

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, PRC**Report No:** NCR-000349**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 06-Jul-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0323**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG Segment 4BE**Procedural****Procedural****Description:****Reference Description:** Missed MT 4BE**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector performed 15% verification Magnetic Particle Testing (MT) on weld joint identified as OBE4B-017 on Segments 4BE. QA Inspector discovered one rejectable transverse linear indication measuring approximately 6 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians. See MT report for this date.

**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.”

Who discovered the problem: Subhasis Bera**Name of individual from Contractor notified:** Kevin Chen**Time and method of notification:** 10:30, Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 10:30, Verbal

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

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

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



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge

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: 05-Aug-2009

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

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Document No: 05.03.06-000334

Subject: NCR No. ZPMC-0323

Reference Description: Missed MT 4BE

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

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

Material Location: OBG **Lift:** 04

Remarks:

Caltrans Quality Assurance (QA) Inspector performed 15% verification Magnetic Particle Testing (MT) on weld joint identified as OBE4B-017 on Segments 4BE. QA Inspector discovered one rejectable transverse linear indication measuring approximately 6 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians. See MT report for this date.

Action Required and/or Action Taken:

No Action Required.,This issue is considered to be closed for the following reason(s):
The work is now complete according to the agreed repair.

Transmitted by: Bill Howe

Attachments: ZPMC-0323

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000334

Subject: NCR No. ZPMC-0323

Dated: 17-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000299 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has written an internal NCR to document corrective and preventive action to address this NCR and has provided the repair and inspection documents for closure of this NCR.

ZPMC has written an internal NCR to document corrective and preventive action to address this NCR and has provided the repair and inspection documents for closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000299R00;

Caltrans' comments:

Status: CLO

Date: 20-Aug-2009

The proposed resolution is acceptable. The welding inspectors have received additional training, and the welds in question have been accepted by MT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0323 is closed.

Submitted by: Wright, Doug

Date: 20-Aug-2009

Attachment(s):



No. B-448

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-8-15

REGARDING: NCR-000349 (ZPMC-323)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000349 (ZPMC-323)**. We are providing the documentation of the weld repairs that were performed and that the repairs were acceptable.

so base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000349 (ZPMC-323)**.

Please reference attached document for acceptance and closure the **NCR-000349 (ZPMC-323)**.

ATTACHMENT:

NCR-000349 (ZPMC-323)

The approved and closed CWR

The final VT/MT reports

ZPMC internal NCR

Zhao Shuangbao

2009.8.15



Nonconformance Report

不符合项报告

Project Name: S.F.O.B.B 项目名称: 美国加州海湾大桥		NCR Number: NCR 编号: NCR-B-220 (ZPMC-0323)
Item: Missed MT 4BE 名称描述: 4BE MT 漏检	Item Number: 件号: OBG 4BE	Drawing: 图号: OBE4B-017
Location: OBG 4BE 位置:		Date: 日期: 2009-8-12

Description of Nonconformance:

不符合项状态描述:

Caltrans Quality Assurance (QA) Inspector performed 15% verification Magnetic Particle Testing (MT) on weld joint identified as OBE4B-017 on Segment 4BE. QA Inspector discovered one rejectable transverse linear indication measuring approximately 6mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians. See MT report for this date.

加州检验员对 4BE 上的焊缝 OBE4B-017 做 15% MT 抽检时发现一大约 6 毫米长的横向裂纹。此焊缝之前已经由 ZPMC 检验员验收合格。

Work By: 施工方:	Prepared by: 准备: 2009-8-13	Reviewed by QCE: 质量工程师批准: 8/13/09
<input type="checkbox"/> Drawing Error 图纸错误	<input checked="" type="checkbox"/> Material Defect 材料缺陷	<input checked="" type="checkbox"/> Fabrication Error 制作错误
<input type="checkbox"/> Other 其他原因		

Disposition: <input type="checkbox"/> Use as is 处理措施: 回用	<input type="checkbox"/> Repair 返修	<input type="checkbox"/> Reject 拒收
---	---------------------------------------	---------------------------------------

Recommendation:

建议: 加强焊缝打磨处理, 复检后返修。
Enhance grinding and repair after re-inspection.

Prepared by: 准备: 2009-8-13	Approved by QCA: _____ 质量经理批准
-------------------------------	----------------------------------

Reason for Nonconformance:

不符合原因: 线性缺陷超出检测范围。
Discover linear indication and the defects weren't within inspection area.

Prevention of Re-occurrence:

预防措施: 加强焊缝处理, 保证足够照明。

Enhance grinding welds and light.

Approved by/批准: Li Liming
2009.08.13

Technical Justification for Use-As-Is/Repair:
回用或返修的技术依据:

Attachment
附件

Non-attachment
无附件

Reviewed /批准: _____

Verification: Acceptable
确认: 可接受

Unacceptable
不可接受

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

#R787-QCP-1300



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 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: 05-Aug-2009

Contract No: 04-0120F4
 04-SF-80-13.2 / 13,9

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0323
Document No: 05.03.06-000334

Reference Description: Missed MT 4BE

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Material Location: OBG **Lift:** 04

Remarks:

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Action Required and/or Action Taken:

No Action Required., This issue is considered to be closed for the following reason(s):
 The work is now complete according to the agreed repair.

Transmitted by: Bill Howe
Attachments: ZPMC-0323

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

DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 Office of Structural Materials
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Bay Area Branch
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 (707) 649-5453
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000349

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 06-Jul-2009

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

NCR #: ZPMC-0323

Type of problem:

Welding Concrete Other Welding Curing Procedural

Bridge No: 34-0006

Joint fit-up Coating Other

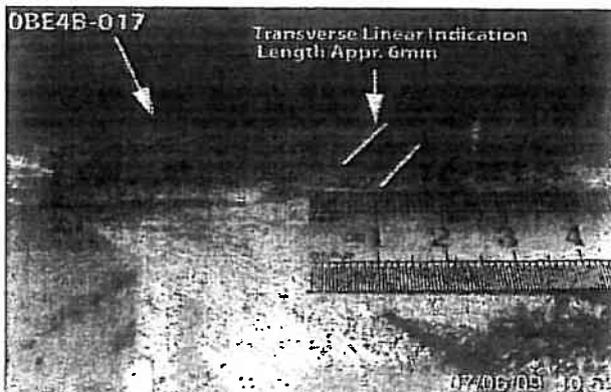
Component: OBG Segment 4BE

Procedural Procedural Description:

Reference Description: Missed MT 4BE

Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector performed 15% verification Magnetic Particle Testing (MT) on weld joint identified as OBE4B-017 on Segments 4BE. QA Inspector discovered one rejectable transverse linear indication measuring approximately 6 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians. See MT report for this date.



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.”

Who discovered the problem: Subhasis Bera

Name of individual from Contractor notified: Kevin Chen

Time and method of notification: 10:30, Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 10:30, Verbal

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

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

Inspected By: Simonis,Jim

QA Inspector

Reviewed By: Wahbeh,Mazen

SMR

11
88 新新 报告1204

B-CWR624 Rev.0 批准件

处理意见补充:

Perform MT on area surrounding crack to ensure crack did not propagate into Base metal. If crack propagation into base metal is discovered, additional approval from the Engineer is required prior to proceeding with repair procedures.

对裂纹所在以及附件位置进行 MT 检测以确保裂纹没有延伸至母材。如果发现裂纹延伸到母材，在进行返修之前需通过加州的额外批准。

NOTE: This document serves as an acceptance of the relevant CWR, and not the repair work which we have been informed was completed prior to the Contractor receiving approval.

此份文件代表了相关 CWR 的批准，而不是合同方在收到批准件前完成的返修。



REVIEW OF CONTRACTOR'S SUBMITTAL

To: Thomas Nilsson, American Bridge/Fluor, a Joint Venture
Gary Pursell, Resident Engineer

Review Date: Jul-23-2009

From: Eric Tsang, Structural Materials Representative

Contract No.: 04-0120F4

Date/Time Submittal Received: Jul-20-2009/ 13:10

China Standard Time
 (GMT+08:00)

Contractor's Transmittal #: AFC-CAL-TRN-003389

Rev. # 0

<input type="checkbox"/>	substantially complies with contract requirements and is approved		
<input checked="" type="checkbox"/>	substantially complies with contract requirements and is approved as noted.		
<input type="checkbox"/>	Lacks sufficient information and/or contains unacceptable items that must be corrected or prior to resubmittal		
Verbal Notification		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes
		Date:	Time:
Name of individual from Contractor Notified:			
This submittal is a:	<input type="checkbox"/> Welding Report	<input checked="" type="checkbox"/> Critical Weld Repair	
	<input type="checkbox"/> Request for Information	<input type="checkbox"/> Heat Straightening Request	
	<input type="checkbox"/> Fabrication Procedures	Other:	
Submitting Contractor: <u>American Bridge – Fluor, a Joint Venture</u>			
ITEMS REVIEWED	COMPLIES	COMMENTS	
1.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cracks on DP48A of OBG Segment 4BE	

Remarks:

In addition to the items listed in the disposition of this CWR, the following items must be addressed:

- Perform MT on area surrounding crack to ensure crack did not propagate into Base Metal. If crack propagation into base metal is discovered, additional approval from the Engineer is required prior to proceeding with repair procedures.

NOTE: This document serves as an acceptance of the relevant CWR, and not the repair work which we have been informed was completed prior to the Contractor receiving approval.

Reviewer: Jim Simonis

Date: Jul-23-2009

Construction Concurrence: [Signature] Initial 7/23/09 Date

Received by (ABFJV): [Signature] Date: 7/24/09 Time: 1K200



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

版本
Rev. No.:

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	OBE4	报告编号 Report No.:	B-CWR624
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	顶板分水板 PLATE PANEL	NDT 报告编号 NDT Report No.:	B787-MT-12233
项目编号 Project No.:	ZP06-787		SPLICE		

焊缝缺陷描述:

Description of Welding Discontinuity:

在对OBE4B-017检测时, 发现1处横向裂纹。1、L=6mm。

Welder ID No. (焊工编号): 209554 Position:(位置): 2G

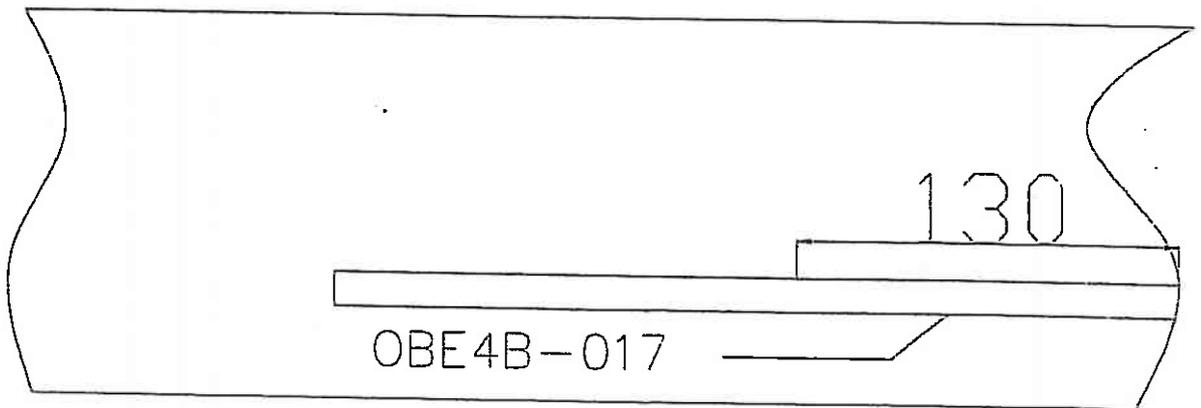
One transverse crack was found by use of MT on OBE4B-017.

检验员 (Inspector): Cai Xinxin

日期 (Date): 2009-07-15

焊缝返修位置示意图:

Draft of Welding Discontinuity:



This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial: [Signature] Date: 7/27/09

产生原因:

Cause:

1. 火焰加热时, 水汽没有完全的去掉或者这个区域预热不够;
1. Moisture wasn't completely removed during drying operation (preheating) or the area wasn't preheated sufficiently.

车间负责人 (Foreman):

Gao Jun

日期 (Date):

09.07.16

处理意见

Disposition:

1. 整个返修的过程, QC和Leader CWI应该有批准CWR的复印件;
2. 去除热影响区域上在各个方向上不小于25mm范围内的油漆;
3. 采用打磨的方法去除裂纹, 如果打磨时或打磨后根部间隙大于5mm, 那么则需要工程师批准后再进行下一步的修复工作;
4. 焊接前按照焊接返修工艺规程(WPS)准备焊缝接头形式;
5. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接;
6. 将修补区域打磨与母材或相邻焊缝平齐;
7. 返修后按照图纸要求对所有的修补焊缝进行NDT检测, 检测范围包括修补区域的正面焊缝及反面焊缝, 并按照合同10-1.59“钢结构”中的“检测和试验”注释3进行附加NDT检测。

1. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
2. Remove paint ≥ 25 mm in all direction of HAZ prior to MT.
3. Remove cracks by grinding, if gap > 5 mm is found while grinding, seek approval from engineer before next operation.
4. Prepare excavation in accordance with an approved repair WPS prior to welding.
5. Preheat and weld according to the approved repair WPS.
6. Grind the repaired area flush with base metal or the adjacent weld.
7. Perform relevant NDT inspection to all repaired welds as well as the welds which are in the opposite position of the repaired welds according to shop drawing and additional NDT requirement stated in special provision 10-1.59 "inspection testing" note 3 after repair.

PERFORM MT IN AREA SURROUNDING CRACK TO ENSURE CRACK
DID NOT PROPAGATE INTO BASE METAL.

Lu Jianhui
for Chen Bin

工艺:

Technical Engineer:

Niu Tufeng

审核:

Approved By:

Lu Jianhui
for Chen Bin

日期:

Date: 09.07.18

This document is APPROVED as noted
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant to Section 5-1.02 of the
 Standard Specifications
 Initial: [Signature] Date: 7/23/07



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

0

项目名称 Project Name:	英国海湾大桥 SFOBB	部件图号 Drawing No.:	OBE4	报告编号 Report No.:	B-CWR624
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	顶板分水板 PLATE PANEL	NDT 报告编号 NDT Report No.:	B787-MT-12233
项目编号 Project No.:	ZP06-787		SPLICE		

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 返修前, QC确认有效的预热, 以将水汽全部去除。

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

车间负责人 (Foreman): *Guo Jun*

日期 (Date): *09.07.16*

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-2G(2F)-Repair WPS-345-FCAW-2G(2F)-Repair-1	工艺员 Technologist:	<i>Nin Tiofaj</i> <i>09.07.18</i>
返修(碳刨)前预热温度 Preheat Temperature Before Gouging:	<i>80°C</i>	返修的缺陷 Description of Discontinuity:	<i>Cracks</i>
焊前处理检查 Inspection Before Welding:	<i>Acc</i>	焊前预热温度 Preheat Temperature Before Welding:	<i>180°C</i>
最大碳刨深度 Max. Depth of Gouge:	<i>NA</i>	碳刨总长 Total Length of Gouge:	<i>NA</i>
焊工 Welder:	<i>048617</i>	焊接类型 Welding Type:	<i>SMAW</i>
焊接电流 Current:	<i>185</i>	焊接电压 Voltage:	<i>25</i>
		焊接位置 Position:	<i>2F</i>
		焊接速度 Speed:	<i>120</i>

返修后检查
Inspection After Repair:

外观检查 VT Result:	<i>Acc</i>	检验员 Inspector:	<i>Guo Jun</i> <i>07120671</i>	日期 Date:	<i>09.07.28</i>
NDT复检 NDT Result:	<i>Acc</i>	探伤员 NDT Person:	<i>Canxin</i>	日期 Date:	<i>09.08.12</i>

见证:
Witness/Review:

备注:
Remark:

#R787-QCP-900

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial *WJ* Date: *7/23/09*

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
(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, PRC**Report No:** NCS-000275**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0323**Type of problem:**

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

Date the Non-Conformance Report was written: 06-Jul-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector performed 15% verification Magnetic Particle Testing (MT) on weld joint identified as OBE4B-017 on Segments 4BE. QA Inspector discovered one rejectable transverse linear indication measuring approximately 6 mm in length. This weld was previously tested and accepted by ZPMC QC MT technicians. See MT report for this date.

Contractor's proposal to correct the problem:

Contractor has acknowledged that this item must be addressed, and the item was added to the Master Punchlist.

Corrective action taken:

Work was completed and item was cleared on Master Punchlist by Caltrans on 6-9-2009. Submittal of documentation by Contractor being tracked on Documentation Punchlist.

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

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

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