

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000717**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Apr-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0684**Type of problem:**

| | | | |
|---------------------|-------------------|---|--|
| Welding | Concrete | Other | |
| Welding | Curing | Procedural | Bridge No: 34-0006 |
| Joint fit-up | Coating | Other | Component: Segment 9EE U-Rib Deck Panel Diaphragm |
| Procedural | Procedural | Description: Missed MT Indications by QC | |

Reference Description: QC Missed 2 MT Transverse Indications on Segment 9EE U-Rib Deck Diaphragm welds

Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

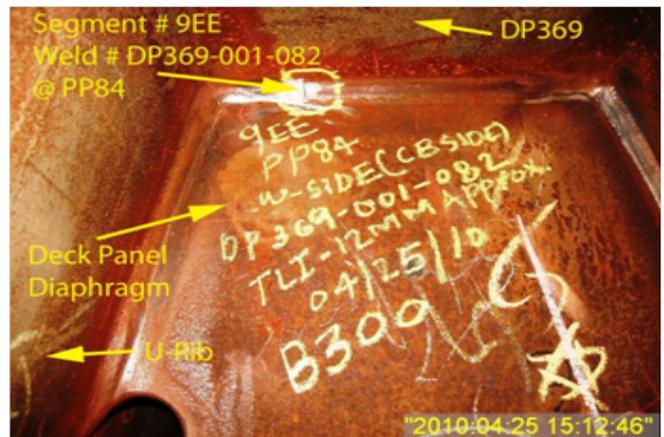
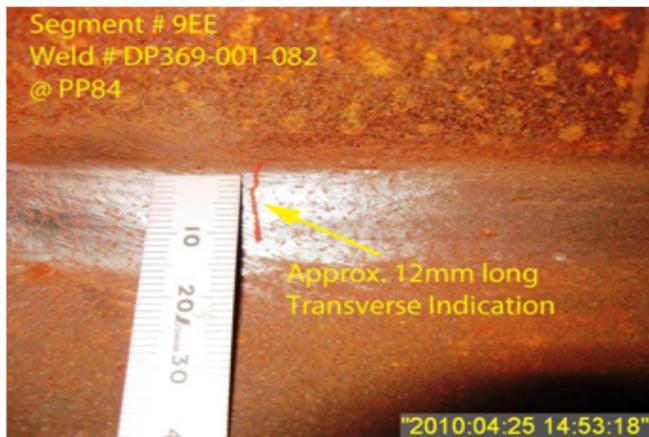
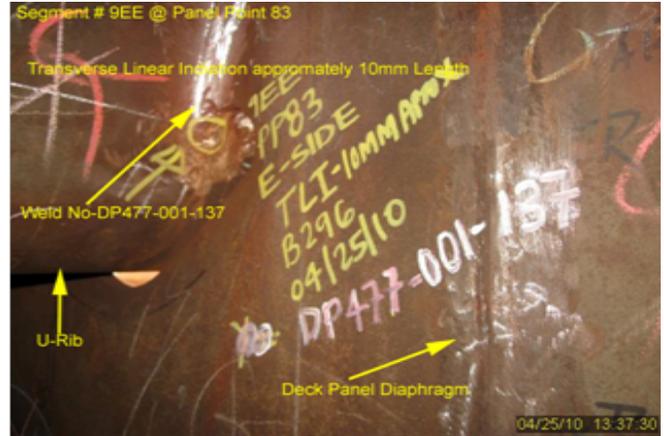
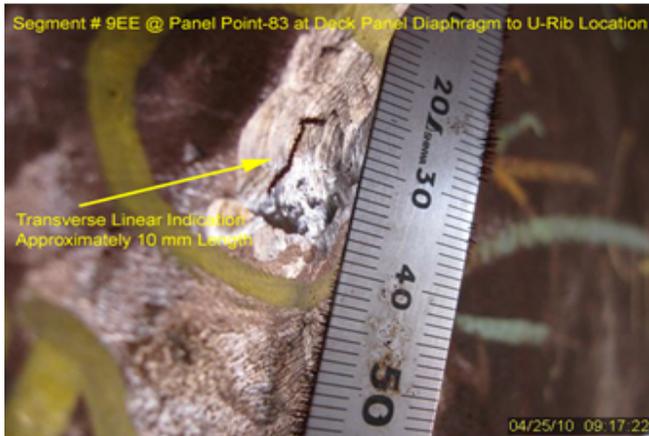
- One (1) Transverse linear crack like indication measuring approximately 12 mm in length.
- The weld is identified as DP369-001-082 @ Panel Point-084.
- The weld is a Fillet Weld T-joint joining the Deck Plate (DP369) to Deck panel diaphragm plate.
- OBG 9EE segment is located at the front side of OBG Blast Shop-1.

- One (1) Transverse linear indication measuring approximately 10 mm in length.
- Weld is a Complete Joint Penetration (CJP) Weld joining the Deck panel Diaphragm to U-Rib.
- Weld Identification number is DP477-001-137 @ Panel Point-083.
- Deck panel Diaphragm is identified as X1E.
- U-Rib is Identified as R18D.
- Location Panel Point (PP83).
- The OBG 9EE Segment is located at the back side of Painting Shop.

- The Notice of Witness Inspection Number (NWIT) is 005583.
- The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

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

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

Who discovered the problem: Vikram Singh, Manoj Prabhune

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 18:30 hours, 04/25/10, Email

Name of Caltrans Engineer notified: Sean Eagen, Stanley Ku

Time and method of notification: 09:00 hours, 04/26/10, Verbal

QC Inspector's Name: Wang Lu, Li Ping

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

| | | |
|----------------------|-------------|-----|
| Inspected By: | Tsang, Eric | 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: | 26-Apr-2010 |
| Dear: | Mr. Charles Kanapicki | Contract No: | 04-0120F4 04-SF-80-13.2 / 13.9 |
| Attention: | Mr. Thomas Nilsson Project/Fabrication Manager | Job Name: | SAS Superstructure |
| Subject: | NCR No. ZPMC-0684 | Document No: | 05.03.06-000674 |

Reference Description: QC Missed 2 MT Transverse Indications on Segment 9EE U-Rib Deck Diaphragm welds

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:** 09

Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) Transverse linear crack like indication measuring approximately 12 mm in length.
- The weld is identified as DP369-001-082 @ Panel Point-084.
- The weld is a Fillet Weld T-joint joining the Deck Plate (DP369) to Deck panel diaphragm plate.
- OBG 9EE segment is located at the front side of OBG Blast Shop-1.

- One (1) Transverse linear indication measuring approximately 10 mm in length.
- Weld is a Complete Joint Penetration (CJP) Weld joining the Deck panel Diaphragm to U-Rib.
- Weld Identification number is DP477-001-137 @ Panel Point-083.
- Deck panel Diaphragm is identified as X1E.
- U-Rib is Identified as R18D.
- Location Panel Point (PP83).
- The OBG 9EE Segment is located at the back side of Painting Shop.

- The Notice of Witness Inspection Number (NWIT) is 005583.
- The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

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 7 days.

NCT

(Continued Page 2 of 2)

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0684

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

Dated: 20-May-2010

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

Attention: Pursell, Gary
Resident Engineer

Job Name: SAS Superstructure

Document No.: ABF-NPR-000666 Rev: 00

Ref: 05.03.06-000674

Subject: NCR No. ZPMC-0684

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the welds in question and is providing NDT documentation to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC has repaired the welds in question and is providing NDT documentation to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000666R00;

Caltrans' comments:

Status: CLO

Date: 25-May-2010

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0684 is closed.

Submitted by: Eagen, Sean

Date: 25-May-2010

Attachment(s):



No. B-761

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-5-13

REGARDING: NCR-000573(ZPMC-0546) NCR-000709(ZPMC-0676)

NCR-000717(ZPMC-0684) NCR-000718(ZPMC-0685)

N CR-000723(ZPMC-0686) NCR-000725(ZPMC-0688)

NCR-000731(ZPMC-0694)

ZPMC is providing the NDT records show these indications have been removed and repaired and are acceptable now. Based on this, ZPMC is requesting closure of these NCRs.

ATTACHMENT:

NCR-000573(ZPMC-0546)

B787-MT-22771 R1

B787-MT-17456 R1

NCR-000709(ZPMC-0676)

B787-UT-12343 R1

NCR-000717(ZPMC-0684)

B787-MT-22391 R1

NCR-000718(ZPMC-0685)

B787-MT-22402 R1

NCR-000723(ZPMC-0686)

B787-MT-22550 R1

NCR-000725(ZPMC-0688)

B787-MT-22579 R1

B787-MT-22687 R1

NCR-000731(ZPMC-0694)

B787-UT-12730 R1

A handwritten signature in black ink, appearing to be "Ley" followed by a flourish.

5/18/10



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 31-Dec-2009

Contract No: 04-0120F4

04-SF-80-13.2 / 13.9

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0546

Job Name: SAS Superstructure

Document No: 05.03.06-000536

Reference Description: MT Indications discovered after ZPMC's NDT testing and acceptance in Segment 7CW

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

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

Material Location: OBG

Lift:

Remarks:

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7CW, this Quality Assurance Inspector (QA) discovered the following issues:

- Two (2) Longitudinal linear indication measuring approximately 20mm and 25mm in length.
- The welds are identified as: CSD3-PP55-025, 026 (30 mm) and CSD2-PP53-018 (25 mm).
- The welds are a Fillet Weld type joining the Edge Plate (EP59A) stiffeners to Corner Assembly (CA37A) web plates.
- The OBG 7CW segment is located at in front of Blast Shop.

The Notice of Witness Inspection Number (NWI) is 004947. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval. Provide the ZPMC MT technician additional training and equipment to ensure these types of indications are identified in the future.

Transmitted by: Bill Howe Sr. Transportation Engineer
Attachments: ZPMC-0546

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

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



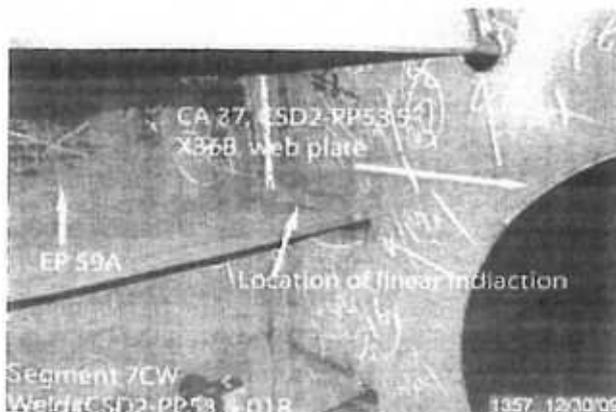
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000573**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0546**Type of problem:**Welding Concrete Other Welding Curing Procedural **Bridge No:** 34-0006Joint fit-up Coating Other **Component:** Segment 7CW Corner AssemblyProcedural Procedural **Description:** Missed MT indication by QC**Reference Description:** MT Indications discovered after ZPMC's NDT testing and acceptance in Segment 7CW**Description of Non-Conformance:**

During the Quality Assurance Magnetic Particle Testing (MT) review of welds located on Segment 7CW, this Quality Assurance Inspector (QA) discovered the following issues:

