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

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

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P.R. China **Report No:** NCR-000304
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 10-Jun-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0278

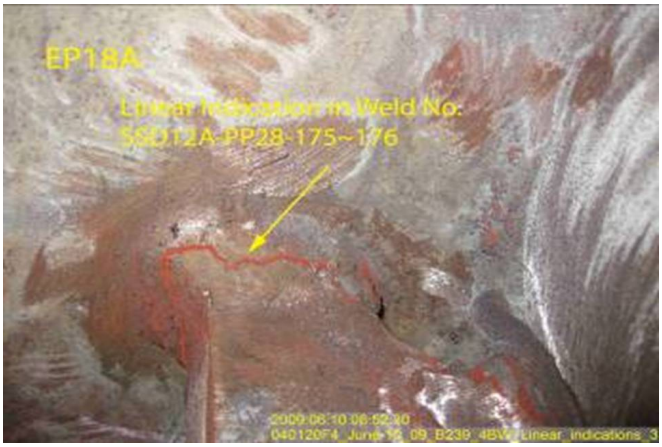
Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☑	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** OBG Segment 4BW
Procedural	☐	**Procedural**	☐	**Description:**		

Reference Description: Missed MT Indications by QC, Segment 4BW

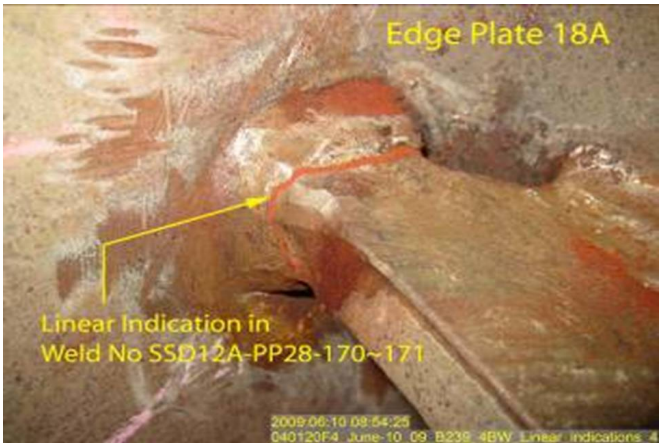
Description of Non-Conformance:

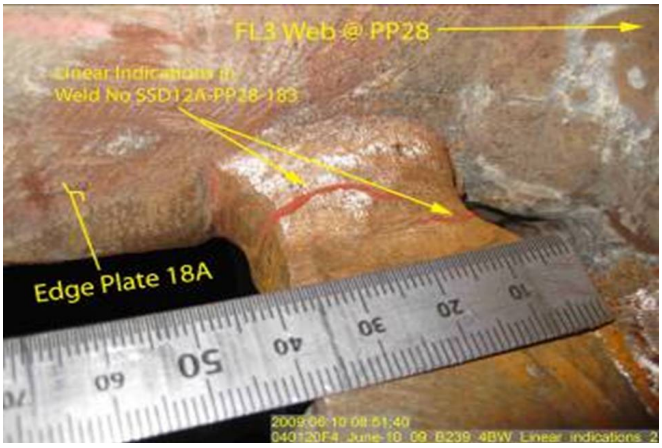
During random verification magnetic particle testing (MT) of the FL3 floor beam horizontal stiffener attachment welds (to Edge Plate 18A), Caltrans Quality Assurance (QA) Inspector discovered a total of four (4) longitudinal linear indications. These indications ranging from 25 to 35mm in length were observed in welds: SSD12A-PP28-170, 171, 175, 176, 183 and SSD10A-PP26-180. These welds have been previously tested and accepted by ZPMC Quality Control (QC) MT and UT technicians.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)





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

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

Who discovered the problem: Rodney Patterson
Name of individual from Contractor notified: Kevin Chen
Time and method of notification: 9:00, 06/10/09, Verbal
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 18:00, 06/10/09, Email
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 Skyler Guest, (86) 1500.042.2360, who represents the Office of Structural Materials for your project.

