

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, P.R. China**Report No:** NCR-000774**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Jun-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0736**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: CB13
Procedural	Procedural	Description:	

Reference Description: QA discovered three rejectable UT indications inside areas already inspected and accepted by QC.

Description of Non-Conformance:

During Quality Assurance Ultrasonic Testing (UT) review of welds located in Crossbeam CB13, this Quality Assurance (QA) Inspector discovered three rejectable UT indications. Specific details pertaining to the nature and location of said indications are as follows:

-Two of these indications were discovered in the Complete Joint Penetration (CJP) weld identified as FB205-038-031.

-FB205-038-031 is a Complete Joint Penetration weld connecting the X203B and X205F components of FB205-038.

-There is a transition of material thickness at this weld joint from 12mm (X203B) to 14mm (X205F).

-The weld joint is not classified as Seismic Performance Critical Material (SPCM).

-The indications found in weld joint FB205-038-031 were measured to be 35mm and 30mm located at depths of approximately 8mm and 9mm with decibel ratings of +1dB and +7dB respectively.

-The third indication was discovered in the CJP weld identified as FB205-0387-036.

-FB205-037-036 is a Complete Joint Penetration weld connecting the X204B and X205F components of FB205-038.

-There is a transition of material thickness at this weld joint from 12mm (X204B) to 14mm (X205F).

-The weld joint is not classified as Seismic Performance Critical Material (SPCM).

-The indication found in weld joint FB205-037-036 was measured to have a length of 30mm located at a depth of approximately 6mm with a decibel rating of +6dB.

-These indications are clearly marked on or near the weld.

-Cross Beam CB13 is located out in the open yard, near the Trial Assembly.

The Notice of Witness Inspection (NWIT) No. is 006043. The indication is located within the area previously

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)

tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform hundred (100%) percent UT inspection of this weld.

For further information, please see the attached pictures.



Applicable reference:

AWS D1.5-02 Section 6; Table 6.3 specifies a class "A" indication as having a rating of 10dbs and under for material thicknesses 8mm through 20mm.

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."

Who discovered the problem: D. Sukanthan

Name of individual from Contractor notified: CK Chan

Time and method of notification: 1545 hours, 06-24-10, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 1745 hours, 06-24-10, Email

QC Inspector's Name: Lei Tao

Was QC Inspector aware of the problem:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh,(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: 28-Jun-2010

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: 05.03.06-000732

Subject: NCR No. ZPMC-0736

Reference Description: QA discovered three rejectable UT indications inside areas already inspected and accepted by QC.

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: Xbeam **Lift:** 10

Remarks:

During Quality Assurance Ultrasonic Testing (UT) review of welds located in Crossbeam CB13, this Quality Assurance (QA) Inspector discovered three rejectable UT indications. Specific details pertaining to the nature and location of said indications are as follows:

- Two of these indications were discovered in the Complete Joint Penetration (CJP) weld identified as FB205-038-031.
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 - There is a transition of material thickness at this weld joint from 12mm (X203B) to 14mm (X205F).
 - The weld joint is not classified as Seismic Performance Critical Material (SPCM).
 - The indications found in weld joint FB205-038-031 were measured to be 35mm and 30mm located at depths of approximately 8mm and 9mm with decibel ratings of +1dB and +7dB respectively.
 - The third indication was discovered in the CJP weld identified as FB205-0387-036.
 - FB205-037-036 is a Complete Joint Penetration weld connecting the X204B and X205F components of FB205-038.
 - There is a transition of material thickness at this weld joint from 12mm (X204B) to 14mm (X205F).
 - The weld joint is not classified as Seismic Performance Critical Material (SPCM).
 - The indication found in weld joint FB205-037-036 was measured to have a length of 30mm located at a depth of approximately 6mm with a decibel rating of +6dB.
 - These indications are clearly marked on or near the weld.
 - Cross Beam CB13 is located out in the open yard, near the Trial Assembly.
- The Notice of Witness Inspection (NWIT) No. is 006043. The indication is located within the area previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform hundred (100%) percent UT inspection of this weld.

For further information, please see the attached pictures.