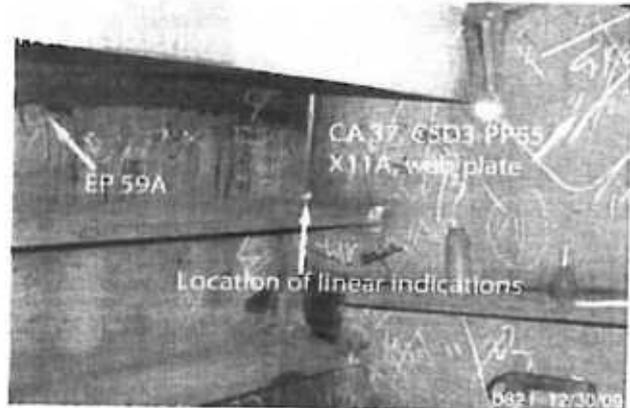
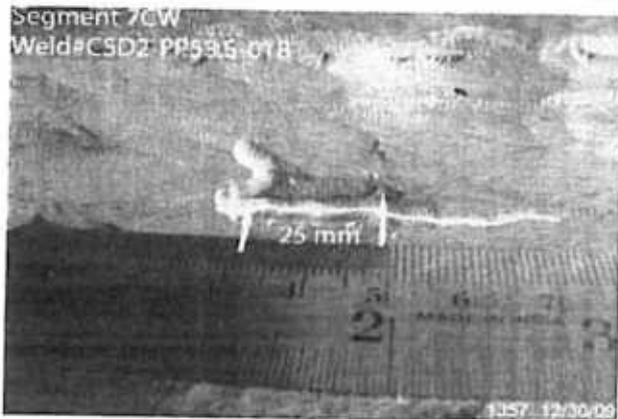
- Two (2) Longitudinal linear indication measuring approximately 20mm and 25mm in length.
- The welds are identified as: CSD3-PP55-025, 026 (30 mm) and CSD2-PP53.5-018 (25 mm).
- The welds are a Fillet Weld type joining the Edge Plate (EP59A) stiffeners to Corner Assembly (CA37A) web plates.
- The OBG 7CW segment is located at in front of Blast Shop.

The Notice of Witness Inspection Number (NWIT) is 004947. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel are required to perform twenty five (25%) percent MT inspection of this weld.



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: Hiranch Patel

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 1045 hours, 12/31/09, Email

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1100 hours, 12/30/09, Verbal

QC Inspector's Name: Zhang Wei

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Carreon, Albert

Lead Reviewer/Task Leader

Reviewed By: Wahbeh, Mazen

SMR



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17456R1 DATE日期 2010.05.17 PAGE OF页码 1/1 Revision No: 0

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

DRAWING NO. 图号: CSD2 CALTRANS CONTRACT NO.: 04-0120F4
7CW CORNER ASSEMBLY 加州工程编号

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. 28th, 2010

EQUIPMENT 设备: MT YOKE MANUFACTURER 制造商: PARKER MODEL NO. 样式编号: B310S SERIAL NO. 连续编号: 5395 5617 5620

MAGNETIZING METHOD 磁化方法: Continuous magnetic yoke 磁轭式连续法 CURRENT 电流: AC

PARTICLE TYPE 磁粉类型: Dry magnet powder 干磁粉 YOKE SPACING 磁轭间距: 70~150mm

MATERIAL TO BE EXAMINED 检测材料: WELDING 焊接件 Material & thickness 母材, 厚度: A709M-345T2-X
 CASTING 铸件 20/28mm
 FORGING 锻造

WELDING PROCESS 焊接方法: SMAW TYPE OF JOINT 焊缝类型: T-JOINT

| WELD I.D. 焊缝编号 | DISCONTINUITY不连续性 | | | ACCEPT 接受 | REJECT 拒收 | REMARKS 备注 |
|-------------------|-------------------|------------|--------------------|--------------|--------------|---------------|
| | INDICATION 指示 | TYPE 类型 | LENGTH IN mm 长度 | | | |
| CSD2-PP53.5-018 | 1R1 | | | ACC. | | 100%MT |

AFTER B-CWR1027 REV0

BLANK

EXAMINED BY主探: Sun Gongchang SIGN 签名: *Sun Gongchang* DATE日期: 2010.05.17
LEVEL - II 质量经理 / QCM

REVIEWED BY 审核: Su Wei SIGN: *Su Wei* DATE日期: 2010.05.17
LEVEL-II 用户 CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Tel: 510-376-8234 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 16-Apr-2010

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0676

Job Name: SAS Superstructure
Document No: 05.03.06-000666

Reference Description: Missed UT indications by QC on Segment 9DE: Edge Plate to Deck Plate weld and Edge Plate Stiffener to FL3 weld

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: 09

Remarks:

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DE, this QA Inspector discovered the following issues:

- Two (2) longitudinal linear indications measuring approximately 310mm and 30mm in length.
- The indications dBs rating are +6 and +4.
- Material thickness is 18mm.
- The depth of the indications is approximately 11mm and 13mm.
- The welds are identified as SEG056*-045 at Panel Point (PP) PP81.5 and EP148-022 at PP 81.
- The welds are designated as Seismic Performance Critical Material (SPCM).
- The indications are clearly marked on or near the weld.
- The Y distance for the indications are 50 mm from PP81.5 and 0 mm from EP148A.
- Weld SEG056*-045 is a Complete Joint Penetration (CJP) Corner joint, joining the Edge Plate PL1336C(SPCM) to Deck Plate PL1314A (Non SPCM).
- Weld EP148-022 is a Complete Joint Penetration (CJP) "T" joint, joining the Edge Plate stiffener RS89F (Non SPCM) to FB24A plate PLX24D (SPCM).
- Segment 9DE is located outside of Paint shop.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance to prevent future occurrences. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0676

02.02.15.04
05.03.06-000666,NCT

Received
NCT-000666 19 Apr 10 Page 1 of 2

NCT

(Continued Page 2 of 2)

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Jason Tom, Bill Casey

File: 05.03.06

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



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

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P.R. China

Report No: NCR-000709

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 15-Apr-2010

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

NCR #: ZPMC-0676

Type of problem:

Welding Concrete Other

Welding Curing Procedural Bridge No: 34-0006

Joint fit-up Coating Other Component: Segment 9DE Edge Panel

Procedural Procedural Description: Missed UT Indications by QC

Reference Description: Missed UT indications by QC on Segment 9DE: Edge Plate to Deck Plate weld and Edge Plate Stiffener to FL3 weld

Description of Non-Conformance:

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DE, this QA Inspector discovered the following issues:

-Two (2) longitudinal linear indications measuring approximately 310mm and 30mm in length.