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

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

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	14-Jun-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:**	05.03.06-000268
Subject:	NCR No. ZPMC-0278		

Reference Description: Missed MT Indications by QC, Segment 4BW

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:** 04

Remarks:

During random verification magnetic particle testing (MT) of the FL3 floor beam horizontal stiffener attachment welds (to Edge Plate 18A), Caltrans Quality Assurance (QA) Inspector discovered a total of four (4) longitudinal linear indications. These indications ranging from 25 to 35mm in length were observed in welds: SSD12A-PP28-170, 171, 175, 176, 183 and SSD10A-PP26-180. These welds have been previously tested and accepted by ZPMC Quality Control (QC) MT and UT technicians.
See NCR report No. ZPMC-278 for details.

Action Required and/or Action Taken:

Propose a resolution for the identified recurring non-conformance which constitutes a systematic problem in quality control 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-0278

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Ching Chao
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: 05.03.06-000268

Subject: NCR No. ZPMC-0278

Dated: **27-Jul-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000271 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000271R00;

Caltrans' comments:

Status: CLO

Date: 21-Aug-2009

The proposed resolution is acceptable. The Critical Weld Repair report is included, and the welds in question have been accepted by VT and MT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0278 is closed.

Submitted by: Wright, Doug

Date: 21-Aug-2009

Attachment(s):

No. B-406

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-7-20

REGARDING: NCR-000304 (ZPMC-0278)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000304 (ZPMC-0278).** We agree what describe in the non-conformace report, so we submitted the CWR for the engineer approval prior the repair, with the comments of the CWR we conducted the weld repair and then re-inspected for the weld areas, with the support of MT completed report, we apply to close the NCR.

So base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000304 (ZPMC-0278).**

Please reference attached documentation for acceptance and closure the **NCR-000304 (ZPMC-0278).**

ATTACHMENT:
NCR-000304 (ZPMC-0278)
The critical welding repair report
The final VT/MT report

Zhao Shuangbao

2009. 7. 20

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-191 (ZPMC-278)
Item: Missed MT Indication 名称描述: MT 漏检	Item Number: 件号: OBG 4BW
Drawing: 图号: 4BW	
Location: OBG 4BW 位置:	Date: 日期: 2009-06-19

Description of Nonconformance:

During random verification magnetic partical testing (MT) of the FL3 floor beam horizontal stiffener attachment welds (to Edge Plate 18A). Caltrans Quality Assurance (QA) Inspector discovered a total of four (4) longitudinal linear indications. These indications ranging from 25 to 35mm in length were observed in welds: SSD12A-PP28-170,171,175,176,183 and SSD10A-PP26-180. These welds have been previously tested and accepted by ZPMC Quality Control (QC) MT and UT technicians.

加洲检验员在 4BW 的 FL3 隔板上的水平筋板（与 EP18A 焊接）上做 MT 复探时发现 4 个长度在 25 到 35mm 之间的纵向裂纹。焊缝编号为： SSD12A-PP28-170,171,175,176,183 和 SSD10A-PP26-180。这写焊缝之前都通过了 ZPMC 的 UT 和 MT 检验。

Work By: Li Liming 09.6.19 施工方:

Prepared by: Shenxiejun 2009.6.19. 准备:

Reviewed by QCE: Zhaozhuangbao 6.19 质量工程师批准:

☐ 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: 重新确认并出具报告返修，加强检验员的责任心，培训

Re-inspection and issue Repair report, and enhance training.

Prepared by: LiLiming 09.06.19 准备

Approved by QCA: _____ 质量经理批准

Reason for Nonconformance:

不符合原因: 纵向裂纹未检出

Didn't inspect longitudinal crack.

Prevention of Re-occurrence:

预防措施:

加强技能培训
Enhance technology training

Approved by/批准: Li Lining 5.6.24

Technical Justification for Use-As-Is/Repair: ☐ Attachment ☐ Non-attachment
回用或返修的技术依据: 附件 无附件

Reviewed /批准: _____

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

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

#R787-QCP-1300

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
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:**	14-Jun-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:**	05.03.06-000268
Subject:	NCR No. ZPMC-0278		

Reference Description: Missed MT Indications by QC, Segment 4BW

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

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Material Location: OBG **Lift:** 04

Remarks:

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See NCR report No. ZPMC-278 for details.

Action Required and/or Action Taken:

Propose a resolution for the identified recurring non-conformance which constitutes a systematic problem in quality control 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-0278

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

File: 05.03.06

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

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

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

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P.R. China
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

Report No: NCR-000304
Date: 10-Jun-2009
NCR #: ZPMC-0278

Type of problem:

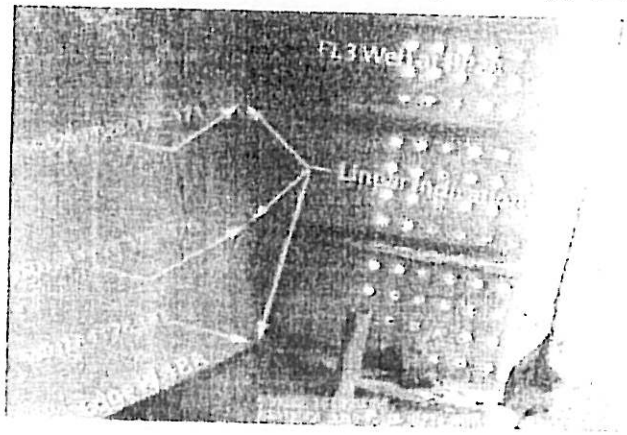
Welding	☐	**Concrete**	☐	**Other**	☑
Welding	☐	**Curing**	☐	**Procedural**	☑
Joint fit-up	☐	**Coating**	☐	**Other**	☐
Procedural	☐	**Procedural**	☐	**Description:**	

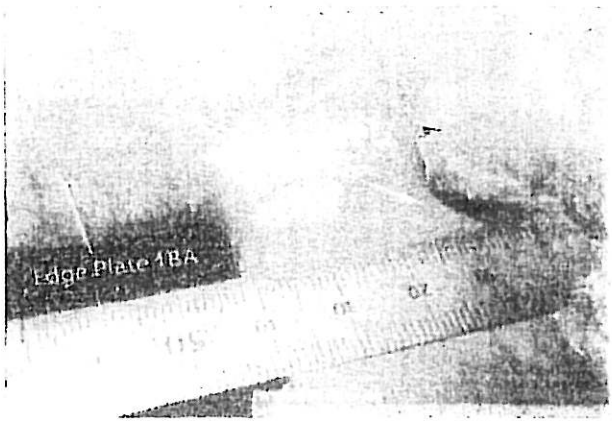
Bridge No: 34-0006
Component: OBG Segment 4BW

Reference Description: Missed MT Indications by QC, Segment 4BW

Description of Non-Conformance:

During random verification magnetic particle testing (MT) of the FL3 floor beam horizontal stiffener attachment welds (to Edge Plate 18A), Caltrans Quality Assurance (QA) Inspector discovered a total of four (4) longitudinal linear indications. These indications ranging from 25 to 35mm in length were observed in welds: SSD12A-PP28-170, 171, 175, 176, 183 and SSD10A-PP26-180. These welds have been previously tested and accepted by ZPMC Quality Control (QC) MT and UT technicians.





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Who discovered the problem: Rodney Patterson
Name of individual from Contractor notified: Kevin Chen
Time and method of notification: 9:00, 06/10/09, Verbal
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 18:00, 06/10/09, Email
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 Skyler Guest, (86) 1500.042.2360, who represents the Office of Structural Materials for your project.

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

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11696	DATE日期 2009.06.14	PAGE OF页码 1/1	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	OBW4 floor beam I-rib	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-345 18/22mm
WELDING PROCESS 焊接方法	SMAW/FCAW/SAW	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			
SSD12A-PP028-180	1	CRACK	10		REJ.	100%MT
SSD12A-PP028-170	1	CRACK	10		REJ.	100%MT
SSD12A-PP028-171	1	CRACK	10		REJ.	100%MT
SSD12A-PP028-175	1	CRACK	10		REJ.	100%MT
SSD12A-PP028-176	1	CRACK	10		REJ.	100%MT
SSD12A-PP028-183	1	CRACK	10		REJ.	100%MT
BLANK						

EXAMINED BY主探 Jin Jianting LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Suiqing Chang 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-11694	DATE日期 2009.06.14	PAGE OF页码 1/1	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	OBW4 floor beam I-rib	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-345 22/18mm
WELDING PROCESS 焊接方法	SMAW/FCAW/SAW	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			
SSD10A-PP026-180	1	CRACK	10		REJ.	100%MT
BLANK						

EXAMINED BY主探 Jin Jianting LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Sun Gong Chang 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.:	OBW4	报告编号 Report No.:	B-CWR565
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	FLOOR BEAM I-RIB 箱梁外壳隔板U肋FB25	NDT 报告编号 NDT Report No.:	B787-MT-11696
项目编号- Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SSD12A-PP028-180、SSD12A-PP028-170、SSD12A-PP028-171、SSD12A-PP028-175、SSD12A-PP028-176、SSD12A-PP028-183检测时，发现各有1处横向裂纹。L=10mm.

Welder ID No. (焊工编号):220069、054467 Position:(位置): 2G+4G\2F\4F

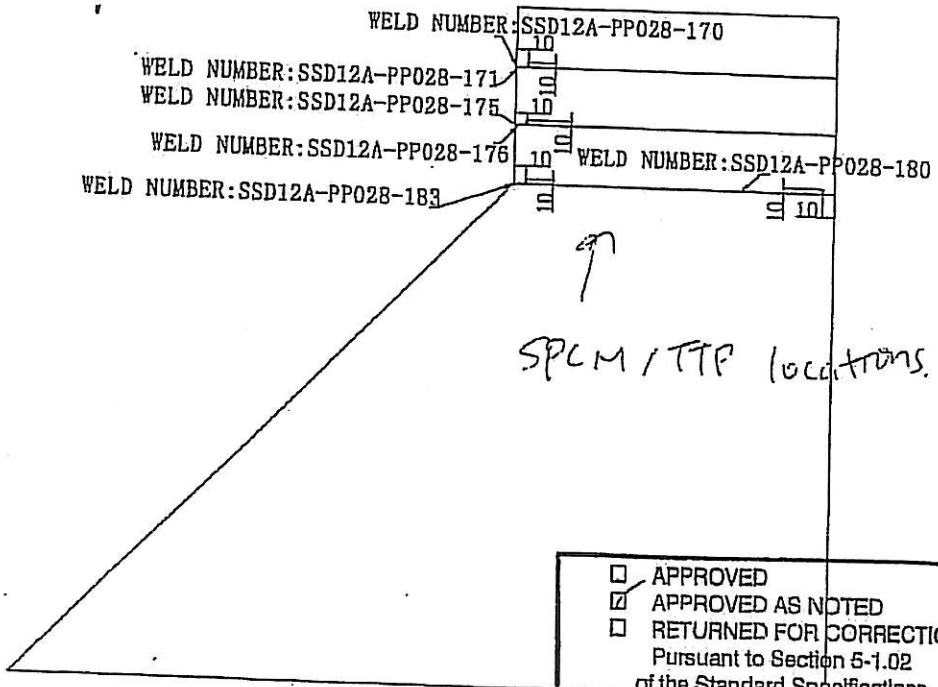
One transverse crack was found by use of MT on each weld(SSD12A-PP028-180、SSD12A-PP028-170、SSD12A-PP028-171、SSD12A-PP028-175、SSD12A-PP028-176、SSD12A-PP028-183). 10mm in length on each weld.

检验员 (Inspector): Jin Jianting

日期 (Date): 2009-06-14

焊缝返修位置示意图:

Draft of Welding Discontinuity:



☐ APPROVED
☑ APPROVED AS NOTED
☐ RETURNED FOR CORRECTION
Pursuant to Section 5-1.02
of the Standard Specifications
State of California
DEPARTMENT OF TRANSPORTATION
Division of Engineering Services
Office of Structure Construction

Structure Representative — Date: 6/18/09

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.

车间负责人 (Foreman): Li zhiguy 日期 (Date): 09.06.16

处理意见

Disposition :

1.采用打磨的方式去除裂纹；
2. 准备一个正确的接头型式，具体参照相应的返修WPS；
3. VT和MT检测确认返修区域没有裂纹；
4. 根据批准的返修焊接工艺规程
5.预热温度应不小于100℃，
6.预热范围在修补区域周围不应小于150mm；
7. 将修补区域打磨与母材或相邻焊缝平齐；
8. 对修补区域做VT与MT检测。

- QC Civil presence to witness the repair
1. Remove the crack by means of grinding, MT prior to rewelding
2. Prepare excavation according to the approved repair WPS.
3. Verify with VT and MT repair areas are crack free.
4. Preheat and weld according to the approved repair WPS shall follow preheat requirement according to the FCM specification
5. Preheat prior to welding to a minimum temperature of 100℃
6. The preheat area shall be a minimum of 150mm in all directions around the repair are a.
7. Grind the repaired area flush with base metal or the adjacent weld.
8. Perform VT and MT of the repair areas.

- Additional NDT requirement as stated in the special provisions 5 1.59 Inspection and testing note 3.

- Eric Tsang 2009.6.17

工 艺: Technical Engineer: Nin Tiefeng 审核: Approved By: Cuy Yanhua 日期: Date: 09.06.16

for Chenbin

☐ APPROVED
☑ APPROVED AS NOTED
☐ RETURNED FOR CORRECTION
Pursuant to Section 5-1.02
of the Standard Specifications
State of California
DEPARTMENT OF TRANSPORTATION
Division of Engineering Services
Office of Structure Construction
Structure Representative — Date: 6/18/9

#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.:	OBW4	报告编号 Report No.:	B-CWR565
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	FLOOR BEAM I-RIB 箱梁外壳隔板I肋FB25	NDT 报告编号 NDT Report No.:	B787-MT-11696
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 zhiqiang 日期 (Date): 09.06.16

参照的WPS编号 Repair WPS No.:	WPS-SMAW-345-2 G(2F)-Repair WPS-FCAW-345-2 G(2F)-Repai-1 WPS-SMAW-345-4 G(4F)-Repair	工艺员 Technologist:	Niu Tiefeng 09.06.16
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	40°C	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:	60°C
最大碳刨深度 Max. Depth of Gouge:	10	碳刨总长 Total Length of Gouge:	185

焊工 Welder:	054467	焊接类型 Welding Type:	SMAW	焊接位置 Position:	2G,4G,2F,4F.
焊接电流 Current:	150A	焊接电压 Voltage:	25V	焊接速度 Speed:	10I

返修后检查 Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Chunzhi Chang 054751	日期 Date:	6-29.09
NDT复检 NDT Result:	ACC	探伤员 NDT Person:	Jin jian ding	日期 Date:	09.6.29

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 [illegible] Date: 6/18/9

ZPMC

B-VT 3238o

周数 86

日期 2009.06.29

Visual Weld Inspection Report
焊缝目视检查报告

Girder/ 梁:	OBG PlatePanelSplice
Tower/ 塔:	
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:	wu zhicheng 08021751
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
SSD12A-PP28-183	054467	2G+4G	THJ506Fe-1(¢4.0)	√	√	√	√	√	√	√	ACC	NA	NA
SSD12A-PP28-170	054467	2F+4F	THJ506Fe-1(¢4.0)	√	√	√	√	√	√	√	ACC	NA	NA
SSD12A-PP28-171	054467	2F+4F	THJ506Fe-1(¢4.0)	√	√	√	√	√	√	√	ACC	NA	NA
SSD12A-PP28-175	054467	2F+4F	THJ506Fe-1(¢4.0)	√	√	√	√	√	√	√	ACC	NA	NA
SSD12A-PP28-176	054467	2F+4F	THJ506Fe-1(¢4.0)	√	√	√	√	√	√	√	ACC	NA	NA
SSD12A-PP28-180	054467	2F+4F	THJ506Fe-1(¢4.0)	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld

☑ After CWR or WRR No.: 565

☐ After cover pass

☐ 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-11696R1	DATE日期 2009.06.29	PAGE OF页码 1/1	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	OBW4 floor beam I-rib	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-345 18/22mm
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			
SSD12A-PP028-180	1R1			ACC.		100%MT
SSD12A-PP028-170	1R1			ACC.		100%MT
SSD12A-PP028-171	1R1			ACC.		100%MT
SSD12A-PP028-175	1R1			ACC.		100%MT
SSD12A-PP028-176	1R1			ACC.		100%MT
SSD12A-PP028-183	1R1			ACC.		100%MT
AFTER B-CWR565						
BLANK						

EXAMINED BY主探	REVIEWED BY 审核
Jin Jianting Jin Jianting 2009.06.29 LEVEL - II SIGN 签名 / DATE日期	2009.06.29 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

B-VT 32378

周数 86

日期 2009.06.29

Visual Weld Inspection Report
焊缝目视检查报告

Girder/梁: OBG PlatePanelSplice

Tower/塔:

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: wuzhicheng 08021751

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
SSD10A-PP26-180	062447 048617	2G+4G	Supercored71H(¢1.4) THJ506Fe-1(¢4.0)	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld

☐ After cover pass

☑ After CWR or WRR No. B-CWR563

☐ After HSR No. :

☐ Others

#R787-QCP-603

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

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.:	OBW4	报告编号 Report No.:	B-CWR563
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	FLOOR BEAM I-RIB 箱梁外壳隔板I肋FB17	NDT 报告编号 NDT Report No.:	B787-MT-11694
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

在对SSD10A-PP026-180检测时，发现1处横向裂纹。L=10mm.

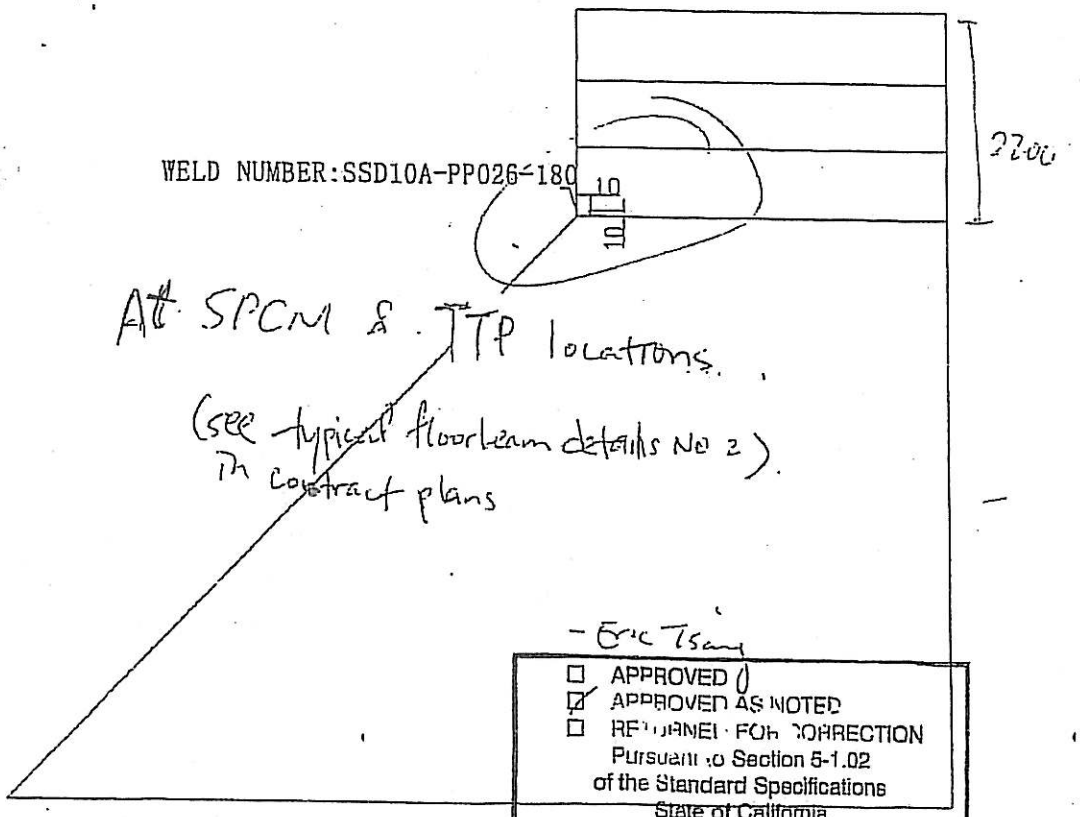
Welder ID No. (焊工编号):062447、048617　　Position:(位置): 2G+4G

One transverse crack was found by use of MT on weld (SSD10A-PP026-180). L=10mm.

检验员 (Inspector): Jin Jiantang　　日期 (Date): 2009-06-14

焊缝返修位置示意图:

Draft of Welding Discontinuity:



☐ APPROVED
☑ APPROVED AS NOTED
☐ RETURNED FOR CORRECTION
Pursuant to Section 5-1.02
of the Standard Specifications
State of California
DEPARTMENT OF TRANSPORTATION
Division of Engineering Services
Office of Structure Construction

for RM　6/18/9

Structure Representative　Date

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): Li zhigang 日期 (Date): 09.06.16

处理意见

Disposition :

1.采用打磨的方式去除裂纹；
2. 准备一个正确的接头型式，具体参照相应的返修WPS；
3. VT和MT检测确认返修区域没有裂纹；
4. 根据批准的返修焊接工艺规程
5.预热温度应不小于100℃，
6.预热范围在修补区域周围不应小于150mm；
7. 将修补区域打磨与母材或相邻焊缝平齐；
8. 对修补区域做VT与MT检测。

- QC CWI presence to witness the repair

1. Remove the crack by means of grinding.
2. Prepare excavation according to the approved repair WPS.
3. Verify with VT and MT repair areas are crack free.
4. Preheat and weld according to the approved repair WPS.
5. Preheat prior to welding to a minimum temperature of 100℃
6. The preheat area shall be a minimum of 150mm in all directions around the repair are a.
7. Grind the repaired area flush with base metal or the adjacent weld.
8. Perform VT and MT of the repair areas.

MT prior to re-welding

temperature according to PQM requirement

- Additional 5% NDT requirement as stated in Special provisions 于 1.59-Inspection and Testing - Note 3.

工 艺： Technical Engineer: Nili Tiefeng 审核： Approved By: Eric Tsang for Chenbin 日期： Date: 2009.6.17 09.06.16

☐ APPROVED
☑ APPROVED
☐ RETURNED FOR CORRECTION
Pursuant to Section 5-1.43 of the Standard Specifications
State of California
DEPARTMENT OF TRANSPORTATION
Division of Engineering
Office of Structure Construction
Structure Representative 6/18/09 Date

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.:	OBW4	报告编号 Report No.:	B-CWR563
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	FLOOR BEAM I-RIB 箱梁外壳船板I肋FB17	NDT 报告编号 NDT Report No.:	B787-MT-11694
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 zhiqang 日期 (Date): 09.6.16

参照的WPS编号 Repair WPS No.:	WPS-SMAW-345-2 G(2F)-Repair WPS-FCAW-345-2 G(2F)-Repai-1 WPS-SMAW-345-4 G(4F)-Repair	工艺员 Technologist:	Niu Tiefeng 09.06.16
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	40°C	返修的缺陷 Description of Discontinuity:	2F/裂纹 crack
焊前处理检查 Inspection Before Welding:	ACC	焊前预热温度 Preheat Temperature Before Welding:	60°C
最大碳刨深度 Max. Depth of Gouge:	1 mm	碳刨总长 Total Length of Gouge:	110

焊工 Welder:	062447 048617	焊接类型 Welding Type:	FCAW SMAW	焊接位置 Position:	2G+4G
焊接电流 Current:	290A 170A	焊接电压 Voltage:	29V 25V	焊接速度 Speed:	201 150

返修后检查
Inspection After Repair:

外观检查 VT Result:	ACC	检验员 Inspector:	wuzhicheng 08021751	日期 Date:	6.29/09
NDT复检 NDT Result:	ACC	探伤员 NDT Person:	Jinjianting	日期 Date:	09.6.29

见证：
Witness/Review:

备注：
Remark：

This document is a ... State of California DEPARTMENT OF TRANSPORTATION Pursuant to Section 5-1.02 of the Standard Specifications Initial ZPMC Date: 6/18/9

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11694R1	DATE日期 2009.06.29	PAGE OF页码 1/1	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	OBW4 floor beam I-rib	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 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-345 22/18mm
WELDING PROCESS 焊接方法	SMAW/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			
SSD10A-PP026-180	1R1			ACC.		
AFTER B-CWR563						
BLANK						

EXAMINED BY主探	REVIEWED BY 审核
Jin Jianting 2009.06.29	2009.6.29
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)

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 #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island, Shanghai, P.R. China **Report No:** NCS-000256
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:**
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0278

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: 10-Jun-2009

Description of Non-Conformance:
During random verification magnetic particle testing (MT) of the FL3 floor beam horizontal stiffener attachment welds (to Edge Plate 18A), Caltrans Quality Assurance (QA) Inspector discovered a total of four (4) longitudinal linear indications. These indications ranging from 25 to 35mm in length were observed in welds: SSD12A-PP28-170, 171, 175, 176, 183 and SSD10A-PP26-180. These welds have been previously tested and accepted by ZPMC Quality Control (QC) MT and UT technicians.

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 is being tracked on the Master Punchlist. Submittal of documentation by Contractor is 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