

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

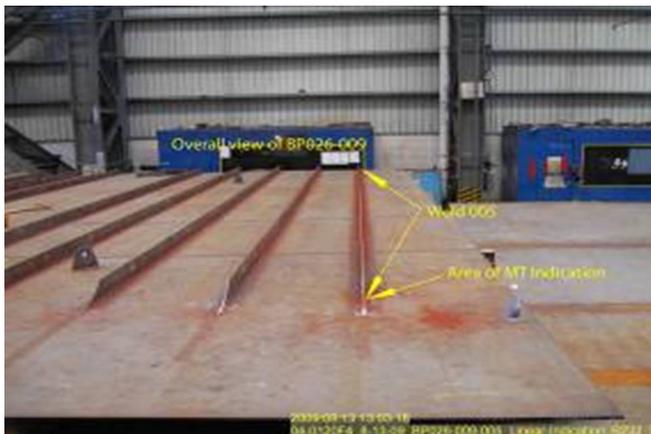
Quality Assurance and Source Inspection



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

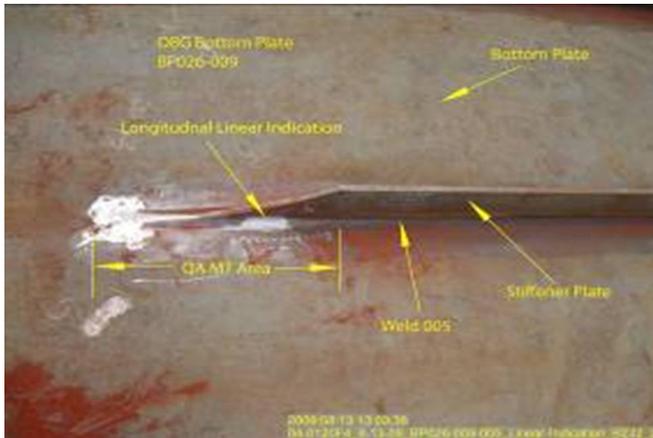
Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000395**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0369**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG Bottom Plate BP026**Procedural****Procedural****Description:****Reference Description:** Missed MT Indications by QC on OBG Bottom Panel BP26**Description of Non-Conformance:**

During random verification Magnetic Particle Testing (MT) of OBG Bottom Plate BP026-009 weld Number 005, Caltrans Quality Assurance (QA) Inspector discovered one (1) longitudinal linear indication 70 mm in length in the first 1 meter of inspection. This indication was discovered after ZPMC QC's 100 percent MT inspection.



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: Tim McClendon

Name of individual from Contractor notified: Chang Bao Gian

Time and method of notification: 0930 hours, verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 1000 hours, verbal

QC Inspector's Name: Zhon Cheng

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
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Reviewed By:	Wahbeh, Mazen	SMR
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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: 01-Sep-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: 05.03.06-000358

Subject: NCR No. ZPMC-0369

Reference Description: Missed MT Indications by QC on OBG Bottom Panel BP26

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 random verification Magnetic Particle Testing (MT) of OBG Bottom Plate BP026-009 weld Number 005, Caltrans Quality Assurance (QA) Inspector discovered one (1) longitudinal linear indication 70 mm in length in the first 1 meter of inspection. This indication was discovered after ZPMC QC's 100 percent MT inspection.

Action Required and/or Action Taken:

Subit repair procedure for the engineer's approval
Note: Finding MT indications after ZPMC QC has completed MT inspection is a normal occurrence.

Transmitted by: Bill Howe

Attachments: ZPMC-0369

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: 05.03.06-000358

Subject: NCR No. ZPMC-0369

Dated: 21-Sep-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000365 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC MT technicians have been under gone training and testing due to the amount of missed indications found, ABF has implemented overchecks on several welds within the OBG

ZPMC MT technicians have been under gone training and testing due to the amount of missed indications found, ABF has implemented overchecks on several welds within the OBG to prevent unacceptable welds from being passed on to CT. ABF has also performed an investigation regarding cracks found during ZPMC, ABF and CT inspections to find a means to prevent these defects from occurring in the first place. As for the specific welds related to this NCR, ZPMC will perform the necessary repairs and submit the repair and inspection documents at a later date for closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000365R00

Caltrans' comments:

Status: AAP

Date: 22-Sep-2009

Will review and confirm the acceptance when the repair documentation is submitted.

Submitted by: Chao, Ching

Date: 22-Sep-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000358

Subject: NCR No. ZPMC-0369

Dated: 04-Dec-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000365 **Rev:** 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC acknowledges that indications were missed. ZPMC has performed the critical weld repair and tested the weld and found it acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC acknowledges that indications were missed. ZPMC has performed the critical weld repair and tested the weld and found it acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000365R01;

Caltrans' comments:

Status: CLO

Date: 17-Dec-2009

Documentation complete.

Submitted by: Howe, Bill

Date: 17-Dec-2009

Attachment(s):



No. B-514

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-12-03

REGARDING: NCR-000395(ZPMC-0369)

With this letter of response, ZPMC requests closure for Caltrans NCR-000395(ZPMC-0369) what mentioned that QA discovered some rejectable MT indications on OBG Bottom Plate BP026. ZPMC acknowledged this problem and has issued CWR. ZPMC has finished this repair according to this CWR. After that MT was performed to warrant weld quality. So ZPMC hope Caltrans could take a review and consider close this NCR.

ATTACHMENT:

NCR-B-252(ZPMC-0369)

NCR-000395(ZPMC-0369)

B-CWR679

B787-MT-13268

by w
12/03/09



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-B-252
NCR 编号: (ZPMC-0369)

Item: Missed MT Indications by QC
名称描述: MT 漏检

Item Number:
件号: N/A

Drawing:
图号: BP026

Location: Bay 19
位置: 19 车间

Date:
日期: 2009-09-10

Description of Nonconformance:

不符合项状态描述:

During random verification Magnetic Particle Testing (MT) of OBG Bottom Plate BP026-009 weld Number 005, Caltrans Quality Assurance(QA) Inspector discovered one (1) longitudinal linear indication 70 mm in length in the first 1 meter of inspection. This indication was discovered after ZPMC QC's 100 percent MT inspection.

在 MT 任意检验 OBG 底板焊缝 BP026-009-005 的过程中, 加州检验员发现在第一个一米的检验中有一条纵向长度为 70 MM 长的裂纹。这条裂纹是在 ZPMC QC 检验员在做完 100%MT 之后发现的。

Work By: 施工方: <u>LL</u>	Prepared by: 准备: <u>Zhang Wei</u>	Reviewed by QCE: 质量工程师批准: <u>Zhuo Shuang Bai</u>
<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	<input type="checkbox"/> Repair	<input type="checkbox"/> Reject
处理措施: 回用	返修	拒收

Recommendation:

建议: 确认返修, Compare defect and repair it.

Prepared by: LL Approved by QCA: _____
准备 质量经理批准

Reason for Nonconformance:

不符合原因:

因后续工序产生应力, 没有复检.
Stress caused by next procedure without re-inspection.

预防措施: 加强复检. Enhance re-inspection.

Approved by/批准: LL

Technical Justification for Use-As-Is/Repair: Attachment Non-attachment

回用或返修的技术依据:

附件 无附件

Reviewed /批准: _____

Verification: Acceptable Unacceptable
确认: 可接受 不可接受

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



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: 01-Sep-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: 05.03.06-000358

Subject: NCR No. ZPMC-0369

Reference Description: Missed MT Indications by QC on OBG Bottom Panel BP26

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- Quality Control (QC) not performed in conformance with contract documents.
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- Non-Conformance Resolved.

Material Location: OBG

Lift:

Remarks:

During random verification Magnetic Particle Testing (MT) of OBG Bottom Plate BP026-009 weld Number 005, Caltrans Quality Assurance (QA) Inspector discovered one (1) longitudinal linear indication 70 mm in length in the first 1 meter of inspection. This indication was discovered after ZPMC QC's 100 percent MT inspection.

Action Required and/or Action Taken:

Subit repair procedure for the engineer's approval

Note: Finding MT indications after ZPMC QC has completed MT inspection is a normal occurrence.

Transmitted by: Bill Howe

Attachments: ZPMC-0369

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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

Report No: NCR-000395

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 13-Aug-2009

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

NCR #: ZPMC-0369

Type of problem:

Welding Concrete Other

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

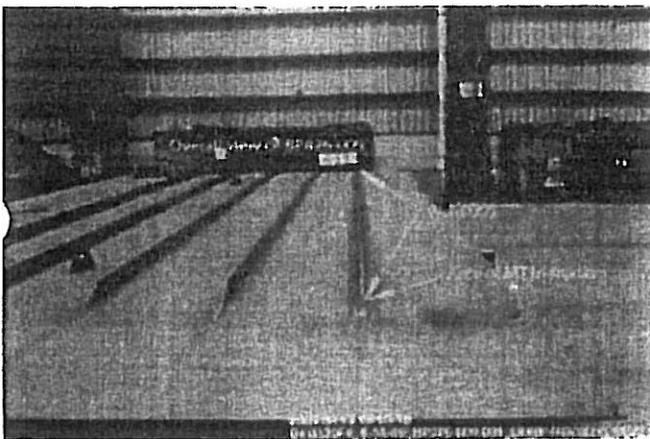
Joint fit-up Coating Other **Component:** OBG Bottom Plate BP026

Procedural Procedural **Description:**

Reference Description: Missed MT Indications by QC on OBG Bottom Panel BP26

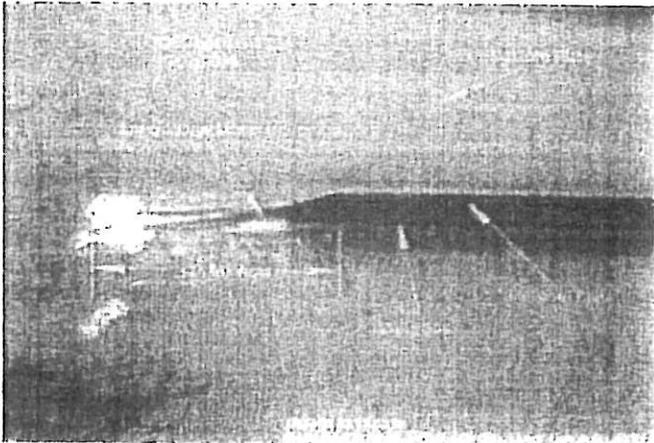
Description of Non-Conformance:

During random verification Magnetic Particle Testing (MT) of OBG Bottom Plate BP026-009 weld Number 005, Caltrans Quality Assurance (QA) Inspector discovered one (1) longitudinal linear indication 70 mm in length in the first 1 meter of inspection. This indication was discovered after ZPMC QC's 100 percent MT inspection.



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: Tim McClendon

Name of individual from Contractor notified: Chang Bao Gian

Time and method of notification: 0930 hours, verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 1000 hours, verbal

QC Inspector's Name: Zhon Cheng

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

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Inspected By: Tsang, Eric SMR

Reviewed By: Wahbeh, Mazen SMR

1635



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.:	BP026-009	报告编号 Report No.:	B-CWR679
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	箱梁底板 Box Bottom Plate	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

对焊缝进行目检时发现焊缝BP026-009-005存在长度为70mm的裂纹。

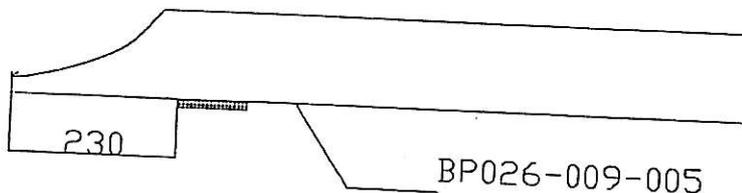
The crack was found on weld (BP026-009-005) after view inspection, 70mm in length.

检验员 (Inspector): Zhou Chen
ZHOUCHEG

日期 (Date): 2009-08.20

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 SJE Date: 8/24/09

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): Liu Hongchao 日期 (Date): 7.08.20

This document is APPROVED
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant to Section 6-1.02 of the
 Standard Specifications
 Initial SJE Date: 8/24/09

处理意见

Disposition :

1. 这次返修时, QC和Leader CWI到现场对打磨, 焊接进行指导和监控工作以保证返修按照处理意见进行;
2. 整个返修的过程, QC和Leader CWI应该有批准CWR的复印件;
3. 去除热影响区域上在各个方向上不小于25mm范围内的油漆;
4. 采用打磨的方法去除裂纹, 打磨返修范围为沿缺陷焊缝每一端加50mm;
5. 如果打磨时母材损伤, 则在返修前将损伤区域打磨干净。如果打磨时或打磨后根部间隙大于5mm, 提交CWR报告给加州工程师批准, 那么在这个位置的焊缝采用CJP焊缝, 并在打磨去除焊缝后对其及进行MT检测;
6. 焊接前按照焊接返修工艺规程(WPS)准备焊接接头形式;
7. 返修前, VT和MT检测确认返修区域没有裂纹及其他缺陷存在;
8. 返修前, MT确认裂纹没有延伸到母材, 如果发现裂纹延伸到母材, 提交CWR给工程师批准;
9. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接;
10. 将修补区域打磨与母材或相邻焊缝平齐;
11. 按照合同和标书中备注3的要求检测临近焊缝, (包括沿缺陷焊缝每一端加50mm) 的正反面焊缝, 其中对于CJP焊缝, NDT方法为UT和MT.

1. QC and a Lead CWI shall be present, direct and supervise all grinding and welding operations during this repair to ensure the repair is per the disposition requirements
2. QC and a Lead CWI shall have an approved copy of the CWR in hand prior to the repair.
3. Remove paint ≥ 25 mm in all direction of HAZ prior to MT.
4. Remove cracks by grinding, repair area shall extend a minimum of 50mm beyond each end of single crack repairs;
5. If base metal is damaged by grinding, the damaged area shall be ground clean prior to performing weld repair. If gap > 5 mm is found during or after grinding, a separate CWR to make the weld joint a CJP is required in that location, and perform MT after performing grinding the defects away, if CJP joint is required, separate CWR approval is required.
6. Prepare excavation in accordance with an approved repair WPS prior to welding.
7. Before this repair, Verify with VT and MT repair areas are defects free;
8. Perform MT on the weld metal adjacent to the repair area to ensure that crack did not propagate into base metal. If crack is discovered in base metal, approval of a separate CWR is required before continuing with repair work.
9. Preheat and weld according to the approved repair WPS.
10. Grind the repaired area flush with base metal or the adjacent weld.
11. Perform NDT in accordance weld contract plans & adjacent NDT weld note 3 inspections and test. (along with an additional 50mm at each end of the weld repair) which include the near side and far side on the upper Perform UT and MT inspection to CJP weld.

工艺:

Technical Engineer: Nin Refoj 审核: Lujianhua
 Approved By: for Chenbin

日期: 7.08.20
 Date: 7.08.20

#R787-QCP-900



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

0

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	BP026-009	报告编号 Report No.:	B-CWR679
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	箱梁底板 Box Bottom Plate	NDT 报告编号 NDT Report No.:	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 返修前, QC确认有效的预热, 以将水汽全部去除。

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

车间负责人 (Foreman):

Liu Hongcheng

日期 (Date):

09.08.20

参照的 WPS 编号 Repair WPS No.:	WPS-345-SMAW-1 G(1F)-FCM-Repair WPS-345-FCAW-1 G(1F)-FCM-Repair WPS-345-SMAW-2 G(2F)-FCM-Repair WPS-345-FCAW-2 G(2F)-FCM-Repair	工艺员 Technologist:	Niu Tiejun 09.08.20
返修 (碳刨) 前预热温度 Preheat Temperature Before Gouging:	NA	返修的缺陷 Description of Discontinuity:	Crack
焊前处理检查 Inspection Before Welding:	Acc	焊前预热温度 Preheat Temperature Before Welding:	125
最大碳刨深度 Max. Depth of Gouge:	Acc	碳刨总长 Total Length of Gouge:	NA
焊工 Welder:	062737	焊接类型 Welding Type:	FCAW
焊接电流 Current:	310	焊接电压 Voltage:	30.5
		焊接位置 Position:	2F
		焊接速度 Speed:	300
返修后检查 Inspection After Repair:			
外观检查 VT Result:	Acc	检验员 Inspector:	Zhu Zhonghai 07072701
NDT 复检 NDT Result:	ACC	探伤员 NDT Person:	Chang Fangjie
日期 Date:		日期 Date:	09.08.24
日期 Date:		日期 Date:	09.08.25
见证: Witness/Review:			
备注: Remark:			

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial SJF Date: 8/24/09

#R787-QCP-900

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 #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000404**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0369**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: 13-Aug-2009**Description of Non-Conformance:**

During random verification Magnetic Particle Testing (MT) of OBG Bottom Plate BP026-009 weld Number 005, Caltrans Quality Assurance (QA) Inspector discovered one (1) longitudinal linear indication 70 mm in length in the first 1 meter of inspection. This indication was discovered after ZPMC QC's 100 percent MT inspection.

Contractor's proposal to correct the problem:

The contractor will repair the weld and perform NDT to verify that the weld is acceptable.

Corrective action taken:

ZPMC has repaired the indications documented in the NCR. ABFJV has conducted the NDT and found that the weld is acceptable.

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 Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

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