

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, PRC **Report No:** NCR-000485
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 26-Nov-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0458

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: East Shaft
Procedural	Procedural	Description: East Shaft, Lift 4, CD corner seam weld	

Reference Description: East Shaft, Lift 4, CD corner seam weld repair without Engineer approval

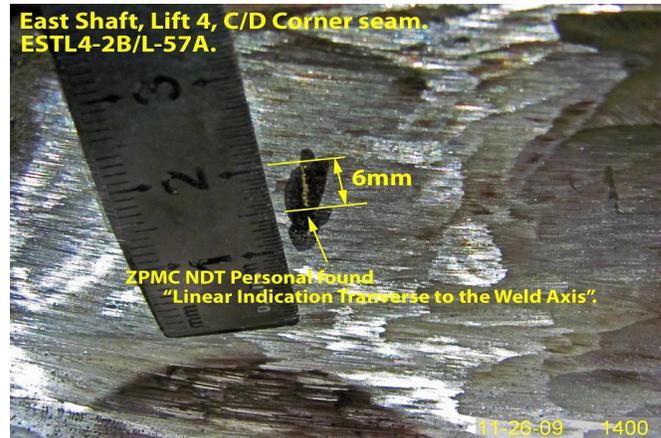
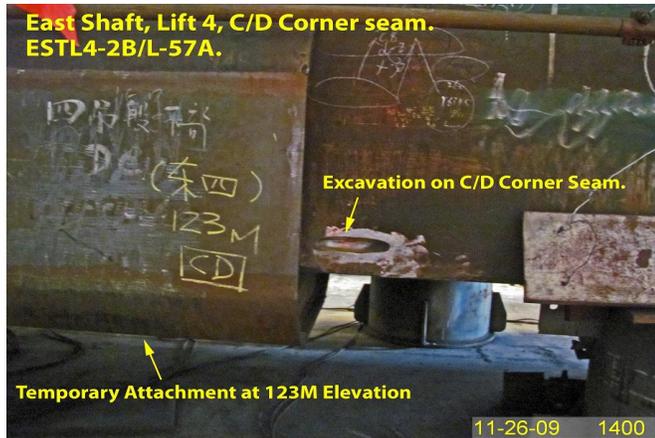
Description of Non-Conformance:

During in-process visual inspection of East Tower, Lift 4, CD corner seam weld repair excavation, QA observed a crack-like linear indication, transverse to the weld axis, approximate 6 mm in length. This excavation was for the repair of a rejectable indication found by ZPMC Ultrasonic Testing (UT) technicians. ZPMC NDT personnel performed Magnetic Particle Testing (MT) on the excavated area, confirmed the crack-like indication, and continued to perform Shielded Metal Arc Welding (SMAW) on the excavated area without prior approval of the Engineer.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

Special Provisions, Section 8-3 Welding - "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, the Contractor shall include an engineering evaluation of the proposed repair. The engineering evaluation, at a minimum, shall include what is causing the defects, why the repairs will not degrade the material properties, and what steps are being taken to prevent similar defects from happening again in the future."

AWS D1.5-2002, Section 3.7.4 - "Prior approval of the Engineer shall be obtained for repairs to base metal, repair of major or delayed cracks, or for a revised design to compensate for deficiencies."

Who discovered the problem: Amit Juvekar

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 11-26-2009, 16:00; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 11-27-2009, 8:00; Verbal

QC Inspector's Name: An Qin Xiang

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod,Serge

ASMR

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: 29-Nov-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: 05.03.06-000448

Subject: NCR No. ZPMC-0458

Reference Description: CWR - Weld Repair Performed Without Engineer's Approval / East Tower Lift 4, CD Corner Seam / Transverse Indication

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: Tower **Lift:** 04

Remarks:

During in-process visual inspection of East Tower, Lift 4, CD corner seam weld repair excavation, QA observed a crack-like linear indication, transverse to the weld axis, approximate 6 mm in length. This excavation was for the repair of a rejectable indication found by ZPMC Ultrasonic Testing (UT) technicians. ZPMC NDT personnel performed Magnetic Particle Testing (MT) on the excavated area, confirmed the crack-like indication, and continued to perform Shielded Metal Arc Welding (SMAW) on the excavated area without prior approval of the Engineer.

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AWS D1.5-2002, Section 3.7.4 - "Prior approval of the Engineer shall be obtained for repairs to base metal, repair of major or delayed cracks, or for a revised design to compensate for deficiencies."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the repaired weld is in compliance with the contract requirements. Documentation provided for the Engineer's review of the acceptability of the weld repair shall at a minimum include the procedure utilized/CWR and the NDT results.

In addition to the material/workmanship non-conformance, address the failure by both Production and Quality Control in proceeding with the repair of the crack without prior approval from the Engineer. Provide documentation of the steps/actions taken by Production and Quality Control to prevent future occurrences.

NCT

(Continued Page 2 of 2)

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0458

cc: Rick Morrow, Gary Pursell, Ken Lee, Mark Woods

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000448

Subject: NCR No. ZPMC-0458

Dated: 18-Dec-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000445 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: Currently this weld is under repair, when complete ZPMC will provide the CWR and NDT documentation to show the weld is acceptable. ZPMC requests that their proposal be accepted with actions pending.

ZPMC acknowledges that a repair of the indication discovered during MT inspection was started before a critical welding repair report was present. At the time the Production foreman believed that the indication they were repairing was the original one discovered by UT and covered by the welding repair report that was present. This resulting effect was the non conformance occurring. This has been discussed with the foreman and he has been reminded that transverse indications and cracks require Engineer approval. Currently this weld is under repair, when complete ZPMC will provide the CWR and NDT documentation to show the weld is acceptable. Based on this course of action, ZPMC requests that their proposal be accepted with actions pending.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000445R00

Caltrans' comments:

Status: REJ

Date: 20-Dec-2009

The ABFJV's response partially satisfies the requirements set forth by the Department as a complete resolution for this NCR. However, the Department will not consider closure until the remaining requirements are met.

Submitted by: Lee, Ken

Attachment(s):

Date: 20-Dec-2009

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000448

Subject: NCR No. ZPMC-0458

Dated: 19-Jan-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000445 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing the CWR used and NDT documentation which shows that the repair was successful.

ZPMC is providing the CWR used and NDT documentation which shows that the repair was successful. In this instance, the Production foreman believed that the indication he found was still the original indication found by UT and the welding repair report present he had covered the repair he was performing. This has been discussed with the foreman and he understands the reason for the non conformance. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000445R01;

Caltrans' comments:

Status: CLO

Date: 19-Jan-2010

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0458 is closed.

Submitted by: Lee, Ken

Attachment(s):

Date: 19-Jan-2010



No. T-118

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-1-18

REGARDING: NCR-000485(ZPMC-0458)

ZPMC received NCR-000485(ZPMC-0458), it mentioned that QA observed a crack-like linear indication, transverse to the weld axis, approximate 6mm in length in east tower, lift 4, CD corner.

ZPMC acknowledges that a repair of the indication discovered during MT inspection was started before a critical welding repair report was present. At the time the Production foreman believed that the indication they were repairing was the original one discovered by UT and covered by the welding repair report that was present. This resulting effect was the non-conformance occurring. This has been discussed with the foreman and he has been reminded that transverse indications and cracks require Engineer approval. Currently this weld's repairing is done according to the CWR497, so ZPMC will provide the CWR and NDT documentation to show the weld is acceptable. Based on this course of action, ZPMC requests that CT could take a review and close this NCR.

ATTACHMENT:

NCR-000485(ZPMC-0458)

T-787-UT-2432R3

T-CWR497

T-787-UT-2432R4


2010-1-18



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: 29-Nov-2009

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

Dear: Mr. Charles Kanapicki

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Attention: Mr. Thomas Nilsson Project/Fabrication Manager

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File: 05.03.06

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Report No: NCR-000485

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 26-Nov-2009

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

NCR #: ZPMC-0458

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description: East Shaft, Lift 4, CD corner seam weld

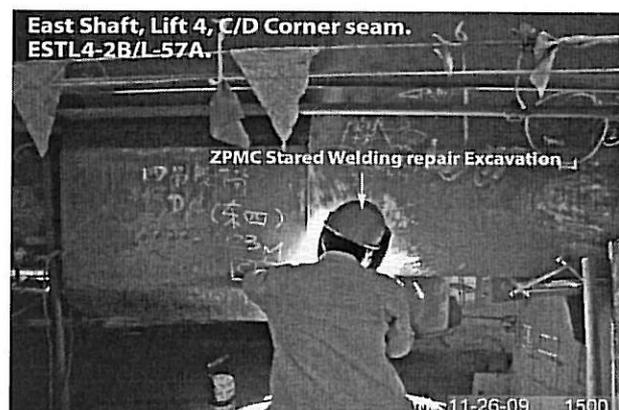
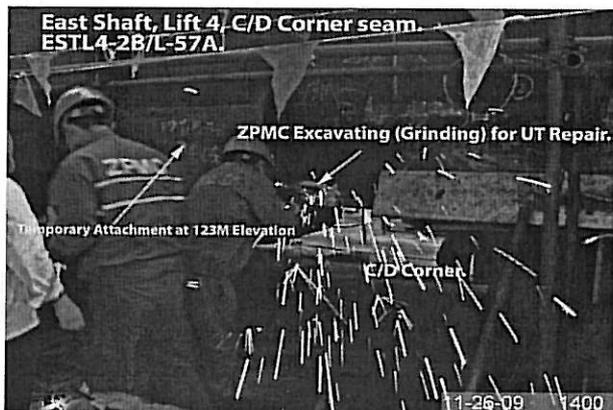
Bridge No: 34-0006

Component: East Shaft

Reference Description: East Shaft, Lift 4, CD corner seam weld repair without Engineer approval

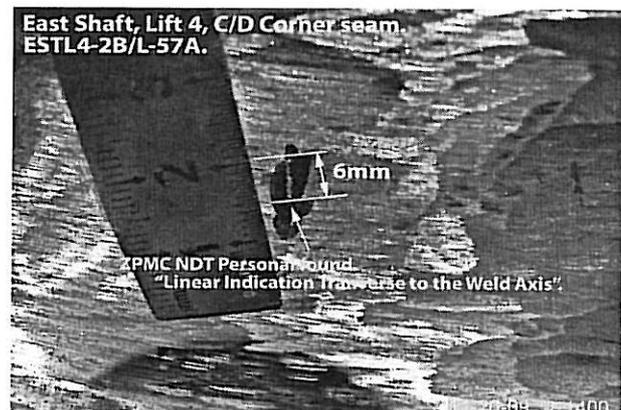
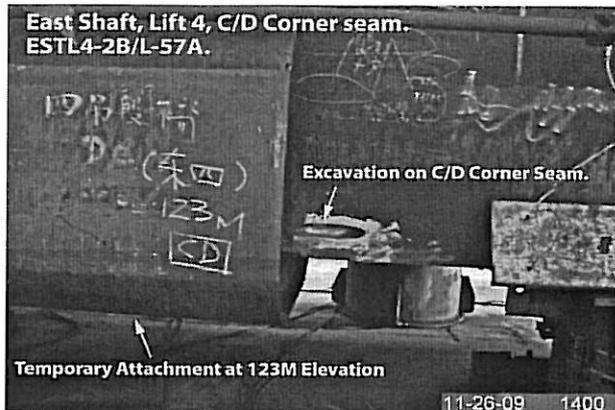
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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Time and method of notification: 11-26-2009, 16:00; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 11-27-2009, 8:00; Verbal

QC Inspector's Name: An Qin Xiang

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

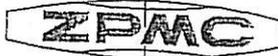
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Inspected By: Sinevod,Serge

ASMR

Reviewed By: Wahbeh,Mazen

SMR



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

版本
Rev. No.:

1

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	ESTL4-2B/L	报告编号 Report No.:	T-CWR479
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	FOURTH LIFTING LIFT NG TOWER(E) CD CO RNER	NDT 报告编号 NDT Report No.:	T787-UT-2432R3
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

Rejected Indication found by ultrasonic inspection at fourth time.

(UT探伤返修第四次。) ESTL4-2B/L-57A/B

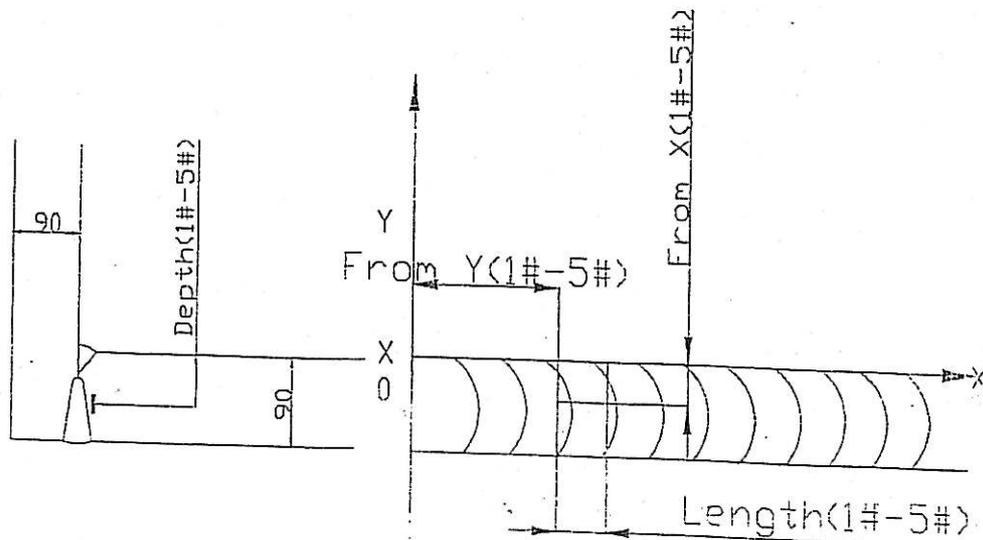
Welder ID No. (焊工编号): 040690 040733 049099 Position:(位置): 2G

Wu Chao

检验员 (Inspector): Wu Chao 日期 (Date): 2009.12.05

焊缝返修位置示意图:

Draft of Welding Discontinuity:



WELD NUMBER: ESTL4-2B/K-57A/B
Please see the detail data from UT report!

产生原因:

Cause:

1. The weld defect location may not have been properly identified prior to grinding, i.e, the X and Y location was incorrect or the excavation was not centered on the defect, therefore the excavation did not encompass the whole defect.

1. 打磨前缺陷的位置没有标识清楚, 例如: XY的位置标的不正确, 或者没有将缺陷完全清除, 因此没有清楚所有的缺陷。

车间负责人 (Foreman): *Lishiquan* 日期 (Date): *09.12.06*

处理意见

Disposition :

1. QC shall monitor and direct the welder and the grinder doing the repair operation.
2. Preheat before gouging; the temperature shall be at least 65°C.
3. Gouge the weld to remove identified defects.
4. Joint details shall refer to the approved WPS repair.
5. Grind the gouged areas to a smooth and shiny surface.
6. Verify with VT and MT to ensure no defects remain in the weld joint prior to welding.
7. QC shall monitor all welding passes being deposited.
8. QC shall ensure all slag has been removed prior the deposition of next pass.
9. Preheat and maintain interpass temperature control in accordance with the WPS.
10. Blend the weld repaired areas into the adjacent weld or base metal by grinding.
11. Perform VT, MT and UT NDT inspection to the repaired areas.

- 1、在返修过程中, QC 应该监控和指导焊工和打磨工;
- 2、碳刨之前必须先进行预热, 温度不低于 65° C;
- 3、碳刨去除缺陷;
- 4、缺陷被完全清除后, 必须准备一个正确的接头型式, 具体接头型式请参见对应的修补焊接工艺规程(WPS);
- 5、将碳刨面打磨光滑;
- 6、在准备好焊接接头焊接前, 用 VT 和 MT 检测缺陷被完全清除;
- 7、在返修过程中, QC 确认焊道清理干净;
- 8、在进入下道焊缝前, QC 应该保证所有的缺陷已经去除;
- 9、根据 WPS 控制预热和焊道的温度;
- 10、打磨返修区域与临近焊缝和母材齐平;
- 11、对返修区域进行 VT, MT 和 UT 等 NDT 检测。

This document is APPROVED
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant to Section 5-1.02 of the
 Standard Specifications
 Initial *SFL* Date: *12/07/09*

工艺:

Technical Engineer: *Chief Tndy*

审核:

Approved By: *L. Y. Lianhua*

日期:

Date: *09.12.07*



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

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项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	ESTL4-2B/L	报告编号 Report No.:	T-CWR479
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	FOURTH LIFTING LIFT ING TOWER(E) CD C ORNER	NDT 报告编号 NDT Report No.:	T787-UT-2432R3
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

- QC and production to properly lay out the UT defect, mark the X, Y, D on the base metal and the location on the surface of weld by use of rectangle or circle, by doing this, UT operator will verify the exact location of the defect prior to excavation.
 - The UT operator and or CWI will take the responsibility to verify the excavation has completely removed the defect
1. QC和生产部门应该正确的标出缺陷的位置, 在母材上标出缺陷X, Y, D的值, 在焊缝上, 用长方形和圆圈标出缺陷的位置, 在碳刨前, 能够准确的确认缺陷的位置;
2. UT检验员和CWI必须确认缺陷已经完全刨除。

车间负责人 (Foreman):

Li Shiguan

日期 (Date):

09.12.06

参照的WPS编号 Repair WPS No.:	WPS-345-FCAW-1G (1F) -Repair WPS-345-FCAW-2G (2F) -Repair WPS-345-SMAW-1G(1F)-Repair WPS-345-SMAW-2G(2F)-Repair	工艺员 Technologist:	Shang Tinghui 09.12.07
返修 (碳刨) 前预热温度 Preheat Temperature Before Gouging:	70°C	返修的缺陷 Description of Discontinuity:	夹渣 slag
焊前处理检查 Inspection Before Welding:	ACC	焊前预热温度 Preheat Temperature Before Welding:	210°C
最大碳刨深度 Max. Depth of Gouge:	35mm	碳刨总长 Total Length of Gouge:	607mm
焊工 Welder:	049099 040733	焊接类型 Welding Type:	SMAW
焊接电流 Current:	210 A	焊接电压 Voltage:	27.2 V
		焊接位置 Position:	2G
		焊接速度 Speed:	128 mm/min

返修后检查

Inspection After Repair:

外观检查 VT Result:	ACC	检验员 Inspector:	Xule Peng	日期 Date:	09.12.18
NDT复检 NDT Result:	ACC	探伤员 NDT Person:	Dan Gengsheng	日期 Date:	09.12.17

见证:

Witness/Review:

备注:

Remark:



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 T787-UT-2432R4 DATE 2009.12.17 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: FOURTH LIFTING TOWER(E) CD CORNER DRAWING NO.: ESTL4-2B/L 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 6.4) 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 CORNER-JOINT Dec. 28ST, 2009

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-Z 90mm

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	45°	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
ESTL4-2B/L-57A/B	1R4	45				32									ACC.	100%
	2R4	45				32									ACC.	100%
	3R4	45				32									ACC.	100%
	4R4	45				32									ACC.	100%
	5R4	45				32									ACC.	100%
		70				33									ACC.	100%

AFTER T-CWR479REV1

BLANK

EXAMINED BY 主探 <i>Jianhongsheng</i> 09.12.17 LEVEL - II SIGN / DATE	REVIEWED BY 审核 <i>WuChao</i> 2009.12.17 LEVEL - II SIGN / DATE
质量经理 / QCM <i>[Signature]</i>	用户 CUSTOMER _____
签字 SIGN / 日期 DATE <i>JPI225</i>	签字 SIGN / 日期 DATE _____

Tool Box Training Agenda

Subject: MT Techniques

Reason for Training: Several CT NCR's of indications missed during ZPMC NDT inspection.

1. Safety

- a. Safety Glasses
- b. Gloves (if required)
- c. Knee Pads
- d. Electrical shock

2. Tools

- a. Lighting
- b. MT Powder. Red for ambient, Yellow for High Temperature.
- c. Powder Bulb
- d. Powder Blower
- e. MT Yoke Adequate working condition
- f. Pie Gage

3. Inspection Techniques

- a. Lighting
- b. Position of body (distance of eyes to the weld surface)
- c. Application of Powder removal of Powder
- d. Continuous method
- e. Two directions
- f. Both sides of weld
- g. Clean and dry surface



教育培训纪录

培训编号: MT-22-Dec-09

培训内容:	MT Techniques
培训对象:	项目质检
授课人员:	Steve Lawton
培训类型:	内部培训
培训时间:	22-Dec-09 5:00 PM
计划培训地点:	ZPMC QC office

人员签到:

姓名	部门	姓名	部门
孙力杰 Sunlei	钢桥	狄坤伦 Di Kunlun	钢桥
孙广强 Sun Guangqiang	钢桥	蔡新鑫 Cai Xinxin	钢桥
徐海 Xu Hai	钢桥	傅春强 Fu Zhongqiang	钢桥
卞源源 Bian Yuanyuan	钢桥	顾云武 Gu Yunwu	钢桥
许兵 Xu Bing	钢桥	金建廷 Jin Jianting	钢桥 MT
李振华 Li Zhenhua	钢桥	常方杰 Chang Fangjie	钢桥
李坤阳 Li Xunyang	QA	袁俊 Yuan Jun	钢桥
王威 Wang Wei	钢桥	刘章敏 Liu Zhangmin	
孙林 Sun Lin	钢桥 MT	徐华祥 Xu Huaxiang	钢桥
丁阿成 Ding A Cheng	钢桥 MT	周东超 Zhou Dongchao	钢桥
贺佳佳 He Jiajia	钢桥	赵成功 Zhao Chenggong	钢桥
黄瑞 Huang Rui	钢桥	孙广强 Sun Guangqiang	钢桥
李黎明 Li Liming	钢桥	徐辉 Xu Hui	钢桥
李昌涛 Li Changtao		刘宏斌 Liu Hongbin	

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
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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, PRC**Report No:** NCS-000474**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0458**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-Nov-2009**Description of Non-Conformance:**

During in-process visual inspection of East Tower, Lift 4, CD corner seam weld repair excavation, QA observed a crack-like linear indication, transverse to the weld axis, approximate 6 mm in length. This excavation was for the repair of a rejectable indication found by ZPMC Ultrasonic Testing (UT) technicians. ZPMC NDT personnel performed Magnetic Particle Testing (MT) on the excavated area, confirmed the crack-like indication, and continued to perform Shielded Metal Arc Welding (SMAW) on the excavated area without prior approval of the Engineer.

Contractor's proposal to correct the problem:

Repair weld, verify with NDT

Corrective action taken:

The weld repair was performed and verified by NDT. Documentation for this repair was provided (T-CWR-497 and T-787-UT-2432R4). This issue was discussed with the foreman to prevent reoccurrence.

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 Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer