DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island **Report No:** NCR-000364
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 07-Jul-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0338

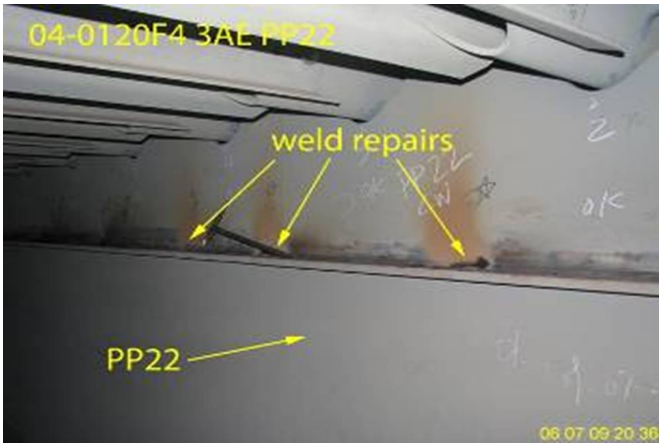
Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☑	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** 3AE FB Diaphragm
Procedural	☐	**Procedural**	☐	**Description:**		

Reference Description: Non-conforming welding repairs FB Diaphragm

Description of Non-Conformance:

American Bridge/Fluor JV (ABF) has allowed ZPMC fabrication personnel to conduct Critical Weld Repair without Engineer approval. The repairs were not performed in conformance with the Approved as Noted, Critical Weld Repair procedure. See references below.



Applicable reference:

B-CWR596 (Approved as Noted)
1) Engineer shall be notified and present during repair
3) No QC or Lead CWI present to direct repair.
4) No Approved copy of CWR in hand prior to repair.
CT note) Notification to Engineer of hardness testing prior to repairing.
CT note) Results of hardness testing not submitted to Engineer prior to repair.

Who discovered the problem: Mark J. Miller
Name of individual from Contractor notified: Kevin Chen

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 0900 hours, Verbal
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 1000 hours, Verbal
QC Inspector's Name: Wang Lu
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 Mazen Wahbeh,(818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Simonis,Jim	QA Inspector
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:**	04-Aug-2009
		Contract No:	04-0120F4 04-SF-80-13.2 / 13.9
Dear:	Mr. Charles Kanapicki	**Job Name:**	SAS Superstructure
Attention:	Mr. Thomas Nilsson Project/Fabrication Manager	**Document No:**	05.03.06-000317
Subject:	NCR No. ZPMC-0338		

Reference Description: Non-conforming welding repairs FB Diaphragm

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

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

Material Location: OBG **Lift:** 06

Remarks:

American Bridge/Fluor JV (ABF) has allowed ZPMC fabrication personnel to conduct Critical Weld Repair without Engineer approval.
The repairs were not performed in conformance with the Approved as Noted, Critical Weld Repair procedure.
See attached NCR No. ZPMC-0338 for details.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences.,A response for the resolution of this issue is expected within 14 days.

Transmitted by: Ching Chao
Attachments: ZPMC-0338

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

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV

P.O. BOX 23223 Oakland, CA 94623

Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000317

Subject: NCR No. ZPMC-0338

Dated: **24-Aug-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000334 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has written an internal NCR to address this nonconformance and to provide corrective and preventative action as well as attached all necessary documentation regarding this repair work.

ZPMC has written an internal NCR to address this nonconformance and to provide corrective and preventative action as well as attached all necessary documentation regarding this repair work. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000334R00

Caltrans' comments:

Status: AAP

Date: 28-Aug-2009

The response is acceptable, but the Non-Conformance is not closed. No documentation is attached as mentioned above.

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-0338 at that time.

Submitted by: Wright, Doug

Date: 28-Aug-2009

Attachment(s):

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV
P.O. BOX 23223 Oakland, CA 94623
Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000317

Subject: NCR No. ZPMC-0338

Dated: **13-Nov-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000334 Rev: 01**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing documentation of the weld repairs that were performed and that the repairs were acceptable. ZPMC requests closure of this NCR.

ZPMC is providing documentation of the weld repairs that were performed and that the repairs were acceptable. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000334R01;

Caltrans' comments:

Status: AAP

Date: 30-Nov-2009

The documentation submitted has been reviewed by the Engineer and found to be insufficient. There were 10 rejectable results from 8/6/09 UT report for PP22 but no acceptable results found from the subsequent repairs.

Submitted by: Chao, Ching

Date: 30-Nov-2009

Attachment(s):

No. B-452

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-8-21

REGARDING: NCR-000364 (ZPMC-338)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000364 (ZPMC-338).** Zpmc submitted the CWR 596 for the engineer approval prior the crack welding repair, but for the issue was not make an consistent comments from the caltrans and delayed with some days, per the pressure of the fabrication schedule, we start to perform the repair as not received the response from engineer. For the comments of the CWR we explain as follow:

1). we have perform the hardness test and submitted as the formal letter to ABF and turn to caltrans, meanwhile we have notified the inspector to witness the process.

2). We have arranged the CWI to cover the repair within 30 minutes.

3). We have submitted a separate CWR640 which the crack extend to the base metal and got the approval from caltrans.

4). The PP22 and PP21 have been changed the CJP weld with the require of the ABF'S formal letter to ZPMC, and the final UT and MT inspection all complete.

By the way we have done the 100% MT for 4E all PP points on the weld, and do the 100% UT for the PP21/22 about the drawing changed to CJP weld. That should be all can support the good quality and can be accepted by all parties.

so base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000364 (ZPMC-338)**。

Please reference attached document for acceptance and closure the **NCR-000364 (ZPMC-338)**。

ATTACHMENT:

NCR-000364 (ZPMC-338)
ZPMC internal NCR
The approved CWR596/658/651
The WRR for the CJP UT repair
The final VT/UT/MT reports

Zhao Shuangbao

2009. 8. 21

TE OF CALIFORNIA--BUSINESS,TRANSPORTACTION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

EPARTMENT OF TRANSPORTATION
IVISION OF ENGINEERING SERVICES
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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 **Report No:** NCR-000364
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 07-Jul-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0338

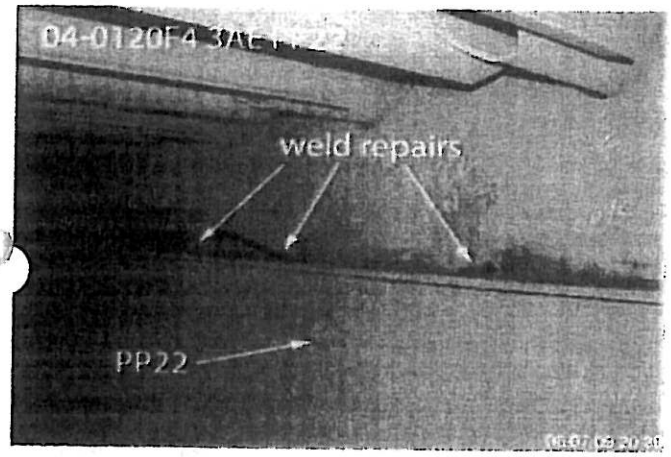
Type of problem:

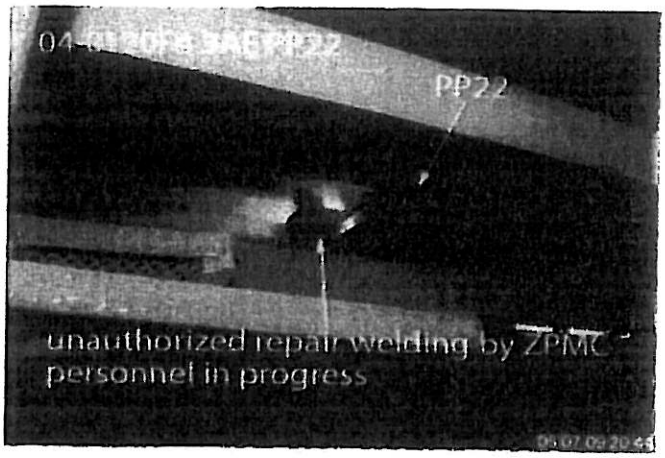
Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☑	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** 3AE FB Diaphragm
Procedural	☐	**Procedural**	☐	**Description:**		

Reference Description: Non-conforming welding repairs FB Diaphragm

Description of Non-Conformance:

American Bridge/Fluor JV (ABF) has allowed ZPMC fabrication personnel to conduct Critical Weld Repair without Engineer approval. The repairs were not performed in conformance with the Approved as Noted, Critical Weld Repair procedure. See references below.





Applicable reference:

B-CWR596 (Approved as Noted)
1) Engineer shall be notified and present during repair
3) No QC or Lead CWI present to direct repair.
4) No Approved copy of CWR in hand prior to repair.
CT note) Notification to Engineer of hardness testing prior to repairing.
CT note) Results of hardness testing not submitted to Engineer prior to repair.

Who discovered the problem: Mark J. Miller
Name of individual from Contractor notified: Kevin Chen

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-218 (ZPMC-0338)
Item: Non-conforming welding repairs FB Diaphragm 名称描述: 未按 CWR 要求对隔板进行返修	Item Number: 件号: OBG 3AE
Drawing: 图号: OBG	
Location: 3AE FB 位置: 3AE 隔板	Date: 日期: 2009-8-9

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

ABF has allowed ZPMC fabrication personnel to conduct CWR without Engineer approval. The repairs were not performed in conformance with the Approved as Noted, CWR procedure.

B-CWR596 (Approved as Noted)

1、Engineer shall be notified and present during repair

2、No QC or Lead CWI present to direct repair

3、No approved copy of CWR in hand prior to repair

CT note) Notification to Engineer of hardness testing prior to repairing.

CT note) Results of hardness testing not submitted to Engineer prior to repair.

ABF 现场检验员允许 ZPMC 未按 CWR 要求操作。此 CWR 由工程师有条件批准。

此返修报告为 B-CWR596。 CT 工程师批注要求：返修前通知工程师做硬度实验，并将硬度实验结果提交工程师。

但是现场操作中，ZPMC 未通知 CT 工程师做硬度实验，现场返修时没有 QC 或者 CWI 现场指导，现场返修人员手工没有 CWI 复印件

Work By: Zhen Xizhi 施工方:
Prepared by: ShenZhejun 准备: 2009.8.9
Reviewed by QCE: WuShuangXiao 质量工程师批准: 2009.8.9

☐ Drawing Error 图纸错误 ☐ Material Defect 材料缺陷 ■ Fabrication Error 制作错误 ☐ Other 其他原因

Disposition: 处理措施:
☐ Use as is 回用 ☐ Repair 返修 ☐ Reject 拒收

Recommendation:
建议:

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

Reason for Nonconformance:
不符合原因:

由于CWR下发延迟. CWR posphone.

Prevention of Re-occurrence:
预防措施:

加强现场监控和检查. 但CWR要正常下发.
Enhance supervision and inspection on-site, and approve CWR as soon as possible.

Approved by/批准: Gao Jun 04.08.13

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

对焊缝进行NDT检测, 合格后用. 并加强现场监控和检查. Peform NDT inspection to the weld, use as is if the result is acceptable, and enhance supervision and inspection on-site.

Reviewed /批准: Jang Yonghao

Verification: ☑ Acceptable ☐ Unacceptable
确认: 可接受 不可接受

ZPMC QC人员全程监控. 现相应. NDT、硬度、CWI报告已提交. ZPMC QC supervise all the process of repair, and submit NDT, hardness test, CWI report.

Verified by QCI/质检确认: Luan Zhaoguang Reviewed by QCA/质检主任审核:

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:	04-Aug-2009
		Contract No:	04-0120F4 04-SF-80-13.2 / 13.9
Dear:	Mr. Charles Kanapicki	Job Name:	SAS Superstructure
Attention:	Mr. Thomas Nilsson Project/Fabrication Manager	Document No:	05.03.06-000317
Subject:	NCR No. ZPMC-0338		
Reference Description:	Non-conforming welding repairs FB Diaphragm		

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

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

Material Location: OBG **Lift:** 06

Remarks:

American Bridge/Fluor JV (ABF) has allowed ZPMC fabrication personnel to conduct Critical Weld Repair without Engineer approval.

The repairs were not performed in conformance with the Approved as Noted, Critical Weld Repair procedure.

See attached NCR No. ZPMC-0338 for details.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences.,A response for the resolution of this issue is expected within 14 days.

Transmitted by: Ching Chao

Attachments: ZPMC-0338

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

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island
Report No: NCR-000364
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Date: 07-Jul-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island
NCR #: ZPMC-0338

Type of problem:

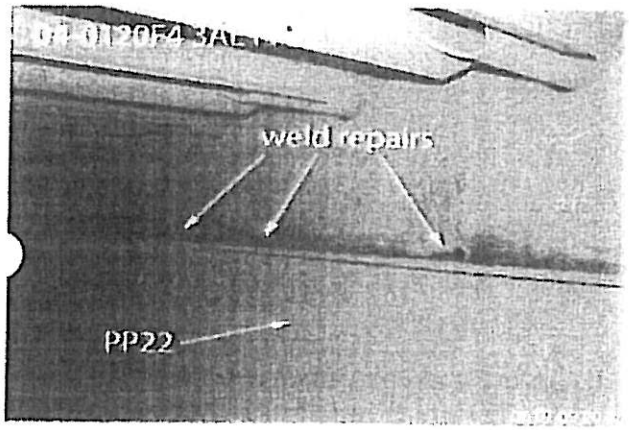
Welding	☐	**Concrete**	☐	**Other**	☑
Welding	☐	**Curing**	☐	**Procedural**	☑
Joint fit-up	☐	**Coating**	☐	**Other**	☐
Procedural	☐	**Procedural**	☐	**Description:**	

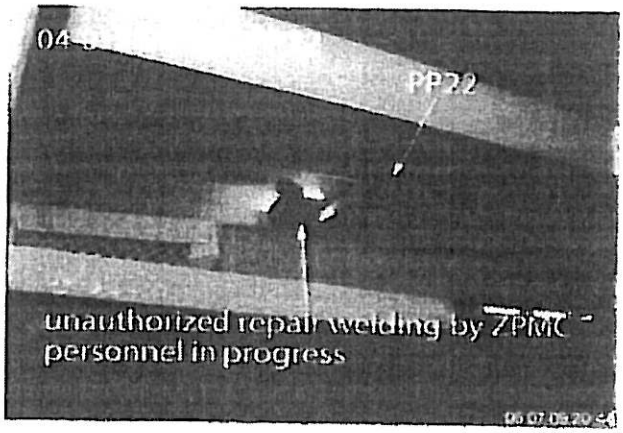
Bridge No: 34-0006
Component: 3AE FB Diaphragm

Reference Description: Non-conforming welding repairs FB Diaphragm

Description of Non-Conformance:

American Bridge/Fluor JV (ABF) has allowed ZPMC fabrication personnel to conduct Critical Weld Repair without Engineer approval. The repairs were not performed in conformance with the Approved as Noted, Critical Weld Repair procedure. See references below.





Applicable reference:

B-CWR596 (Approved as Noted)
1) Engineer shall be notified and present during repair
3) No QC or Lead CWI present to direct repair.
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CT note) Notification to Engineer of hardness testing prior to repairing.
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Who discovered the problem: Mark J. Miller
Name of individual from Contractor notified: Kevin Chen

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 0900 hours, Verbal
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 1000 hours, Verbal
QC Inspector's Name: Wang Lu
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 Mazen Wahbeh,(818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Simonis,Jim	QA Inspector
Reviewed By:	Wahbeh,Mazen	SMR

3E ok.

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

版本 Rev. No.: 1

项目 Project Name:	SFOBB	部件图号 Drawing No.:	SEG014 SEG016	报告编号 Report No.:	B-CWR596
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG PLATE PANEL SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-11930
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

Five cracks were found by use of MT on weld SSD19-PP023-004 Welder ID No.058551 Position:2F
Twelve cracks were found by use of MT on weld SSD19-PP023-005 Welder ID No.047866 Position:2F
Two cracks were found by use of MT on weld SSD15-PP019-003 Welder ID No.058551 Position:2F
Twelve cracks were found by use of MT on weld SSD15-PP019-004 Welder ID No.050242 Position:2F
Fourteen cracks were found by use of MT on weld SSD16-PP020-003 Welder ID No.058551 Position:2F
Two cracks were found by use of MT on weld SSD16-PP020-004 Welder ID No.050242 Position:2F
Seventeen cracks were found by use of MT on weld SSD17-PP021-003 Welder ID No.058551 Position:2F
Thirty cracks were found by use of MT on weld SSD17-PP021-004 Welder ID No.050242 Position:2F
Nine cracks were found by use of MT on weld SSD18-PP022-004 Welder ID No.058551 Position:2F
Twenty-three cracks were found by use of MT on weld SSD18-PP022-005 Welder ID No.050242 Position:2F

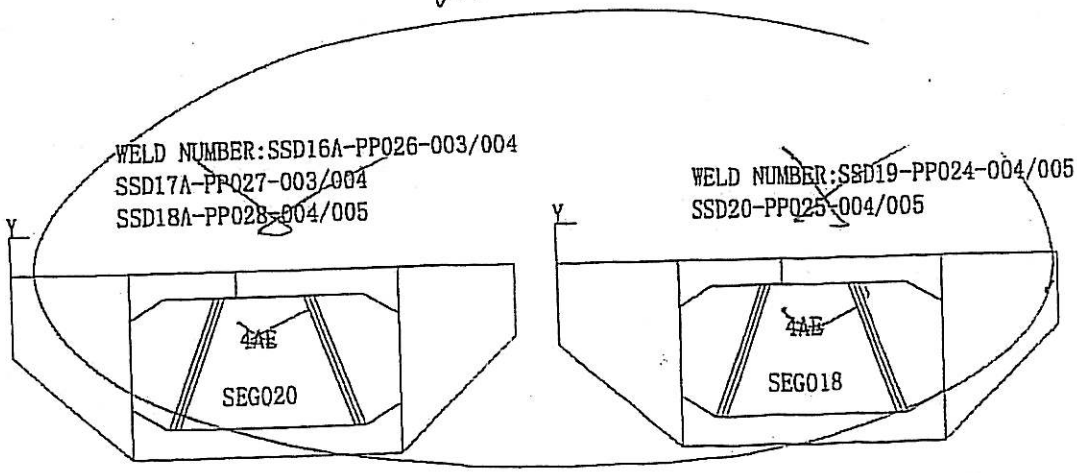
Please see the detail data from MT report!

检验员 (Inspector): Fu zhi qiang Fu zhi qiang 日期 (Date): 2009-06-30

焊缝返修位置示意图:

Draft of Welding Discontinuity:

WRONG PICTURE 3AE & 3BE



This document is APPROVED as noted
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial [illegible] Date: 7/6/09

产生原因:

Cause:

1. 火焰加热时，水汽没有完全的去除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.

This document is APPROVED as noted
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial [illegible] Date: 7/6/09

车间负责人 (Foreman): Li Zhigang 日期 (Date): 09.07.03

- Hardness testing is req'd at each location where the trans. cracks found. The readings of the test shall be done along the weld and adj. base metal.
- Provide written & verbal notification to the engr. prior to the hardness testing for engr. to witness the testing. (Ref TC-20 for further remarks)

处理意见 Disposition:

- The result of the hardness testing shall be submitted to CT for review prior to repairing

1. 工程师通知到现场,缺陷返修按照角焊缝返修程序;
2. 这次返修时，QC和Leader CWI到现场指导打磨，焊接和监控的指导工作;
3. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件;
4. QC和Leader CWI指导返修，以保证返修按照处理意见进行;
5. 在要求做MT的区域去除油漆;
6. 采用打磨的方式去除裂纹;
7. 准备一个正确的接头型式，具体参照相应的返修WPS;
8. 返修前，VT和MT检测确认返修区域没有裂纹,同时靠近横向裂纹的母材也要做MT，也保证没有裂纹延伸到母材;
9. 根据批准的返修焊接工艺规程预热及焊接。
10. 将修补区域打磨与母材或相邻焊缝平齐;
11. VT检测焊缝，按照标书10-1.59中的备注3的额外DNT要求进行检测;
12. 返修后对所有的焊缝进行100%的MT检测，包括返修的反面，以前没有返修的区域。

- Separate CWR approval is needed if cracks are found in the base metal HAZ.
- If by crevice root gap (5mm or more) is found during grinding of the repair area, the Contractor shall seek engrs approval. (see TC-20 for further remarks)

1. The Engineer shall be notified and present during this repair. Indicate repair procedure, fillet weld;
2. QC and a Lead CWI shall be present and direct all gouging, grinding and welding operations during this repair.
3. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
4. QC and a Lead CWI shall direct the repair to ensure the repair is per the disposition requirements.
5. Paint shall be removed in the area requiring MT;
6. Remove the crack by means of grinding.
7. Prepare excavation according to the approved repair WPS.
8. Before this repair, Verify with VT and MT repair areas are crack free, and also MT shall be perform on the base metal nearby transverse cracks to ensure that no cracks were propagated in to the base metal;
9. Preheat and weld according to the approved repair WPS.
10. Grind the repaired area flush with base metal or the adjacent weld.
11. Perform VT after repair and additional% NDT requirement stated in special provision 10-1.59 "inspection testing" note 3;
12. 100%MT all these welds after the weld repair, including the opposite side of the repaired weld that didn't require repair previously.

