

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, China**Report No:** NCR-000814**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0776**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Suspender Brackets SB86W & SB78E
Procedural	Procedural	Description: Missed VT indications by QC	

Reference Description: Missed Indications and Visual defects discovered after ZPMC had tested and accepted these welds

Description of Non-Conformance:

During Visual Testing (VT) and Magnetic Particle Testing (MT) verification of Suspender Brackets SB86W (for Segment 10AW) and SB78E (for Segment 9CE), this Caltrans Quality Assurance (QA) Inspector discovered the following issues:

SB86W

- During MT of the fillet weld, this QA observed 1 linear indication on weld identified as SB017-086-041.
- The indication was ground by ZPMC personnel and a 10mm long slag inclusion was observed near the root of the fillet weld.
- During QA VT of Cope holes, this QA observed slag inclusion, underfill and overlap at weld identified as SB017-086-003.

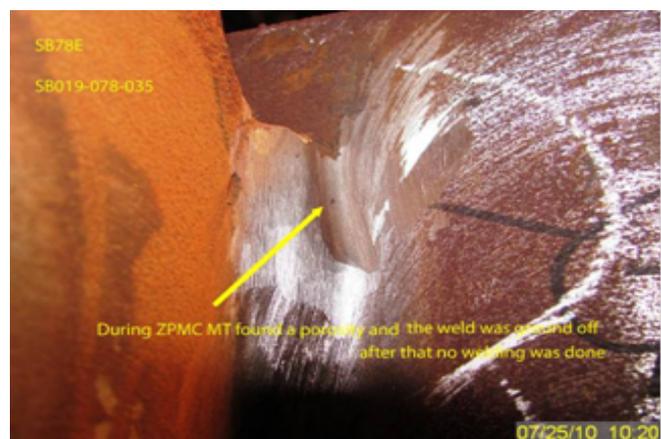
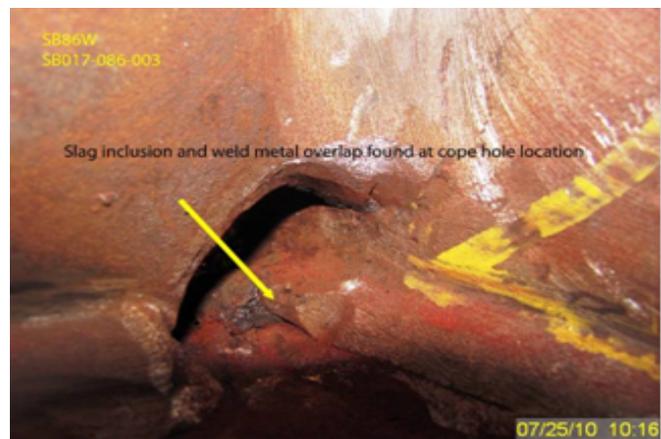
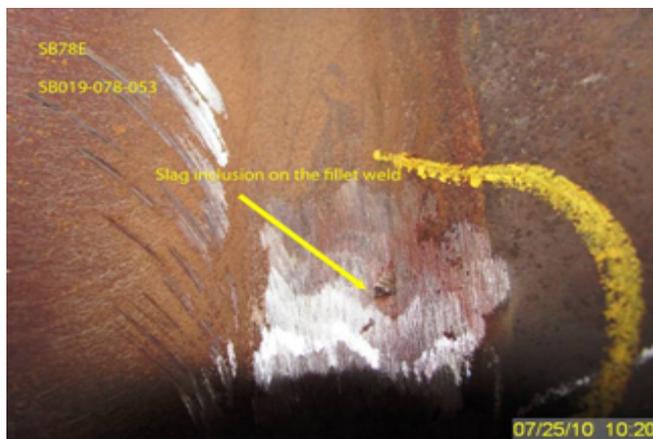
SB78E

- During VT of this weld, QA observed an incomplete weld near the cope hole location. The fillet weld is identified as SB019-078-002.
- Arc strike was observed on the weld and base metal. This fillet weld is identified as SB019-078-042.
- An approximately 5mm deep grinding mark observed on a fillet weld identified as SB019-078-035.
- Slag inclusion was observed on a fillet weld identified as SB019-078-053.
- Welds mentioned above are fillet welds connecting the suspender bracket center web plate to the vertical stiffeners.
- The Notice of Witness Inspection Number (NWIT) is 006276.
- The indications and VT issues are clearly marked on the material near the weld.
- The indications and VT issues are located within 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)

-The OBG Suspender brackets are located inside Fabrication Bay 19.



Applicable reference:

AWS D1.5 (02) - 6.26.1: Visual Inspection. All welds shall be visually inspected.

AWS D1.5 (02) - 3.7.2.3: Excessive Weld Porosity, Excessive Slag Inclusions, Incomplete Fusion. Unacceptable portions shall be removed and re-welded.

AWS D1.5 (02) - 3.6.5: Welds shall be free from overlap.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

AWS D1.5 (02) - 3.10: Arc Strikes: Care shall be taken to avoid arc strikes outside the area of permanent welds on any base metal. Cracks or blemishes caused by arc strikes shall be ground to remove all of the defect.

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.”

ZPMC WQCP section 9.2.2.1 The surface defects such as pitting, arc strikes and compress marks shall be repaired by grinding and arc gouge excavation if necessary. The ground surface shall be transitioned smoothly. If the thickness after grinding is within the allowance shall have no need for repairing weld. Magnetic particle test shall be performed for the arc strike area after grinding for verifying no more defects.

Who discovered the problem: Chandra Sudalaimuthu

Name of individual from Contractor notified: Peng We Jun

Time and method of notification: 1100 hours, 07-25-10, Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 1300 hour, 07-26-10, Verbal

QC Inspector's Name: Xu Tao

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



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: 28-Jul-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: 05.03.06-000771

Subject: NCR No. ZPMC-0776

Reference Description: Missed Indications and Visual defects discovered after ZPMC had tested and accepted these 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:** 10

Remarks:

During Visual Testing (VT) and Magnetic Particle Testing (MT) verification of Suspender Brackets SB86W(for Segment 10AW) and SB78E (for Segment 9CE), this Caltrans Quality Assurance (QA) Inspector discovered the following issues:

SB86W

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- The indication was ground by ZPMC personnel and a 10mm long slag inclusion was observed near the root of the fillet weld.
- During QA VT of Cope holes, this QA observed slag inclusion, underfill and overlap at weld identified as SB017-086-003.

SB78E

- During VT of this weld, QA observed an incomplete weld near the cope hole location. The fillet weld is identified as SB019-078-002.
- Arc strike was observed on the weld and base metal. This fillet weld is identified as SB019-078-042.
- An approximately 5mm deep grinding mark observed on a fillet weld identified as SB019-078-035.
- Slag inclusion was observed on a fillet weld identified as SB019-078-053.
- Welds mentioned above are fillet welds connecting the suspender bracket center web plate to the vertical stiffeners.
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- The indications and VT issues are clearly marked on the material near the weld.
- The indications and VT issues are 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: Laraine Woo Transportation Engineer
Attachments: ZPMC-0776

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

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000771

Subject: NCR No. ZPMC-0776

Dated: 21-Sep-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000781 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the areas noted in the NCR and is submitting the VT and MT documents to show that the repair was successful.

ZPMC has repaired the areas noted in the NCR and is submitting the VT and MT documents to show that the repair was successful. The CWR for repair was not submitted to the Department prior to work commencing, but this issues has be clarified to the work site personnel to ensure that they clearly understand that the Department's approval for onsite CWRs is still required prior to work beginning. To prevent future occurrences of this ZPMC has reprimanded the inspector who accepted these welds and he is being held accountable for his actions. Future occurrences will decrease based on these actions. ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000781R00;

Caltrans' comments:

Status: AAP

Date: 26-Sep-2010

This NCR was issued for several nonconforming VT issues on suspender bracket welds including underfill, overlap, incomplete welds, unwelded excavation, slag inclusions and a transverse crack that was removed by grinding and confirmed to be a slag inclusion. A CWR was submitted for the transverse crack, and a VT report noting it was completed after the cover pass saying the rest of the welds are acceptable. However, confirmation is also needed that the other issues were addressed and the VT report was after grinding / repairing the other noted issues.

Submitted by: Woo, Laraine

Date: 26-Sep-2010

Attachment(s):



No. B-881

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-9-17

REGARDING: NCR-000814(ZPMC-0776)

These indications have been removed, repaired and retested to be acceptable. ZPMC is providing both the MT & VT records to show the soundness of these welds. The MT indication was repaired prior to the related templete CWR be confirmed by department's representative, due to the misunderstanding from ZPMC site personnel. ZPMC QA personnel have instruct the site personnel to follow the procedure of templete CWR which requirs all the templete CWR shall be confirmed by department's representative prior to using. And the unverified CWR has been submitted to department's engineer to review. Based on this, ZPMC is request closure of this NCR.