Action Required and/or Action Taken:

NCT

(*Continued Page 2 of 2*)

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 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0736

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000732

Subject: NCR No. ZPMC-0736

Dated: 30-Aug-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000753 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has issued an internal NCR and discussed this issue with the NDT Department head to reduce future occurrences.

ZPMC has issued an internal NCR and discussed this issue with the NDT Department head to reduce future occurrences. The indications have been tested, repaired and found to be acceptable. ZPMC is submitting the repair report and the NDT after to show that it is acceptable. Based on this ZPMC requests closure of this NCR..

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000753R00;

Caltrans' comments:

Status: CLO

Date: 08-Sep-2010

The proposed resolution is acceptable. This NCR is considered closed.

Submitted by: Woo, Laraine

Date: 08-Sep-2010

Attachment(s):



No. B-857

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-8-28

REGARDING: NCR-000774(ZPMC-0736)

For this case, ZPMC has issue an internal NCR to address this issue and ZPMC QA personnel have talked with the head of the NDT department. The missed indications have been repaired and were tested to be acceptable. ZPMC is providing the WRR and NDT record for review. Based on this, please consider closure of this NCR.

ATTACHMENT:

NCR-000774(ZPMC-0736)

B-WR13788

B787-UT-13607

B-WR13789

B787-UT-13607R1

zhao jianeng
2010/8/28

NR 13789 13607



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 Date: 28-Jun-2010
375 BURMA ROAD
OAKLAND CA 95607 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: 05.03.06-000732
Subject: NCR No. ZPMC-0736

Reference Description: QA discovered three rejectable UT indications inside areas already inspected and accepted by QC.

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: Xbeam Lift: 10

Remarks:

During Quality Assurance Ultrasonic Testing (UT) review of welds located in Crossbeam CB13, this Quality Assurance (QA) Inspector discovered three rejectable UT indications. Specific details pertaining to the nature and location of said indications are as follows:

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- These indications are clearly marked on or near the weld.
- Cross Beam CB13 is located out in the open yard, near the Trial Assembly.

The Notice of Witness Inspection (NWIT) No. is 006043. The indication is located within the area previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform hundred (100%) percent UT inspection of this weld.

For further information, please see the attached pictures.

Action Required and/or Action Taken:

NDT / NCR

02.02.15.04
05.03.06-000732.NCT

Received
NCT-000732 28 Jun 10 Page 1 of 2

NCT

(Continued Page 2 of 2)

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 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0736

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

File: 05.03.06

DEPARTMENT OF TRANSPORTATION
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Bay Area Branch
 690 Walnut Ave. St. 150
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 (707) 649-5453
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Contract #: 04-0120F4
 Cty: SF/ALA Rte: 80 PM: 13.2/13.9
 File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, P.R. China

Report No: NCR-000774

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 25-Jun-2010

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

NCR #: ZPMC-0736

Type of problem:

Welding Concrete Other
 Welding Curing Procedural **Bridge No:** 34-0006
 Joint fit-up Coating Other **Component:** CB13
 Procedural Procedural **Description:**

Reference Description: QA discovered three rejectable UT indications inside areas already inspected and accepted by QC.

Description of Non-Conformance:

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-These indications are clearly marked on or near the weld.

-Cross Beam CB13 is located out in the open yard, near the Trial Assembly.

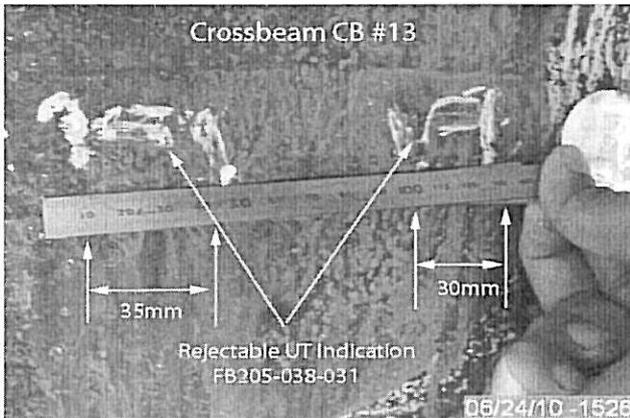
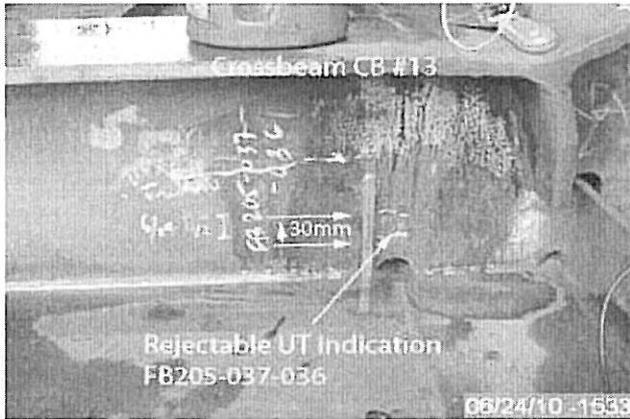
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)

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For further information, please see the attached pictures.



Applicable reference:

AWS D1.5-02 Section 6; Table 6.3 specifies a class "A" indication as having a rating of 10dbs and under for material thicknesses 8mm through 20mm.

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."

Who discovered the problem: D. Sukanthan

Name of individual from Contractor notified: CK Chan

Time and method of notification: 1545 hours, 06-24-10, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 1745 hours, 06-24-10, Email

QC Inspector's Name: Lei Tao

Was QC Inspector aware of the problem:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh,(818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Simonis,Jim

QA Inspector

Reviewed By: Wahbeh,Mazen

SMR



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	FB205	报告编号 Report No.	B-WR13788
合同号 Contract No.:	04-0120F4	部件名称 Items Name	FLOOR BEAM	NDT报告编号 Report No.of NDT	B787-UT-13607
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

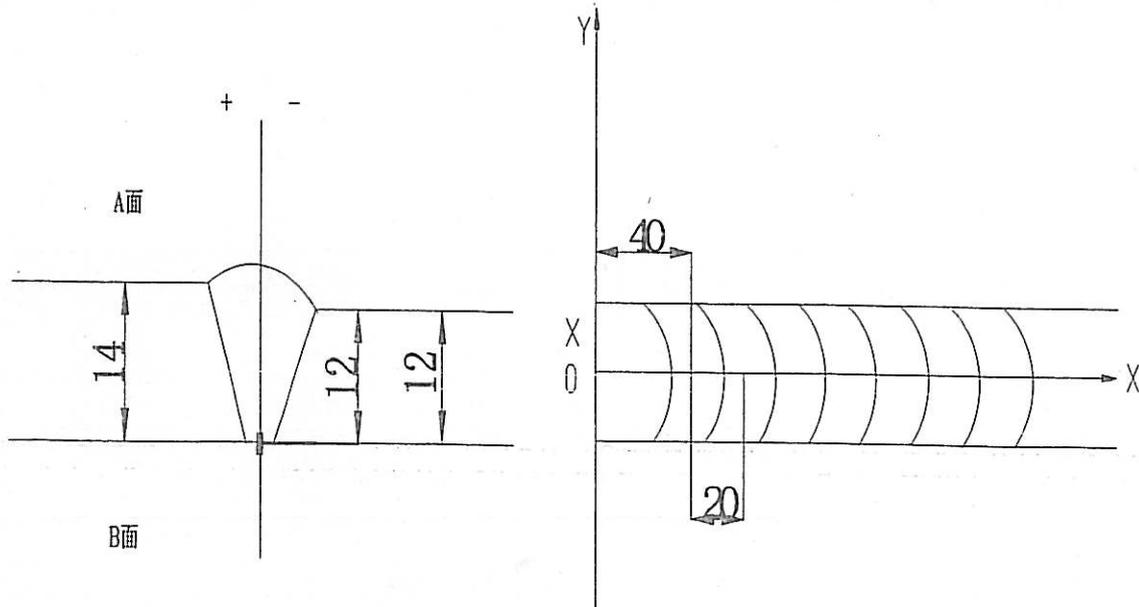
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) FB205-037-036