-The indications dBs rating are +6 and +4.

-Material thickness is 18mm.

-The depth of the indications is approximately 11mm and 13mm.

-The welds are identified as SEG056*-045 at Panel Point (PP) PP81.5 and EP148-022 at PP 81.

-The welds are designated as Seismic Performance Critical Material (SPCM).

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

-The Y distance for the indications are 50 mm from PP81.5 and 0 mm from EP148A.

-Weld SEG056*-045 is a Complete Joint Penetration (CJP) Corner joint, joining the Edge Plate PL1336C (SPCM) to Deck Plate PL1314A (Non SPCM).

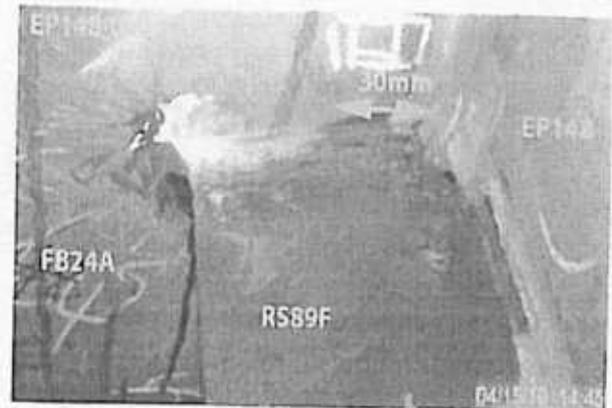
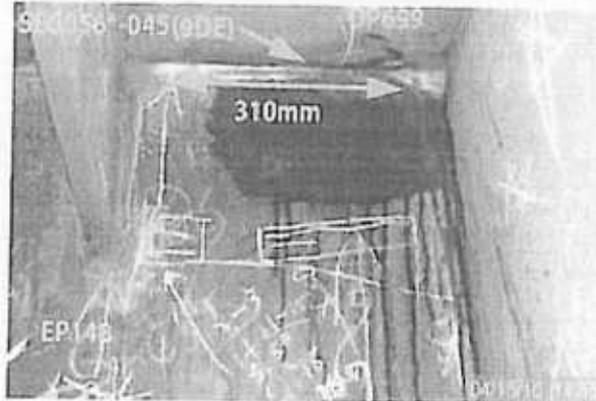
-Weld EP148-022 is a Complete Joint Penetration (CJP) "T" joint, joining the Edge Plate stiffener RS89F (Non SPCM) to FB24A plate PLX24D (SPCM).

-Segment 9DE is located outside of Paint shop.

The Notice of Witness Inspection (NWIT) No. is 005523. The indication is located in an 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.

QUALITY ASSURANCE – NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



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: Subhasis Bera

Name of individual from Contractor notified: Wang Heng

Time and method of notification: 1500 hours, 04-15-10, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 0830 hours, 04-16-10, Verbal

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

Reviewed By: Wahbeh, Mazen

SMR



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-12343R1 DATE 2010.05.05 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: 9DE WEB AND DECK PLATE SPLICE DRAWING NO.: SEG056* CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

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

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 SMAW T-JOINT Dec. 28ST, 2010

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 IIV 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 |
| SEG056*-045 | 1R1 | 70 | | | | 32 | | | | | | | | | ACC. | 100% |

AFTER B-WR12121

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EXAMINED BY 主探 Wei Chao 20/0.05.05 REVIEWED BY 审核 Huang jing 20/0.05.05
 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



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: 26-Apr-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: 05.03.06-000674

Subject: NCR No. ZPMC-0684

Reference Description: QC Missed 2 MT Transverse Indications on Segment 9EE U-Rib Deck Diaphragm welds

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: 09

Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) Transverse linear crack like indication measuring approximately 12 mm in length.
- The weld is identified as DP369-001-082 @ Panel Point-084.
- The weld is a Fillet Weld T-joint joining the Deck Plate (DP369) to Deck panel diaphragm plate.
- OBG 9EE segment is located at the front side of OBG Blast Shop-1.

- One (1) Transverse linear indication measuring approximately 10 mm in length.
- Weld is a Complete Joint Penetration (CJP) Weld joining the Deck panel Diaphragm to U-Rib.
- Weld Identification number is DP477-001-137 @ Panel Point-083.
- Deck panel Diaphragm is identified as X1E.
- U-Rib is Identified as R18D.
- Location Panel Point (PP83).
- The OBG 9EE Segment is located at the back side of Painting Shop.

- The Notice of Witness Inspection Number (NWIT) is 005583.
- The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

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 7 days.

NCT

(Continued Page 2 of 2)

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0684

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
 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-000717

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 25-Apr-2010

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

NCR #: ZPMC-0684

Type of problem:

Welding **Concrete** **Other**

Welding **Curing** **Procedural** **Bridge No:** 34-0006

Joint fit-up **Coating** **Other** **Component:** Segment 9EE U-Rib Deck Panel Diaphragm

Procedural **Procedural** **Description:** Missed MT Indications by QC

Reference Description: QC Missed 2 MT Transverse Indications on Segment 9EE U-Rib Deck Diaphragm welds

Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

-One (1) Transverse linear crack like indication measuring approximately 12 mm in length.

-The weld is identified as DP369-001-082 @ Panel Point-084.

-The weld is a Fillet Weld T-joint joining the Deck Plate (DP369) to Deck panel diaphragm plate.

-OBG 9EE segment is located at the front side of OBG Blast Shop-1.

-One (1) Transverse linear indication measuring approximately 10 mm in length.

-Weld is a Complete Joint Penetration (CJP) Weld joining the Deck panel Diaphragm to U-Rib.

-Weld Identification number is DP477-001-137 @ Panel Point-083.

-Deck panel Diaphragm is identified as X1E.

-U-Rib is Identified as R18D.

-Location Panel Point (PP83).

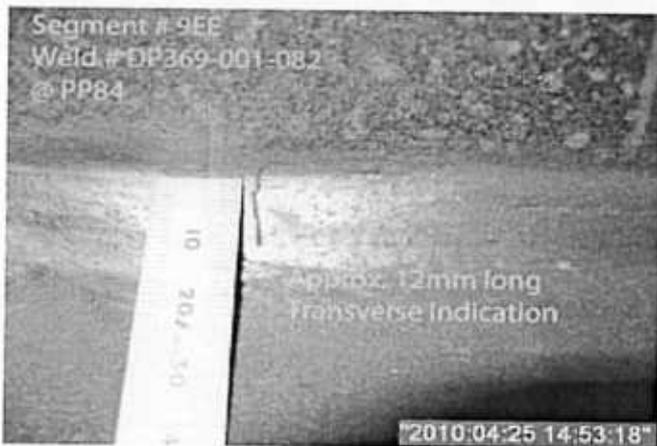
-The OBG 9EE Segment is located at the back side of Painting Shop.

-The Notice of Witness Inspection Number (NWIT) is 005583.

-The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

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

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

Who discovered the problem: Vikram Singh, Manoj Prabhune

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 18:30 hours, 04/25/10, Email

Name of Caltrans Engineer notified: Sean Eagen, Stanley Ku

Time and method of notification: 09:00 hours, 04/26/10, Verbal

QC Inspector's Name: Wang Lu, Li Ping

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

| | | |
|----------------------|---------------|-----|
| Inspected By: | Tsang, Eric | 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: 27-Apr-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: 05.03.06-000675

Subject: NCR No. ZPMC-0685

Reference Description: Missed MT Transverse Indication by QC on Segment 9EE Floor Beam Flange to Deck Diaphragm Weld

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: 09

Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) transverse crack measuring approximately 10mm in length in the fillet weld joining the Deck Panel Diaphragm (X1D) to Floor Beam Web Flange (X6F) at panel point 85.
- The Y location is 10800mm from the termination of the weld on the crossbeam side.
- The indication is clearly marked near the weld.
- The weld is identified as: SSD19-PP085-004.
- OBG segment 9EE is located north of the blast shop.
- The Notice of Witness Inspection Number (NWIT) is 005583. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

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 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0685

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**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: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

Location: Changxing Island, Shanghai, P.R. China

Report No: NCR-000718

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 26-Apr-2010

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

NCR #: ZPMC-0685

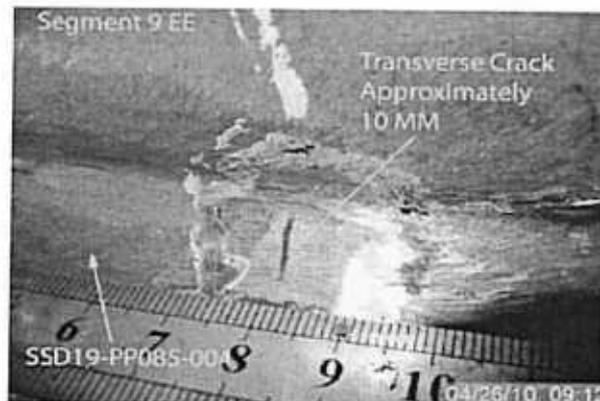
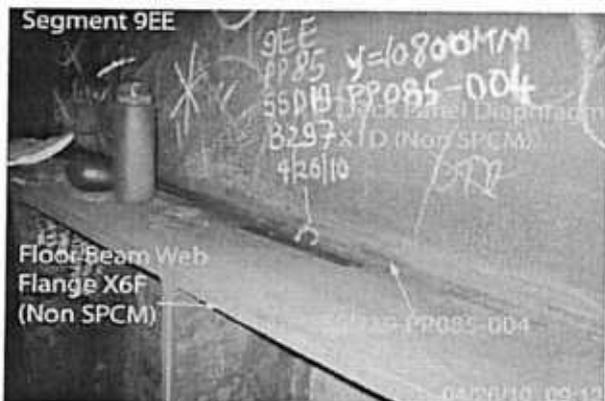
Type of problem:Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: Segment 9EE Floor Beam FlangeProcedural Procedural Description: Missed MT Transverse Indications by QC

Reference Description: Missed MT Transverse Indication by QC on Segment 9EE Floor Beam Flange to Deck Diaphragm Weld

Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) transverse crack measuring approximately 10mm in length in the fillet weld joining the Deck Panel Diaphragm (X1D) to Floor Beam Web Flange (X6F) at panel point 85.
- The Y location is 10800mm from the termination of the weld on the crossbeam side.
- The indication is clearly marked near the weld.
- The weld is identified as: SSD19-PP085-004.
- OBG segment 9EE is located north of the blast shop.
- The Notice of Witness Inspection Number (NWIT) is 005583. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

**Applicable reference:**

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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: Anand Upadhye

Name of individual from Contractor notified: Yang Chao

Time and method of notification: 1000 hours, 04/26/10, Verbal

Name of Caltrans Engineer notified: Sean Eagen, Stanley Ku

Time and method of notification: 0700 hours, 4/27/10, Verbal

QC Inspector's Name: Li Ping

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

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

Inspected By: Tsang, Eric 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: 30-Apr-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: 05.03.06-000681

Subject: NCR No. ZPMC-0686

Reference Description: Missed MT indication by QC on Segment 9DW Deck Panel to 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: 09

Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9DW, this QA Inspector discovered the following issue:

- One (1) Longitudinal linear crack like indication measuring approximately 20 mm in length.
- The weld is identified as DP260-001-061 @ Panel Point 081.
- The weld is a Fillet Weld T-joint joining the Deck Plate to Deck Panel Diaphragm plate.
- The plate number for Deck Plate is identified as PL307A (Non SPCM).
- Deck panel diaphragm plate is identified as X1E (Non SPCM).
- The indication is clearly marked on the material near the weld.
- OBG Segment 9DW is located at the back side of OBG Bay #14.
- The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

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 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0686

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
 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-000723

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 29-Apr-2010

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

NCR #: ZPMC-0686

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Bridge No: 34-0006

Joint fit-up Coating Other

Component: OBG Segment 9DW Deck Panel

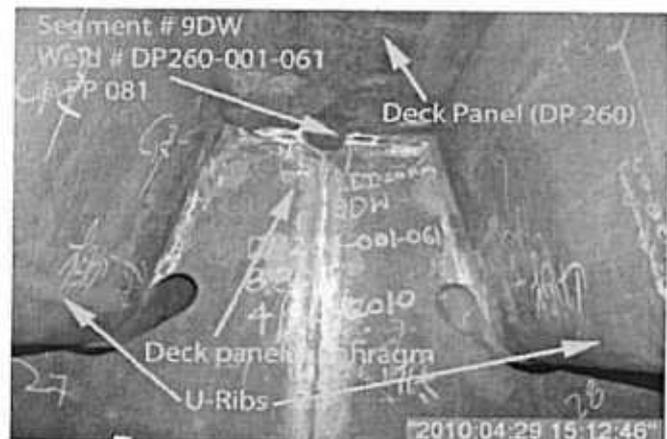
Procedural Procedural **Description:** Missed MT Indication by QC

Reference Description: Missed MT indication by QC on Segment 9DW Deck Panel to Diaphragm

Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9DW, this QA Inspector discovered the following issue:

- One (1) Longitudinal linear crack like indication measuring approximately 20 mm in length.
- The weld is identified as DP260-001-061 @ Panel Point 081.
- The weld is a Fillet Weld T-joint joining the Deck Plate to Deck Panel Diaphragm plate.
- The plate number for Deck Plate is identified as PL307A (Non SPCM).
- Deck panel diaphragm plate is identified as X1E (Non SPCM).
- The indication is clearly marked on the material near the weld.
- OBG Segment 9DW is located at the back side of OBG Bay #14.
- The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.



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: Vikram Singh

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 18:30 hours, 04/29/10, Email

Name of Caltrans Engineer notified: Sean Eagen

Time and method of notification: 09:00 hours, 04/30/10, Verbal

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

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

| | | |
|----------------------|---------------|-----|
| Inspected By: | Tsang, Eric | SMR |
| Reviewed By: | Wahbeh, Mazen | SMR |



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-22550R1 DATE日期 2010.05.13 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: 9DW DECK PLATE U-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. 28 ST , 2010 |
| EQUIPMENT 设备 MT YOKE | MANUFACTURER 制造商 PARKER | MODEL NO. 样式编号 B310S | SERIAL NO. 连续编号 5395 5617 5620 |
| MAGNETIZING METHOD 磁化方法 | Continuous magnetic yoke 磁轭式连续法 | CURRENT 电流 | AC |
| PARTICLE TYPE 磁粉类型 | Dry magnet powder 干磁粉 | YOKE SPACING 磁轭间距 | 70~150mm |
| MATERIAL TO BE EXAMINED 检测材料 | <input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造 | Material & thickness 母材, 厚度 | A709M-345 14/12mm |
| 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 | | | |
| DP260-001-061 | 1R1 | | | ACC. | | 100%MT |

AFTER B-CWR1459 REV0

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| EXAMINED BY主探 Su Wei Su Wei 2010.05.13 | REVIEWED BY审核 Su Gong Chang 2010.05.13 |
| LEVEL - II SIGN 签名 / DATE日期 质量经理 / QCM | LEVEL-II SIGN / DATE日期 用户CUSTOMER |
| 签字 SIGN / 日期 DATE | 签字 SIGN / 日期 DATE |



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: 03-May-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: 05.03.06-000683

Subject: NCR No. ZPMC-0688

Reference Description: Missed MT Indications by QC in OBG Segment 9DW

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: 09

Remarks:

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DW, this QA Inspector discovered the following issue:

On April 30, 2010:

- Three transverse linear indications, one measuring approximately 9mm and two indications measuring approximately 5mm in length at Longitudinal Diaphragm (LD) LD3A to Floor beam (FB) FB11A.
- Weld is identified as SEG055B-034 and designated as a Fracture Critical Weld (FCW).
- The weld is a 14mm Complete Joint Penetration (CJP) T-joint joining LD 3A shear plate identified as X39B to FB web plate identified as X47C (Seismic Performance Critical Material SPCM).
- The indications are clearly marked on the material.

On May 1, 2010:

- One (1) Longitudinal linear indication measuring approximately 18mm in length.
- The Y location is 7mm from the cope hole.
- The indication is clearly marked on the material near the weld.
- The weld is identified as: CSD9-PP81-062.
- The weld is designated as Seismic Performance Critical Member (SPCM).
- The weld is located at PP81 (Counter Weight Side).
- The weld is a Fillet Weld T-joint joining the Corner Assembly Diaphragm identified as X11B (SPCM) to Side Plate identified as SP658 (SPCM).
- OBG segment 9DW is located west of Bay #14.