ATTACHMENT:

NCR-000814(ZPMC-0776)

VT RECORD FOR ZPMC-0776

B787-MT-26476 R1

[Handwritten signature]

9/18/10



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: 28-Jul-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-0776

Job Name: SAS Superstructure
Document No: 05.03.06-000771

Reference Description: Missed Indications and Visual defects discovered after ZPMC had tested and accepted these welds

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- Non-Conformance Resolved.

Material Location: OBG

Lift: 10

Remarks:

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- During QA VT of Cope holes, this QA observed slag inclusion, underfill and overlap at weld identified as SB017-086-003.

SB78E

- During VT of this weld, QA observed an incomplete weld near the cope hole location. The fillet weld is identified as SB019-078-002.
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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: Laraine Woo Transportation Engineer

Attachments: ZPMC-0776

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

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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, China**Report No:** NCR-000814**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0776**Type of problem:**Welding Concrete Other Welding Curing Procedural **Bridge No:** 34-0006Joint fit-up Coating Other **Component:** Suspender Brackets SB86W & SB78EProcedural **Description:** Missed VT indications by QC**Reference Description:** Missed Indications and Visual defects discovered after ZPMC had tested and accepted these welds**Description of Non-Conformance:**

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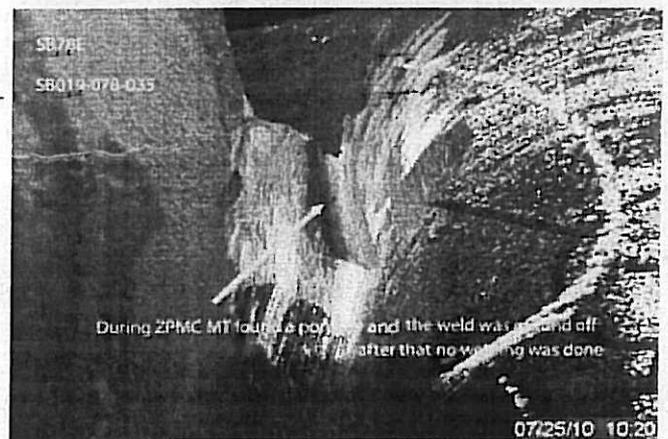
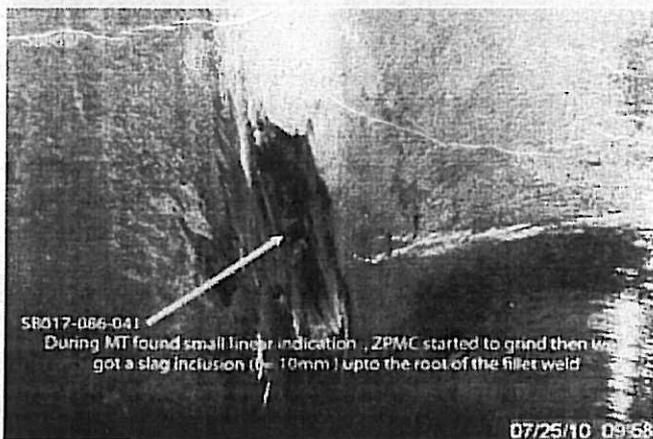
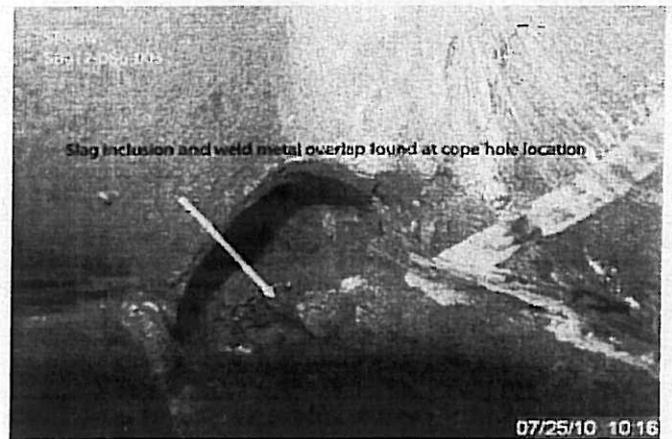
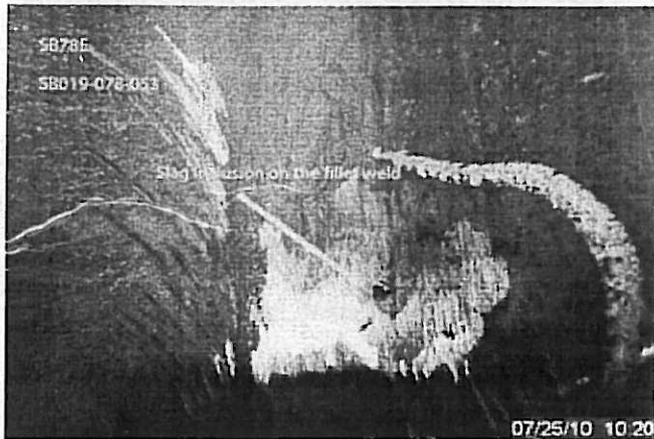
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)

-The OBG Suspender brackets are located inside Fabrication Bay 19.



Applicable reference:

AWS D1.5 (02) - 6.26.1: Visual Inspection. All welds shall be visually inspected.

AWS D1.5 (02) - 3.7.2.3: Excessive Weld Porosity, Excessive Slag Inclusions, Incomplete Fusion. Unacceptable portions shall be removed and re-welded.

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

AWS D1.5 (02) - 3.10: Arc Strikes: Care shall be taken to avoid arc strikes outside the area of permanent welds on any base metal. Cracks or blemishes caused by arc strikes shall be ground to remove all of the defect.

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.”

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Who discovered the problem: Chandra Sudalaimuthu

Name of individual from Contractor notified: Peng We Jun

Time and method of notification: 1100 hours, 07-25-10, Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 1300 hour, 07-26-10, Verbal

QC Inspector's Name: Xu Tao

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

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000771

Subject: NCR No. ZPMC-0776

Dated: 12-Oct-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000781 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has verified in their letter of response that the noted VT deficiencies have been corrected after repair and grinding.

ZPMC has verified in their letter of response that the noted VT deficiencies have been corrected after repair and grinding. Attached is a VT report and the MT report done after to show all noted deficiencies are corrected. Based on these documents and previously submitted responses ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000781R01;

Caltrans' comments:

Status: CLO

Date: 13-Oct-2010

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

Submitted by: Woo, Laraine

Date: 13-Oct-2010

Attachment(s):



No. B-903

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-10-12

REGARDING: NCR-000814(ZPMC-0776)

ZPMC QA personnel have talked with the floor CWI to address the missed VT indication's from happening again. The submitted VT and MT reocrds were performed after the grinding/ repairing on sept. 9, 2010. Based on this, ZPMC is requesting closure of this NCR.

ATTACHMENT:

NCR-000814(ZPMC-0776)

VT FOR ZPMC-0776

B787-MT-26476 R1

A handwritten signature in black ink, appearing to be 'L. M.' with a stylized flourish.

10/12/2010



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: 28-Jul-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: 05.03.06-000771

Subject: NCR No. ZPMC-0776

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Transmitted by: Laraine Woo Transportation Engineer

Attachments: ZPMC-0776

NCT

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File: 05.03.06

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Contract #: 04-0120F4
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, China

Report No: NCR-000814

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 25-Jul-2010

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

NCR #: ZPMC-0776

Type of problem:

Welding Concrete Other

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

Joint fit-up Coating Other **Component:** Suspender Brackets SB86W & SB78E

Procedural Procedural **Description:** Missed VT indications by QC

Reference Description: Missed Indications and Visual defects discovered after ZPMC had tested and accepted these welds

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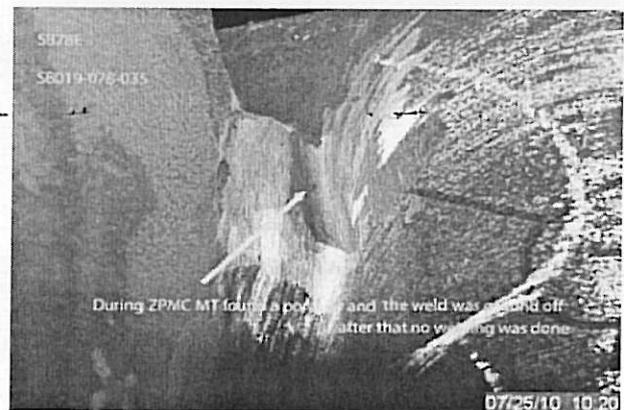
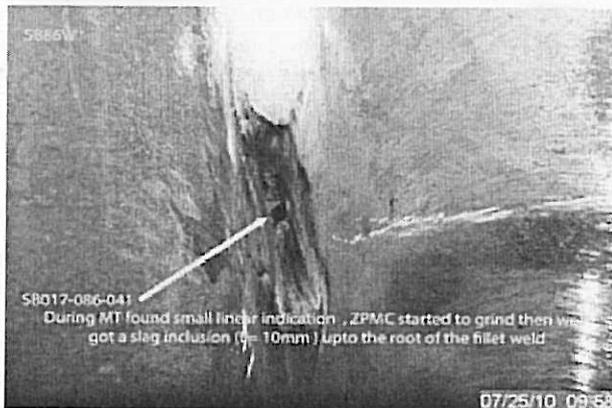
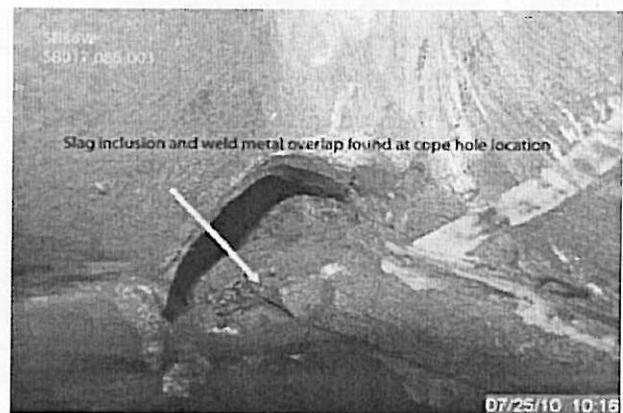
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

AWS D1.5 (02) - 3.10: Arc Strikes: Care shall be taken to avoid arc strikes outside the area of permanent welds on any base metal. Cracks or blemishes caused by arc strikes shall be ground to remove all of the defect.

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.”

ZPMC WQCP section 9.2.2.1 The surface defects such as pitting, arc strikes and compress marks shall be repaired by grinding and arc gouge excavation if necessary. The ground surface shall be transitioned smoothly. If the thickness after grinding is within the allowance shall have no need for repairing weld. Magnetic particle test shall be performed for the arc strike area after grinding for verifying no more defects.

Who discovered the problem: Chandra Sudalaimuthu

Name of individual from Contractor notified: Peng We Jun

Time and method of notification: 1100 hours, 07-25-10, Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 1300 hour, 07-26-10, Verbal

QC Inspector's Name: Xu Tao

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

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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, Shanghai, China**Report No:** NCS-000773**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Oct-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0776**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-Jul-2010**Description of Non-Conformance:**

During Visual Testing (VT) and Magnetic Particle Testing (MT) verification of Suspender Brackets SB86W (for Segment 10AW) and SB78E (for Segment 9CE), this Caltrans Quality Assurance (QA) Inspector discovered the following issues:

SB86W

- During MT of the fillet weld, this QA observed 1 linear indication on weld identified as SB017-086-041.
- The indication was ground by ZPMC personnel and a 10mm long slag inclusion was observed near the root of the fillet weld.
- During QA VT of Cope holes, this QA observed slag inclusion, underfill and overlap at weld identified as SB017-086-003.

SB78E

- During VT of this weld, QA observed an incomplete weld near the cope hole location. The fillet weld is identified as SB019-078-002.
- Arc strike was observed on the weld and base metal. This fillet weld is identified as SB019-078-042.
- An approximately 5mm deep grinding mark observed on a fillet weld identified as SB019-078-035.
- Slag inclusion was observed on a fillet weld identified as SB019-078-053.
- Welds mentioned above are fillet welds connecting the suspender bracket center web plate to the vertical stiffeners.
- The Notice of Witness Inspection Number (NWIT) is 006276.
- The indications and VT issues are clearly marked on the material near the weld.
- The indications and VT issues are located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.
- The OBG Suspender brackets are located inside Fabrication Bay 19.

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Contractor's proposal to correct the problem:

- Perform necessary repairs with NDT verification.
- Address the issue with the CWI on the shop floor.

Corrective action taken:

- The welds were repaired with VT and MT records for verification.
- ZPMC QA personnel talked with the CWI on the shop floor to prevent future occurrence.

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:

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Inspected By:	Tsang, Eric	Quality Assurance Inspector
Reviewed By:	Wahbeh, Mazen	QA Reviewer
