

**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-000200**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 16-Sep-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0178**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> Tower
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b>	Double Diaphragms

**Reference Description:** 04-0120F4 Special Provisions**Description of Non-Conformance:**

ABF representative inform Caltrans Quality Assurance that ZPMC was shipping two Tower Double Diaphragms identified as SSD1-28m and SSD1-33m for machining, with fabrication and testing not completed. The aforementioned double diaphragms were not accepted by ABF Quality Control (QC) at time of shipping to Nantong due to weld discontinuities in need of repair, required nondestructive testing not completed and weld terminations not acceptable to project specifications.

**Applicable reference:**

ABF-SUB-093R04 77-m (Type 3B) Mock-Up Fabrication Plan

**Who discovered the problem:** Greg Bertlesman, Quality Assurance Inspector**Name of individual from Contractor notified:** Don Walton**Time and method of notification:** N/A; Contractor was aware of the issue**Name of Caltrans Engineer notified:** Jim Reid**Time and method of notification:** 9/16/08; Verbal; 0800**QC Inspector's Name:** Fu Yuhong**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:** Ishibashi, Josh

SMR

**Reviewed By:** Smith, Ryan

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:** 25-Sep-2008

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

**Dear:** Mr. Charles Kanapicki

**Job Name:** SAS Superstructure

**Attention:** Mr. Dave Williams Consultant

**Document No:** 05.03.06-000171

**Subject:** NCR No. ZPMC-0178

**Reference Description:** Failure to Follow Approved Procedure / Double Diaphragm Assembles / Third Shipment

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:** 01

**Remarks:**

ABF representative inform Caltrans Quality Assurance that ZPMC was shipping two Tower Double Diaphragms identified as SSD1-28m and SSD1-33m for machining, with fabrication and testing not completed. The aforementioned double diaphragms were not accepted by ABF Quality Control (QC) at time of shipping to Nantong due to weld discontinuities in need of repair, required nondestructive testing not completed and weld terminations not acceptable to project specifications.

**Action Required and/or Action Taken:**

Propose a resolution for the identified non-conformance with the approved procedures and the steps taken by the Quality Control Manager to prevent future failures to follow the submitted and approved procedures. The failure to follow the approved procedure, specifically the failure to complete "Step 5 Inspection and correction" prior to progressing to Step 6 has resulted in the issuance of this NCR and NCR ZPMC-0159 and ZPMC-0164.

**Transmitted by:** Scott Kennedy Sr. Bridge Engineer

**Attachments:** ZPMC-0178

**cc:** Rick Morrow, Gary Pursell, Mark Woods, Doug Coe

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000171

**Subject:** NCR No. ZPMC-0178

**Dated:** 07-Nov-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000179 Rev: 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:**

The fabrication procedure sequence documents that the inspection of welding will be completed prior to the machining process. Initial inspection of the Double Diaphragms was completed but repairs relative to Visual inspection had not been completed. ZPMC then shipped the Double Diaphragms to Nantong for machining at their own risk noting that the repairs remaining would not adversely affect the final machined dimensions. ZPMC and ABF has since completed the weld repairs and will forward the inspection documents to CT for NCR closure.

**Submitted by:**

**Attachment(s):** ABF-NPR-000179R00

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**Caltrans' comments:**

**Status:** AAP

**Date:** 10-Nov-2008

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

The proposed resolution mentions that the repairs have been completed, and the inspection documents will be forwarded to Caltrans for NCR closure. Please provide this documentation. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0178 at that time.

**Submitted by:** Wright, Doug

**Date:** 10-Nov-2008

**Attachment(s):**

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000171

**Subject:** NCR No. ZPMC-0178

**Dated:** 15-Dec-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000179 Rev: 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC requests closure of this NCR based on attached documentation.

Please see attached.

**Submitted by:**

**Attachment(s):** ABF-NPR-000179R01; docs to close this NCR

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**Caltrans' comments:**

**Status:** CLO

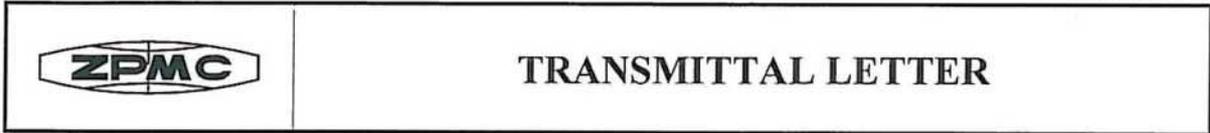
**Date:** 21-Dec-2008

The proposed resolution is acceptable. The documents requested in Rev 0 of NPR-0179 have been provided. The Department concurs that Non-Conformance ZPMC-0178 is closed.

**Submitted by:** Wright, Doug

**Date:** 22-Dec-2008

**Attachment(s):**



PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 12/12/2008

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: CALTRANS NCR FOR CLOSURE

SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.T-021 FOR CLOSURE.
- (2) COPY OF NCR WITH NUMBER NCR-000200(ZPMC-0178).
- (3) COPY OF ABF-NPR-000179
- (4) COPY OF NDT REPORTS.

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:



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PLAN HOLDER

RECEIVED 12 DEC 2008  
*1418*

---

DATE



---

COMPANY

---

PHONE NO.

PLAN NUMBER: N/A  
#R787-QCP-102



No. T-021

## LETTER OF RESPONSE

**TO: American Bridge/Flour JV**

**DATE: 2008-12-11**

**REGARDING: NCR-200 ZPMC-178**

ZPMC received NCR-200(ZPMC-178), it mentioned that ZPMC was shipping two tower double diaphragms identified as SSD1-28m and SSD1-33m for machining, with fabrication and testing not completed.

ZPMC had verified and acknowledged this problem. Due to the tight schedule, ZPMC decided to send these two diaphragms to Nantong Base for machining. Before ZPMC sent out, most of the work was finished including welding, grinding, repairing and part of NDT. So ZPMC thought the diaphragm state at that time were already satisfied with machining condition. After both diaphragms getting back, the technician finished all the required NDT and these two diaphragms had gotten Caltrans' green tag.

So here ZPMC attached AB/F NCR proposed solution ABF-NPR-000179 and all the NDT reports, hoped Caltrans can take a review and close this NCR.

### ATTACHMENT:

NCR-000200 (ZPMC-0178)

ABF-NPR-000179

28M NDT reports:

Upper diaphragm plate butt welding: T787-UT-035 & T787-MT-031

Lower diaphragm plate butt welding: T787-UT-235 & T787-MT-342

Welds between upper and lower diaphragm plates with web plates: T787-MT-994

Welds between upper diaphragm plate with flange ring: T787-MT-993

Welds between lower diaphragm plate with flange ring: T787-MT-992

Upper diaphragm flange ring butt welding: T787-UT-317

Lower diaphragm flange ring butt welding: T787-UT-250

33M NDT reports:

Upper diaphragm plate butt welding: T787-UT-039 & T787-MT-035

Lower diaphragm plate butt welding: T787-UT-051 & T787-MT-062

Welds between upper and lower diaphragm plates with web plates:

T787-MT-592 & T787-MT-597

Welds between upper diaphragm plate with flange ring: T787-MT-598

Welds between lower diaphragm plate with flange ring: T787-MT-596

Upper diaphragm flange ring butt welding: T787-UT-273

Lower diaphragm flange ring butt welding: T787-UT-312

2008-12-12

*Handwritten signature*  
ABF QCM  
15 DEC. 08



DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
Office of Structural Materials  
Quality Assurance and Source Inspection

Contract #: 04-0120F4

Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1100  
(707) 649-5450  
(707) 649-5490

Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25I

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000200

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 16-Sep-2008

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

NCR #: ZPMC-0178

### Type of problem:

Welding  Concrete  Other   
 Welding  Curing  Procedural  Bridge No: 34-0006  
 Joint fit-up  Coating  Other  Component: Tower  
 Procedural  Procedural  Descriptor: Double Diaphragms

Reference Description: 04-0120F4 Special Provisions

### Description of Non-Conformance:

ABF representative inform Caltrans Quality Assurance that ZPMC was shipping two Tower Double Diaphragms identified as SSD1-28m and SSD1-33m for machining, with fabrication and testing not completed. The aforementioned double diaphragms were not accepted by ABF Quality Control (QC) at time of shipping to Nantong due to weld discontinuities in need of repair, required nondestructive testing not completed and weld terminations not acceptable to project specifications.

### Applicable reference:

ABF-SUB-093R04 77-m (Type 3B) Mock-Up Fabrication Plan

Who discovered the problem: Greg Bertlesman, Quality Assurance Inspector

Name of individual from Contractor notified: Don Walton

Time and method of notification: N/A; Contractor was aware of the issue

Name of Caltrans Engineer notified: Jim Reid

Time and method of notification: 9/16/08; Verbal; 0800

QC Inspector's Name: Fu Yuhong

Was QC Inspector aware of the problem:  Yes  No

Contractor's proposal to correct the problem:

### Comments:

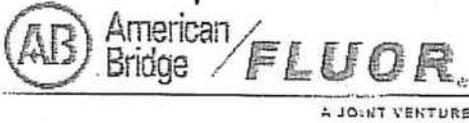
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the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

Inspected By: Ishibashi, Josh

SMR

Reviewed By: Smith, Ryan

SMR



AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV

P.O. BOX 23223 Oakland, CA 94623

Phone (510) 419-0120 / Fax (510) 839-0666

## NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary  
Resident Engineer

Ref: 05.03.06-000171

Subject: NCR No. ZPMC-0178

Dated: 07-Nov-2008

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000179 Rev: 00

---

### Contractor's Proposed Resolution:

#### Reference Resolution:

The fabrication procedure sequence documents that the inspection of welding will be completed prior to the machining process. Initial inspection of the Double Diaphragms was completed but repairs relative to Visual inspection had not been completed. ZPMC then shipped the Double Diaphragms to Nantong for machining at their own risk noting that the repairs remaining would not adversely affect the final machined dimensions. ZPMC and ABF has since completed the weld repairs and will forward the inspection documents to CT for NCR closure.

#### Submitted by:

Attachment(s): ABF-NPR-000179R00

---

#### Caltrans' comments:

Status: AAP

Date: 10-Nov-2008

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

The proposed resolution mentions that the repairs have been completed, and the inspection documents will be forwarded to Caltrans for NCR closure. Please provide this documentation. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0178 at that time.

Submitted by: Wright, Doug

Date: 10-Nov-2008

Attachment(s):

RECEIVED

NOV 10 2008

AMERICAN BRIDGE/FLUOR



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 T787-UT-039

DATE 2008.04.22

PAGE 1 OF 1

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: 33M UPPER DIAPHRAGM  
部件名称DRAWING NO.: SA322(S), P283(S)  
图号CALTRANS CONTRACT NO.: 04-0120F4  
加州工程编号REFERENCING CODE 参考规范  
AWS D1.5-2002ACCEPTANCE STANDARD 接受标准  
AWS D1.5-2002(Table 6.3)PROCEDURE NO. 程序编号  
ZPQC-UT-01WELDING PROCESS 焊接方法  
SAWJOINT TYPE 焊缝类型  
BUTTCALIBRATION DUE DATE 仪器校正有效期  
DEC. 28<sup>ST</sup>, 2008EQUIPMENT 设备  
UT SCOPEMANUFACTURER 制造商  
PANAMETRICSMODEL NO. 样式编号  
EPOCH-4BSERIAL NO. 序列编号  
071565311, 061488510,  
061495811, 070152011,CALIBRATION BLOCK 试块  
AWS IIW BLOCK TYPE IICOUPLANT 耦合剂  
C.M.CMATERIAL/THICKNESS 材料厚度  
A709M-HPS-485WT2-Z / 75mm

### 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 °	2.5 MHz	18x18 mm	Changchao	45 °	2.5 MHz	18x18 mm
Changchao	0 °	2.5 MHz	20 mm	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
SSD1-SA322-A/B-1A/1B		68.4				34									ACC.	
		44.3				33									ACC.	
SSD1-SA322-A/B-2A/2B		68.4				34									ACC.	
		44.3				33									ACC.	
BLANK																

EXAMINED BY 主探

REVIEWED BY 审核:

Majilong 2008.04.22.Xuehai Kong 2008.04.22

LEVEL - II SIGN / DATE

LEVEL - II SIGN / DATE

质量经理 / QCM

用户CUSTOMER

Huifang 2008.5.1

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE





# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO.报告编号 T787-UT-051

DATE 2008.04.30

PAGE 1 OF 1

Revision No: 0

PROJECT NO.:工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: 33M LOWER DIAPHRAGM

DRAWING NO.:SA276(S), P284(S)

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 6.3)

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

SAW

BUTT

DEC. 28<sup>ST</sup>, 2008

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 IIW BLOCK TYPE II

C.M.C

A709M-HPS-485WT2-Z/ 75mm

### 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 °	2.5 MHz	18x18 mm	Changchao	45°	2.5 MHz	18x18 mm
Changchao	0 °	2.5 MHz	20 mm	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	Depth from Surface 距表面深度	From X 距X	From Y 距Y			
SSD1-SA276-1A/1B		68.7				32									ACC.	
		44.6				34									ACC.	
SSD1-SA276-2A/2B		68.7				32									ACC.	
		44.6				34									ACC.	

BLANK

EXAMINED BY 主探

REVIEWED BY 审核:

*Mai Jilong* 2008.04.30

*Xue Hongyong* 2008.04.30

LEVEL - II SIGN / DATE

LEVEL - II SIGN / DATE

质量经理 / QCM

用户 CUSTOMER

*Hu Gang* 2008.5.6

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE





REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-592		DATE 日期 2008.09.01		PAGE OF 页码 1/1	Revision No: 0	
PROJECT NO. 工程编号: ZP06-787			CONTRACTOR: 用户: CALTRANS			
DRAWING NO. 图号: SA322(S) TOWER(S) 33M DIAPHRAGM			CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4			
REFERENCING CODE 参考规范编号 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 <sup>ST</sup> , 2008			
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617			
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC			
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm			
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-HPS-485WT2-Z 75/60/40mm			
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	T-JOINT			
WELD I.D. 焊缝编号	DISCONTINUITY 不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	EYE 类型	LENGTH IN mm 长度			
SSD1-SA322B/B-1				ACC.		
SSD1-SA322B/B-2				ACC.		
SSD1-SA322B/B-5				ACC.		
SSD1-SA322B/B-6				ACC.		
SSD1-SA322B/B-9				ACC.		
SSD1-SA322B/B-10				ACC.		
SSD1-SA322B/B-13				ACC.		
SSD1-SA322B/B-14				ACC.		
BLANK						
EXAMINED BY 主探 <i>Zhou Dongyan</i>			REVIEWED BY 审核 <i>Xu Hai</i>			
LEVEL - II SIGN 签名 / DATE 日期 <i>2008.9.01</i>			LEVEL - II SIGN / DATE 日期 <i>08.9.1</i>			
质量经理 / QCM <i>Huang</i> <i>2008.09.10</i>			用户 CUSTOMER			
签字 SIGN / 日期 DATE			签字 SIGN / 日期 DATE			



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-597		DATE 日期 2008.09.02	PAGE OF 页码 1/1	Revision No: 0
PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS		
DRAWING NO. 图号: SA276(S) TOWER(S) 33M DIAPHRAGM FIG PLATE		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4		
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 <sup>ST</sup> , 2008	
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617	
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC	
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm	
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-HPS-485WT2-Z 75/60/40mm	
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	T-JOINT	

WELD I.D. 焊缝编号	DISCONTINUITY 不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SSD1-SA322B/B-11				ACC.		
SSD1-SA322B/B-12				ACC.		
SSD1-SA322B/B-7				ACC.		
SSD1-SA322B/B-8				ACC.		
SSD1-SA322B/B-15				ACC.		
SSD1-SA322B/B-16				ACC.		
SSD1-SA322B/B-3				ACC.		
SSD1-SA322B/B-4				ACC.		
BLANK						

EXAMINED BY 主操 <u>Zhou Dongyan</u>	REVIEWED BY 审核 <u>Xu Hai</u>
LEVEL - II SIGN 签名 / DATE 日期 <u>2008.9.02</u>	LEVEL-II SIGN / DATE 日期 <u>08.9.2</u>
质量经理 / QCM <u>Hu Kang</u> <u>2008.09.10</u>	用户 CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE





REPORT OF MAGNETIC PARTICLE EXAMINATION  
磁粉检测报告

REPORT NO. 报告编号 T787-MT-596      DATE日期 2008.09.02      PAGE OF页码 1/1      Revision No: 0

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

DRAWING NO. 型号: SA276(S)+SA275 TOWER(S) 33M LOWER DIAPHRAGM      CALTRANS CONTRACT NO.: 加州工程编号: 04-0120F4

REFERENCING CODE 参考规范编号: AWS D1.5-2002      ACCEPTANCE STANDARD 接受标准: AWS D1.5-2002      PROCEDURE NO. 程序编号: ZPQC-MT-01      CALIBRATION DUE DATE 仪器校正有效期: Dec. 28<sup>ST</sup>, 2008

EQUIPMENT 设备: MT YOKE      MANUFACTURER 制造商: PARKER      MODEL NO. 样式编号: B310S      SERIAL NO. 连续编号: 5620 5395 5617

MAGNETIZING METHOD 磁化方法: Continuous magnetic yoke 磁轭式连续法      CURRENT 电流: AC

PARTICLE TYPE 磁粉类型: Dry magnet powder 干磁粉      YOKE SPACING 磁轭间距: 70~150mm

MATERIAL TO BE EXAMINED 检测材料:  WELDING 焊接件  CASTING 铸件  FORGING 锻造      Material & thickness 母材, 厚度: A709M-345T2 / A709M-HPS-485WT2 75/60mm

WELDING PROCESS 焊接方法: FCAW      TYPE OF JOINT 焊缝类型: T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY 不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SSD1-SA276-8				ACC.		
SSD1-SA276-9				ACC.		

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EXAMINED BY 主测: Zhou Dongyan

REVIEWED BY 审核: Xu Hai

LEVEL - II SIGN 签名 / DATE 日期: 2008.9.02

LEVEL-II SIGN / DATE 日期: 08.9.2

质量经理 / QCM: Hu Guang      2008.09.10

月户 CUSTOMER: \_\_\_\_\_

签字 SIGN / 日期 DATE: \_\_\_\_\_

签字 SIGN / 日期 DATE: \_\_\_\_\_



Attachment-1. CONTINUED



REPORT OF ULTRASONIC EXAMINATION

REPORT NO. 报告编号 T787-UT-273

DATE 2008.07.30

PAGE 2 OF 2

Revision No: 0

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						
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Face'A' 距表面深度	From'X' 距X	From'Y' 距Y		
SSD1-SA322A/B-7A7B														*	
SSD1-SA322A/B-10A10B														*	
SSD1-SA322A/B-11A11B														*	
SSD1-SA322A/B-12A12B														*	

\*SSD1-SA322A/B-5A5B, SSD1-SA322A/B-6A6B were 100% UT inspection and ACC, which is the result of required 25% UT.  
 \*SSD1-SA322A/B-5A5B, SSD1-SA322A/B-6A6B焊缝经100%UT检测合格, 累积检测长度已经达到了此批要求的25%检测长度。

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EXAMINED BY 主探

*Xu Hongqiang* 2008.07.30  
 LEVEL - II SIGN / DATE

REVIEWED BY 审核:

*Xu Rongqiang* 2008.07.30  
 LEVEL - II SIGN / DATE

质量经理 / QCM

*Hu Kang* 2008.08.05

用户 CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 T787-UT-312

DATE 2008.08.11

PAGE 1 OF 2

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: 33M LOWER DIAPHRAGM

DRAWING NO.: SSD1-SA275

CALTRANS CONTRACT NO.: 04-0120F4

部件名称 EDGE PLATE

图号

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  
BUTT

CALIBRATION DUE DATE 仪器校正有效期  
DEC. 28<sup>ST</sup>, 2008

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 IIV BLOCK TYPE II

COUPLANT 耦合剂  
C.M.C

MATERIAL/THICKNESS 材料厚度  
A709M-345T2 60mm

### 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 °	2.5 MHz	18*18 mm	Changchao	60 °	2.5 MHz	18*18 mm
Changchao	0 °	2.5 MHz	20 mm				

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	Depth from Surface 距表面深度	From X 距X	From Y 距Y								
SSD1-SA276-3A3B		68.7				34									ACC.	
		58.8				34									ACC.	
SSD1-SA276-4A4B																*
SSD1-SA276-5A5B																*
SSD1-SA276-6A6B		68.7				34									ACC.	
		58.8				34									ACC.	

EXAMINED BY 主探

*Ma Jilong 2008.08.11*

LEVEL - II SIGN / DATE

REVIEWED BY 审核:

*Xu Ronggang 2008.08.11*

LEVEL - II SIGN / DATE

质量经理 / QCM

*Hu Xian 2008.08.11*

用户 CUSTOMER

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE

Attachment-1. CONTINUED



REPORT OF ULTRASONIC EXAMINATION

REPORT NO. 报告编号 T787-UT-312

DATE 2008.08.11

PAGE 2 OF 2

Revision No: 0

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						
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Face'A' 距表面深度	From'X' 距X	From'Y' 距Y		
SSD1-SA276-7A7B														*	
SSD1-SA276-10A10B														*	
SSD1-SA276-11A11B														*	
SSD1-SA276-12A12B														*	

\*SSD1-SA276-3A3B, SSD1-SA276-6A6B were 100% UT inspection and ACC, which is the result of required 25% UT.

\*SSD1-SA276-3A3B, SSD1-SA276-6A6B焊缝经100%UT检测合格, 累积检测长度已经达到了比批要求的25%检测长度。

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EXAMINED BY 主探  
Mai Jilong 2008.08.11  
 LEVEL-II SIGN / DATE

REVIEWED BY 审核:  
Xu Ronggang 2008.08.11  
 LEVEL-II SIGN / DATE

质量经理 / QCM  
Hu Kang 2008.08.11  
 签字 SIGN / 日期 DATE

用户CUSTOMER  
 \_\_\_\_\_  
 签字 SIGN / 日期 DATE



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 T787-UT-035

DATE 2008.04.19

PAGE 1 OF 1

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: SOUTHERN TOWER 28M UPPER  
部件名称 DIAPHRAGM

DRAWING NO.: SA334(S)+P248(S)  
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  
SAW

JOINT TYPE 焊缝类型  
BUTT

CALIBRATION DUE DATE 仪器校正有效期  
DEC. 28<sup>ST</sup>, 2008

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-HPS-485WT2-Z / 75mm

### 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 °	2.5 MHz	18x18 mm	Changchao	45 °	2.5 MHz	18x18 mm
Changchao	0 °	2.5 MHz	20 mm	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
SSD1-SA334A/B-1A/1B		68.5				33									ACC.	
		44.5				34									ACC.	
SSD1-SA334A/B-2A/2B		68.5				33									ACC.	
		44.5				34									ACC.	

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EXAMINED BY 主探

*W. Lundy* 2008.04.19

LEVEL - II SIGN / DATE

REVIEWED BY 审核:

*Xue Maorong* 2008.04.19

LEVEL - II SIGN / DATE

质量经理 / QCM

*Huifang* 2008.4.23

签字 SIGN / 日期 DATE

用户 CUSTOMER

签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-031		DATE日期 2008.04.22	PAGE OF页码 1/1	Revision No: 0		
PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS				
DRAWING NO. 图号: SA334(S)+P248(S) SOUTHERN TOWER 28M UPPER DIAPHRAGM		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4				
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28, 2008			
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5360 5362 5395			
MAGNETIZING METHOD磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC			
PARTICLE TYPE, 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm			
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材,厚度	A709M-HPS-485WT2-Z 75mm			
WELDING PROCESS 焊接方法	SAW	TYPE OF JOINT 焊缝类型	BUTT			
WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SSD1-SA334A/B-1A/1B				ACC.		
SSD1-SA334A/B-2A/2B				ACC.		
BLANK						
EXAMINED BY主探 <u>Zhou Dongyan</u> LEVEL - II SIGN 签名 / DATE日期 2008.4.22			REVIEWED BY 审核 <u>B. H. Wu</u> LEVEL-II SIGN / DATE日期 2008.4.22			
质量经理 / QCM <u>Hu Gang</u> 2008.5.1 签字 SIGN / 日期 DATE			用户CUSTOMER _____ 签字 SIGN / 日期 DATE			





REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-342		DATE日期 2008.07.21	PAGE OF页码 1/1	Revision No: 0
PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS		
DRAWING NO. 图号: SA270(S)+P249(S) TOWER(S) 28M LOWER DIAPHRAGM		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4		
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 <sup>ST</sup> , 2008	
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617	
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC	
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm	
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-HPS-485WT2-Z 75mm	
WELDING PROCESS 焊接方法	SAW	TYPE OF JOINT 焊缝类型	BUTT	

WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SSD1-SA270-1A				ACC.		
SSD1-SA270-1B				ACC.		
SSD1-SA270-2A				ACC.		
SSD1-SA270-2B				ACC.		
BLANK						

EXAMINED BY主探 <i>Bo Termi</i>	REVIEWED BY 审核 <i>Wang wei</i>
LEVEL - II SIGN 签名 / DATE日期 <i>08.07.21</i>	LEVEL-II SIGN / DATE日期 <i>08.07.21</i>
质量经理 / QCM <i>Hu Guang</i> <i>208.07.29</i>	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-994		DATE日期 2008.10.10	PAGE OF页码 1/2	Revision No: 0
PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS		
DRAWING NO. 图号: SA270+SA334 TOWER(S) 28M DIAPHRAGM		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4		
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 <sup>ST</sup> , 2008	
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617	
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC	
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm	
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-HPS-485WT2 75/60/40mm	
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	T-JOINT	

WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SSD1-SA334B/B-1				ACC.		
SSD1-SA334B/B-2				ACC.		
SSD1-SA334B/B-13				ACC.		
SSD1-SA334B/B-14				ACC.		
SSD1-SA334B/B-7				ACC.		
SSD1-SA334B/B-8				ACC.		
SSD1-SA334B/B-9				ACC.		
SSD1-SA334B/B-10				ACC.		
SSD1-SA334B/B-3				ACC.		
SSD1-SA334B/B-4				ACC.		
SSD1-SA334B/B-15				ACC.		
SSD1-SA334B/B-16				ACC.		
SSD1-SA334B/B-5				ACC.		
SSD1-SA334B/B-6				ACC.		

EXAMINED BY主探 <u>Cai Xinxin</u>	REVIEWED BY 审核 <u>Wang Wei</u>
LEVEL - II SIGN 签名 / DATE日期 <u>08.10.10</u>	LEVEL-II SIGN / DATE日期 <u>08.10.10</u>
质量经理 / QCM <u>Huqiang</u> <u>2008.10.15</u>	用户 CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-994		DATE日期 2008.10.10	PAGE OF页码 2/2	Revision No: 0
PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS		
DRAWING NO. 图号: SA270+SA334 TOWER(S) 28M DIAPHRAGM		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4		
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 <sup>ST</sup> , 2008	
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617	
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC	
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm	
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材,厚度	A709M-HPS-485WT2 75/60/40mm	
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	T-JOINT	

WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SSD1-SA334B/B-11				ACC.		
SSD1-SA334B/B-12				ACC.		
SSD1-SA270-13				ACC.		
SSD1-SA270-14				ACC.		
SSD1-SA270-15				ACC.		
SSD1-SA270-16				ACC.		
SSD1-SA270-17				ACC.		
SSD1-SA270-18				ACC.		
BLANK						

EXAMINED BY主探 <u>Cai Xinxin</u>	REVIEWED BY 审核 <u>Wang Wei</u>
LEVEL - II SIGN 签名 / DATE日期 <u>08-10-10</u>	LEVEL-II SIGN / DATE日期 <u>08-10-10</u>
质量经理 / QCM <u>Huqiang</u> <u>08-10-15</u>	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE







# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 T787-UT-317

DATE 2008.08.13

PAGE 1 OF 2

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: 28M LOWER DIAPHRAGM

DRAWING NO.: SSD1-SA328

CALTRANS CONTRACT NO.: 04-0120F4

部件名称 EDGE PLATE

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 6.3)

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

FCAW

BUTT

DEC. 28<sup>ST</sup>, 2008

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 IIW BLOCK TYPE II

C.M.C

A709M-345T2

60mm

### 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 °	2.5 MHz	18*18 mm	Changchao	60 °	2.5 MHz	18*18 mm
Changchao	0 °	2.5 MHz	20 mm				

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 缺陷评价	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	Depth from Surface 距表面深度	From X 距X	From Y 距Y							
SSD1-SA270-3A(3B)															*
SSD1-SA270-4A(4B)															*
SSD1-SA270-5A(5B)															*
SSD1-SA270-6A(6B)		69.3				33								ACC.	
		58.6				33								ACC.	
SSD1-SA270-7A(7B)															*

EXAMINED BY 主探

REVIEWED-BY 审核:

Xu Penggang 2008.08.13  
LEVEL - II SIGN DATE

Li Li 2008.08.13  
LEVEL - II SIGN DATE

质量经理 / QCM

用户 CUSTOMER

Hu Kang 2008.08.19  
SIGN DATE

签字 SIGN / 日期 DATE

Attachment-1. CONTINUED



REPORT OF ULTRASONIC EXAMINATION

REPORT NO. 报告编号 T787-UT-317

DATE 2008.08.13

PAGE 2 OF 2

Revision No: 0

WELD IDENTIFICATION 焊缝的符号	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							
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Face 'A' 距表面深度	From X 距X	From Y 距Y			
SSD1-SA270-10A(10B)		69.3				33									ACC.	
		58.6				33									ACC.	
SSD1-SA270-11A(11B)																*
SSD1-SA270-12A(12B)																*

\*SSD1-SA270-6A(6B), SSD1-SA270-10A(10B) were 100% UT inspection and ACC, which is the result of required 25% UT.

\*SSD1-SA270-6A(6B), SSD1-SA270-10A(10B) 焊缝经100%UT检测合格, 实际检测长度已经达到了检测要求的25%检测长度。

BLANK

EXAMINED BY 主操

*Xu Ronggang* 2008.08.13

LEVEL-II SIGN / DATE

REVIEWED BY 审核:

*L. L. Lin* 2008.08.13

LEVEL-II SIGN / DATE

质量经理 / QCM

*Hu* 2008.08.19

签字 SIGN / 日期 DATE

用户 CUSTOMER

签字 SIGN / 日期 DATE



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 T787-UT-250

DATE 2008.07.23

PAGE 1 OF 2

Revision No: 0

PROJECT NO.: 工程编号 ZP06-787

CONTRACTOR: CALTRANS

ITEMS NAME: 28M UPPER DIAPHRAGM

DRAWING NO.: SSD1-SA271

CALTRANS CONTRACT NO.: 04-0120F4

部件名称 EDGE PLATE

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 6.3)

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

FCAW

BUTT

DEC. 28<sup>th</sup>, 2008

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 60mm

### 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°	2.5 MHz	18*18 mm	Changchao	60°	2.5 MHz	18*18 mm
Changchao	0°	2.5 MHz	20 mm				

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	Depth from Surface 距表面深度*	From X 距X	From Y 距Y							
SSD1-SA334A/B-3A(3B)														*	
SSD1-SA334A/B-4A(4B)														*	
SSD1-SA334A/B-5A(5B)		68.5				32							ACC.		
		58.6				32							ACC.		
SSD1-SA334A/B-6A(6B)														*	
SSD1-SA334A/B-7A(7B)														*	

EXAMINED BY 主探

REVIEWED BY 审核:

Ma Ji Cong 2008.07.23

Xue Haxiong 2008.07.23

LEVEL - II SIGN / DATE

LEVEL - II SIGN / DATE

质量经理 / QCM

用户 CUSTOMER

Hutang 2008.07.29

签字 SIGN / 日期 DATE

签字 SIGN / 日期 DATE

Attachment-1. CONTINUED



REPORT OF ULTRASONIC EXAMINATION

REPORT NO. 报告编号 T787-UT-250

DATE 2008.07.23

PAGE 2 OF 2

Revision No: 0

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 不连续缺陷					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						
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Face 'A' 距表面深度	From 'X' 距X	From 'Y' 距Y		
SSD1-SA334A/B-10A(10B)		68.5				32								ACC.	
		58.6				32								ACC.	
SSD1-SA334A/B-11A(11B)															*
SSD1-SA334A/B-12A(12B)															*

\* SSD1-SA334A/B-5A(5B), SSD1-SA334A/B-10A(10B) were 100% UT inspection and ACC, which is the result of required 25% UT.  
 \* SSD1-SA334A/B-5A(5B), SSD1-SA334A/B-10A(10B) 焊缝经 100% UT 检测合格, 累积检测长度已经达到了此批要求的 25% 检测长度。

BLANK

EXAMINED BY 主探

REVIEWED BY 审核:

*Na Ji Long* 2008.07.23

*Xue Hanyang* 2008.07.23

LEVEL - II SIGN / DATE

LEVEL - II SIGN / DATE

质量经理 / QCM

用户 CUSTOMER

*Hu Kang* 2008.07.24

签字 SIGN / 日期 DATE

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, PRC**Report No:** NCS-000130**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Dec-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0178**Type of problem:**

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

**Date the Non-Conformance Report was written:** 16-Sep-2008**Description of Non-Conformance:**

ABF representative inform Caltrans Quality Assurance that ZPMC was shipping two Tower Double Diaphragms identified as SSD1-28m and SSD1-33m for machining, with fabrication and testing not completed. The aforementioned double diaphragms were not accepted by ABF Quality Control (QC) at time of shipping to Nantong due to weld discontinuities in need of repair, required nondestructive testing not completed and weld terminations not acceptable to project specifications.

**Contractor's proposal to correct the problem:**

The fabrication procedure sequence documents that the inspection of welding will be completed prior to the machining process. Initial inspection of the Double Diaphragms was completed but repairs relative to Visual Inspection had not been completed. ZPMC then shipped the Double Diaphragms to Nantong for machining at their own risk noting that the repairs remaining would not adversely affect the final machined dimensions. ZPMC and ABF have since completed the weld repairs and will forward the inspection documents to CT for NCR closure.

**Corrective action taken:**

ZPMC has acknowledged this problem. Due to the tight schedule, the two diaphragms were shipped prior to completion of all NDT and repairs. Since then, ZPMC has completed and submitted documentation of all NDT inspections and final repairs. The final dimensions are acceptable and the diaphragms have been green tagged.

**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 Serge Sinevod, who represents the Office of Structural Materials for your project.

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# QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

( Continued Page 2 of 2 )

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**Inspected By:** Sinevod,Serge

Quality Assurance Inspector

**Reviewed By:** Sinevod,Serge

QA Reviewer