The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

NCT

(Continued Page 2 of 2)

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 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0688

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

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Vallejo, CA 94592-1133

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(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000725**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 01-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0688**Type of problem:**

Welding **Concrete** **Other**
Welding **Curing** **Procedural** **Bridge No:** 34-0006
Joint fit-up **Coating** **Other** **Component:** Sgement 9DW
Procedural **Procedural** **Description:** Missed MT Indications by QC

Reference Description: Missed MT Indications by QC in OBG Segment 9DW**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 9DW, this QA Inspector discovered the following issue:

On April 30, 2010:

- Three transverse linear indications, one measuring approximately 9mm and two indications measuring approximately 5mm in length at Longitudinal Diaphragm (LD) LD3A to Floor beam (FB) FB11A.
- Weld is identified as SEG055B-034 and designated as a Fracture Critical Weld (FCW).
- The weld is a 14mm Complete Joint Penetration (CJP) T-joint joining LD 3A shear plate identified as X39B to FB web plate identified as X47C (Seismic Performance Critical Material SPCM).
- The indications are clearly marked on the material.

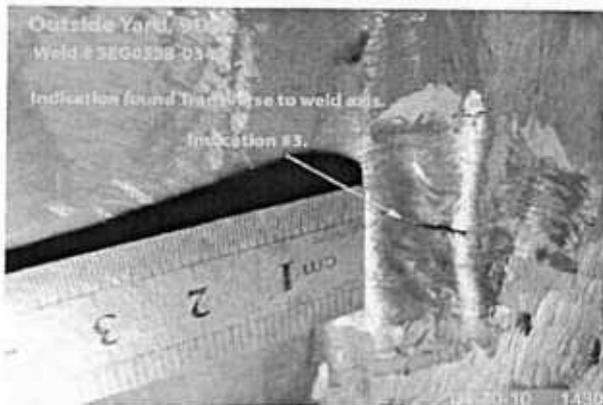
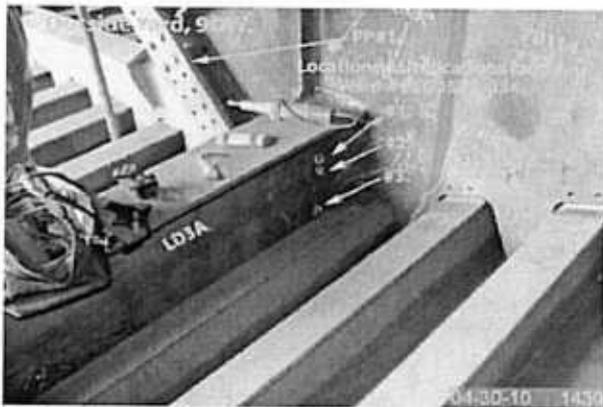
On May 1, 2010:

- One (1) Longitudinal linear indication measuring approximately 18mm in length.
- The Y location is 7mm from the cope hole.
- The indication is clearly marked on the material near the weld.
- The weld is identified as: CSD9-PP81-062.
- The weld is designated as Seismic Performance Critical Member (SPCM).
- The weld is located at PP81 (Counter Weight Side).
- The weld is a Fillet Weld T-joint joining the Corner Assembly Diaphragm identified as X11B (SPCM) to Side Plate identified as SP658 (SPCM).
- OBG segment 9DW is located west of Bay #14.

The Notice of Witness Inspection Number (NWIT) is 005616. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. Per the contract documents ZPMC's QC personnel are required to perform 100% MT inspection of this weld.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

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

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Who discovered the problem: Amit K. Juvekar, Subhasis Bera

Name of individual from Contractor notified: Wei Jian Bo

Time and method of notification: 900 hours, 05/01/10, Verbal

Name of Caltrans Engineer notified: Stanley Ku, Sean Eagen

Time and method of notification: 1030 hours, 05/02/10, Verbal

QC Inspector's Name: Tang Ya Jun

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

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

Inspected By: Tsang, Eric

SMR

Reviewed By: Wahbeh, Mazen

SMR



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-22579R1 DATE日期 2010.05.16 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: SEG055B CALTRANS CONTRACT NO.: 加州工程编号: 04-0120F4
 9DW LONGITUDINAL DIAPHRAGM

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, 2010

EQUIPMENT 设备: MT YOKE MANUFACTURER 制造商: PARKER MODEL NO. 样式编号: B310S SERIAL NO. 连续编号: 5395 5617 5620

MAGNETIZING METHOD 磁化方法: Continuous magnetic yoke 磁轭式连续法 CURRENT 电流: AC

PARTICLE TYPE 磁粉类型: Dry magnet powder 干磁粉 YOKE SPACING 磁轭间距: 70~150mm

MATERIAL TO BE EXAMINED 检测材料: WELDING 焊接件 Material & thickness 母材, 厚度: A709M-345T2/F2-X
 CASTING 铸件 14mm
 FORGING 锻造

WELDING PROCESS 焊接方法: SMAW TYPE OF JOINT 焊缝类型: CORNER 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 | | | |
| SEG055B-034 | 1R1 | | | ACC. | | 100%MT |
| | 2R1 | | | ACC. | | 100%MT |
| | 3R1 | | | ACC. | | 100%MT |

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EXAMINED BY主探: Ding Acheng 2010.05.16
 LEVEL - II SIGN 签名 / DATE日期

REVIEWED BY审核: SILWEN 2010.05.16
 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



•REPORT OF MAGNETIC PARTICLE EXAMINATION
磁粉检测报告

REPORT NO. 报告编号 B787-MT-22687R1 DATE日期 2010.05.18 PAGE OF页码 1/1 Revision No: 0

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

DRAWING NO. CSD9 CALTRANS CONTRACT NO.:
图号: 9DW CORNER ASSEMBLY 加州工程编号 04-0120F4

REFERENCING CODE ACCEPTANCE STANDARD PROCEDURE NO. CALIBRATION DUE DATE
参考规范编码 接受标准 程序编号 仪器校正有效期
AWS D1.5-2002 AWS D1.5-2002 ZPQC-MT-01 Dec. 28ST, 2010

EQUIPMENT 设备 MANUFACTURER 制造商 MODEL NO. 样式编号 SERIAL NO. 连续编号
MT YOKE PARKER B310S 5395 5617 5620

MAGNETIZING METHOD Continuous magnetic yoke CURRENT AC
磁化方法 磁轭式连续法 电流

PARTICLE TYPE Dry magnet powder YOKE SPACING 70~150mm
磁粉类型 干磁粉 磁轭间距

MATERIAL TO BE √ WELDING 焊接件 Material & thickness A709M-345T2/F2-X
EXAMINED □ CASTING 铸件 母材,厚度
检测材料 □ FORGING 锻造 18/16mm

WELDING PROCESS SMAW TYPE OF JOINT CORNER JOINT
焊接方法 焊缝类型

| 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 | | | |
| CSD9-PP81-062 | 1R1 | | | ACC. | | 100%MT |

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| EXAMINED BY主探 Su Wei SV Wei 20/2.05.18 LEVEL - II SIGN 签名 / DATE日期 质量经理 / QCM | REVIEWED BY审核 SV Gongchang 20/2.05.18 LEVEL-II SIGN / DATE日期 用户CUSTOMER |
| 签字 SIGN / 日期 DATE | 签字 SIGN / 日期 DATE |



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: 07-May-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: 05.03.06-000689

Subject: NCR No. ZPMC-0694

Reference Description: Missed UT indication by QC on Segment 10AE Side Plate to Side Plate Weld

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: 10

Remarks:

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 10AE, this QA Inspector discovered the following issue:

- One (1) Class "A" indication measuring approximately 20mm in length.
- The Indication D-rating is +3dBs.
- The weld is identified as SEG060A-013.
- The thickness of the side plates are 16mm and depth of the indication approximately 10mm.
- The weld is a Complete Joint Penetration (CJP) butt weld joining the side plate SP549B (PL1072B) to side plate SP589B (PL1074B).
- The "Y" location is approximately 2060mm from one edge of this side plate at PP87 west side.
- The indication is clearly marked by the QA on/near the weld.
- This weld joint is designated as Seismic Performance Critical Member (SPCM).
- OBG Segment 10AE is located in the outside yard on the west side of Bay 14.

The Notice of Witness Inspection Number (NWIT) is 005666. The indications are located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% UT inspection of this weld.

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 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0694

NCT

(Continued Page 2 of 2)

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**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave. St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000731**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 06-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0694**Type of problem:**Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: OBG Segment 10AE Side PlateProcedural Procedural Description: Missed UT Indication by QC**Reference Description:** Missed UT indication by QC on Segment 10AE Side Plate to Side Plate Weld**Description of Non-Conformance:**

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 10AE, this QA Inspector discovered the following issue:

- One (1) Class "A" indication measuring approximately 20mm in length.
- The Indication D-rating is +3dBs.
- The weld is identified as SEG060A-013.
- The thickness of the side plates are 16mm and depth of the indication approximately 10mm.
- The weld is a Complete Joint Penetration (CJP) butt weld joining the side plate SP549B (PL1072B) to side plate SP589B (PL1074B).
- The "Y" location is approximately 2060mm from one edge of this side plate at PP87 west side.
- The indication is clearly marked by the QA on/near the weld.
- This weld joint is designated as Seismic Performance Critical Member (SPCM).
- OBG Segment 10AE is located in the outside yard on the west side of Bay 14.

The Notice of Witness Inspection Number (NWIT) is 005666. The indications are located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% UT inspection of this weld.

Applicable reference:

AWS D1.5-2002, Section 6, Table 6.3; "Specifies a class A indication as having a dBs rating of +10 and lower for weld 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."

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Who discovered the problem: Vibin Kumar S
Name of individual from Contractor notified: Li Man Kit
Time and method of notification: 1730 hours, 05/06/10, Email
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 0840 hours, 05/07/10, Verbal
QC Inspector's Name: Zhang Wei
Was QC Inspector aware of the problem: Yes No
Contractor's proposal to correct the problem:
N/A

Comments:

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

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|-----------------------------------|-----|
| Inspected By: Tsang, Eric | SMR |
| Reviewed By: Wahbeh, Mazen | SMR |



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-12730R1 DATE 2010.05.18 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: 10AE SIDE PLATE DRAWING NO.: SEG060 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

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

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 SMAW BUTT Dec. 28ST, 2010

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 IIV BLOCK TYPE II C.M.C A709M-345F2-X 16mm

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 |
| SEG060A-013 | 1R1 | 70 | | | | 34 | | | | | | | | | ACC. | 100% |

AFTER B-WR12324

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| EXAMINED BY 主探 <i>Kuang jing</i> 2010.05.18 LEVEL - I SIGN / DATE | REVIEWED BY 审核 <i>WU Chao</i> 2010.05.18 LEVEL - II SIGN / DATE |
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|--|---|
| 质量经理 / QCM _____ 签字 SIGN / 日期 DATE | 用户 CUSTOMER _____ 签字 SIGN / 日期 DATE |
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DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000663**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0684**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-Apr-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 9EE, this QA Inspector discovered the following issues:

- One (1) Transverse linear crack like indication measuring approximately 12 mm in length.
- The weld is identified as DP369-001-082 @ Panel Point-084.
- The weld is a Fillet Weld T-joint joining the Deck Plate (DP369) to Deck panel diaphragm plate.
- OBG 9EE segment is located at the front side of OBG Blast Shop-1.

- One (1) Transverse linear indication measuring approximately 10 mm in length.
- Weld is a Complete Joint Penetration (CJP) Weld joining the Deck panel Diaphragm to U-Rib.
- Weld Identification number is DP477-001-137 @ Panel Point-083.
- Deck panel Diaphragm is identified as X1E.
- U-Rib is Identified as R18D.
- Location Panel Point (PP83).
- The OBG 9EE Segment is located at the back side of Painting Shop.

- The Notice of Witness Inspection Number (NWIT) is 005583.
- The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

Contractor's proposal to correct the problem:

Repair said indication and perform NDT required to verify weld quality.

Corrective action taken:

Contractor submitted post repair NDT report verifying the weld is now in conformance with Contract weld quality requirements.