检验员 (Inspector) Wu Chao 日期(Date): 2010.06.24

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: FB205-037-036

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): *Hu Yunzhang*

日期(Date): *6.25*

处理意见

Disposition :

1. 从缺陷距离端面较近一侧 ($D \leq 0.65T$, 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 ($D \leq 0.65T$, "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: *Hu Yunzhang*
Technical engineer

审核:
Approved by

日期 *10.6.25*
Date



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	FB205	报告编号 Report No.	B-WR13788
合同号 Contract No.:	04-0120F4	部件名称 Items Name	FLOOR BEAM	NDT报告编号 Report No. of NDT	B787-UT-13607
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): *Wu Yuzhang* 日期(Date): 6.25

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1 WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1 WPS-345-SMAW-3 G(3F)-Repair WPS-345-SMAW-4 G(4F)-Repair WPS-345-SMAW-1 G(1F)-FCM-Repair WPS-345-SMAW-2 G(2F)-FCM-Repair WPS-345-SMAW-3 G(3F)-FCM-Repair WPS-345-SMAW-4 G(4F)-FCM-Repair	工艺员 technologist	<i>Hexicon</i> 6.25
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返修(碳刨)前预热温度 Preheat temperature before gouging	135°C	返修的缺陷 Description of discontinuity	<i>description of welding discontinuity</i>
焊前处理检查 Inspection before welding	Acc	焊前预热温度 Preheat temperature before welding	168°C
最大碳刨深度 Max. depth of gouging	8	碳刨总长 Total length of gouging	140

焊工 welder	500479	焊接类型 welding type	FCAW	焊接位置 position	3G
焊接电流 Current	208	焊接电压 Voltage	25.4	焊接速度 Speed	113

返修后检查
Inspection After repairing:

外观检查 VT result	Acc	检验员 Inspector	<i>Lin Faxhen</i> 08128531	日期 Date	2010.07.20
NDT复检 NDT result	Acc	探伤员 NDT person	<i>Wu Chao</i>	日期 Date	2010.08.27

见证:
Witness/Review:备注:
Remark:



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	FB205	报告编号 Report No.	B-WR13789
合同号 Contract No.:	04-0120F4	部件名称 Items Name	FLOOR BEAM	NDT报告编号 Report No.of NDT	B787-UT-13607
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.

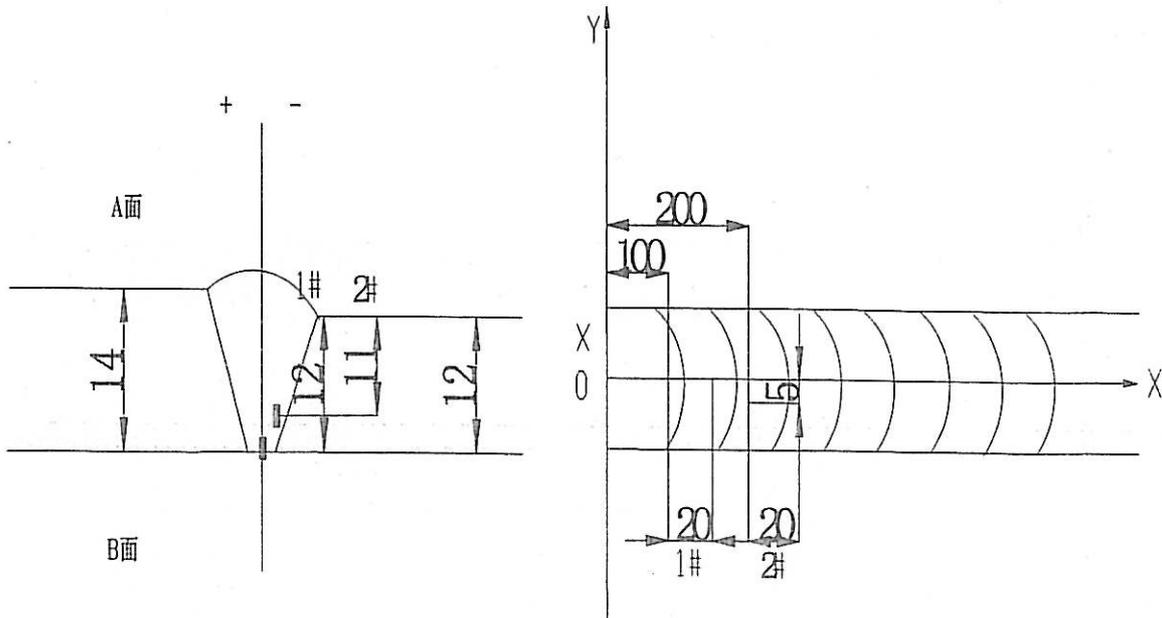
(UT探伤发现的缺陷总长度小于最大允许长度。) FB205-038-031

Wu Chao

检验员 (Inspector) Wu Chao 日期(Date): 2010.06.24

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: FB205-038-031

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): *Hu Wushang* 日期(Date): *6.25*

处理意见

Disposition :

1. 从缺陷距离端面较近一侧 ($D \leq 0.65T$, 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;
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1. Gouge or grind from nearer side from metal edge ($D \leq 0.65T$, "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: *Hestipin*
Technical engineer

审核:
Approved by

日期 *10.6.25*
Date



焊缝返修报告

版本 Rev. No.

Welding Repair Report

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纠正措施:

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返修(碳刨)前预热温度 Preheat temperature before gouging	<i>110°C</i>	返修的缺陷 Description of discontinuity	<i>description of welding discontinuity</i>
焊前处理检查 Inspection before welding	<i>ACC</i>	焊前预热温度 Preheat temperature before welding	<i>165°C</i>
最大碳刨深度 Max. depth of gouging	<i>8</i>	碳刨总长 Total length of gouging	<i>250</i>

焊工 welder <i>500479</i>	焊接类型 welding type <i>FCAW</i>	焊接位置 position <i>2G</i>
焊接电流 Current <i>287</i>	焊接电压 Voltage <i>30.4</i>	焊接速度 Speed <i>480</i>

返修后检查
Inspection After repairing:

外观检查 VT result <i>ALL</i>	检验员 Inspector <i>Liu Fawen</i> <i>8126531</i>	日期 Date <i>2010.07.20</i>
NDT复检 NDT result <i>ALL</i>	探伤员 NDT person <i>Wu Chau</i>	日期 Date <i>2010.08.27</i>

见证:
Witness/Review:备注:
Remark:

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island, P.R. China**Report No:** NCS-000752**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 07-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0736**Type of problem:**

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

Date the Non-Conformance Report was written: 25-Jun-2010**Description of Non-Conformance:**

During Quality Assurance Ultrasonic Testing (UT) review of welds located in Crossbeam CB13, this Quality Assurance (QA) Inspector discovered three rejectable UT indications. Specific details pertaining to the nature and location of said indications are as follows:

-Two of these indications were discovered in the Complete Joint Penetration (CJP) weld identified as FB205-038-031.

-FB205-038-031 is a Complete Joint Penetration weld connecting the X203B and X205F components of FB205-038.

-There is a transition of material thickness at this weld joint from 12mm (X203B) to 14mm (X205F).

-The weld joint is not classified as Seismic Performance Critical Material (SPCM).

-The indications found in weld joint FB205-038-031 were measured to be 35mm and 30mm located at depths of approximately 8mm and 9mm with decibel ratings of +1dB and +7dB respectively.

-The third indication was discovered in the CJP weld identified as FB205-037-036.

-FB205-037-036 is a Complete Joint Penetration weld connecting the X204B and X205F components of FB205-038.

-There is a transition of material thickness at this weld joint from 12mm (X204B) to 14mm (X205F).

-The weld joint is not classified as Seismic Performance Critical Material (SPCM).

-The indication found in weld joint FB205-037-036 was measured to have a length of 30mm located at a depth of approximately 6mm with a decibel rating of +6dB.

-These indications are clearly marked on or near the weld.

-Cross Beam CB13 is located out in the open yard, near the Trial Assembly.

The Notice of Witness Inspection (NWIT) No. is 006043. The indication is located within the area previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC

