

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



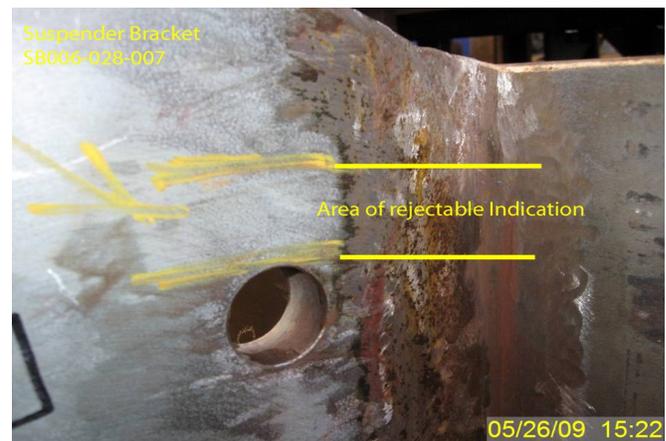
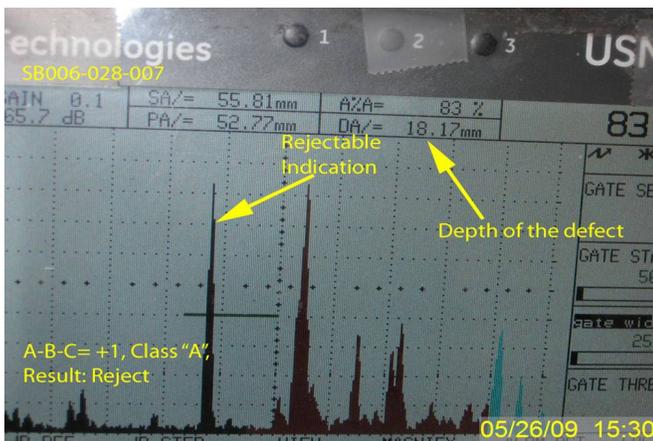
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-000280**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 26-May-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0254**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Suspender Bracket SB006-028
Procedural	Procedural	Description:	

Reference Description: Missed UT Indication by QC Technician, SB006-028**Description of Non-Conformance:**

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint identified as SB006-028-007 for Suspender Bracket SB006-028. QA Inspector discovered a class "A" rejectable indication measuring approximately 52mm in length. This weld was previously tested and accepted by ZPMC quality control (QC) UT technicians.

**Applicable reference:**

AWS D1.5 (02) Section 6, Table 6.3

Who discovered the problem: Subhasis Bera**Name of individual from Contractor notified:** Chang Baoqan**Time and method of notification:** 05/26/2009, 15:30, Verbal**Name of Caltrans Engineer notified:** Stanley Ku**Time and method of notification:** 05/27/2009, 08:00, Verbal**QC Inspector's Name:** Zhuzhong Hai

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Skyler Guest, +(86) 1500.042.2360, who represents the Office of Structural Materials for your project.

Inspected By:	Guest,Skyler	SMR
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Reviewed By:	Wahbeh,Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Tel: 021-56856666 ext 207061 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 28-May-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: 05.03.06-000246

Subject: NCR No. ZPMC-0254

Reference Description: Missed UT Indication by QC Technician, SB006-028

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:

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint identified as SB006-028-007 for Suspender Bracket SB006-028. QA Inspector discovered a class "A" rejectable indication measuring approximately 52mm in length. This weld was previously tested and accepted by ZPMC quality control (QC) UT technicians.

Action Required and/or Action Taken:

A response for the resolution of this issue is expected within 14 days.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0254

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Dated: 22-Jun-2009

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

Attention: Pursell, Gary
Resident Engineer

Job Name: SAS Superstructure

Ref: 05.03.06-000246

Document No.: ABF-NPR-000248 **Rev:** 00

Subject: NCR No. ZPMC-0254

Contractor's Proposed Resolution:

Reference Resolution: ABF has notified ZPMC NDT supervisor to verify with the UT operator this indication can be detected. Also, ZPMC was instructed to verify equipment is working properly.

ABF has notified ZPMC NDT supervisor to verify with the UT operator this indication can be detected. Also, ZPMC was instructed to verify equipment is working properly, such as transducer and transducer cable. ZPMC to provide an evaluation and inspection reports at a later date to close this NCR.

Submitted by:

Attachment(s): ABF-NPR-000248R00

Caltrans' comments:

Status: AAP

Date: 25-Jun-2009

The response is acceptable, but the Non-Conformance is not closed.

Please provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0254 at that time.

Submitted by: Wright, Doug

Date: 25-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000246

Subject: NCR No. ZPMC-0254

Dated: 15-Jul-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000248 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to the NCR as stated in the attachment. ZPMC requests closure of this NCR.
ZPMC has responded to the NCR as stated in the attachment. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000248R01;

Caltrans' comments:

Status: CLO

Date: 04-Aug-2009

The proposed resolution is acceptable. The attachments include the welding repair report, and the weld in question has been accepted by VT and UT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0254 is closed.

Submitted by: Wright, Doug

Date: 04-Aug-2009

Attachment(s):



No. B-393

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-7-14

REGARDING: NCR-000280(ZPMC-0254)

With this letter of response, ZPMC requests closure for Caltrans NCR-000280(ZPMC-0254). According with the NPR response from the caltrans, we provide 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-000280(ZPMC-0254).

Please reference attached documentation for acceptance and closure the NCR-000280(ZPMC-0254).

ATTACHMENT:

NCR-000280(ZPMC-0254)

ZPMC internal NCR

The welding repair report

The final acceptable VT/UT report

Zhao Shuangbao

2009. 7. 14



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-159 (NCR-00280)
 NCR 编号:

Item: Missed UT Indication
 名称描述: UT 漏检
 Item Number: SB006-028
 件号: SB006-028
 Drawing: SB006
 图号: SB006

Location: Bay 19
 位置: 19 车间
 Date: 2009-06-02
 日期:

Description of Nonconformance:
 不符合项状态描述:
 Caltrans Inspector performed 10% verification UT on weld joint identified SB006-028-007 for Suspender Bracket SB006-028. QA Inspector discovered a class "A" rejectable indication measuring approximately 52mm in length. This weld was previously tested and accepted by ZPMC quality control technicians.
 加州检验员在对 SB006-028-007 焊缝做 10% UT 检测过程中, 发现一个 CLASS A 的缺陷。缺陷长度大约 52mm, 存在于悬索支架 SB006-028 构件。而此焊缝已经被 ZPMC QC 人员检验接受。

Work By: Lily Prepared by: Tao Reviewed by QCE: Zhao Shuangbao
 施工方: 2009.06.11 准备: 06/02/09 质量工程师批准:
 Drawing Error Material Defect Fabrication Error Other
 图纸错误 材料缺陷 制作错误 其他原因 6.2

Disposition: Use as is Repair Reject
 处理措施: 回用 返修 拒收

Recommendation: 复检后返修 Repair after re-inspection.

Prepared by: Lily Approved by QCA: _____
 准备: 2009.06.11 质量经理批准

Reason for Nonconformance:
 不符合原因: DB 误差导致缺陷漏检 DB error caused defect discovered.

Prevention Measures: perform according to NDT procedure to reduce error.
 预防措施: 规范 NDT 操作程序, 减少仪器人员所产生的误差
 Approved by/批准: Lily

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
 666 Feng Bin Road Room 708, Changxing Island
 Shanghai 201913 PR China
 Tel: 021-56856666 ext 207061 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 28-May-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
 Document No: 05.03.06-000246

Subject: NCR No. ZPMC-0254

Reference Description: Missed UT Indication by QC Technician, SB006-028

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

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- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: OBG

Lift:

Remarks:

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint identified as SB006-028-007 for Suspender Bracket SB006-028. QA Inspector discovered a class "A" rejectable indication measuring approximately 52mm in length. This weld was previously tested and accepted by ZPMC quality control (QC) UT technicians.

Action Required and/or Action Taken:

A response for the resolution of this issue is expected within 14 days.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0254

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, 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
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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-000280

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 26-May-2009

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

NCR #: ZPMC-0254

Type of problem:

- Welding Concrete Other
- Welding Curing Procedural
- Joint fit-up Coating Other
- Procedural Procedural Description:

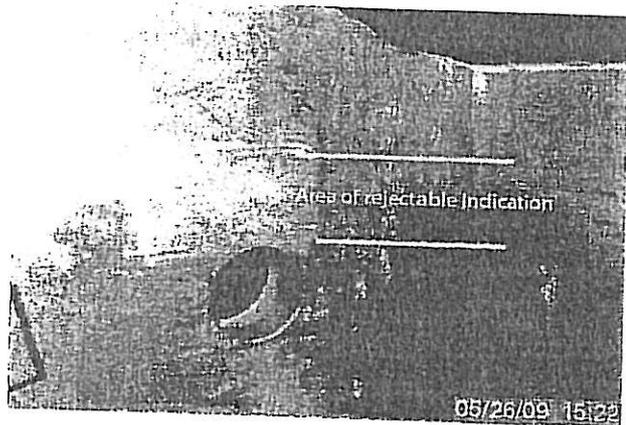
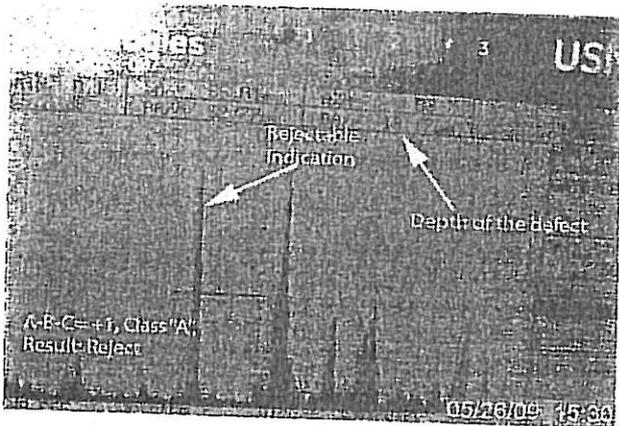
Bridge No: 34-0006

Component: Suspender Bracket SB006-028

Reference Description: Missed UT Indication by QC Technician, SB006-028

Description of Non-Conformance:

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint identified as SB006-028-007 for Suspender Bracket SB006-028. QA Inspector discovered a class "A" rejectable indication measuring approximately 52mm in length. This weld was previously tested and accepted by ZPMC quality control (QC) UT technicians.



Applicable reference:

AWS D1.5 (02) Section 6, Table 6.3

Who discovered the problem: Subhasis Bera

Name of individual from Contractor notified: Chang Baoqan

Time and method of notification: 05/26/2009, 15:30, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 05/27/2009, 08:00, Verbal

QC Inspector's Name: Zhuzhong Hai

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Skyler Guest, +(86) 1500.042.2360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



焊缝返修报告

Welding Repair Report

版本 Rev. No.

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SB6-SB28W	报告编号 Report No.	B-WR5492
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SUPPORT BEAM	NDT报告编号 Report No.of NDT	B787-UT-7026
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

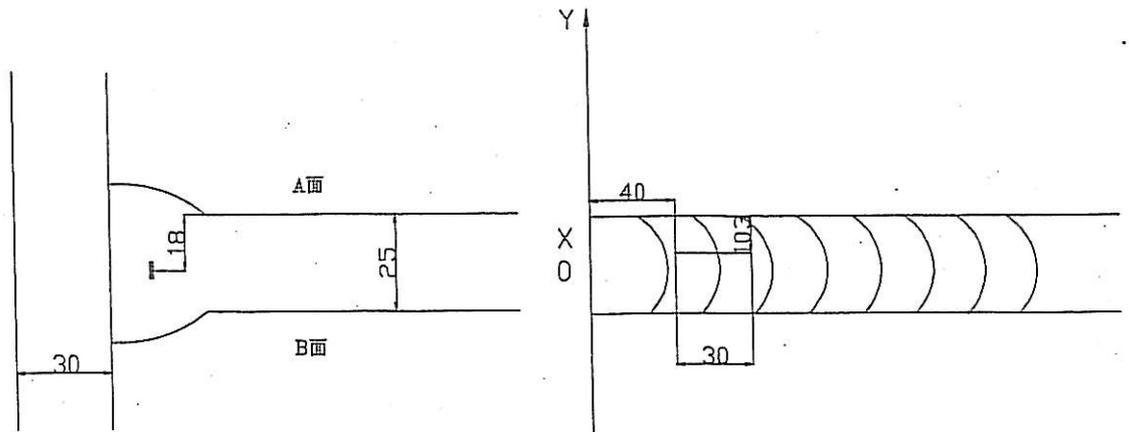
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。)SB006-028-007

检验员 (Inspector): Han Feng 日期(Date): 09.06.10

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: SB006-028-007

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman): Zhangguiming 日期(Date): 09.06.15

处理意见

Disposition :

1. 从缺陷距离端面较近一侧 ($D \leq 0.65T$, D 为缺陷深度, T 为板厚) 采用碳刨或打磨的方法去除焊缝缺陷;
2. 参照返修焊接工艺规程 (WPS) 准备正确的接头型式, 预热和焊接;
3. 焊前对修补区域进行VT检测保证缺陷完全被清除;
4. 将修补区域打磨到与母材或邻近焊缝平齐;
5. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge ($D \leq 0.65T$, "D" is depth of defects, "T" is thickness of metal) to remove all defects;
2. Follow repair WPS for joint preparation, preheat, and weld deposit;
3. Verify with VT no defects remain in the weld joint prior to welding;
4. Grind the repaired area flush with base metal or the adjacent weld;
5. Check the welds according to the working drawings.

工艺: Niutaiteng
Technical engineer

09.06.15

审核: Love
Approved by

日期
Date

09.06.15



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No.	SB3-SB26W	报告编号 Report No.	B-WR5492
合同号 Contract No.:	04-0120F4	部件名称 Items Name	SUPPORT BEAM	NDT报告编号 Report No. of NDT	B787-UT-7026
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1. 加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): Zhangguiming 日期(Date): 09.06.15

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1 WPS-345-SMAW-4 G(4F)-Repair	工艺员 technologist	Mu Falteng 09.06.15
返修(碳刨)前预热温度 Preheat temperature before gouging	90	返修的缺陷 Description of discontinuity	slag
焊前处理检查 Inspection before welding	Am	焊前预热温度 Preheat temperature before welding	100
最大碳刨深度 Max. depth of gouging	8	碳刨总长 Total length of gouging	50
焊工 welder	062763	焊接类型 welding type	FCAW
焊接电流 Current	280	焊接电压 Voltage	29.8
		焊接位置 position	25(F)
		焊接速度 Speed	too

返修后检查
Inspection After repairing:

外观检查 VT result	Acc	检验员 Inspector	Liu Faxian 08126531	日期 Date	09.06.16
NDT复检 NDT result	Acc	探伤员 NDT person	Huang Jiqiang	日期 Date	09.6.17

见证:
Witness/Review:备注:
Remark:



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-7026R1

DATE 2009.06.17

PAGE 1 OF 1

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

 ITEMS NAME: SUPPORT BEAM
 部件名称

 DRAWING NO.: SB6-SB28W
 图号

 CALTRANS CONTRACT NO.: 04-0120F4
 加州工程编号

 REFERENCING CODE 参考规范
 AWS D1.5-2002

 ACCEPTANCE STANDARD 接受标准
 AWS D1.5-2002(Table 6.3)

 PROCEDURE NO. 程序编号
 ZPQC-UT-01

 WELDING PROCESS 焊接方法
 FCAW

 JOINT TYPE 焊缝类型
 T-JOINT

 CALIBRATION DUE DATE 仪器校正有效期
 Dec. 28ST, 2009

 EQUIPMENT 设备
 UT SCOPE

 MANUFACTURER 制造商
 PANAMETRICS

 MODEL NO. 样式编号
 EPOCH-4B

 SERIAL NO. 序列编号
 071565311, 061488510,
 061495811, 070152011,

 CALIBRATION BLOCK 试块
 AWS IIW BLOCK TYPE II

 COUPLANT 耦合剂
 C.M.C

 MATERIAL/THICKNESS 材料厚度
 A709M-345T2 30/25mm

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
SB006-028-007	1R1	70				33									ACC.	100%

AFTER B-WR5492

BLANK

 EXAMINED BY 主探
 Huang Jin

 REVIEWED BY 审核
 Sun Yin

LEVEL - II SIGN / DATE 09.06.17

LEVEL - II SIGN / DATE 09.06.17

 质量经理 / QCM
 [Signature]

 用户 CUSTOMER

签字 SIGN / 日期 DATE [Signature]

签字 SIGN / 日期 DATE

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-000265**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0254**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: 26-May-2009**Description of Non-Conformance:**

Caltrans Quality Insurance (QA) Inspector performed 10% verification ultrasonic testing (UT) on weld joint identified as SB006-028-007 for Suspender Bracket SB006-028. QA Inspector discovered a class "A" rejectable indication measuring approximately 52mm in length. This weld was previously tested and accepted by ZPMC quality control (QC) UT technicians.

Contractor's proposal to correct the problem:

Repair area in question and perform subsequent NDT.

Corrective action taken:

Contractor submitted WRR as well as VT and UT reports verifying that repair was performed in conformance with Contract specifications.

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**