- gouging shall not be used for this repair

-E.I. 2009.7.14

工 艺:
Technical Engineer: Nin Tefe 审核:
Approved By: [signature] for Chenbin 日期:
Date: 09.07.03

#R787-QCP-900

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.:	SEG014 SEG016	报告编号 Report No.:	B-CWR596
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	OBG PLATE PANEL SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-11930
项目编号 Project No.:	ZP06-787				

纠正措施:
Corrective Action to Prevent Re-occurrence:
1.返修前，QC确认有效的预热，以将水汽全部去除。

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

车间负责人 (Foreman): Li zhigang 日期 (Date): 09.07.03

参照的WPS编号 Repair WPS No.:	WPS-SMAW-345-2G(2F)-Repair WPS-FCAW-345-2G(2F)-Repai-1 WPS-SMAW-345-3G(3F)-Repair WPS-FCAW-345-3G(3F)-Repair	工艺员 Technologist:	Nin Tiefay 09.07.03
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	N/A	返修的缺陷 Description of Discontinuity:	Crack
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	80°C
最大碳刨深度 Max. Depth of Gouge:	6 mm	碳刨总长 Total Length of Gouge:	15000 mm

焊工 Welder:	200114	焊接类型 Welding Type:	SMAW	焊接位置 Position:	2G
焊接电流 Current:	157	焊接电压 Voltage:	23	焊接速度 Speed:	112

返修后检查
Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Li Yanhua 07120701	日 期 Date:	2009.8.7
NDT复检 NDT Result:	Acc.	探伤员 NDT Person:		日 期 Date:	2009.8.8

见证：
Witness/Review:

备注：
Remark：

#R787-QCP-900

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial Date: 7/6/09

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.08.08	PAGE OF页码 1/8	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG016/14 OBG PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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			
SSD19-PP023-004	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
SSD19-PP023-005	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
	7R1			ACC.		100%MT
	8R1			ACC.		100%MT
	9R1			ACC.		100%MT
	10R1			ACC.		100%MT
	11R1			ACC.		100%MT

EXAMINED BY主探 Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 4.08.08	REVIEWED BY 审核 Xu Hai LEVEL-II SIGN / DATE日期 4.08.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION
磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.06.29	PAGE OF页码 2/8	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG016/14 OBG PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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			
	12R1			ACC.		100%MT
SSD15A-PP019-003	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
SSD15A-PP019-004	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
	7R1			ACC.		100%MT
	8R1			ACC.		100%MT
	9R1			ACC.		100%MT
	10R1			ACC.		100%MT
	11R1			ACC.		100%MT
	12R1			ACC.		100%MT
SSD16A-PP020-003	1R1			ACC.		100%MT

EXAMINED BY主探	REVIEWED BY 审核
Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 4.08.08	Xu Hai LEVEL-II SIGN / DATE日期 4.08.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION
磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.08.08	PAGE OF页码 3/8	Revision No: 0

PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用 户: CALTRANS	
DRAWING NO. 图号: SEG016/14 OBG PLATE PANEL SPLICE		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4	
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
	7R1			ACC.		100%MT
	8R1			ACC.		100%MT
	9R1			ACC.		100%MT
	10R1			ACC.		100%MT
	11R1			ACC.		100%MT
	12R1			ACC.		100%MT
	13R1			ACC.		100%MT
	14R1			ACC.		100%MT
SSD16A-PP020-004	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
SSD17A-PP021-003	1R1			ACC.		100%MT

EXAMINED BY主探 Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 09.08.08	REVIEWED BY 审核 Xu Hai LEVEL-II SIGN / DATE日期 09.08.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION
磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.08.08	PAGE OF页码 4/8	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG016/14 OBG 2AW PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
	7R1			ACC.		100%MT
	8R1			ACC.		100%MT
	9R1			ACC.		100%MT
	10R1			ACC.		100%MT
	11R1			ACC.		100%MT
	12R1			ACC.		100%MT
	13R1			ACC.		100%MT
	14R1			ACC.		100%MT
	15R1			ACC.		100%MT
	16R1			ACC.		100%MT
	17R1			ACC.		100%MT

EXAMINED BY主探	REVIEWED BY 审核
Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 4.08.08	Xu Hai LEVEL-II SIGN / DATE日期 4.08.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.08.08	PAGE OF页码 5/8	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG016/14 OBG 2AW PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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			
SSD17A-PP021-004	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
	7R1			ACC.		100%MT
	8R1			ACC.		100%MT
	9R1			ACC.		100%MT
	10R1			ACC.		100%MT
	11R1			ACC.		100%MT
	12R1			ACC.		100%MT
	13R1			ACC.		100%MT
	14R1			ACC.		100%MT
	15R1			ACC.		100%MT
	16R1			ACC.		100%MT

EXAMINED BY主探 Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 09.08.08	REVIEWED BY 审核 Xu Hai LEVEL-II SIGN / DATE日期 09.08.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION
磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.08.08	PAGE OF页码 6/8	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG016/14 OBG 2AW PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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			
	17R1			ACC.		100%MT
	18R1			ACC.		100%MT
	19R1			ACC.		100%MT
	20R1			ACC.		100%MT
	21R1			ACC.		100%MT
	22R1			ACC.		100%MT
	23R1			ACC.		100%MT
	24R1			ACC.		100%MT
	25R1			ACC.		100%MT
	26R1			ACC.		100%MT
	27R1			ACC.		100%MT
	28R1			ACC.		100%MT
	29R1			ACC.		100%MT
	30R1			ACC.		100%MT
SSD18A-PP022-004	1R1			ACC.		100%MT
	2R1			ACC.		100%MT

EXAMINED BY主探	REVIEWED BY 审核
Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 9.08.08	Xu Hai LEVEL-II SIGN / DATE日期 9.8.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.08.08	PAGE OF页码 7/8	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG016/14 OBG 2AW PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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			
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
	7R1			ACC.		100%MT
	8R1			ACC.		100%MT
	9R1			ACC.		100%MT
SSD18A-PP022-005	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
	5R1			ACC.		100%MT
	6R1			ACC.		100%MT
	7R1			ACC.		100%MT
	8R1			ACC.		100%MT

EXAMINED BY主探	REVIEWED BY 审核
Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 09.08.08	XuHai LEVEL-II SIGN / DATE日期 09.08.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11930R1	DATE日期 2009.08.08	PAGE OF页码 8/8	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG016/14 OBG 2AW PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20 mm
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			
	9R1			ACC.		100%MT
	10R1			ACC.		100%MT
	11R1			ACC.		100%MT
	12R1			ACC.		100%MT
	13R1			ACC.		100%MT
	14R1			ACC.		100%MT
	15R1			ACC.		100%MT
	16R1			ACC.		100%MT
	17R1			ACC.		100%MT
	18R1			ACC.		100%MT
	19R1			ACC.		100%MT
	20R1			ACC.		100%MT
	21R1			ACC.		100%MT
	22R1			ACC.		100%MT
	23R1			ACC.		100%MT

AFTER B-CWR 596

EXAMINED BY主探 Gu Yunwu Gu Yunwu LEVEL - II SIGN 签名 / DATE日期 4.08.08	REVIEWED BY 审核 Xu Hai LEVEL-II SIGN / DATE日期 4.08.08
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

PP21. CJP. UT ok.

探伤报告编号: 7962

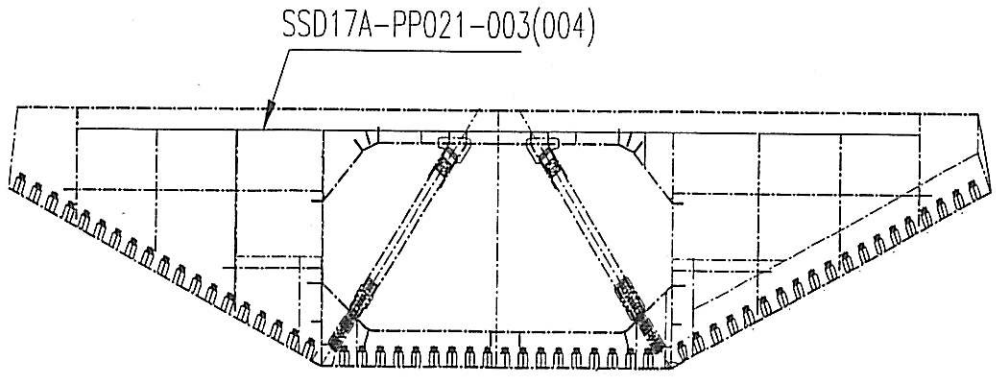
探伤申请表
APPLICATION FORM FOR NDT

产品名称 NAME OF PRODUJCT: 美国海湾大桥

零部件图号 Drawing No	SSD17A	探伤类别 Test type	100%UT	编号 No	ZP06-787
零部件名称 Items	3AE 顶板连接板	材料 Material	A709M-345T2-X	数量 Quantit	

序号 No.	探伤编号 NDT No.	焊缝类型 Weld type	板厚/直径 thickness/diameter	焊工姓名 Welder name	焊工编号 Welder No.	结论 Result	备注 remark
1	SSD17A-PP021-003	T接	14*20*22000		044795 051356	X	
2	SSD17A-PP021-004	T接	14*20*22000		050242 044801 055791	X	

探伤位置图
Scheme showing the test part



备注:

☑ 焊后

☐ 校火后

☐ 碳刨后

☑ WR/CWR 返修后

WR/CWR NO: B-CWR629

☐ SPCM

☐ 其它

焊接方法 FCAW

车间位置 外场总拼

注 SSD17A-PP021-003、004为一条焊缝PT改为CJP

申请人 Applicant	徐涛 施建刚队	日期 Date	09.08.01	主探者 Inspected	彭海宇	日期 Date	09.08.07

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7962	DATE 2009.08.01	PAGE 1 OF 1	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG 3AE PLATE PANEL SPLICE	DRAWING NO.: 图号 SSD17A	CALTRANS CONTRACT NO.: 04-0120F4 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-345T2-X 14/20mm	

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		
SSD17A-PP021-004	1	70	A	1	43	33	1	+9	100	35	11	-2	150	REJ.	100%
	2	70	A	1	43	33	3	+7	15	66	6	0	1700	REJ.	100%
AFTER B-CWR629															
BLANK															

EXAMINED BY主探 Xue hai rong	REVIEWED BY 审核
LEVEL - II SIGN / DATE 09.08.01	LEVEL - II SIGN / DATE 09.08.01
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

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	SSD17A	报告编号 Report No.	B-WR6736
合同号 Contract No.:	04-0120F4	部件名称 Items Name	3AE PLATE .PANEL SPLICE	NDT报告编号 Report No.of NDT	B787-UT-7962
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of welding discontinuity:

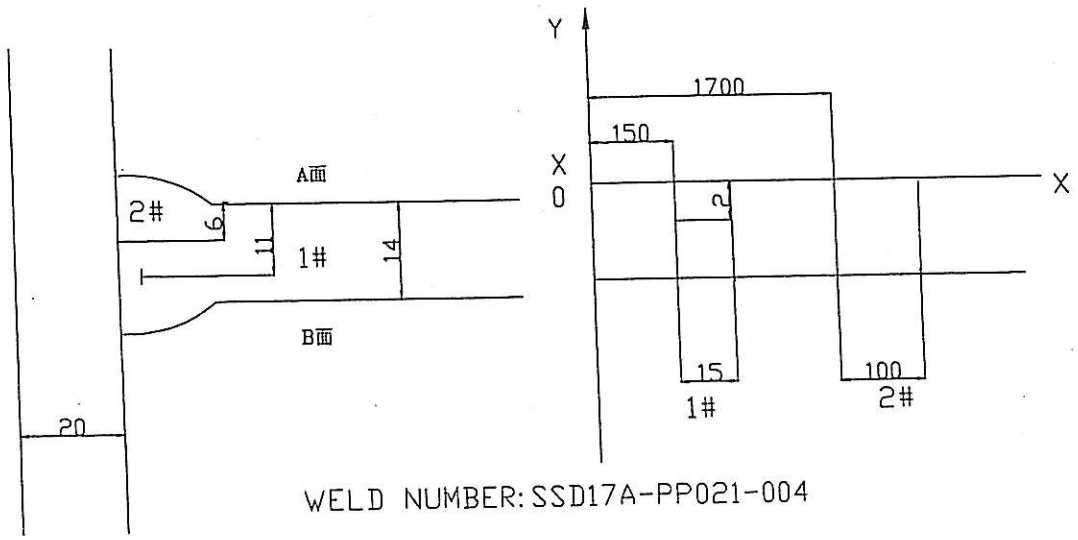
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) SSD17A-PP021-004

检验员（Inspector）：Xue hai rong 日期(Date)：09.08.01

焊缝返修位置示意图：

Draft of welding discontinuity:



WELD NUMBER: SSD17A-PP021-004

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman):Zhangguiming 日期(Date):09.08.03

处理意见

Disposition :

1. 从缺陷距离端面较近一侧（D≤0.65T, D为缺陷深度，T为板厚）采用碳刨或打磨的方法去除焊缝缺陷;
2. 参照返修焊接工艺规程（WPS）准备正确的接头型式，预热和焊接;
3. 焊前对修补区域进行VT检测保证缺陷完全被清除;
4. 将修补区域打磨到与母材或邻近焊缝平齐;
5. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge （D≤0.65T, "D" is depth of defects, "T" is thickness of metal） to remove all defects;
2. Follow repair WPS for joint preparation, preheat, and weld deposit;
3. Verify with VT no defects remain in the weld joint prior to welding;
4. Grind the repaired area flush with base metal or the adjacent weld;
5. Check the welds according to the working drawings.

工 艺: HeXiaoLin 审核: 日期

Technical engineer Approved by Date

09.08.03

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	SSD17A	报告编号 Report No.	B-WR6736
合同号 Contract No.:	04-0120F4	部件名称 Items Name	3AE PLATE PANEL SPLICE	NDT报告编号 Report No.of NDT	B787-UT-7962
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1.加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): Zhang guiming 日期(Date): 09.08.03

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1 WPS-345-SMAW-4 G(4F)-Repair	工艺员 technologist	HeXiaoLin 09.08.03.
返修（碳刨）前预热温度 Preheat temperature before gouging	90°	返修的缺陷 Description of discontinuity	Slag Inclusion
焊前处理检查 Inspection before welding	ACC	焊前预热温度 Preheat temperature before welding	105°
最大碳刨深度 Max. depth of gouging	8mm.	碳刨总长 Total length of gouging	200mm.

焊工 welder 054016.	焊接类型 welding type SMAW	焊接位置 position 2G
焊接电流 Current 220	焊接电压 Voltage 26.2	焊接速度 Speed 182

返修后检查

Inspection After repairing:

外观检查 VT result VTACC	检验员 Inspector Shenfu Yu	日期 Date 2009.8.3
NDT复检 NDT result ACC	探伤员 NDT person	日期 Date 09.08.05

见证：
Witness/Review:

备注：
Remark：

ZPMC

周数 92#

日期 2009. 08. 03

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	3AE
		Tower/ 塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Shen fuyou 08072741
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

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
SSD17A-PP021-003	054016	2G	TL-508	√	√	√	√	√	√	√	ACC	NA	NA
SSD17A-PP021-004	054016	2G	TL-508	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☑ After CWR or WRR No.: B-WR 6736 ☐ After HSR No.: ☐ Others

#R787-QCP-603

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

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7962R1	DATE 2009.08.05	PAGE 1 OF 1	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG 3AE PLATE PANEL SPLICE	DRAWING NO.: 图号 SSD17A	CALTRANS CONTRACT NO.: 04-0120F4 加州工程编号

REFERENCING CODE 参考规范	ACCEPTANCE STANDARD接受标准	PROCEDURE NO. 程序编号
AWS D1.5-2002	AWS D1.5-2002(Table 6.3)	ZPQC-UT-01
WELDING PROCESS 焊接方法	JOINT TYPE 焊缝类型	CALIBRATION DUE DATE 仪器校正有效期
SMAW	T JOINT	Dec. 28ST ,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-345T2-X 14/20mm	

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		
SSD17A-PP021-004	1R1	70				32								ACC.	100%
	2R1	70				32								ACC.	100%
AFTER B-WR6736															
BLANK															

EXAMINED BY主探 09.08.05
LEVEL - II SIGN / DATE

REVIEWED BY 审核 08.08.05
LEVEL - II SIGN / DATE

质量经理 / QCM
签字 SIGN / 日期 DATE

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

PP22 CJP UT ok

探伤报告编号: 980

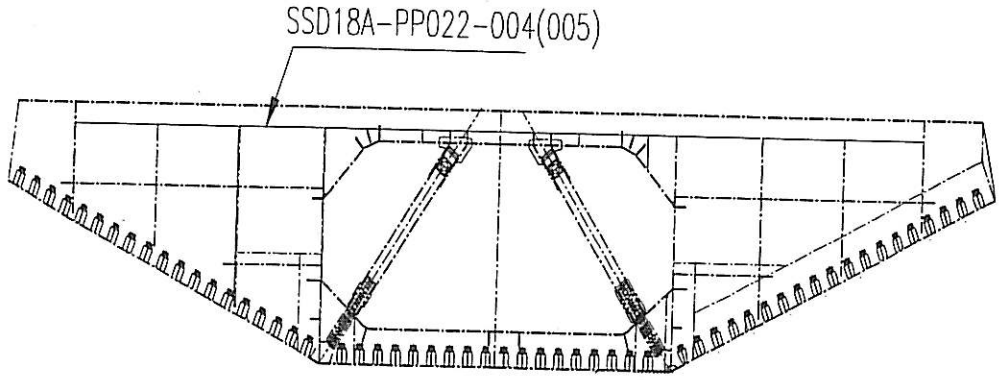
探伤申请表
APPLICATION FORM FOR NDT

产品名称 NAME OF PRODUJCT: 美国海湾大桥

零部件图号 Drawing No	SSD18A	探伤类别 Test type	100%UT	编号 No	ZP06-787
零部件名称 Items	3AE 顶板连接板	材料 Material	A709M-345T2-X	数量 Quantit	

序号 No.	探伤编号 NDT No.	焊缝类型 Weld type	板厚/直径 thickness/diameter	焊工姓名 Welder name	焊工编号 Welder No.	结论 Result	备注 remark
1	SSD18A-PP022-004	T 接	14*20*22000		051356 044795	X	
2	SSD18A-PP022-005	T 接	14*20*22000		050242 051356	X	

探伤位置图
Scheme showing the test part



备注:

☑ 焊后

☐ 校火后

☐碳刨后

☐ WR/CWR 返修后
WR/CWR NO: B-CWR 629

☐ SPCM

☐ 其它

焊接方法 FCAW

车间位置 外场总拼

说SSD18A-PP022-004.005为一条焊缝 PJP改为CJP

申请人 Applicant	徐涛 施建刚队	日期 Date	09.8.29	主探者 Inspected		日期 Date	09.08.04

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980	DATE 2009.08.04	PAGE 1 OF 3	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 3AE PLATE PANEL SPLICE 部件名称	DRAWING NO.: SSD18A 图号	CALTRANS CONTRACT NO.: 04-0120F4 加州工程编号
REFERENCING CODE 参考规范 AWS D1.5-2002	ACCEPTANCE STANDARD接受标准 AWS D1.5-2002(Table 6.3)	PROCEDURE NO. 程序编号 ZPQC-UT-01
WELDING PROCESS 焊接方法 FCAW	JOINT TYPE 焊缝类型 T-JOINT	CALIBRATION DUE DATE仪器校正有效期 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-345T2-X 14/20mm

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		
SSD18A-PP022-004	1	70	A	1	40	33	1	+6	20	35	13	-5	180	REJ.	100%
	2	70	A	2	42	33	3	+6	10	57	8	-2	280	REJ.	100%
	3	70	A	1	38	33	1	+4	20	32	12	-5	460	REJ.	100%
	4	70	A	1	40	33	1	+6	10	43	14	+1	1580	REJ.	100%
	5	70	A	2	45	33	4	+8	10	75	2	-10	4230	REJ.	100%
	6	70	A	1	39	33	0	+6	30	28	9	-12	5120	REJ.	100%
	7	70	A	2	43	33	4	+6	3	70	3	-5	5270	REJ.	100%
	8	70	A	1	40	33	1	+6	20	43	12	-8	5320	REJ.	100%

EXAMINED BY主探	REVIEWED BY 审核
Xue hai rong Xue hai rong 5.7.8.04 LEVEL - II SIGN / DATE	5.7.8.04 LEVEL - II SIGN / DATE
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980 DATE 2009.08.04 PAGE 2 OF 3 Revision No: 0

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		
	9	70	A	1	40	33	1	+6	20	43	14	0	6830	REJ.	100%
	10	70	A	1	40	33	1	+6	10	32	12	-8	7170	REJ.	100%
	11	70	A	1	40	33	1	+6	50	43	15	+1	7500	REJ.	100%
	12	70	A	2	42	33	3	+6	50	54	5	-3	7920	REJ.	100%
	13	70	A	1	42	33	1	+8	10	34	13	-2	8150	REJ.	100%
	14	70	A	1	42	33	1	+8	10	42	14	0	10360	REJ.	100%
	15	70	A	2	43	33	4	+6	110	75	3	-3	11690	REJ.	100%
	16	70	A	1	42	33	3	+6	40	62	8	-4	12310	REJ.	100%
	17	70	A	2	45	33	4	+8	30	70	4	-10	12420	REJ.	100%
	18	70	A	2	42	33	3	+6	10	63	6	-10	12820	REJ.	100%
	19	70	A	2	44	33	3	+8	10	60	8	-10	13080	REJ.	100%
	20	70	A	2	43	33	4	+6	20	68	14	-7	13140	REJ.	100%
	21	70	A	2	43	33	4	+6	20	65	4	-7	13230	REJ.	100%
	22	70	A	2	42	33	3	+6	50	65	6	-8	13320	REJ.	100%
	23	70	A	2	42	33	3	+6	100	58	8	-4	13380	REJ.	100%
	24	70	A	2	42	33	3	+6	20	60	7	-5	13560	REJ.	100%
	25	70	A	1	38	33	1	+4	30	42	14	0	14030	REJ.	100%
	26	70	A	2	44	33	5	+6	10	83	2	+2	14150	REJ.	100%
	27	70	A	2	43	33	4	+6	10	74	3	-8	14600	REJ.	100%
	28	70	A	2	42	33	3	+6	30	59	9	-8	14540	REJ.	100%
	29	70	A	2	43	33	4	+6	20	70	4	-5	14710	REJ.	100%
	30	70	A	2	43	33	4	+6	80	70	4	-10	14880	REJ.	100%
	31	70	A	2	43	33	4	+6	10	73	3	-1	15380	REJ.	100%
	32	70	A	2	43	33	4	+6	10	71	4	-5	15620	REJ.	100%

EXAMINED BY主探 Xue hai rong Xue Hairong
LEVEL - II SIGN / DATE 2009.8.4

REVIEWED BY 审核 Zhu Qin
LEVEL - II SIGN / DATE 2009.8.4

质量经理 / QCM
签字 SIGN / 日期 DATE

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980 DATE 2009.08.04 PAGE 3 OF 3 Revision No: 0

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		
	33	70	A	1	37	33	0	+4	20	28	4	-10	15820	REJ.	100%
	34	70	A	2	41	33	2	+6	20	53	8	-5	16080	REJ.	100%
	35	70	A	2	44	33	2	+9	15	48	5	0	16220	REJ.	100%
	36	70	A	2	42	33	2	+7	20	47	5	0	16390	REJ.	100%
	37	70	A	2	46	33	3	+10	10	61	8	0	17000	REJ.	100%
	38	70	A	2	43	33	3	+7	15	67	9	0	18380	REJ.	100%
	39	70	A	2	44	33	4	+7	100	70	6	0	18820	REJ.	100%
	40	70	A	2	43	33	4	+6	30	75	4	0	19080	REJ.	100%
	41	70	A	2	41	33	3	+5	10	69	6	0	19190	REJ.	100%
	42	70	A	1	42	33	0	+9	130	27	9	-7	19700	REJ.	100%
	43	70	A	1	43	33	0	+10	15	30	10	-7	19930	REJ.	100%
	44	70	A	2	46	33	3	+10	15	68	7	-2	20170	REJ.	100%
	45	70	A	2	43	33	3	+7	20	63	7	0	20400	REJ.	100%
	46	70	A	2	43	33	3	+7	20	63	7	0	20630	REJ.	100%
	47	70	A	1	41	33	1	+7	10	42	14	+1	20780	REJ.	100%
	48	70	A	1	44	33	1	+10	10	34	11	-10	21180	REJ.	100%
	49	70	A	1	42	33	2	+7	20	45	14	+2	21320	REJ.	100%
	50	70	A	1	34	33	1	0	150	37	12	0	21450	REJ.	100%
	51	70	A	1	43	33	0	+10	20	25	8	-7	21780	REJ.	100%
	52	70	A	2	46	33	3	+10	20	60	8	0	22130	REJ.	100%
	53	70	A	1	43	33	0	+10	20	25	10	-7	22370	REJ.	100%
	54	70	A	1	43	33	0	+10	20	29	9	-5	22650	REJ.	100%
	55	70	A	1	43	33	0	+10	20	29	9	-5	22700	REJ.	100%
	56	70	A	1	43	33	0	+10	20	29	9	-5	22950	REJ.	100%

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EXAMINED BY主探
Xue hai rong Xue Hairong 09.08.04
LEVEL - II SIGN / DATE

REVIEWED BY 审核
Zhu Qing 09.08.04
LEVEL - II SIGN / DATE

质量经理 / QCM
签字 SIGN / 日期 DATE

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

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	SSD18A	报告编号 Report No.	B-WR6776
合同号 Contract No.:	04-0120F4	部件名称 Items Name	3AE PLATE PANEL SPLICE	NDT报告编号 Report No.of NDT	B787-UT-7980
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of welding discontinuity:

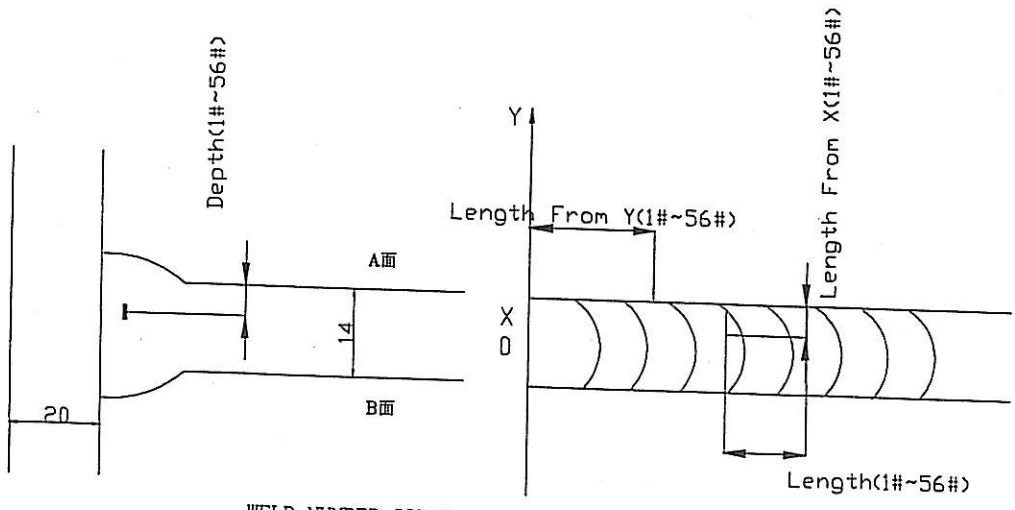
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) SSD18A-PP022-004

检验员（Inspector）：Xue hai rong 日期(Date)：09.08.04

焊缝返修位置示意图：

Draft of welding discontinuity:



WELD NUMBER:SSD18A-PP022-004

Please see the detail data from UT report!

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman): Lihaifei 日期(Date): 09.08.04

处理意见

Disposition :

1. 从缺陷距离端面较近一侧（D≤0.65T, D为缺陷深度，T为板厚）采用碳刨或打磨的方法去除焊缝缺陷;
2. 参照返修焊接工艺规程（WPS）准备正确的接头型式，预热和焊接;
3. 焊前对修补区域进行VT检测保证缺陷完全被清除;
4. 将修补区域打磨到与母材或邻近焊缝平齐;
5. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge （D≤0.65T, "D" is depth of defects, "T" is thickness of metal） to remove all defects;
2. Follow repair WPS for joint preparation, preheat, and weld deposit;
3. Verify with VT no defects remain in the weld joint prior to welding;
4. Grind the repaired area flush with base metal or the adjacent weld;
5. Check the welds according to the working drawings.

工 艺: Hexiao Lin 审核: 日期

Technical engineer Approved by Date

09.08.04

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	SSD18A	报告编号 Report No.	B-WR6776
合同号 Contract No.:	04-0120F4	部件名称 Items Name	3AE PLATE PANEL SPLICE	NDT报告编号 Report No.of NDT	B787-UT-7980
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1.加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): Lihaifei 日期(Date): 09.08.04

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1	工艺员 technologist	HeXiaoLin 09.08.04
返修（碳刨）前预热温度 Preheat temperature before gouging	85°	返修的缺陷 Description of discontinuity	Slag Inclusion
焊前处理检查 Inspection before welding	All	焊前预热温度 Preheat temperature before welding	95°
最大碳刨深度 Max. depth of gouging	8mm .	碳刨总长 Total length of gouging	3000 mm .

焊工 welder 058551	焊接类型 welding type FCAW	焊接位置 position 2G
焊接电流 Current 276	焊接电压 Voltage 29.5	焊接速度 Speed 12.5

返修后检查

Inspection After repairing:

外观检查 VT result All	检验员 Inspector Shenfufou . 08027641	日 期 Date 09.08.06 .
NDT复检 NDT result RET	探伤员 NDT person Xuweizhong	日 期 Date 09.08.06
见证： Witness/Review:		
备注： Remark：		

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980R1	DATE 2009.08.06	PAGE 1 OF 3	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 3AE PLATE PANEL SPLICE	DRAWING NO.: 图号 SSD18A	CALTRANS CONTRACT NO.: 04-0120F4 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-345T2-X 14/20mm	

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		
SSD18A-PP022-004	1R1	70				34								ACC.	100%
	2R1	70				34								ACC.	100%
	3R1	70				34								ACC.	100%
	4R1	70				34								ACC.	100%
	5R1	70				34								ACC.	100%
	6R1	70				34								ACC.	100%
	7R1	70				34								ACC.	100%
	8R1	70				34								ACC.	100%

EXAMINED BY主探	REVIEWED BY 审核
Xue hai rong 2.08.06	2.08.06
LEVEL - II SIGN / DATE	LEVEL - II SIGN / DATE
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980R1 DATE 2009.08.06 PAGE 2 OF 3 Revision No: 0

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		
	9R1	70	A	2	43	34	2	+7	10	50	12	0	6830	REJ.	100%
	10R1	70				34								ACC.	100%
	11R1	70	A	1	41	34	1	+6	50	43	15	+1	7500	REJ.	100%
	12R1	70				34								ACC.	100%
	13R1	70				34								ACC.	100%
	14R1	70				34								ACC.	100%
	15R1	70				34								ACC.	100%
	16R1	70				34								ACC.	100%
	17R1	70	A	2	43	34	4	+5	40	75	3	+2	12420	REJ.	100%
	18R1	70				34								ACC.	100%
	19R1	70				34								ACC.	100%
	20R1	70				34								ACC.	100%
	21R1	70				34								ACC.	100%
	22R1	70				34								ACC.	100%
	23R1	70				34								ACC.	100%
	24R1	70				34								ACC.	100%
	25R1	70				34								ACC.	100%
	26R1	70				34								ACC.	100%
	27R1	70				34								ACC.	100%
	28R1	70	A	1	39	34	1	+4	30	32	10	-7	14540	REJ.	100%
	29R1	70				34								ACC.	100%
	30R1	70				34								ACC.	100%
	31R1	70				34								ACC.	100%
	32R1	70				34								ACC.	100%

EXAMINED BY主探 Xue hai rong LEVEL - II SIGN / DATE 9.8.06

REVIEWED BY 审核 LEVEL - II SIGN / DATE 9.8.06

质量经理 / QCM 签字 SIGN / 日期 DATE

用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980R1 DATE 2009.08.06 PAGE 3 OF 3 Revision No: 0

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		
	33R1	70				34								ACC.	100%
	34R1	70				34								ACC.	100%
	35R1	70				34								ACC.	100%
	36R1	70				34								ACC.	100%
	37R1	70	A	2	37	34	3	0	10	61	8	0	17000	REJ.	100%
	38R1	70	A	2	44	34	3	+7	10	67	9	0	18380	REJ.	100%
	39R1	70				34								ACC.	100%
	40R1	70				34								ACC.	100%
	41R1	70	A	2	43	34	0	+9	10	26	12	-7	19190	REJ.	100%
	42R1	70				34								ACC.	100%
	43R1	70				34								ACC.	100%
	44R1	70				34								ACC.	100%
	45R1	70				34								ACC.	100%
	46R1	70				34								ACC.	100%
	47R1	70	A	1	42	34	1	+7	10	42	14	1	20780	REJ.	100%
	48R1	70				34								ACC.	100%
	49R1	70	A	1	43	34	2	+7	20	45	14	+2	21320	REJ.	100%
	50R1	70				34								ACC.	100%
	51R1	70	A	1	44	34	0	10	10	25	8	-7	21780	REJ.	100%
	52R1	70				34								ACC.	100%
	53R1	70				34								ACC.	100%
	54R1	70				34								ACC.	100%
	55R1	70				34								ACC.	100%
	56R1	70				34								ACC.	100%

AFTER B-WR6776

EXAMINED BY主探
Xue hai rong Xue hairong 09.08.06
LEVEL - II SIGN / DATE

REVIEWED BY 审核
Zgh-19h 09.08.06
LEVEL - II SIGN / DATE

质量经理 / QCM
签字 SIGN / 日期 DATE

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

ZPMC

周数 92#

日期 2009.08.06

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:	3AE
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国 海湾大桥	Tower/塔:	NA
Project No.: 项目编号:	ZP06-787	Representative: 质检代表:	
		CWI: 检验员:	Shen fuyou 08072741 09.08.06.
		Quality Assurance Manager -Approval 质量控制经理:	

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
SSD18A-PP022-004	058551	2G	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
SSD18A-PP022-005	058551	2G	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld ☑ After cover pass

☑ After CWR or WRR No.: B-WR6776 ☐ After HSR No.: ☐ Others

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

PP21 CJP MT ok

探伤报告编号: 12710

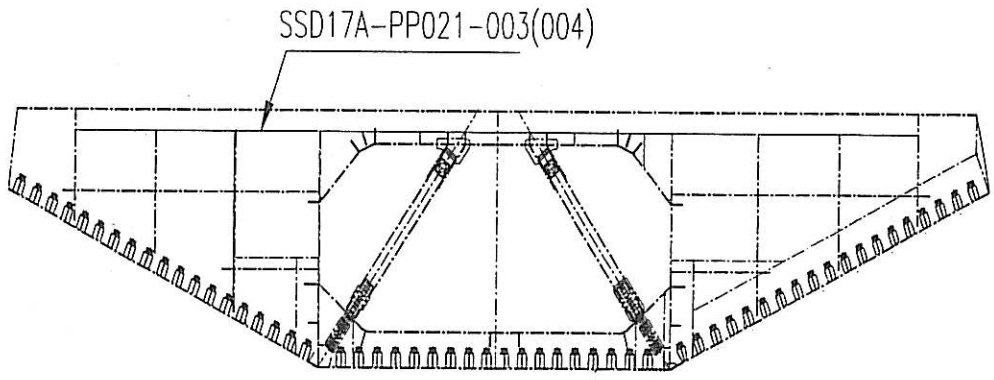
探伤申请表
APPLICATION FORM FOR NDT

产品名称 NAME OF PRODUJCT: 美国海湾大桥

零部件图号 Drawing No	SSD17A	探伤类别 Test type	100%MT	编号 No	ZP06-787
零部件名称 Items	3AE 顶板连接板	材料 Material	A709M-345T2-X	数量 Quantit	

序号 No.	探伤编号 NDT No.	焊缝类型 Weld type	板厚/直径 thickness/diameter	焊工姓名 Welder name	焊工编号 Welder No.	结论 Result	备注 remark
1	SSD17A-PP021-003	T 接	14*20*23x60		044795 051356	X	
2	SSD17A-PP021-004	T 接	14*20*23x60		050242 044801 055791	X	

探伤位置图
Scheme showing the test part



备注:

☑ 焊后

☐ 校火后

☐ 碳刨后

☑ WR/CWR 返修后
WR/CWR NO: B-CWR629

☐ SPCM

☐ 其它

焊接方法 FCAW

车间位置 外场总拼

申请人 Applicant	徐涛 施建刚队	日期 Date	09.8.3	主探者 Inspected	蔡新会	日期 Date	09.8.04

ZPMC

周数 92#

日期 2009.8.3

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:	[redacted] 3AE
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/ 塔:	NA
Project No.: 项目编号:	ZP06-787	Quality Control Representative: 质检代表:	
		CWI: 检验员:	Shenfu You 08072241 09.8.3
		Quality Assurance Manager ~Approval 质量控制经理:	

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
SSD17A-PP021-003	044795 051356	2G	Supercored71H	√	√	√	√	√	√	√	ACC	NA	NA
SSD17A-PP021-004	050242 044801 055791	2G	Supercored71H	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☑ After CWR or WRR No.: B-CWR629 B-WR6736 ☐ After HSR No.: ☐ Others

#R787-QCP-603

" √ " 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-12710	DATE日期 2009.08.04	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:	SSD17A PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20mm
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			
SSD17A-PP021-003	1	TRANSVERSE CRACK	4		REJ.	Y=200
	2	TRANSVERSE CRACK	6		REJ.	Y=3210
	3	LONGITUDINALCRACK	7		REJ.	Y=3310
	4	TRANSVERSE CRACK	3		REJ.	Y=6310
	5	TRANSVERSE CRACK	5		REJ.	Y=6820
	6	TRANSVERSE CRACK	3		REJ.	Y=7150
	7	TRANSVERSE CRACK	3		REJ.	Y=7810
	8	LONGITUDINALCRACK	4		REJ.	Y=16100
	9	TRANSVERSE CRACK	3		REJ.	Y=16200
	10	TRANSVERSE CRACK	3		REJ.	Y=17040
	11	LONGITUDINALCRACK	10		REJ.	Y=18230
	12	LONGITUDINALCRACK	20		REJ.	Y=23260
SSD17A-PP021-004	1	TRANSVERSE CRACK	4		REJ.	Y=9140
	2	TRANSVERSE CRACK	5		REJ.	Y=11230
	3	TRANSVERSE CRACK	3		REJ.	Y=11800
	4	TRANSVERSE CRACK	4		REJ.	Y=12740

EXAMINED BY主探 Cai xin xin Caixinxin 9.08.4 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 wangwei 9.08.4 LEVEL-II SIGN / DATE日期
质量经理 / QCM Lu Jianhua 8/4/09 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12710	DATE日期 2009.08.04	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:	SSD17A PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20mm
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			
	5	TRANSVERSE CRACK	6		REJ.	Y=17500
	6	TRANSVERSE CRACK	4		REJ.	Y=20140
BLANK						

EXAMINED BY主探 Cai xin xin caixinxin LEVEL - II SIGN 签名 / DATE日期 5.08.X	REVIEWED BY 审核 Wangwei LEVEL-II SIGN / DATE日期 5.08.X
质量经理 / QCM Lu Tanhua 8/4/09 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC	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.:	SSD17A	报告编号 Report No.:	B-CWR651
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	3AE PLATE PANEL SPLLICE	NDT 报告编号 NDT Report No.:	B787-MT-12710
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of Welding Discontinuity:

在对SSD17A-PP021-003检测时，发现4处纵向裂纹，8处横向裂纹。

Four longitudinal cracks and eight transverse cracks were found by use of MT on SSD17A-PP021-003

Welder ID No. (焊工编号):044795 051356 Position:(位置): 2G

在对SSD17A-PP021-004检测时，发现6处横向裂纹。

Six transverse cracks were found by use of MT on SSD17A-PP021-004

Welder ID No. (焊工编号):050242 044801 055791 Position:(位置): 2G

Please see the detail data from MT report!

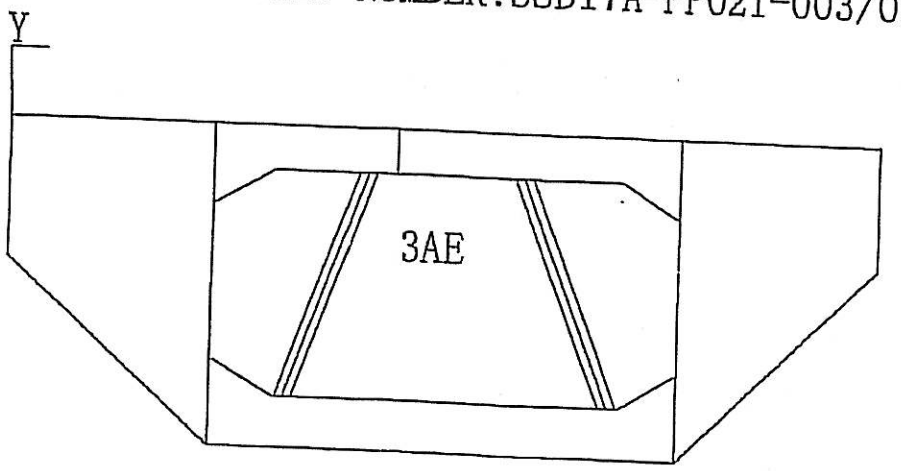
检验员 (Inspector) : Cai xin xin

日期 (Date) : 2009-08.04

焊缝返修位置示意图：

Draft of Welding Discontinuity:

WELD NUMBER:SSD17A-PP021-003/004



This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial SJE Date: 8/6/2009

产生原因:

Cause:

1. 火焰加热时，水汽没有完全的去除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): Gao Jun 日期 (Date): 09.08.05

处理意见

Disposition :

1. 这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；
2. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；
3. 去除热影响区域上在各个方向上不小于25mm范围内的油漆；
4. 采用打磨的方法去除裂纹，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，返修前，提交CWR，那么在这个位置的焊缝采用CJP焊缝，并在打磨去除焊缝后对其及进行MT检测；
6. 焊接前按照焊接返修工艺规程(WPS)准备焊缝接头形式；
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；
8. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接；
9. 将修补区域打磨与母材或相邻焊缝平齐；
10. 返修后按照合同10-1.59“钢结构”中的“检测和试验”注释3进行附加MT检测，检测范围包括修补区域（包括沿缺陷焊缝每一端加50mm）的正面及反面焊缝以及修补区域的翼缘板底部的正面及反面焊缝，其中对于CJP焊缝，NDT方法为UT和MT。

1. QC and a Lead CWI shall be present, direct and supervise all grinding and welding operations during this repair to ensure the repair is per the disposition requirements
2. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
3. Remove paint≥25mm in all direction of HAZ prior to MT.
4. Remove cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs, 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>5mm is found during or after grinding, special CWR approval required before continuing welding repair procedures, a CJP weld is required in that location, and perform MT after performing grinding the defects away.
6. Prepare excavation in accordance with an approved repair WPS prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free, 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 before continuing welding repair procedures.
8. Preheat and weld according to the approved repair WPS.
9. Grind the repaired area flush with base metal or the adjacent weld.
10. Perform MT inspection to all repaired welds (along with an additional 50mm at each end of the weld repair) which include the near side and far side on the upper and bottom side of flange in the same area where the repair was performed according to additional NDT requirement stated in special provision 10-1.59 "inspection testing" note 3. Perform UT and MT inspection to CJP weld.

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial SJE Date: 8/6/2009

工 艺: Technical Engineer: Nin Tiefang 审核: Approved By: Liu Jianhua for Chenbin 日期: Date: 09.08.05

#R787-QCP-900

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.:	SSD17A	报告编号 Report No.:	B-CWR651
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	3AE PLATE PANEL SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-12710
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): Guo Jun 日期 (Date): 09.08.05

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2 G(2F)-Repair-1 WPS-345-FCAW-2 G(2F)-Repair-1	工艺员 Technologist:	Nin Tiefeng 09.08.05
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	Grind to Remove NA	返修的缺陷 Description of Discontinuity:	crack
焊前处理检查 Inspection Before Welding:	All	焊前预热温度 Preheat Temperature Before Welding:	80°~110°
最大碳刨深度 Max. Depth of Gouge:	only for Grind NA	碳刨总长 Total Length of Gouge:	NA

焊工 Welder:	204339	焊接类型 Welding Type:	SMAW	焊接位置 Position:	2G
焊接电流 Current:	162	焊接电压 Voltage:	23.7	焊接速度 Speed:	135

返修后检查
Inspection After Repair:

外观检查 VT Result:	All	检验员 Inspector:	Shenfuyou 28072761	日期 Date:	09.08.07
NDT复检 NDT Result:	MT All	探伤员 NDT Person:	Jingzhong	日期 Date:	09.08.07

见证：
Witness/Review:

备注：
Remark：

ZPMC

周数	92#
日期	2009. 08. 07

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/梁:	3AE
		Tower/塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Shenfu You 08072741 09.08.07.
Project No.: 项目编号.	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

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
SSD17A-PP021-003	204339	2G	E7018-1 H4	√	√	√	√	√	√	√	ACC	NA	NA
SSD17A-PP021-004	204339	2G	E7018-1 H4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☑ After CWR or WRR No.: B-CWR651
☑ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603

" √ " 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-12710R1	DATE日期 2009.08.07	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:	SSD17A PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20mm
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			
SSD17A-PP021-003	1R1			ACC.		after excavation
	2R1			ACC.		after excavation
	3R1			ACC.		after excavation
	4R1			ACC.		after excavation
	5R1			ACC.		after excavation
	6R1			ACC.		after excavation
	7R1			ACC.		after excavation
	8R1			ACC.		after excavation
	9R1			ACC.		after excavation
	10R1			ACC.		after excavation
	11R1			ACC.		after excavation
	12R1			ACC.		after excavation
SSD17A-PP021-004	1R1			ACC.		after excavation
	2R1			ACC.		after excavation

EXAMINED BY主探 Ding Acheng LEVEL - II SIGN 签名 / DATE日期 09.8.07	REVIEWED BY 审核 LEVEL-II SIGN / DATE日期 09.8.08
质量经理 / QCM 签字 SIGN / 日期 DATE 8/8/09	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12710R1	DATE日期 2009.08.07	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:	SSD17A PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20mm
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			
	3R1			ACC.		after excavation
	4R1			ACC.		after excavation
	5R1			ACC.		after excavation
	6R1			ACC.		after excavation
AFTER B-CWR 651						
BLANK						

EXAMINED BY主探 Ding Acheng LEVEL - II SIGN签名 / DATE日期 9.5.09	REVIEWED BY 审核 Sun Gongchang LEVEL-II SIGN / DATE日期 9.5.09
质量经理 / QCM Liu Canhong 8/8/09 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

PP22 MT (CJP) 0/C

探伤报告编号: [illegible] 1282

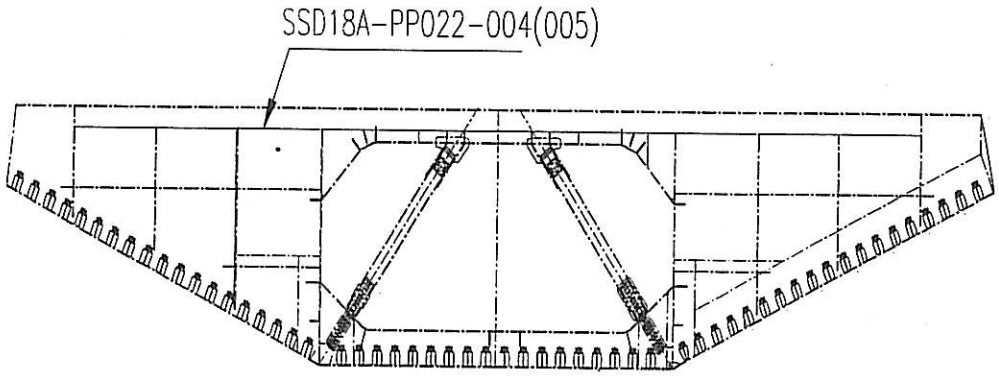
探伤申请表
APPLICATION FORM FOR NDT

产品名称 NAME OF PRODUJCT: 美国海湾大桥

零部件图号 Drawing No	SSD18A	探伤类别 Test type	100%MT	编号 No	ZP06-787
零部件名称 Items	3AE 顶板连接板	材料 Material	A709M-345T2-X	数量 Quantit	

序号 No.	探伤编号 NDT No.	焊缝类型 Weld type	板厚/直径 thickness/diameter	焊工姓名 Welder name	焊工编号 Welder No.	结论 Result	备注 remark
1	SSD18A-PP022-004	T 接	14*20*22000		050242 051356	X	
2	SSD18A-PP022-005	T 接	14*20*22000		050242 051356	X	

探伤位置图 .
Scheme showing the test part



备注:

☑ 焊后

☐ 校火后

☐碳刨后

☑ WR/CWR 返修后
WR/CWR NO: B-CWR629

☐ SPCM

☐ 其它

焊接方法 FCAW

车间位置 外场总拼

申请人 Applicant	徐涛 施建刚队	日期 Date	09.08.07	主探者 Inspected	[illegible]	日期 Date	07.08.08

ZPMC

周数 92#

日期 2009.08.07

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:	3AE [redacted]
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Quality Control Representative: 质检代表:	
		CWI: 检验员:	Shenfu You 0807264 09.08.07
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

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
SSD18A-PP022-004	051356 050242	2G	Supercored71H	√	√	√	√	√	√	√	ACC	NA	NA
SSD18A-PP022-005	050242 051356	2G	Supercored71H	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☑ After CWR or WRR No.: B-CWR629 ☐ After HSR No.: ☐ Others

#R787-QCP-603

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

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12822	DATE日期 2009.08.08	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:	SSD18A 3AE PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20mm
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			
SSD18A-PP022-004	1	longitudinal crack	8		REJ.	Y=30
	2	longitudinal crack	3		REJ.	Y=2680
	3	transverse crack	5		REJ.	Y=3300
	4	transverse crack	5		REJ.	Y=16140
	5	transverse crack	3		REJ.	Y=16700
	6	transverse crack	2		REJ.	Y=17800
	7	longitudinal crack	5		REJ.	Y=18390
	8	longitudinal crack	5		REJ.	Y=18900
SSD18A-PP022-005	1	transverse crack	3		REJ.	Y=10730
	2	longitudinal crack	2		REJ.	Y=11740
	3	longitudinal crack	2		REJ.	Y=12050
	4	transverse crack	4		REJ.	Y=15000
	5	longitudinal crack	5		REJ.	Y=17500
	6	transverse crack	2		REJ.	Y=18860

EXAMINED BY主探 Sun Gongchang Sun Gongchang 09.08.08 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Han Jianzhu 09.08.08 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12822	DATE日期 2009.08.08	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:	SSD18A 3AE PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 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 14/20mm
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			
SSD18A-PP022-005	7	longitudinal crack	6		REJ.	Y=19630
	8	longitudinal crack	8		REJ.	Y=22330
	9	longitudinal crack	3		REJ.	Y=23200
BLANK						

EXAMINED BY主探	REVIEWED BY 审核
Sun Gongchang Sun Gong chang 09.08.08	Jin Hanzhong 09.08.08
LEVEL - II SIGN 签名 / DATE日期	LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC	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.:	SSD18A	报告编号 Report No.:	B-CWR658
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	3AE顶板连接板 3AE PLATE PANEL SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-12822
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of Welding Discontinuity:

在对SSD18A-PP022-004检测时，发现4处纵向裂纹和4处横向裂纹。

在对SSD18A-PP022-005检测时，发现6处纵向裂纹和3处横向裂纹。

现在两条焊缝已经改为CJP焊缝，在进行最终MT时，发现上述裂纹。

Welder ID No. (焊工编号): 050242\051356 Position:(位置): 2G

Four transverse cracks and four longitudinal cracks were found by use of MT on SSD18A-PP022-004.

Three transverse cracks and six longitudinal cracks were found by use of MT on SSD18A-PP022-005.

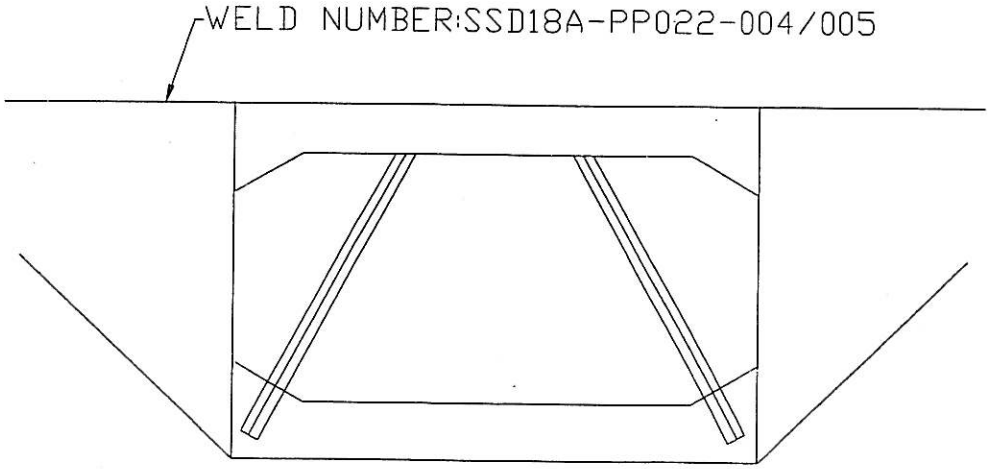
Two welds joint has changed to CJP welds, and the cracks were found during final MT.

Please see the detail data from MT report!

检验员 (Inspector): Sun Gongchang Sun Gongchang 日期 (Date): 2009-08-08

焊缝返修位置示意图：

Draft of Welding Discontinuity:



产生原因：

Cause:

1. 火焰加热时，水汽没有完全的去除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):** Gao Jun 日期 **(Date):** 09.08.08

处理意见

Disposition :

1. 这次返修时，QC和Leader CWI到现场对打磨，焊接进行指导和监控工作以保证返修按照处理意见进行；
2. 整个返修的过程，QC和Leader CWI应该有批准CWR的复印件；
3. 去除热影响区域上在各个方向上不小于25mm范围内的油漆；
4. 采用打磨的方法去除裂纹，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. 焊接前按照焊接返修工艺规程(WPS)准备焊缝接头形式；
6. 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；
7. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接；
8. 将修补区域打磨与母材或相邻焊缝平齐；
9. 返修后按照合同10-1.59“钢结构”中的“检测和试验”注释3进行附加MT检测，检测范围包括修补区域（包括沿缺陷焊缝每一端加50mm）的正面及反面焊缝以及修补区域的翼缘板底部的正面及反面焊缝，其中对于CJP焊缝，NDT方法为UT和MT。

1. QC and a Lead CWI shall be present, direct and supervise all grinding and welding operations during this repair to ensure the repair is per the disposition requirements
2. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
3. Remove paint≥25mm in all direction of HAZ prior to MT.
4. Remove cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs, and 50mm beyond the outermost cracks for multiple crack repairs.
5. Prepare excavation in accordance with an approved repair WPS prior to welding.
6. 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.
7. Preheat and weld according to the approved repair WPS.
8. Grind the repaired area flush with base metal or the adjacent weld.
9. Perform MT inspection to all repaired welds (along with an additional 50mm at each end of the weld repair) which include the near side and far side on the upper and bottom side of flange in the same area where the repair was performed according to additional NDT requirement stated in special provision 10-1.59 "inspection testing" note 3. Perform UT and MT inspection to CJP weld.

工 艺：

Technical Engineer: Nih Zefeg

审核：

Approved By:

日期：

Date: 09.08.08

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.:	SSD18A	报告编号 Report No.:	B-CWR658
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	3AE顶板连接板 3AE PLATE PANEL SPLICE	NDT 报告编号 NDT Report No.:	B787-MT-12822
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): Gao Jun 日期 (Date): 09.08.08

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-Repair WPS-345-FCAW-2G(2F)-Repair-1 WPS-345-SMAW-4G(4F)-Repair WPS-B-P-2212-TC-U4b WPS-B-T-2232-TC-U4b-F-1 WPS-B-P-2214-TC-U4b-F	工艺员 Technologist:	Niu Tiefeng 09.08.08
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	Grind N/A	返修的缺陷 Description of Discontinuity:	crack
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	80°C
最大碳刨深度 Max. Depth of Gouge:	Grind max. 6mm	碳刨总长 Total Length of Gouge:	2000

焊工 Welder:	216086	焊接类型 Welding Type:	SMAW	焊接位置 Position:	2G
焊接电流 Current:	156	焊接电压 Voltage:	23	焊接速度 Speed:	114

返修后检查 Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Li Yanmin 07120701	日 期 Date:	09.08.11
NDT复检 NDT Result:	Acc	探伤员 NDT Person:	Xuhan	日 期 Date:	09.08.11

见证： Witness/Review:

备注： Remark:

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12822R1	DATE日期 2009.08.11	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:	SSD18A 3AE PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,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 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 14/20mm
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			
SSD18A-PP022-004	1R1			ACC.		
	2R1			ACC.		
	3R1			ACC.		
	4R1			ACC.		
	5R1			ACC.		
	6R1			ACC.		
	7R1			ACC.		
	8R1			ACC.		
SSD18A-PP022-005	1R1			ACC.		
	2R1			ACC.		
	3R1			ACC.		
	4R1			ACC.		
	5R1			ACC.		
	6R1			ACC.		

EXAMINED BY主探	REVIEWED BY 审核
Xu Hai 2009.08.11	08.11
LEVEL - II SIGN 签名 / DATE日期	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

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12822R1	DATE日期 2009.08.11	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:	SSD18A 3AE PLATE PANEL SPLICE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,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 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 14/20mm
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			
SSD18A-PP022-005	7R1			ACC.		
	8R1			ACC.		
	9R1			ACC.		
AFTER B-CWR658						
BLANK						

EXAMINED BY主探 Xu Hai 2009.08.11 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 LEVEL-II SIGN / DATE日期 09.08.11
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV
P.O. BOX 23223 Oakland, CA 94623
Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000317

Subject: NCR No. ZPMC-0338

Dated: **07-Dec-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000334 Rev: 02**

Contractor's Proposed Resolution:

Reference Resolution: Attached is UT documentation showing that the previously rejected indications were repaired, re tested and found acceptable. Based on this ZPMC requests closure of this NCR.

Attached is UT documentation showing that the previously rejected indications were repaired, re tested and found acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000334R02;

Caltrans' comments:

Status: CLO

Date: 09-Dec-2009

The documentation submitted has been reviewed by the Engineer and is considered acceptable.

Submitted by: Chao, Ching

Date: 09-Dec-2009

Attachment(s):

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980R2	DATE 2009.08.07	PAGE 1 OF 3	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 3AE PLATE PANEL SPLICE	DRAWING NO.: 图号 SSD18A	CALTRANS CONTRACT NO.: 04-0120F4 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-345T2-X 14/20mm

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		
SSD18A-PP022-004	1R1	70				34								ACC.	100%
	2R1	70				34								ACC.	100%
	3R1	70				34								ACC.	100%
	4R1	70				34								ACC.	100%
	5R1	70				34								ACC.	100%
	6R1	70				34								ACC.	100%
	7R1	70				34								ACC.	100%
	8R1	70				34								ACC.	100%

EXAMINED BY主探
Xie Hongyang 2009.08.07
LEVEL - II SIGN / DATE

REVIEWED BY 审核
Li Liming 2009.08.07
LEVEL - II SIGN / DATE

质量经理 / QCM
Lujianhua
签字 SIGN / 日期 DATE 8.7

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980R2 DATE 2009.08.07 PAGE 2 OF 3 Revision No: 0

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		
	9R2	70				34								ACC.	100%
	10R1	70				34								ACC.	100%
	11R2	70				34								ACC.	100%
	12R1	70				34								ACC.	100%
	13R1	70				34								ACC.	100%
	14R1	70				34								ACC.	100%
	15R1	70				34								ACC.	100%
	16R1	70				34								ACC.	100%
	17R2	70				34								ACC.	100%
	18R1	70				34								ACC.	100%
	19R1	70				34								ACC.	100%
	20R1	70				34								ACC.	100%
	21R1	70				34								ACC.	100%
	22R1	70				34								ACC.	100%
	23R1	70				34								ACC.	100%
	24R1	70				34								ACC.	100%
	25R1	70				34								ACC.	100%
	26R1	70				34								ACC.	100%
	27R1	70				34								ACC.	100%
	28R2	70				34								ACC.	100%
	29R1	70				34								ACC.	100%
	30R1	70				34								ACC.	100%
	31R1	70				34								ACC.	100%
	32R1	70				34								ACC.	100%

EXAMINED BY主探 Xue Haitong 2009.08.07
LEVEL - II SIGN / DATE

REVIEWED BY 审核 2009.08.07
LEVEL - II SIGN / DATE

质量经理 / QCM
签字 SIGN / 日期 DATE 8.7

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7980R2 DATE 2009.08.07 PAGE 3 OF 3 Revision No: 0

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		
	33R1	70				34								ACC.	100%
	34R1	70				34								ACC.	100%
	35R1	70				34								ACC.	100%
	36R1	70				34								ACC.	100%
	37R2	70				34								ACC.	100%
	38R2	70				34								ACC.	100%
	39R1	70				34								ACC.	100%
	40R1	70				34								ACC.	100%
	41R2	70				34								ACC.	100%
	42R1	70				34								ACC.	100%
	43R1	70				34								ACC.	100%
	44R1	70				34								ACC.	100%
	45R1	70				34								ACC.	100%
	46R1	70				34								ACC.	100%
	47R2	70				34								ACC.	100%
	48R1	70				34								ACC.	100%
	49R2	70				34								ACC.	100%
	50R1	70				34								ACC.	100%
	51R2	70				34								ACC.	100%
	52R1	70				34								ACC.	100%
	53R1	70				34								ACC.	100%
	54R1	70				34								ACC.	100%
	55R1	70				34								ACC.	100%
	56R1	70				34								ACC.	100%

AFTER B-WR6860

EXAMINED BY主探 Xue Haiyang 2009.08.07
LEVEL - II SIGN / DATE

REVIEWED BY 审核 2009.08.07
LEVEL - II SIGN / DATE

质量经理 / QCM
签字 SIGN / 日期 DATE 8.7

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island **Report No:** NCS-000271
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 25-Aug-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0338

Type of problem:

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

Date the Non-Conformance Report was written: 07-Jul-2009

Description of Non-Conformance:
American Bridge/Fluor JV (ABF) has allowed ZPMC fabrication personnel to conduct Critical Weld Repair without Engineer approval. The repairs were not performed in conformance with the Approved as Noted, Critical Weld Repair procedure. See references below.

Contractor's proposal to correct the problem:
Contractor has acknowledged that this item must be addressed, and the item was added to the Master Punchlist.

Corrective action taken:
Completion of work being tracked on Master Punchlist. Submittal of documentation by Contractor being tracked on Documentation Punchlist.

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

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

Inspected By:	Simonis,Jim	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer