
SEG2E-319				ACC.		100%MT
SEG2E-152				ACC.		100%MT
SEG2E-242				ACC.		100%MT
SEG2E-362				ACC.		100%MT
SEG2E-320				ACC.		100%MT

EXAMINED BY主探
Ding Acheng *Ding Acheng*
LEVEL - II SIGN 签名 DATE日期 09.07.28

REVIEWED BY 审核
Lin Gong cheng
LEVEL-II SIGN DATE日期 09.07.28

质量经理 / QCM
[Signature]
签字 SIGN / 日期 DATE 09.08.03

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-12555 DATE日期 2009.07.28 PAGE OF页码 2/3 Revision No: 0

PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS	
DRAWING NO. 图号: SEG2E OBG SEGMENT		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 45/28mm
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			
SEG2E-444				ACC.		100%MT
SEG2E-402				ACC.		100%MT
SEG2E-137				ACC.		100%MT
SEG2E-227				ACC.		100%MT
SEG2E-347				ACC.		100%MT
SEG2E-305				ACC.		100%MT
SEG2E-429				ACC.		100%MT
SEG2E-387				ACC.		100%MT
SEG2E-343				ACC.		100%MT
SEG2E-301				ACC.		100%MT
SEG2E-425				ACC.		100%MT
SEG2E-383				ACC.		100%MT
SEG2E-338				ACC.		100%MT
SEG2E-296				ACC.		100%MT

EXAMINED BY 主探 Ding Acheng LEVEL-II SIGN 签名 质量经理 / QCM	REVIEWED BY 审核 Sun Gongchang LEVEL-II SIGN / DATE日期 用户 CUSTOMER
DATE日期 09.07.28	DATE日期 09.07.28
SIGN / DATE 日期 08.03	SIGN / DATE 日期



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12555 DATE日期 2009.07.28 PAGE OF页码 3/3 Revision No: 0

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

DRAWING NO. 图号: SEG2E OBG SEGMENT 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. 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 CASTING 铸件 FORGING 锻造 Material & thickness 母材,厚度: A709M-345T2-X 45/28mm

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			
SEG2E-420				ACC.		100%MT
SEG2E-378				ACC.		100%MT
SEG2E-083				ACC.		100%MT
SEG2E-124				ACC.		100%MT
SEG2E-334				ACC.		100%MT
SEG2E-416				ACC.		100%MT

BLANK

EXAMINED BY 主探: Ding Acheng *Ding Acheng* REVIEWED BY 审核: Sun Gong cheng *Sun Gong cheng*
 LEVEL - II SIGN 签名 / DATE 日期: 09.07.28 LEVEL-II SIGN / DATE 日期: 09.07.28
 质量经理 / QCM: *[Signature]* 用户 CUSTOMER: _____
 签字 SIGN / 日期 DATE: *[Signature]* 08.03 签字 SIGN / 日期 DATE: _____

B-V-27835



周数 80		日期 2009.05.16	
Girder/梁: OBG Plate Panel Splice			
Tower/塔:			
Quality Control Representative: 质检代表:		<i>[Signature]</i>	
CWI: 检验员:		<i>[Signature]</i>	
Quality Assurance Manager ~ Approval 质量控制经理:		<i>[Signature]</i>	
Caltrans Contract No. 加州合同编号 04-0120F4		San Francisco Oakland Bay Bridge 美国海湾大桥	
Project No.: 项目名称 ZP06-787			
Weider I.D.# 焊工识别号		Location 位置	
Weiding consumables 焊接材料		Undercut 咬边	
Porosity 气孔		Over lap 焊瘤	
Crater 弧坑		Arc strike 电弧擦伤	
Spatters 飞溅		Crack 裂纹	
Accept or Reject 接受或拒收		Accept or Reject 接受或拒收	
Repair 返修		Repair 返修	
Accept or Reject after repair 修后接受或拒收		Accept or Reject after repair 修后接受或拒收	
After root weld		<input checked="" type="checkbox"/>	
After CWR or WRR No.:		<input type="checkbox"/>	
After HSR No.:		<input type="checkbox"/>	
Others		<input type="checkbox"/>	

Visual Weld Inspection Report
焊缝目视检查报告

#R787-QCP-603



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11166 DATE日期 2009.05.25 PAGE OF页码 1/4 Revision No: 0

PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS	
DRAWING NO. 图号: SEG2D 1AAE		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 10/45 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			
SEG2D-192						*
SEG2D-193						*
SEG2D-152						*
SEG2D-153				ACC.		100%MT
SEG2D-154				ACC.		100%MT
SEG2D-155				ACC.		100%MT
SEG2D-156						*
SEG2D-157						*
SEG2D-158						*
SEG2D-159						*
SEG2D-160						*
SEG2D-161				ACC.		100%MT
SEG2D-162						*

EXAMINED BY 主探 Sun Gongchang <i>Sungongchang</i> LEVEL - II SIGN 签名 DATE日期 9.25.25	REVIEWED BY 审核 <i>Qing Acheng</i> LEVEL-II SIGN / DATE日期 9.25.25
质量经理 / QCM <i>[Signature]</i>	用户CUSTOMER
签字 SIGN / 日期 DATE <i>[Signature]</i>	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-11166		DATE日期 2009.05.25	PAGE OF页码 2/4	Revision No: 0
PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS		
DRAWING NO. 图号: SEG2D 1AAE		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 10/45 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			
SEG2D-163						*
SEG2D-164						*
SEG2D-165				ACC.		100%MT
SEG2D-166						*
SEG2D-167						*
SEG2D-168						*
SEG2D-169				ACC.		100%MT
SEG2D-170						*
SEG2D-171						*
SEG2D-172				ACC.		100%MT
SEG2D-173						*
SEG2D-174						*
SEG2D-175						*

EXAMINED BY主探 Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 09.05.25	REVIEWED BY 审核 Ding A chang LEVEL-II SIGN // DATE日期 09.05.25
质量经理 / QCM 	用户CUSTOMER
签字 SIGN / 日期 DATE 09.06.13	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-11166		DATE日期 2009.05.25		PAGE OF页码 3/4	Revision No: 0	
PROJECT NO. 工程编号: ZP06-787			CONTRACTOR: 用户: CALTRANS			
DRAWING NO. 图号: SEG2D 1AAE		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 10/45 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			
SEG2D-176				ACC.		100%MT
SEG2D-177						*
SEG2D-178						*
SEG2D-179				ACC.		100%MT
SEG2D-180				ACC.		100%MT
SEG2D-181						*
SEG2D-182						*
SEG2D-183						*
SEG2D-184						*
SEG2D-185				ACC.		100%MT
SEG2D-186				ACC.		100%MT
SEG2D-187						*
SEG2D-188						*
EXAMINED BY主探 Sun Gongchang <i>Sun Gongchang</i>			REVIEWED BY 审核 Ding Acheng <i>Ding Acheng</i>			
LEVEL - II SIGN 签名 / DATE日期 <i>9.15.09</i>			LEVEL-II SIGN DATE日期 <i>9.15.09</i>			
质量经理 / QCM <i>[Signature]</i>			用户CUSTOMER			
签字 SIGN / 日期 DATE <i>[Signature]</i>			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-11166 DATE日期 2009.05.25 PAGE OF页码 4/4 Revision No: 0

PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS	
DRAWING NO. 图号: SEG2D 1AAE		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 10/45 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			
SEG2D-189						*
SEG2D-190						*
SEG2D-191						*

* SEG2D-153、SEG2D-154、SEG2D-155、SEG2D-161、SEG2D-165、SEG2D-169、SEG2D-172、SEG2D-176、SEG2D-179、SEG2D-180、SEG2D-185、SEG2D-186 were MT inspection and ACC, which is the result of required 25% MT.
* SEG2D-153、SEG2D-154、SEG2D-155、SEG2D-161、SEG2D-165、SEG2D-169、SEG2D-172、SEG2D-176、SEG2D-179、SEG2D-180、SEG2D-185、SEG2D-186 焊缝经MT抽检合格, 且累积检测长度已经达到了此批要求的25%检测长度。

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EXAMINED BY 主探 Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 09.05.25	REVIEWED BY 审核 Ding A cheng LEVEL-II SIGN / DATE日期 09.05.25
质量经理 / QCM [Signature]	用户 CUSTOMER
签字 SIGN / 日期 DATE [Signature] 09.05.25	签字 SIGN / 日期 DATE

REQUEST FOR INFORMATION (RFI) – ABF&SUB.

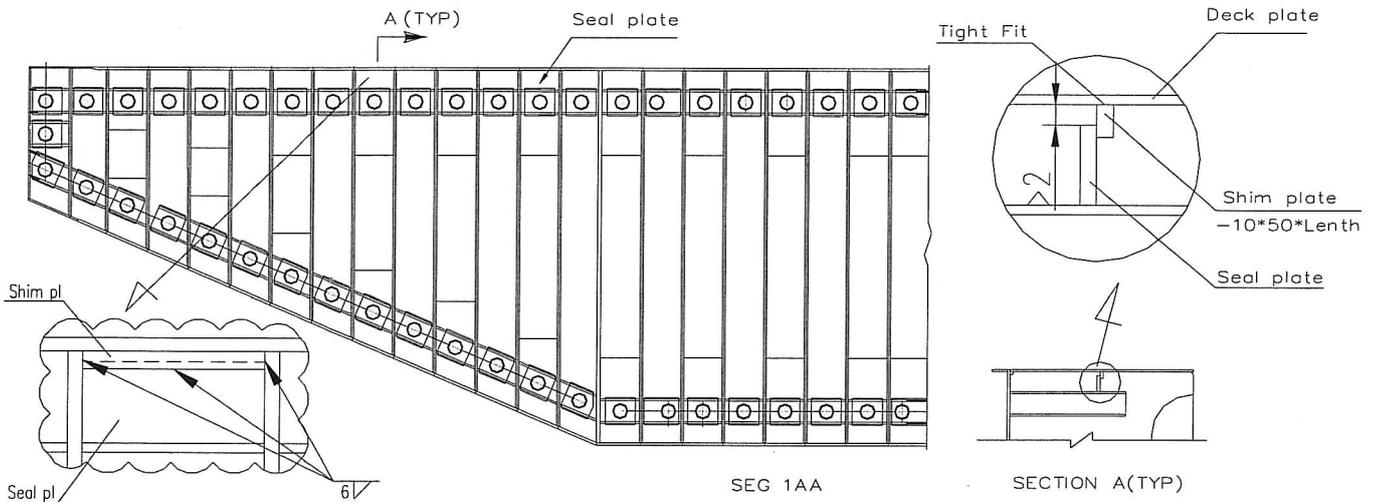
RFI No.: RFI-ZPM-000702R00 Submitted by: Ling Shihua Page(s): 1
 RFI Date: 2009-6-16 Contact Name: Lu Shihua Phone No. 021-27414950

Subject: Fabrication Issue: Root Gap of PJP between End Stiffener and Strand Stiffener
References:
Response required by: <u>2009-6-17(date)</u> Response affects critical path activity? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

Description:

During fabrication of 1AA, in the drawings of SEG1C, SEG1D, SEG2C, SEG2D, it should be tight fit between seal plates and deck plate, but shop workers missed the requirements when fitting. That led to excessive fit-up gap. For the fit-up gap >2mm, we propose to add a shim plate (A709M-345T2) tight fit to deck plates (no weld, sealed with silicone). The shim plates will be 6mm fillet welded with the seal plates and end stiffeners. For details, see the following fig.

Please review and respond ASAP.



This RFI is being submitted for:

- Material Procurement
- Contractor Convenience
- Clarification of the Contract Documents
- Engineering Review Request (ERR) for missing design information/coordination.

The Cost and Time Impact from this RFI is:

- No cost or time impacts in the performance of our Work.
- Cost and/or time impacts in the performance of our Work will result.
- We are unable to determine at this point whether there will be cost and/or time impacts.

Response:

Date: 06-16-2009	Respondent: Gang Jiao	Phone No.:
-------------------------	------------------------------	-------------------

The proposed fill plate size and welds are acceptable for the specified repair. The fillet welds on both sides should have a 2 to 5mm holdback to avoid connecting to the deck. Please note pre-approved material should be used for caulking the tight-fit end.

RFI Status: (sign and date)

Closed:	Revision Pending:
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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	SEG1/2	报告编号 Report No.	B-WR5642
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

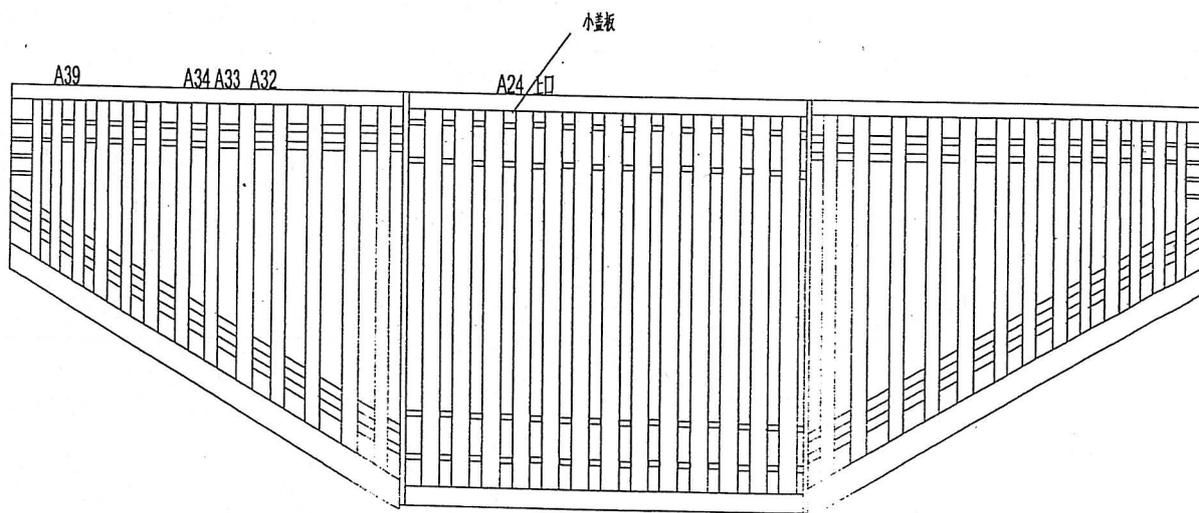
焊缝缺陷描述:

Description of welding discontinuity:

1AAW, 1AAE两个箱体顶板位置图纸上(小盖板)不允许烧焊, 现场原烧焊又割掉, 现去除小盖板。
1AAW, 1AAE box deck plate, the small cover plate didn't allow to weld, however, it has finished welding and cut it.

检验员 (Inspector): Xiang Fengfeng 日期(Date): 09.06.19

焊缝返修位置示意图:

Draft of welding discontinuity:

产生原因:

Caused:

工人在制作时, 没有将图纸看清楚图纸要求。

Worker didn't review drawing requirement during fabrication.

车间负责人(Foreman): *lishigang*

日期(Date): *09.06.30*

处理意见

Disposition :

1. 采用热切割或碳刨的方法去除封板, 注意不得伤及母材;
2. 打磨去除缺陷, 使与周边母材平齐;
3. 进行MT检测;
4. 重新装配封板, 注意与顶板贴合。

1. Remove the seal plates by heat cutting or gouging, note not to gouge base metal.
2. Remove all defects and grind the area flush to base metal.
3. Perform MT of this area.
4. Re-assemble seal plates tight fit to deck plates..

工艺: *NiuTefeng*
Technical engineer

09.06.30

审核: *[Signature]* 日期
Approved by *[Signature]* Date

09.02.18



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.	SEG1/2	报告编号 Report No.	B-WR5642
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective action to prevent re occurrence:

培训和教育工人, 提高操作水平。

Train and educate worker to improve operation skill.

车间负责人(Foreman):

Lizhigang

日期(Date):

09.06.30

参照的WPS编号 Repair WPS No.	<i>WPS-B-T-2132-3</i> NA	工艺员 technologist	<i>MuTiefeng</i> <i>09.06.30</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>702</i>	返修的缺陷 Description of discontinuity	<i>curl</i>
焊前处理检查 Inspection before welding	<i>Au</i>	焊前预热温度 Preheat temperature before welding	<i>702</i>
最大碳刨深度 Max. depth of gouging	<i>10mm</i>	碳刨总长 Total length of gouging	<i>220mm</i>
焊工 welder	<i>062708</i>	焊接类型 welding type	<i>70AW</i>
焊接电流 Current	<i>290</i>	焊接电压 Voltage	<i>29</i>
		焊接位置 position	<i>2F</i>
		焊接速度 Speed	<i>426</i>

返修后检查

Inspection After repairing:

外观检查 VT result	检验员 Inspector	日期 Date
<i>Au</i>	<i>chen xi</i>	<i>2009.7.3</i>
NDT复检 NDT result	探伤员 NDT person	日期 Date
<i>MTAu</i>	<i>sun yong chun</i>	<i>09.07.12</i>

见证:

Witness/Review:

备注:

Remark:

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-000356**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0258**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: 19-May-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector found the following indications and discontinuities by Visual Testing (VT) and Magnetic Particle Testing (MT) on welds previously inspected and accepted by ZPMC Quality Control (QC) Inspectors.

- Four linear indications (transverse) were discovered by MT on weld joint# Seg2-036 (corner assembly joint). After removing the indications by grinding, the resulting weld was accepted by ZPMC-QC and Caltrans-QA.
- Joint offset (misalignment) was found in weld #Seg2-021 and Seg2-019. The measured offset is approximately 5mm.
- SEG2C-045 - PJP weld root opening is approximately 8 mm. SEG2E-137 - PJP weld root opening exceeds allowable tolerances of WPS-B-T-2333-Tc-U4b-F.
- SEG2E-458- Crack in tack weld
- SEG2D-157- Drawings require tight fit. The joint has been fillet welded. The weld has been removed by arc gouging resulting in base metal damage. This area cannot be measured for compliance with the tolerances for tight fit due to melted weld metal and base metal at the joint.
- SEG2D- The fit-up at the end plate and deck plate exceeds the allowable 2mm tolerance. The measured gap is approximately 8mm.

Contractor's proposal to correct the problem:

Perform necessary repairs and NDT.

Corrective action taken:

ZPMC has performed repairs to all areas in question and submitted NDT reports verifying that the repairs were made in conformance with Contract specifications.

Did corrective action require Engineer's approval?

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Yes No

If so, name of Engineer providing approval:

Date:

Is Engineer's approval attached? Yes No

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Jim Simonis, who represents the Office of Structural Materials for your project.

Inspected By: Simonis,Jim

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer