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, P.R. China **Report No:** NCR-000283
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 22-May-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0257

Type of problem:

Welding	☑	**Concrete**	☐	**Other**	☐	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** OBG Segment 1AAW
Procedural	☑	**Procedural**	☐	**Description:**		

Reference Description: Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings, Segment 1AAW

Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector found the following issues by Visual Testing (VT) on welds previously inspected and accepted by ZPMC Quality Control (QC) and ABF QA Inspectors.

1. Thirteen (13) cracked tacks were found by QA MT Inspector on segment stiffener plates. ZPMC removed the cracked tacks by carbon arc gouging. Plates and stiffener base material will now need to be repaired. The weld numbers are as follows; Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659, 660, 661, 662, and 663.
2. Twenty Three (23) Bulkhead Stiffeners have fillet welds wrapped on both ends of stiffener. Weld detail on drawing shows the fillet weld shall be welded both sides and not welded all around (wrapped).
3. SEG1C-152~172 and SEG1D-152~170- The approved drawings require a tight fit joint. The joint had been fillet welded then the weld was removed by carbon arc gouging resulting in base metal damage. ZPMC caulked over the gouged welds prior to Caltrans QA Inspector verification of the 2 mm tight fit requirements.
4. Segment internal stiffener Partial Joint Penetration (PJP) Welds have root openings greater than the 5mm allowed per WPS-B-T-2333-Tc-U4b f. See attached table for weld joint numbers and root opening values. The back side of the PJP welds exhibit burn through with slag inclusions which have not been cleaned.
5. SEG1D-002, SEG1D-092, and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.
6. 28 mm thick sloping stiffeners at location A41 (2) and location A12 (2) which require a PJP weld with a 8 mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28 mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.
7. Fillet welds joining internal stiffeners to plates at locations A14 ~ A16 on W3 side bottom plate and location A14 W3 side bulkhead contain rollover, lack of fusion, and unacceptable weld profiles.
8. Pipe (219 mm diameter) penetration at location A14 bottom plate on segment assembly detail SEG1A has a root gap of 9.5 mm. Root gap exceeds the 5 mm maximum root gap for fillet welds.

9. The backing bar for complete joint penetration (CJP) weld SEG1E-587 is still in place in various locations along the weld. The joint designation TC-U4b per WPS-B-T-2233-Tc-U4b-F requires the joint to be welded both sides then backgouged.

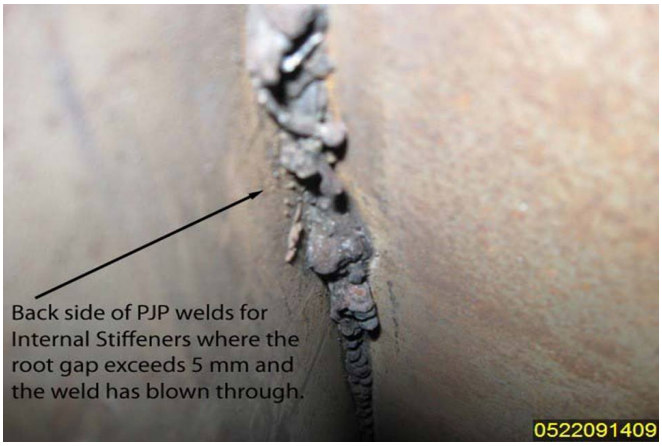
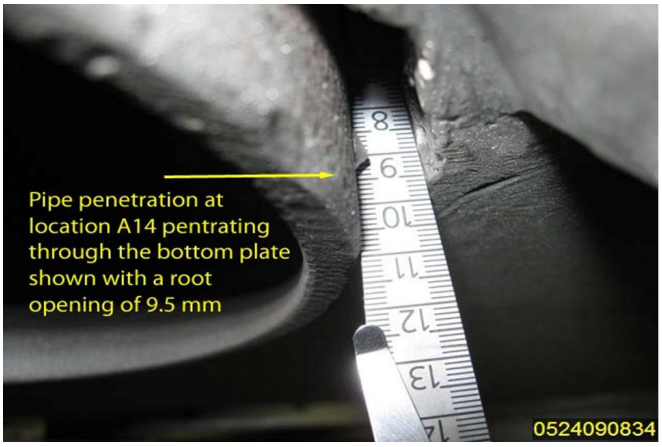
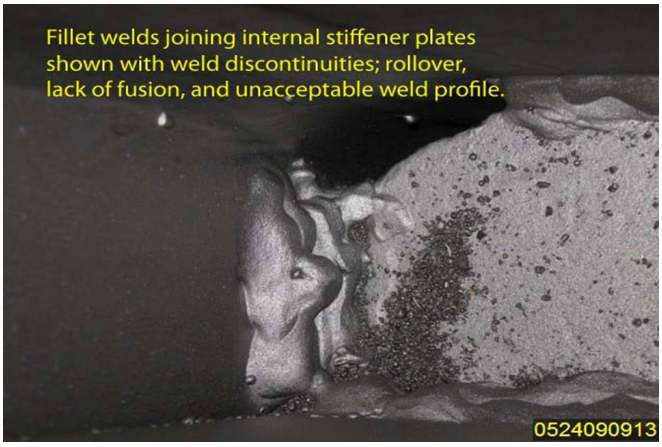
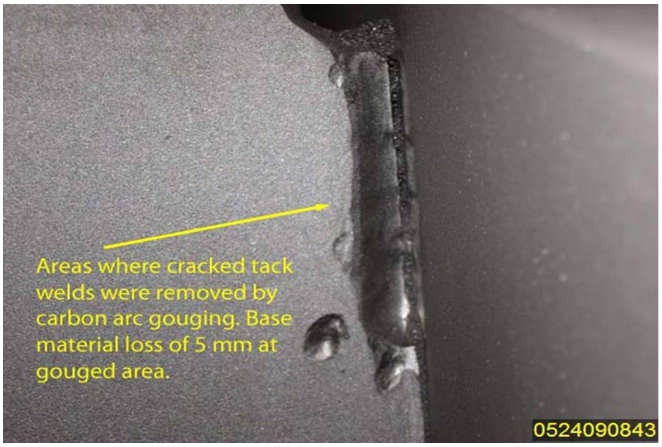


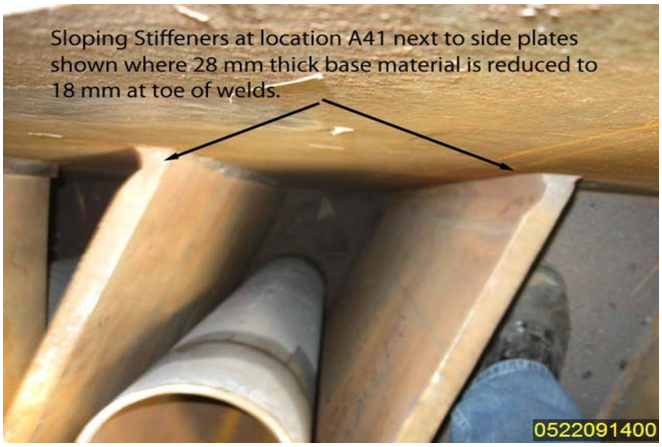
Table 1: PJP Root Openings

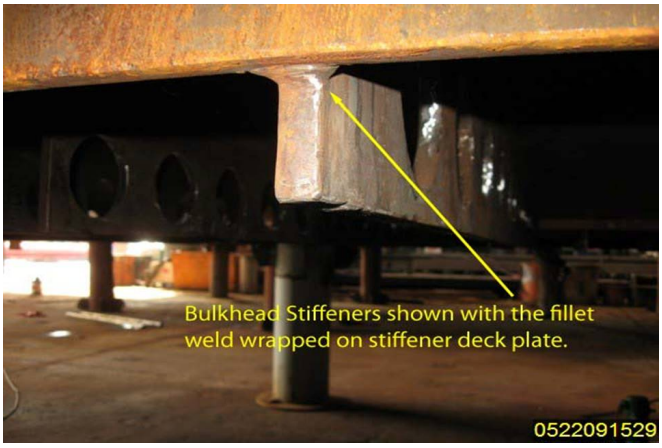
Weld Joint #	Root Opening (mm)	Weld Joint #	Root Opening (mm)
SEG1E-227	12 mm	SEG1E-137	9 mm
SEG1E-187	10 mm	SEG1E-316	7 mm
SEG1E-443	10 mm	SEG1E-241	7 mm
SEG1E-402	10 mm	SEG1E-110	8 mm
SEG1E-361	7 mm	SEG1E-192	7 mm
SEG1E-434	7 mm	SEG1E-151	12 mm
SEG1D-305	10 mm	SEG1E-242	10 mm
SEG1D-299	8 mm	SEG1E-195	6 mm
SEG1D-422	7 mm	SEG1F-022	10 mm
SEG1E-416	7 mm	SEG1F-026	9 mm
SEG1B-084	8 mm		











Applicable reference:
AWS D1.5 (02) Section 3.3.2 "The root opening between parts to be joined by PJP groove welds parallel to the member length (bearing joints excepted) shall be zero, or as small as practicable."

AWS D1.5 (02) Section 3.5.1.10 "Where tight fit of intermediate stiffeners is specified, it shall be defined as allowing a gap of up to 2 mm [1/16 in.] between stiffener and flange."

AWS D1.5 (02) Section 3.7.1 "The removal of weld metal or portions of the base metal may be done by machining, air carbon arc cutting and gouging, thermal cutting, chipping, or grinding. It shall be done in such a manner that the remaining weld metal or base metal is not nicked or undercut (see 3.2.6 for restrictions on the use of air carbon arc gouging and thermal cutting). Unacceptable portions of the weld shall be removed without substantial removal of the base metal. Any additional weld metal shall be deposited using a qualified WPS".

AWS D1.5 (02) Section 6.26, Quality of Welds

Segment Assembly Drawing SEG1D

Segment Assembly Drawing SEG1G – Joint design on drawing calls for an 8 mm fillet weld welded both sides not wrapped.

WPS-B-T-2233-Tc-U4b-F

WPS-B-T-2333-Tc-U4b-F

Who discovered the problem: Chandra Kumar, Erik Prue
Name of individual from Contractor notified: Man Kit Le
Time and method of notification: 05/22/09, 16:30, Verbal
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 05/25/09, 09:00, Verbal
QC Inspector's Name: Shen Xie Jun
Was QC Inspector aware of the problem:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 4 of 4)

☐ **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

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:**	05.03.06-000243
Subject:	NCR No. ZPMC-0257		

Reference Description: Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings, Segment 1AAW

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 Assurance (QA) Inspector found the following issues by Visual Testing (VT) on welds previously inspected and accepted by ZPMC Quality Control (QC) and ABF QA Inspectors.

1. Thirteen (13) cracked tacks were found by QA MT Inspector on segment stiffener plates. ZPMC removed the cracked tacks by carbon arc gouging. Plates and stiffener base material will now need to be repaired. The weld numbers are as follows; Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659, 660, 661, 662, and 663.
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5. SEG1D-002, SEG1D-092, and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.
6. 28mm thick sloping stiffeners at location A41 (2) and location A12 (2) which require a PJP weld with a 8mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.
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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-0257

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

File: 05.03.06

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: 05.03.06-000243

Subject: NCR No. ZPMC-0257

Dated: **22-Jun-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000250 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: ABF has instructed ZPMC to provide the necessary repairs to bring segment 1AAW into compliance with contract requirements.

ABF has instructed ZPMC to provide the necessary repairs to bring segment 1AAW into compliance with contract requirements. All 8 items are currently being reworked, which includes removal of stiffeners with root gaps exceeding 5mm. ABF issued a stop work order to prevent grouting prior to repair. ZPMC has honored this letter and is in process with repairs. ZPMC has released and fined personnel who were involved in the fabrication and inspection of these segments and held discussions with CWI's on code compliance. ABF has held discussions with our inspectors of preventive action measures to ensure this type of condition does not happen again. ZPMC will provide inspection reports at a later date to close this NCR.

Submitted by:

Attachment(s): ABF-NPR-000250R00

Caltrans' comments:

Status: AAP

Date: 24-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-0257 at that time.

Submitted by: Wright, Doug

Date: 24-Jun-2009

Attachment(s):

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: 05.03.06-000243

Subject: NCR No. ZPMC-0257

Dated: **24-Aug-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000250 Rev: 01**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has provided the required documents as requested. ZPMC requests closure of this NCR

ZPMC has provided the required documents as requested. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000250R01;

Caltrans' comments:

Status: REJ

Date: 01-Sep-2009

The proposed resolution is not acceptable. The attachment does not include documentation for all welds in question.

- Issue 1: B-CWR575 does not include welds SEG1E-486 and SEG1E-489 in the repair procedure.
- Issue 4: No documentation was included that shows the excessive root openings were corrected or approved as-is.
- Issue 5: For welds SEG1D-002, SEG1D-092, and SEG1C-002E, NDT reports were submitted, but no CWR or WWR repair procedures.
- Issue 6: No documentation was included that shows the excessive root openings were corrected or approved as-is.

Please discuss with the Department's representatives in Shanghai to determine all of the repairs and documentation required to close this Non-Conformance.

Submitted by: Wright, Doug

Date: 01-Sep-2009

Attachment(s):

ZPMC

No. B-453

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-8-19

REGARDING: NCR-000283 (ZPMC-257)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000283 (ZPMC-257).**

There is 9 items in the NCR, the explanation is following:

1) The crack on tack weld had been removed and repaired the base material with B-CWR575, please check the CWR and the NDT report.
2) The ABF-RI-1778 is approved and ZPMC had kept the wrapped.
3) According to the RFI-ZPM-702 and the B-WR5642, ZPMC had corrected the locations where the gap exceeded 2mm.
4) Please find the attachment about the internal stiffener repairing plans, the gap had been corrected and the welds had been verified NDT by ZPMC and CT.
5) The welds had been repaired by grinding, the NDT report is here.
6) The same to the item 4.
7) The location had been repaired by grinding and NDT verified onsite.
8) The pipe at this location had been replaced, the B-WR5443 is here.
9) The wrong weld ID is here, actually the right weld ID is SEG1E-584 and the steel backing bar had been removed, and the UT had been confirmed.

so base on the above explanation and attached documentations, ZPMC applies to close the Caltrans's report **NCR-000283 (ZPMC-257).**

Please reference attached document for acceptance and closure the **NCR-000283 (ZPMC-257).**

ATTACHMENT:

NCR-000283 (ZPMC-257)
ZPMC internal NCR
The final VT/MT/UT inspection reports
The welding repair report
The critical welding repair report
The approved RFI
The internal stiffener repairing plan

Zhao Shuangbao

2009. 8. 19

ZPMC	**Nonconformance Report** 不符合项报告

Project Name: 项目名称:	S.F.O.B.B 美国加州海湾大桥		NCR Number: NCR 编号: NCR-B-165 (ZPMC-0257)
Item: 名称描述:	Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings 错误的装配，拙劣的焊缝，未按图纸施工	Item Number: 件号: OBG 1AAW	Drawing: 图号: SEG1
Location: 位置:	OBG 1AAW		Date: 日期: 2009-06-03

Description of Nonconformance:

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5. SEG1D-002,009 and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.
6. 28mm thick sloping stiffener at location A41(2) and location A12(2) which require a PJP weld with a 8 mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.
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在 ZPMC 和 ABF 的检验员完成 1AAW 的 VT 并确认接受后，加洲检验员发现如下问题：

1、在焊缝 Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659 ,660, 661, 662, 663 上，加洲检验员发现 13 处裂纹。ZPMC 已经用碳刨将此去除，此区域母材需要做返修。

2、在箱体端头封板下的带圆孔的筋板上，筋板与顶板的角焊缝按图纸要求应该双面烧焊，不需要包角，但是 ZPMC 对 23 根筋板做了包角。

3、焊缝 SEG1C-152~172 和 SEG1D-152~170，按图纸要求，小盖板和顶板之间要紧密贴合，不需要焊接。但 ZPMC 对此烧焊（角焊缝），后来用碳刨去除焊缝并伤到母材。在加洲确认 2 毫米的装配间隙要求前，ZPMC 已经用硅胶将此区域密封

4、箱体内两隔板之间的两层插板，按照 WPS（WPS-B-T-2333-Tc-U4b f）的允许间隙是 5 毫米，但插板间隙超过此要求。同时插板反面被焊透，而且焊渣未清理。

5、焊缝 SEG1D-002，SEG1D-092 和 SEG1C-002 上有很多焊缝和母材缺陷（过高的焊缝余高，未熔合，漏焊，焊瘤等），需要返修。

6、在 A41（2）和 A12（2）位置的 28mm 厚的斜着安装的插板的 PJP 角焊缝没有达到 8mm 余高。此焊缝没有焊满，28mm 的板厚，在焊缝位置的坡度是 18mm。这没有满足图纸 SEG1D 上的 WD90H 的焊缝接头祥图的要求。

7、在 W3 线与 A14~A16 位置插板与底板斜底板的角焊缝，在 W3 线与 A14 位置的插板与端头封板的角焊缝成型差。

8、按照 SEG1A 装配的，在 A14 位置 219mm 直径的管子与底板上的管孔的装配间隙有 9.5 毫米，超过角焊缝允许的 5mm 最大间隙。

9、在焊缝 SEG1E-587 上，CJP 焊缝完工后背面的钢衬垫仍未去除。根据接头形式 TC-U4b 的要求，采用 WPS-B-T-2233-Tc-U4b-F，需要做双面烧焊，反面清根。

Work By: 施工方: 陈孟平　　Prepared by: 准备: Shenhejun 2009-6-3.　　Reviewed by QCE: 质量工程师批准: 陈孟平 Chenmeping 6/3/09

☐ Drawing Error 图纸错误　☐ Material Defect 材料缺陷　■ Fabrication Error 制作错误　☐ Other 其他原因

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

Recommendation:
建议:

1) 施工队在制作前，必须看清楚图纸要求；
2) 对于间隙超标的位置，必须返修报告；
3) 加强对规范的监控和管理。

1) Review drawing requirement competely before fabrication.
2) Perform welding repair if the gap exceed standard requirement.
3) Enhance supervision and management on-site.

Prepared by: 准备 Du Wenbing　　Approved by QCA: 质量经理批准

Reason for Nonconformance:
不符合原因:

① 未能看清图纸要求。 1) Didn't review drawing requirement carefully.
② 筋板在装配前对尺寸要求不明确
2) Didn't arify size requirement before assembly stiffener.
③ 修割件在装配前未打磨
3) Didn't grind the cut component before assembly.

Prevention of Re-occurrence:
预防措施:

1. 提供相关返修报告 . 1) Provide relevant repair report.
2. 控制装配间隙 . 2) Control assembly gap.
3. 加强班组管理 3) Enhance management work team.
4. 看清图纸、收集图纸 4) Review drawing completely.

Approved by/批准: [illegible] 2009.6.14

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

See the attachment.

Reviewed /批准: Lingshuhua 09.6.14

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: _____

#R787-QCP-1300

Attachment for NCR-B-165 (ZPMC-0257)

回用或返修技术依据：（Technical Justification for Use-As-Is/Repair）

1. 已返修。
2. 回用，提交 FCN。
3. 提交 FCN，要求紧密贴合处去除密封胶并检测装配间隙，间隙大于 2mm 处增加垫板，垫板与密封板焊接，与顶板紧密贴合不焊，重新采用密封胶密封处理。
4. 换板重新装配、焊接。
5. 出具 WR 进行返修。
6. 补焊加大焊脚。
7. 打磨去除缺陷。
8. 出具 WR 进行返修。
9. 打磨去除衬垫。

1. The defects have been repaired.
2. Use as is, and submit a relevant FCN.
3. Submit a relevant FCN. Remove the silica gel, and check the gap between seal plates and deck plate. For any gap which is larger than 2mm, provide an added shim plate tight fit to deck plate and fillet welded to the seal plate.
4. Remove the plates and replace.
5. Perform repairing according to relevant WPS.
6. Add the fillet by welding.
7. The defects will be removed by grinding.
8. Perform repairing according to a relevant WR.
9. Remove the backing by grinding.

Ling shihua

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Caltrans
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:	05.03.06-000243
Subject:	NCR No. ZPMC-0257		

Reference Description: Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings, Segment 1AAW

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 Assurance (QA) Inspector found the following issues by Visual Testing (VT) on welds previously inspected and accepted by ZPMC Quality Control (QC) and ABF QA Inspectors.

1. Thirteen (13) cracked tacks were found by QA MT Inspector on segment stiffener plates. ZPMC removed the cracked tacks by carbon arc gouging. Plates and stiffener base material will now need to be repaired. The weld numbers are as follows; Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659, 660, 661, 662, and 663.

2. Twenty Three (23) Bulkhead Stiffeners have fillet welds wrapped on both ends of stiffener. Weld detail on drawing shows the fillet weld shall be welded both sides and not welded all around (wrapped).

3. SEG1C-152~172 and SEG1D-152~170- The approved drawings require a tight fit joint. The joint had been fillet welded then the weld was removed by carbon arc gouging resulting in base metal damage. ZPMC caulked over the gouged welds prior to Caltrans QA Inspector verification of the 2mm tight fit requirements.

4. Segment internal stiffener Partial Joint Penetration (PJP) Welds have root openings greater than the 5mm allowed per WPS-B-T-2333-Tc-U4b f. The back side of the PJP welds exhibit burn through with slag inclusions which have not been cleaned.

5. SEG1D-002, SEG1D-092, and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.

6. 28mm thick sloping stiffeners at location A41 (2) and location A12 (2) which require a PJP weld with a 8mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.

7. Fillet welds joining internal stiffeners to plates at locations A14 ~ A16 on W3 side bottom plate and location A14 W3 side bulkhead contain rollover, lack of fusion, and unacceptable weld profiles.

8. Pipe (219mm diameter) penetration at location A14 bottom plate on segment assembly detail SEG1A has a root gap of 9.5mm. Root gap exceeds the 5 mm maximum root gap for fillet welds.

9. The backing bar for complete joint penetration (CJP) weld SEG1E-587 is still in place in various locations along the weld. The joint designation TC-U4b per WPS-B-T-2233-Tc-U4b-F requires the joint to be welded both sides then backgouged

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-0257

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
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, P.R. China **Report No:** NCR-000283
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 22-May-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0257

Type of problem:

Welding	☑	**Concrete**	☐	**Other**	☐	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** OBG Segment 1AAW
Procedural	☑	**Procedural**	☐	**Description:**		

Reference Description: Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings, Segment 1AAW

Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector found the following issues by Visual Testing (VT) on welds previously inspected and accepted by ZPMC Quality Control (QC) and ABF QA Inspectors.

1. Thirteen (13) cracked tacks were found by QA MT Inspector on segment stiffener plates. ZPMC removed the cracked tacks by carbon arc gouging. Plates and stiffener base material will now need to be repaired. The weld numbers are as follows; Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659, 660, 661, 662, and 663.
2. Twenty Three (23) Bulkhead Stiffeners have fillet welds wrapped on both ends of stiffener. Weld detail on drawing shows the fillet weld shall be welded both sides and not welded all around (wrapped).
3. SEG1C-152~172 and SEG1D-152~170- The approved drawings require a tight fit joint. The joint had been fillet welded then the weld was removed by carbon arc gouging resulting in base metal damage. ZPMC caulked over the gouged welds prior to Caltrans QA Inspector verification of the 2 mm tight fit requirements.
4. Segment internal stiffener Partial Joint Penetration (PJP) Welds have root openings greater than the 5mm allowed per WPS-B-T-2333-Tc-U4b f. See attached table for weld joint numbers and root opening values. The back side of the PJP welds exhibit burn through with slag inclusions which have not been cleaned.
5. SEG1D-002, SEG1D-092, and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.
6. 28 mm thick sloping stiffeners at location A41 (2) and location A12 (2) which require a PJP weld with a 8 mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28 mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.
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8. Pipe (219 mm diameter) penetration at location A14 bottom plate on segment assembly detail SEG1A has a root gap of 9.5 mm. Root gap exceeds the 5 mm maximum root gap for fillet welds.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 4)

9. The backing bar for complete joint penetration (CJP) weld SEG1E-587 is still in place in various locations along the weld. The joint designation TC-U4b per WPS-B-T-2233-Tc-U4b-F requires the joint to be welded both sides then backgouged.

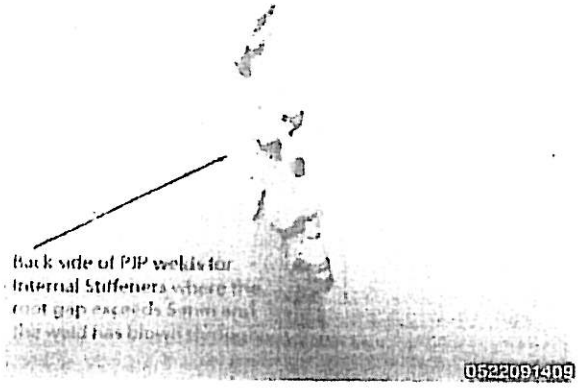
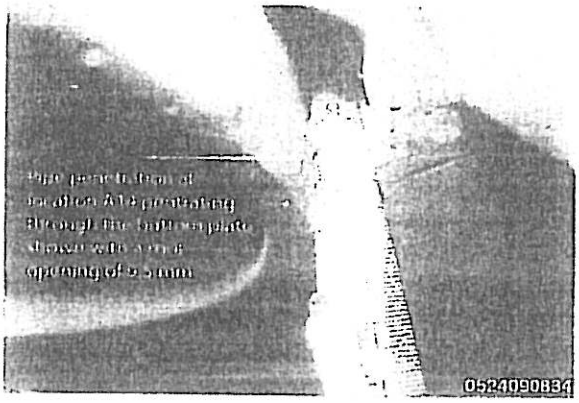
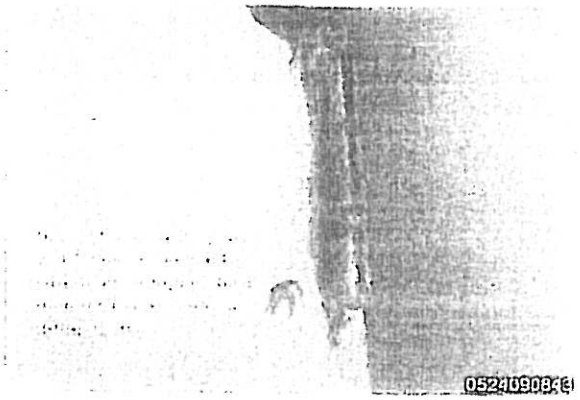
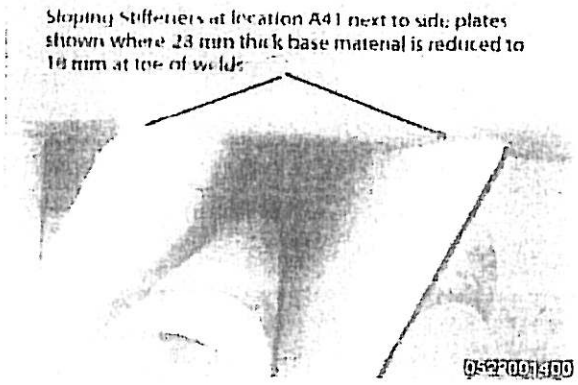


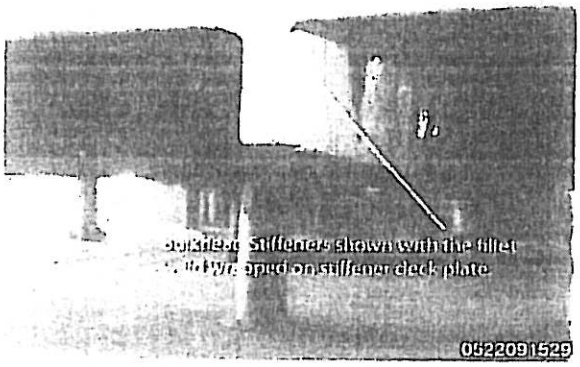
Table 1: PJP Root Openings

Weld Joint #	Root Opening (mm)	Weld Joint #	Root Opening (mm)
SEG1E-227	12 mm	SEG1E-137	9 mm
SEG1E-187	10 mm	SEG1E-316	7 mm
SEG1E-443	10 mm	SEG1E-241	7 mm
SEG1E-402	10 mm	SEG1E 110	8 mm
SEG1E-361	7 mm	SEG1E-192	7 mm
SEG1E-434	7 mm	SEG1E 151	12 mm
SEG1D-305	10 mm	SEG1E-242	10 mm
SEG1D-299	8 mm	SEG1E-195	6 mm
SEG1D-422	7 mm	SEG1F-022	10 mm
SEG1E-416	7 mm	SEG1F-026	9 mm
SEG1B-084	8 mm		









Applicable reference:
AWS D1.5 (02) Section 3.3.2 "The root opening between parts to be joined by PJP groove welds parallel to the member length (bearing joints excepted) shall be zero, or as small as practicable."

AWS D1.5 (02) Section 3.5.1.10 "Where tight fit of intermediate stiffeners is specified, it shall be defined as allowing a gap of up to 2 mm [1/16 in.] between stiffener and flange."

AWS D1.5 (02) Section 3.7.1 "The removal of weld metal or portions of the base metal may be done by machining, air carbon arc cutting and gouging, thermal cutting, chipping, or grinding. It shall be done in such a manner that the remaining weld metal or base metal is not nicked or undercut (see 3.2.6 for restrictions on the use of air carbon arc gouging and thermal cutting). Unacceptable portions of the weld shall be removed without substantial removal of the base metal. Any additional weld metal shall be deposited using a qualified WPS".

AWS D1.5 (02) Section 6.26, Quality of Welds

Segment Assembly Drawing SEG1D

Segment Assembly Drawing SEG1G – Joint design on drawing calls for an 8 mm fillet weld welded both sides not wrapped.

WPS-B-T-2233-Tc-U4b-F

WPS-B-T-2333-Tc-U4b-F

Who discovered the problem: Chandra Kumar, Erik Prue
Name of individual from Contractor notified: Man Kit Le
Time and method of notification: 05/22/09, 16:30, Verbal
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 05/25/09, 09:00, Verbal
QC Inspector's Name: Shen Xie Jun
Was QC Inspector aware of the problem:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 4 of 4)

☐ 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

ZPMC	关键焊缝返修报告 Critical Welding Repair Report (CWR)				版本 Rev. No.:
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SEG1E	报告编号 Report No.	B-CWR575
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAW	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

经检查发现1AAW部分隔板点焊裂纹去除后，伤及母材，长度100mm，最深达到8mm。涉及焊缝~~SEG2E~~ SEG1E -031, 034, 078, 039, 040, 658, 659, 660, 661, 662, 663。 Lizhijiang 2009.8.9

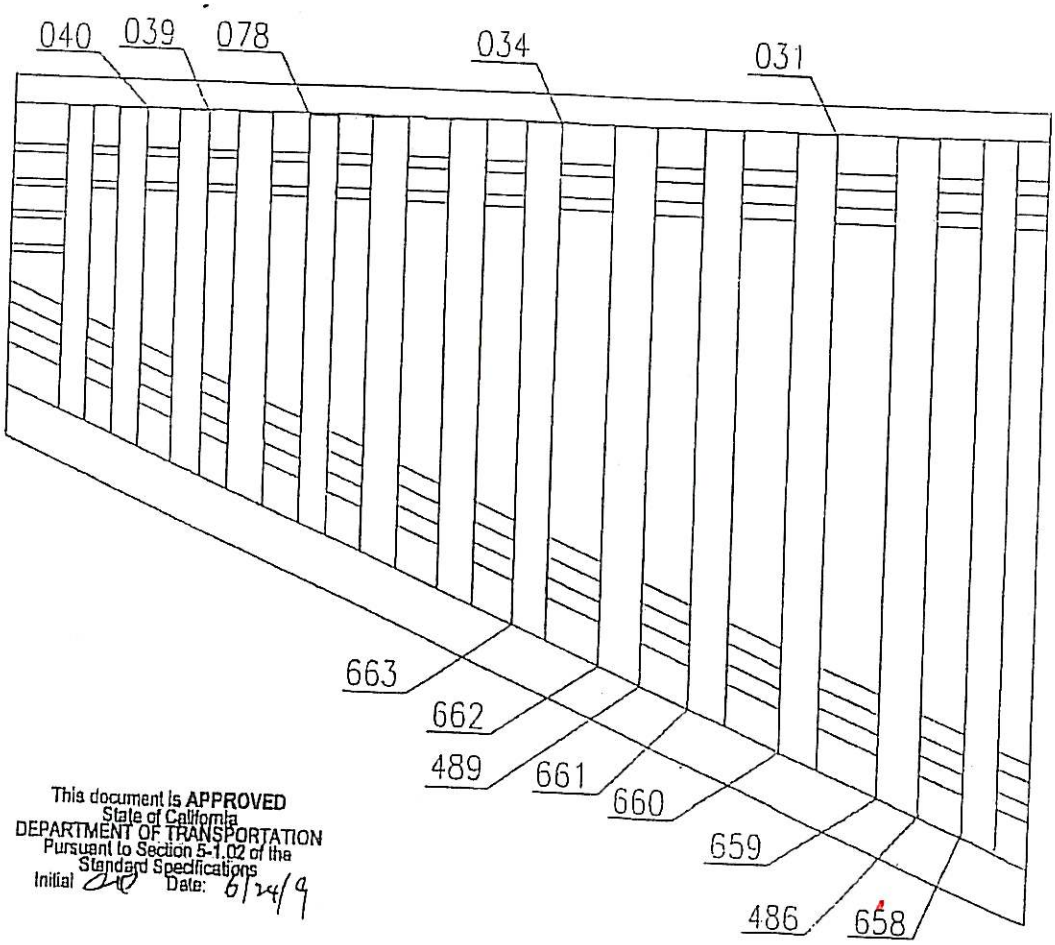
The base metal was gouged after removing tack welds cracks at 1AAW segment, 100mm in length, maximum 4mm in depth, relevant welds: ~~SEG2E~~ SEG1E -031, 034, 078, 039, 040, 658, 659, 660, 661, 662, 663。 Lizhijiang 2009.8.9

Welder ID No. (焊工编号):202654 Position:(位置): 3F

检验员 (Inspector): Li Zhijiang Li Zhijiang 日期 (Date): 2009-6-20

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 Date: 6/24/9

产生原因:

Cause:

在打磨去除点焊裂纹时，工人操作失误，导致母材损伤。

Worker operated error during removing tack welds cracks caused base metal gouged.

车间负责人 (Foreman): Hu Yuzhang 日期 (Date): 09.06.23

处理意见

Disposition :

1. QA和CWI在整个修补过程中都应在场;
2. 准备一个正确的接头型式，具体参照相应的返修WPS;
3. 将碳刨区域打磨光滑，开始和结束的接头交错布置;
4. 在对修补区域焊接前对修补区域进行VT与MT检测;
5. 根据批准的返修焊接工艺规程（WPS）进行预热及焊接;
6. 将修补区域打磨与母材或相邻焊缝平齐;
7. 对承受拉应力和反向应力的构件焊缝修补区域应按照AWS D1.5，3.2.2.3上要求的UT和MT进行检测;

1. QA and CWI should be present to witness the repair.
2. Prepare excavation according to the approved repair WPS.
3. Grind the gouged area to a smooth and shiny finish, with tapered ends, to ensure staggered starts and stops.
4. VT and MT the repair area prior to welding of the repair area.
5. Preheat and weld according to the relevant repair WPS.
6. Grind the repaired area flush with base metal or the adjacent weld.
7. Weld repairs are being performed on TM/SRM member, per AWS D1.5, 3.2.2.3 UT and MT is required.

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial Date: 6/24/9

工 艺:
Technical Engineer: Niu Tiefang

审核:
Approved By: Liyianbing for Chenbin

日期:
Date: 09.06.24

#R787-QCP-900

ZPMC	关键焊缝返修报告 Critical Welding Repair Report (CWR)	版本 Rev. No.:

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SEG1E	报告编号 Report No.	B-CWR575
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAW	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

培训和教育工人，提高操作水平。

Train and educate worker to improve operation skil.

WPS-345-SMAW-AG(AF)-Repair.
WPS-345-FCAW-AG(AF)-Repair.

车间负责人 (Foreman): Hu Yuzhang 日期 (Date): 09.06.23 Lingshilung 09.6.23

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1 WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1	工艺员 Technologist:	Niu Tiefeng 09.06.23
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	90℃	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:	127℃
最大碳刨深度 Max. Depth of Gouge:	3mm	碳刨总长 Total Length of Gouge:	100mm

焊工 Welder:	4G 045268 JT YS 1G 207464 zhangsu mo	焊接类型 Welding Type:	SMAW	焊接位置 Position:	1G 4G
焊接电流 Current:	160	焊接电压 Voltage:	25	焊接速度 Speed:	114

返修后检查
Inspection After Repair:

外观检查 VT Result:	Acc	检验员 Inspector:	Chen xi	日期 Date:	2009.8.9
NDT复检 NDT Result:	MT Acc	探伤员 NDT Person:	Sun Yong chang SUN Yin	日期 Date:	09.8.10 2009.08.09

见证：
Witness/Review:

备注：
Remark:

#R787-QCP-900

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the Standard Specifications
Initial CHP Date: 10/01/10

B-VT 35914

ZPMC

		周数	92#
		日期	2009.08.09

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Chen Xi 07072021 2009.8.9
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-031	045268	4F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-034	045268	4F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-078	045268	4F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-039	045268	4F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-040	045268	4F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-658	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-659	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-660	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-661	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-662	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-663	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☑ After CWR or WRR No. :B-CWR575
☐ After cover pass
☐ After HSR No. :
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号	B787-UT-8172	DATE	2009.08.09	PAGE 1 OF 2	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG PLATE PANEL SPLICE	DRAWING NO.: 图号 SEG1E	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 NA	JOINT TYPE 焊缝类型 NA	CALIBRATION DUE DATE 仪器校正有效期 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 IIW BLOCK TYPE II	C.M.C	A709M-345T2-Z 45/35/28/38mm

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 a	Reference Level b	Attenuation Factor c	Indication Rating d	LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y		
SEG1E-031		0				34								ACC.	100%
SEG1E-034		0				34								ACC.	100%
SEG1E-078		0				34								ACC.	100%
SEG1E-039		0				34								ACC.	100%
SEG1E-040		0				34								ACC.	100%
SEG1E-658		0				34								ACC.	100%
SEG1E-659		0				34								ACC.	100%

EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 9.08.09	REVIEWED BY 审核 Zhu Qing LEVEL - II SIGN / DATE 9.08.09
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-8172 DATE 2009.08.09 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(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		
SEG1E-660		0				34								ACC.	100%
SEG1E-661		0				34								ACC.	100%
SEG1E-662		0				34								ACC.	100%
SEG1E-663		0				34								ACC.	100%
AFTER B-CWR575															
BLANK															

EXAMINED BY主探
Sun yin
LEVEL - II SIGN / DATE 9.08.09

REVIEWED BY 审核
LEVEL - II SIGN / DATE 9.08.09

质量经理 / QCM
签字 SIGN / 日期 DATE

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12952	DATE日期 2009.08.10	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:	SEG1E OBG PLATE PANEL SPLICE	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 45/35/28/38mm 9/16mm
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-031				ACC.		BASE MATERIAL
SEG1E-034				ACC.		BASE MATERIAL
SEG1E-078				ACC.		BASE MATERIAL
SEG1E-039				ACC.		BASE MATERIAL
SEG1E-040				ACC.		BASE MATERIAL
SEG1E-658				ACC.		BASE MATERIAL
SEG1E-659				ACC.		BASE MATERIAL
SEG1E-660				ACC.		BASE MATERIAL
SEG1E-661				ACC.		BASE MATERIAL
SEG1E-662				ACC.		BASE MATERIAL
SEG1E-663				ACC.		BASE MATERIAL
AFTER B-CWR575						
BLANK						

EXAMINED BY主探 Sun gong chang LEVEL - II SIGN 签名 / DATE日期 Sungongchang 09.08.10	REVIEWED BY 审核 Wang wei LEVEL-II SIGN / DATE日期 09.08.10
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REQUEST FOR INFORMATION (RFI)

RFI No.: ABF-RFI-001778R00 Submitted By: Raynor, Dan Pages: 3
Pages Attached: 2

RFI Date: 08-June-2009 Contact Name: Weidong, Sun Phone No. 86-21-51907428

Subject: Propose Wrap-around Fillet Weld at West End OBG	
References:	
Sub/Sup: ZPM	Sub RFI #: RFI-ZPM-000675R00
Response Required by: 15-June-2009	Response affects critical path activity? Yes

Description:

Please review and respond to the attached RFI from ZPMC (RFI-ZPM-000675R00)

Contractor Disposition:

This RFI is being submitted for:

The Cost and Time Impact from this RFI is: Not selected

Response: Agreed Ext. Due Date:

Pages: 1
Pages Attached: 0

The Department takes no exception to the proposed wrap-around weld.

Update affected shop drawings accordingly.

Administrative Action:

This response resolves this RFI.

Date: 16-June-2009	Respondent: Altamirano, Victor	Phone No.:

REQUEST FOR INFORMATION (RFI) – ABF&SUB.

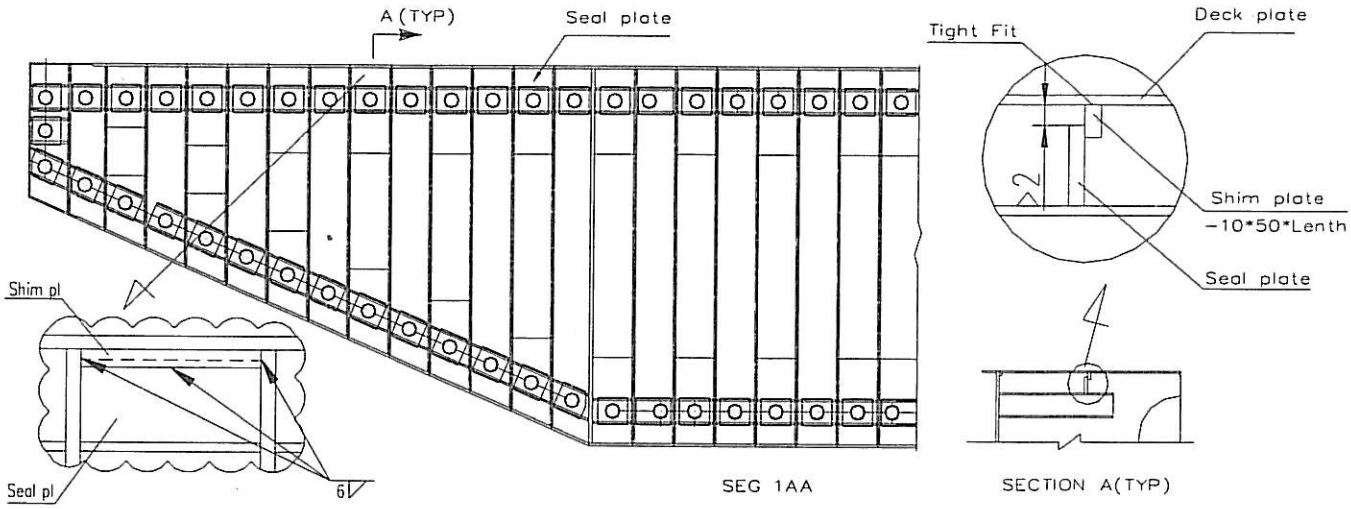
RFI No.: RFI-ZPM-000702R00 Submitted by: Ling Shihua Page(s): 1
RFI Date: 2009-6-16 Contact Name: Lu Shihua Phone No. 021-27414950

Subject: Fabrication Issue: Root Gap of PJP between End Stiffener and Strand Stiffener
References:
Response required by: 2009-6- 17(date) Response affects critical path activity? X YES ____ NO

Description:

During fabrication of 1AA, in the drawings of SEG1C, SEG1D, SEG2C, SEG2D, it should be tight fit between seal plates and deck plate, but shop workers missed the requirements when fitting. That leaded to excessive fit-up gap. For the fit-up gap >2mm, we propose to add a shim plate (A709M-345T2) tight fit to deck plates (no weld, sealed with silicone). The shim plates will be 6mm fillet welded with the seal plates and end stiffeners. For details, see the following fig.

Please review and respond ASAP.



This RFI is being submitted for:

- ☐ Material Procurement
- ☐ Contractor Convenience
- ☐ Clarification of the Contract Documents
- ☐ Engineering Review Request (ERR) for missing design information/coordination.

The Cost and Time Impact from this RFI is:

- ☐ No cost or time impacts in the performance of our Work.
- ☐ Cost and/or time impacts in the performance of our Work will result.
- ☐ We are unable to determine at this point whether there will be cost and/or time impacts.

Response:

Date: 06-16-2009	Respondent: Gang Jiao	Phone No.:

The proposed fill plate size and welds are acceptable for the specified repair. The fillet welds on both sides should have a 2 to 5mm holdback to avoid connecting to the deck. Please note pre-approved material should be used for caulking the tight-fit end.

RFI Status: (sign and date)

Closed:	Revision Pending:

ZPMC	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	SEG1/2	报告编号 Report No.	B-WR5642
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of welding discontinuity:

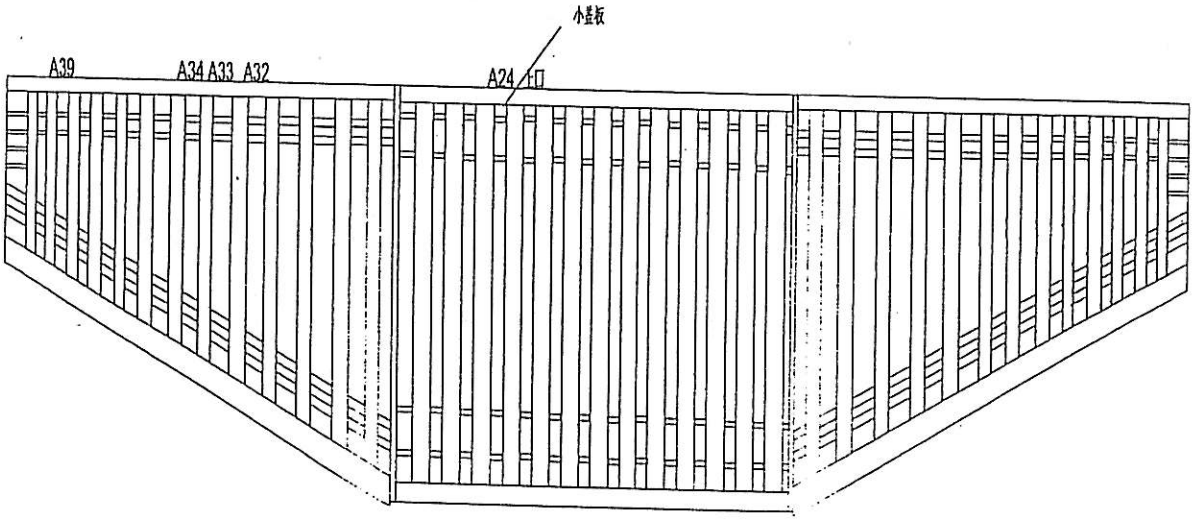
1AAW,1AAE两个箱体顶板位置图纸上（小盖板）不允许烧焊，现场原烧焊又割掉，现去除小盖板。

1AAW, 1AAE box deck plate, the small cover plate didn't allow to weld, however, it has finished welding and cut it.

检验员（Inspector）：Xiang Fengfeng 日期(Date)：09.06.19

焊缝返修位置示意图：

Draft of welding discontinuity:



产生原因:

Caused:

工人在制作时，没有将图纸看清楚图纸要求。

Worker didn't review drawing requirement during fabrication.

车间负责人(Foreman): Lizhigang 日期(Date): 09.06.30

处理意见

Disposition：

1. 采用热切割或碳刨的方法去除封板，注意不得伤及母材；
2. 打磨去除缺陷,使与周边母材平齐；
3. 进行MT检测；
4. 重新装配封板，注意与顶板贴合。

1. Remove the seal plates by heat cutting or gouging, note not to gouge base metal.
2. Remove all defects and grind the area flush to base metal.
3. Perform MT of this area.
4. Re-assemble seal plates tight fit to deck plates..

工 艺: Niu Tiefeng
Technical engineer

09.06.30

审核:
Approved by

日期
Date

09.06.18

#R787-QCP-900

ZPMC	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.	SEG1/2	报告编号 Report No.	B-WR5642
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:.

Corrective action to prevent re occurrence:

培训和教育工人，提高操作水平。

Train and educate worker to improve operation skill.

车间负责人(Foreman): Lizhigang 日期(Date): 09.06.30

参照的WPS编号 Repair WPS No.	WPS-B-T-2132-3 NA	工艺员 technologist	Niu Tieteng 09.06.30
返修（碳刨）前预热温度 Preheat temperature before gouging	70℃	返修的缺陷 Description of discontinuity	crack
焊前处理检查 Inspection before welding	Ac	焊前预热温度 Preheat temperature before welding	90℃
最大碳刨深度 Max. depth of gouging	10mm	碳刨总长 Total length of gouging	320mm

焊工 welder 062708	焊接类型 welding type FCAW	焊接位置 position 2F
焊接电流 Current 290	焊接电压 Voltage 29	焊接速度 Speed 426

返修后检查
Inspection After repairing:

外观检查 VT result Ac	检验员 Inspector chen xi	日 期 Date 2009.7.3
NDT复检 NDT result ACTAc	探伤员 NDT person sun yong chang	日 期 Date 09.07.12

见证：
Witness/Review:

备注：
Remark：

#R787-QCP-900

ZPMC

周数	87#
日期	2009.07.03

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG Floor Beam
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Quality Control Representative: 质检代表:	
		CWI: 检验员:	Chen1X5 0707302)
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG2/1	062708	2F	supercorrd71h Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☑ After CWR or WRR No.:B-WR5642
☐ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

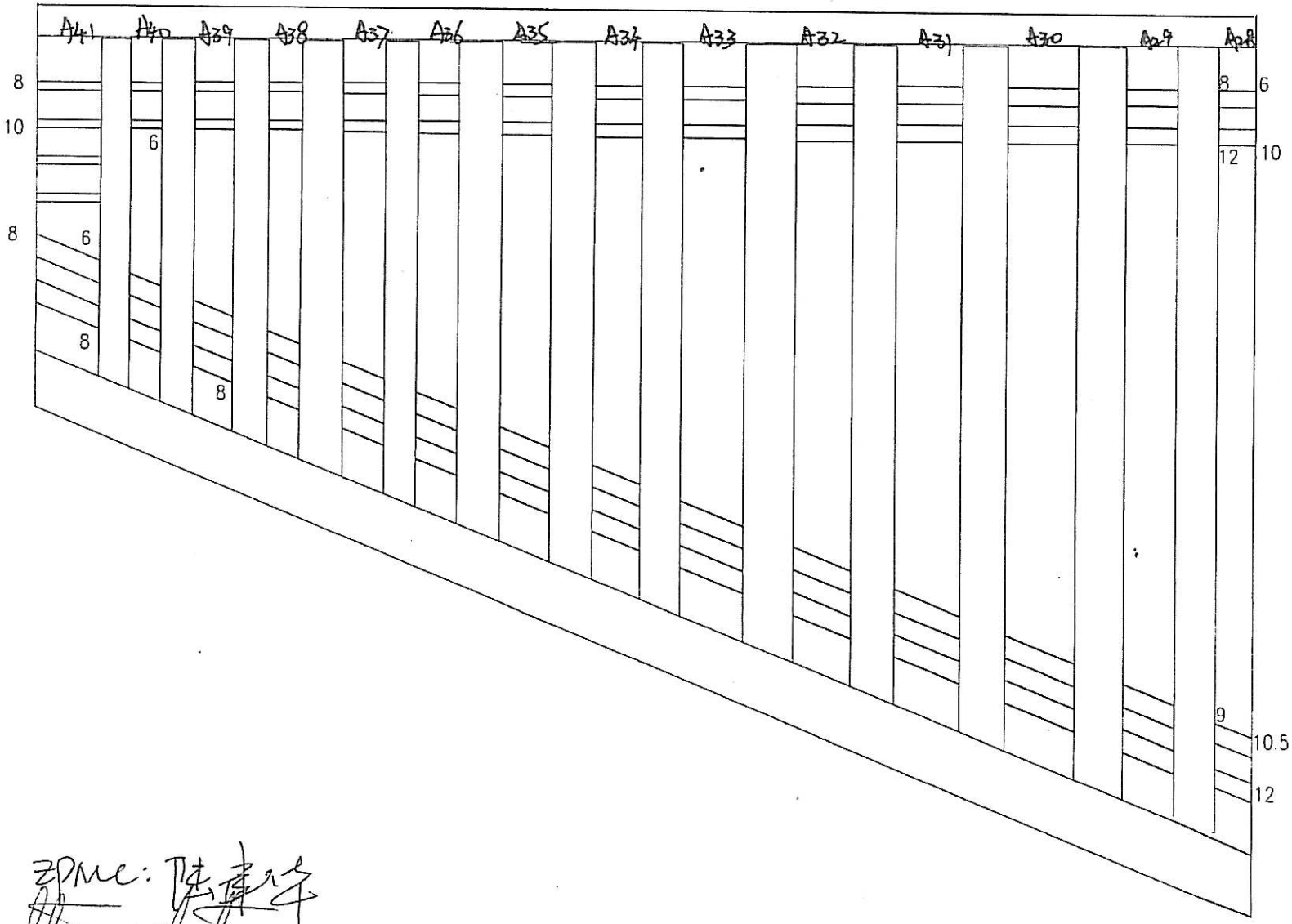
REPORT NO. 报告编号 B787-MT-12079	DATE日期 2009.07.06	PAGE OF页码 1/1	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1/2 OBG PLATE PANEL SPLICE	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-345F2-X 38 mm
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1				ACC.		BASE MATERIAL
SEG2				ACC.		BASE MATERIAL
AFTER B-WR5642						
BLANK						

EXAMINED BY主探 Sun gong chang Sungong Chang LEVEL - II SIGN 签名 / DATE日期 09.7.06	REVIEWED BY 审核 Wang wei LEVEL-II SIGN / DATE日期 09.7.06
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

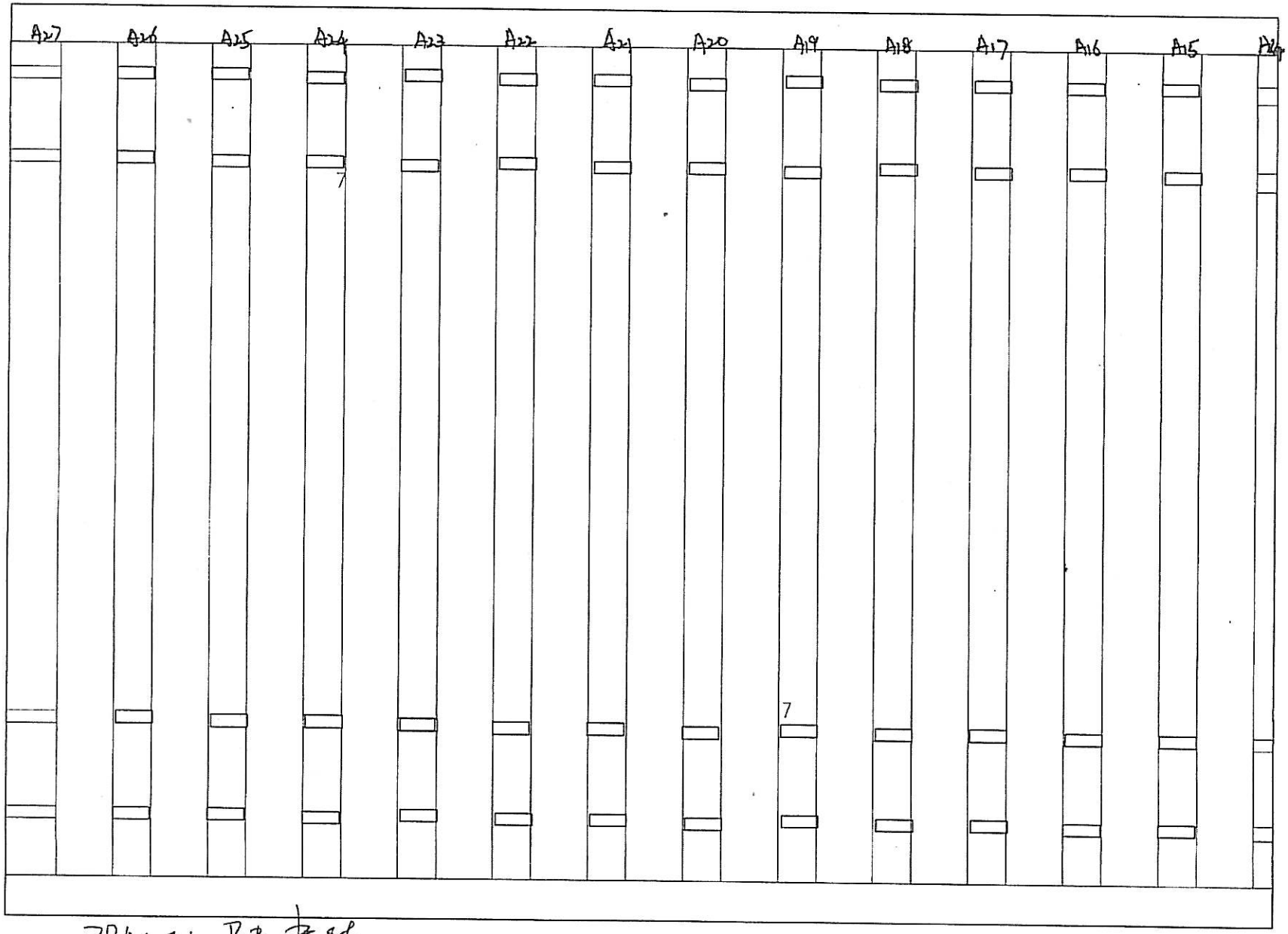
(FORM# ZPQC-MT01)



ABFJV

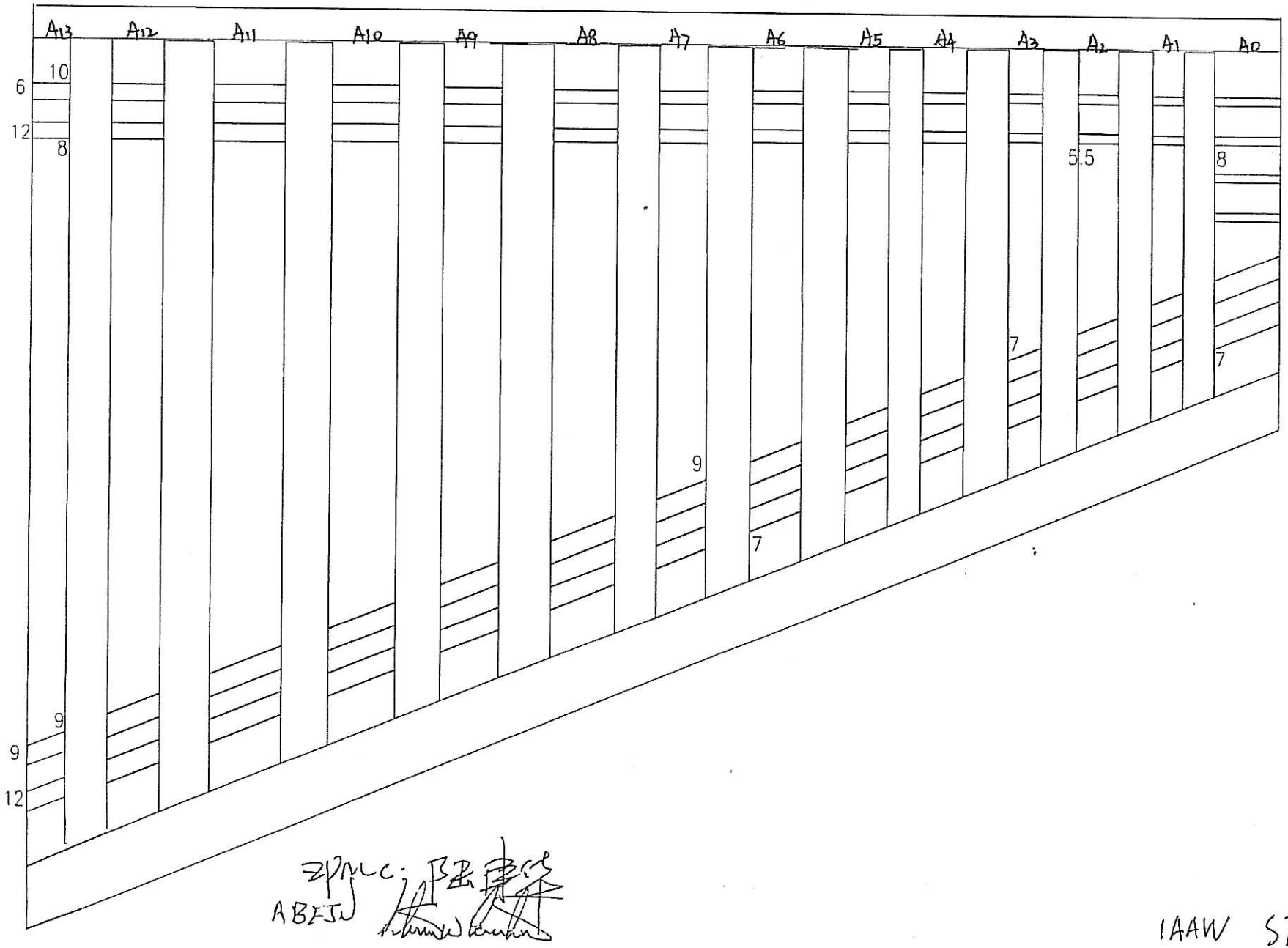
ZPMC: 陈建华

IAAW SEG 1



ZPME: 陆建华
ABFJV:

IAAW SEG 1



ABEJN

IAAW SEG 1

ZPMC

周数	86#
日期	2009.06.22

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG Floor Beam
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Quality Control Representative: 质检代表:	
		CWI: 检验员:	Wshijiang 09.03.13
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1D-002	066283	2F	supercored71hΦ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☐ After CWR or WRR No. :
☑ After cover pass
☐ After HSR No. :
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12075	DATE日期 2009.07.06	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:	SEG1D OBG FLOOR BEAM	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 10 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1D-002				ACC.		100%MT
SEG1D-035				ACC.		100%MT
SEG1D-032				ACC.		100%MT
SEG1D-029				ACC.		100%MT
SEG1D-026				ACC.		100%MT
SEG1D-023				ACC.		100%MT
SEG1D-020				ACC.		100%MT
SEG1D-017				ACC.		100%MT
SEG1D-014				ACC.		100%MT
SEG1D-011				ACC.		100%MT
SEG1D-008				ACC.		100%MT
SEG1D-003				ACC.		100%MT
BLANK						

EXAMINED BY主探 SunGongchang Sun Gongchang 09.7.6 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Lin zheng Hua 09.7.6 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE 09.7.6	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

周数	87#
日期	2009.06.30

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/梁:	OBG Floor Beam
		Tower/塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	C W I: 检验员:	Chen Xi 07/07/2021
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1-036	207465	2G	supercored71hΦ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-001	067947	3G	supercored71hΦ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-092	068858	3G	supercored71hΦ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No.: ☐ After HSR No.: ☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号	B787-UT-7360R1	DATE	2009.07.20	PAGE 1 OF 1	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG FLOOR BEAM	DRAWING NO.: 图号 SEG1/D	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 SMAW	JOINT TYPE 焊缝类型 CORNER-JOINT	CALIBRATION DUE DATE 仪器校正有效期 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 IIW BLOCK TYPE II	C.M.C	A709M-345F2-X 22/38/20mm	

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 Indication Level a	Reference Level b	Attenuation Factor c	Indication Rating d	DISCONTINUITY 不连续性 LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y	Discontinuity Evaluation 缺陷估计	Remark 备注
SEG1D-001	1R1	70				33								ACC.	100%
	2R1	70				33								ACC.	100%
	3R1	70				33								ACC.	100%
	4R1	70				33								ACC.	100%
SEG1D-092	1R1	70				33								ACC.	100%

AFTER B-WR6058 6057

BLANK

EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 09.07.20	REVIEWED BY 审核 Han Feng LEVEL - II SIGN / DATE 09.07.20
质量经理 / QCM 签字 SIGN / 日期 DATE 09.07.20	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

石0033175

ZPMC

周数	87#		
日期	2009.7.5		

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG Floor Beam
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Quality Control Representative: 质检代表:	
		CWI: 检验员:	chen xi 07/07/2021
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1C-002	045268	3G	Supercored71HΦ1.4	√	√	√	√	√	√	√	ACC	ACC	√

☐ After root weld
☑ After CWR or WRR No. :B-WR6059
#R787-QCP-603

☐ After cover pass
☐ After HSR No. :
☐ Others

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号	B787-UT-7361R1	DATE	2009.07.20	PAGE 1 OF 2	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG FLOOR BEAM	DRAWING NO.: 图号 SEG1/C	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 SMAW	JOINT TYPE 焊缝类型 CORNER-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-345F2-X 22/38/20mm	

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 Indication Level a	Reference Level b	Attenuation Factor c	Indication Rating d	DISCONTINUITY 不连续性 LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y	Discontinuity Evaluation 缺陷估计	Remark 备注
SEG1C-002	1R1	70				33								ACC.	100%
	2R1	70				33								ACC.	100%
	3R1	70				33								ACC.	100%
SEG1C-094	1R1	70				33								ACC.	100%
	2R1	70				33								ACC.	100%
	3R1	70				33								ACC.	100%
	4R1	70				33								ACC.	100%
	5R1	70				33								ACC.	100%

EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 09.07.20	REVIEWED BY 审核 Han Feng LEVEL - II SIGN / DATE 09.07.20
质量经理 / QCM 签字 SIGN / 日期 DATE 09.07.27	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7361R1 DATE 2009.07.20 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(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		
	6R1	70				33								ACC.	100%
AFTER B-WR6059 6060															
BLANK															

EXAMINED BY主探
Sun yin Sun Yin
LEVEL - II SIGN / DATE 09.07.20

REVIEWED BY 审核
Hem Feng
LEVEL - II SIGN / DATE 09.07.20

质量经理 / QCM
签字 SIGN / 日期 DATE 09.07.20

用户CUSTOMER
签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

ZPMC	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	SEG1	报告编号 Report No.	B-WR5443
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of welding discontinuity:

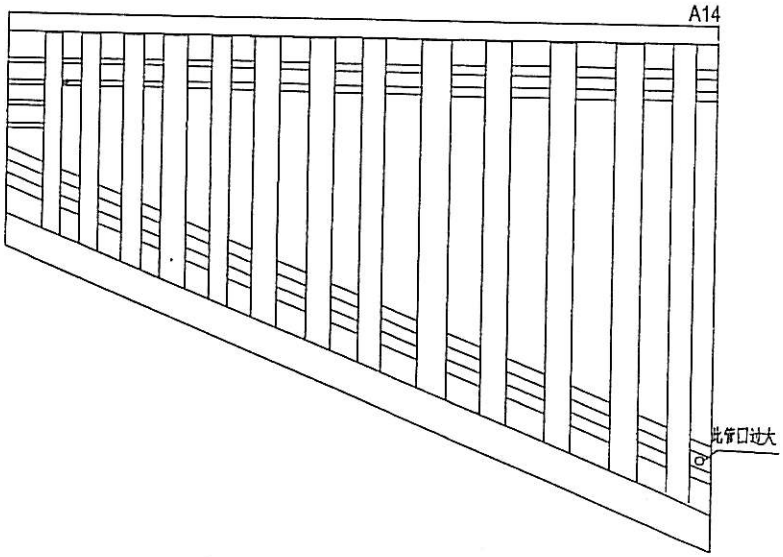
1AAW，管子孔过大，使管子装上后间隙过大。先要求堆焊。

1AAW assembly gap exceeded technology requirement after assembly pipe, it needed to build up.

检验员（Inspector）：Xiang Fengfeng 日期(Date)：09.06.11

焊缝返修位置示意图：

Draft of welding discontinuity:



产生原因:

Caused:

制作误差。

Fabrication error.

车间负责人(Foreman): Lizhigang 日期(Date): 2009.06.12

处理意见

Disposition：

1. 将返修区域根据批准的WPS准备接头形式；
2. 背面贴陶瓷衬垫，具体参照AWS D1.5 3.13;
3. 根据批准的焊接工艺规程WPS进行预热及焊接；
4. 去除陶瓷衬垫，将圆孔修割到要求尺寸，并将焊缝打磨平滑；
5. 根据批准的图纸要求对焊缝进行检查。

1. Prepare excavation with relevant WPS;
2. Add steel ceramic backing from reference to AWS D1.5.3.13;
3. Preheat and weld according to the approved WPS;
4. Remove ceramic backing, cut the hole to according to the shop drawings and grind the area flush to base metal;
5. Check the welds according to the working drawings.

工 艺: Technical engineer	审核: Approved by	日期 Date
Niu Tieteng 09.06.12		09.07.8

ZPMC	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.	SEG1	报告编号 Report No.	B-WR5443
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:.

Corrective action to prevent re occurrence:

加强制作过程中的监控，减少误差。

Enhance supervision in process of fabrication to reduce error.

车间负责人(Foreman): Lizhigang 日期(Date): 2009.6.12

参照的WPS编号 Repair WPS No.	WPS-345-FCAW-1 G(1F)-Repair-1 WPS-345-SMAW-1 G(1F)-Repair	工艺员 technologist	Niu Tiefang 09.06.12
返修（碳刨）前预热温度 Preheat temperature before gouging	100℃	返修的缺陷 Description of discontinuity	dimension error
焊前处理检查 Inspection before welding	ALL	焊前预热温度 Preheat temperature before welding	127℃
最大碳刨深度 Max. depth of gouging	4mm	碳刨总长 Total length of gouging	400mm

焊工 welder 045268	焊接类型 welding type SMAW	焊接位置 position 1G
焊接电流 Current 151	焊接电压 Voltage 25	焊接速度 Speed 127

返修后检查
Inspection After repairing:

外观检查 VT result ALL	检验员 Inspector Lizhigang	日期 Date 09.7.3
NDT复检 NDT result MT ALL	探伤员 NDT person Sun Zhy Sunlyang Chenxy	日期 Date 09.07.12

见证：
Witness/Review:

备注：
Remark：

#R787-QCP-900

B-VT 31084

ZPMC

周数	85#
日期	2009.6.18

Visual Weld Inspection Report
焊缝目视检查报告

Girder/梁:	OBG		
Tower/塔:	NA		
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Whyjiang 02251311
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1	045268	3G	TL-508 ϕ4.0	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
SEG2	045268	3G	TL-508 ϕ4.0	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA

☐ After root weld

☑ After CWR or WRR No.: B-WR5443

☐ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号	B787-UT-8004	DATE	2009.07.16	PAGE 1 OF 1	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG 1AAW	DRAWING NO.: 图号 SEG1	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 NA	JOINT TYPE 焊缝类型 NA	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-345 28/40mm	

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 Indication Level a	Reference Level b	Attenuation Factor c	Indication Rating d	DISCONTINUITY 不连续性 LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y	Discontinuity Evaluation 缺陷估计	Remark 备注
SEG1		70				34								ACC.	100%
AFTER B-WR5443															
BLANK															

EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 07.7.16	REVIEWED BY 审核 Zhang Yi LEVEL - II SIGN / DATE 07.7.16
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12400	DATE日期 2009.07.20	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:	SEG1 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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	NA 28/40mm
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA

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			
SEG1				ACC.		material
AFTER B-WR5443						
BLANK						

EXAMINED BY主探 Jin Jianting Jin Jianting LEVEL - II SIGN 签名 / DATE日期 09.7.20	REVIEWED BY 审核 Sun Fengchang LEVEL-II SIGN / DATE日期 09.7.20
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

周数	86#
日期	2009.06.11

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	C W I: 检验员:	Lvhnjiong 07-05-13-11
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-584	050316	3G	supercordø1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☑ After cover pass
☐ After CWR or WRR No. :
☐ After HSR No. :
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is r applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7224	DATE 2009.06.23	PAGE 1 OF 1		Revision No: 0
PROJECT NO. :工程编号 ZP06-787			CONTRACTOR : CALTRANS	
ITEMS NAME: 部件名称 OBG FLOOR BEAM	DRAWING NO.: 图号 SEG1E		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 CORNER-JOINT		CALIBRATION DUE DATE 仪器校正有效期 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 AWS IIW BLOCK TYPE II	COUPLANT 耦合剂 C.M.C	MATERIAL/THICKNESS 材料厚度 A709M-345T2-X 45mm	

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	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y		
SEG1E-584		70				33								ACC.	100%
BLANK															

EXAMINED BY主探 Sun Zh LEVEL - II SIGN / DATE 9.26.09	REVIEWED BY 审核 Zhu Qin LEVEL - II SIGN / DATE 9.26.09
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

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: 05.03.06-000243

Subject: NCR No. ZPMC-0257

Dated: **14-Sep-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000250 Rev: 02**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has attached supporting documents of inspection and requests closure of this NCR.

ZPMC has attached supporting documents of inspection and requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000250R02;

Caltrans' comments:

Status: CLO

Date: 24-Sep-2009

Contractor has submitted all required documentation

Submitted by: Chao, Ching

Date: 24-Sep-2009

Attachment(s):

ZPMC

No. B-453

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-8-19

REGARDING: NCR-000283 (ZPMC-257)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000283 (ZPMC-257).**

There is 9 items in the NCR, the explanation is following:

1) The crack on tack weld had been removed and repaired the base material with B-CWR575, please check the CWR and the NDT report.
2) The ABF-RI-1778 is approved and ZPMC had kept the wrapped.
3) According to the RFI-ZPM-702 and the B-WR5642, ZPMC had corrected the locations where the gap exceeded 2mm.
4) Please find the attachment about the internal stiffener repairing plans, the gap had been corrected and the welds had been verified NDT by ZPMC and CT.
5) The welds had been repaired by grinding, the NDT report is here.
6) The same to the item 4.
7) The location had been repaired by grinding and NDT verified onsite.
8) The pipe at this location had been replaced, the B-WR5443 is here.
9) The wrong weld ID is here, actually the right weld ID is SEG1E-584 and the steel backing bar had been removed, and the UT had been confirmed.

so base on the above explanation and attached documentations, ZPMC applies to close the Caltrans's report **NCR-000283 (ZPMC-257).**

Please reference attached document for acceptance and closure the **NCR-000283 (ZPMC-257).**

ATTACHMENT:

NCR-000283 (ZPMC-257)
ZPMC internal NCR
The final VT/MT/UT inspection reports
The welding repair report
The critical welding repair report
The approved RFI
The internal stiffener repairing plan

Zhao Shuangbao

2009. 8. 19

ZPMC	**Nonconformance Report** **不符合项报告**

Project Name: 项目名称:	S.F.O.B.B 美国加州海湾大桥		NCR Number: NCR 编号: NCR-B-165 (ZPMC-0257)
Item: 名称描述:	Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings 错误的装配，拙劣的焊缝，未按图纸施工	Item Number: 件号: OBG 1AAW	Drawing: 图号: SEG1
Location: 位置:	OBG 1AAW		Date: 日期: 2009-06-03

Description of Nonconformance:

Caltrans Quality Assurance (QA) Inspector found the following issues by VT on welds previously inspected and accepted by ZPMC QC and ABF QA Inspectors.

1. Thirteen cracked tacks were found by QA MT Inspector on segment stiffener plates. ZPMC removed the cracked tacks by carbon arc gouging. Plates and stiffener base material will now need to be repaired. The weld numbers are as follows; Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659 ,660, 661, 662, and 663.
2. Twenty Three Bulkhead stiffeners have fillet welds wrapped on both ends of stiffener. Weld detail on drawing shows the fillet shall be welded both sides and not welded all around (wrapped).
3. SEG1C-152-~172 and SEG1D-152~170. The approved drawings require a tight fit joint. The joint had been fillet welded then the weld was removed by carbon arc gouging resulting in base metal damage. ZPMC caulked over the gouged welds prior to Caltrans QA Inspector verification of the 2mm tight fit requirements.
4. Segment internal stiffener Partial Joint Penetration (PJP) Welds have root openings greater than the 5 mm allowed per WPS-B-T-2333-Tc-U4b f. See attached table for weld joint numbers and root opening values. The back side of the PJP welds exhibit burn through with slag inclusions which have not been cleaned.
5. SEG1D-002,009 and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.
6. 28mm thick sloping stiffener at location A41(2) and location A12(2) which require a PJP weld with a 8 mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.
7. Fillet welds joining internal stiffeners to plates at locations A14~A16 on W3 side bottom plate and location A14 W3 side bulkhead contain rollover, lack of fusion, and unacceptable weld profiles.
8. Pipe (219mm diameter) penetration at location A14 bottom plate on segment assembly detail SEG1A has a root gap of 9.5mm. Root gap exceeds the 5mm maximum root gap for fillet welds.
9. The backing bar for complete joint penetration (CJP) weld SEG1E-587 is still in place in various locations along the weld. The joint designation TC-U4b per WPS-B-T-2233-Tc-U4b-F requires the joint to be welded both sides then backgouged.

在 ZPMC 和 ABF 的检验员完成 1AAW 的 VT 并确认接受后，加洲检验员发现如下问题：

1、在焊缝 Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659 ,660, 661, 662, 663 上，加洲检验员发现 13 处裂纹。ZPMC 已经用碳刨将此去除，此区域母材需要做返修。

2、在箱体端头封板下的带圆孔的筋板上，筋板与顶板的角焊缝按图纸要求应该双面烧焊，不需要包角，但是 ZPMC 对 23 根筋板做了包角。

3、焊缝 SEG1C-152~172 和 SEG1D-152~170，按图纸要求，小盖板和顶板之间要紧密贴合，不需要焊接。但 ZPMC 对此烧焊（角焊缝），后来用碳刨去除焊缝并伤到母材。在加洲确认 2 毫米的装配间隙要求前，ZPMC 已经用硅胶将此区域密封

4、箱体内两隔板之间的两层插板，按照 WPS（WPS-B-T-2333-Tc-U4b f）的允许间隙是 5 毫米，但插板间隙超过此要求。同时插板反面被焊透，而且焊渣未清理。

5、焊缝 SEG1D-002，SEG1D-092 和 SEG1C-002 上有很多焊缝和母材缺陷（过高的焊缝余高，未熔合，漏焊，焊瘤等），需要返修。

6、在 A41（2）和 A12（2）位置的 28mm 厚的斜着安装的插板的 PJP 角焊缝没有达到 8mm 余高。此焊缝没有焊满，28mm 的板厚，在焊缝位置的坡度是 18mm。这没有满足图纸 SEG1D 上的 WD90H 的焊缝接头祥图的要求。

7、在 W3 线与 A14~A16 位置插板与底板斜底板的角焊缝，在 W3 线与 A14 位置的插板与端头封板的角焊缝成型差。

8、按照 SEG1A 装配的，在 A14 位置 219mm 直径的管子与底板上的管孔的装配间隙有 9.5 毫米，超过角焊缝允许的 5mm 最大间隙。

9、在焊缝 SEG1E-587 上，CJP 焊缝完工后背面的钢衬垫仍未去除。根据接头形式 TC-U4b 的要求，采用 WPS-B-T-2233-Tc-U4b-F，需要做双面烧焊，反面清根。

Work By: 施工方: 陈和平　　Prepared by: 准备: Shenhejun 2009-6-3　　Reviewed by QCE: 质量工程师批准: 陈青华 6/3/09

☐ Drawing Error 图纸错误　☐ Material Defect 材料缺陷　■ Fabrication Error 制作错误　☐ Other 其他原因

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

Recommendation:
建议:

1) 施工队在制作前，必须看清楚图纸要求；
2) 对于间隙超标的位置，必须返修报告；
3) 加强对现场的监控和管理。

1) Review drawing requirement competely before fabrication.
2) Perform welding repair if the gap exceed standard requirement.
3) Enhance supervision and management on-site.

Prepared by: 准备 Du Wenbing　　Approved by QCA: 质量经理批准

Reason for Nonconformance:
不符合原因:

① 未能看清图纸要求。 1) Didn't review drawing requirement carefully.

② 筋板在装配前对尺寸要求不明确
2) Didn't arify size requirement before assembly stiffener.

③ 修割件在装配前未打磨。
3) Didn't grind the cut component before assembly.

Prevention of Re-occurrence:
预防措施:

1. 提供相关维修报告. 1) Provide relevant repair report.
2. 控制装配间隙. 2) Control assembly gap.
3. 加强施工队伍管理 3) Enhance management work team.
4. 熟悉图纸、吃透图纸 4) Review drawing completely.

Approved by/批准: [illegible] 2009.6.4

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

See the attachment.

Reviewed /批准: Lingshuhua 09.6.14

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: _____

#R787-QCP-1300

Attachment for NCR-B-165 (ZPMC-0257)

回用或返修技术依据：（Technical Justification for Use-As-Is/Repair）

1. 已返修。
2. 回用，提交 FCN。
3. 提交 FCN，要求紧密贴合处去除密封胶并检测装配间隙，间隙大于 2mm 处增加垫板，垫板与密封板焊接，与顶板紧密贴合不焊，重新采用密封胶密封处理。
4. 换板重新装配、焊接。
5. 出具 WR 进行返修。
6. 补焊加大焊脚。
7. 打磨去除缺陷。
8. 出具 WR 进行返修。
9. 打磨去除衬垫。

1. The defects have been repaired.
2. Use as is, and submit a relevant FCN.
3. Submit a relevant FCN. Remove the silica gel, and check the gap between seal plates and deck plate. For any gap which is larger than 2mm, provide an added shim plate tight fit to deck plate and fillet welded to the seal plate.
4. Remove the plates and replace.
5. Perform repairing according to relevant WPS.
6. Add the fillet by welding.
7. The defects will be removed by grinding.
8. Perform repairing according to a relevant WR.
9. Remove the backing by grinding.

Liu shihua

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:

Caltrans

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:**	05.03.06-000243
Subject:	NCR No. ZPMC-0257		

Reference Description: Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings, Segment 1AAW.

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 Assurance (QA) Inspector found the following issues by Visual Testing (VT) on welds previously inspected and accepted by ZPMC Quality Control (QC) and ABF QA Inspectors.

1. Thirteen (13) cracked tacks were found by QA MT Inspector on segment stiffener plates. ZPMC removed the cracked tacks by carbon arc gouging. Plates and stiffener base material will now need to be repaired. The weld numbers are as follows; Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659, 660, 661, 662, and 663.
2. Twenty Three (23) Bulkhead Stiffeners have fillet welds wrapped on both ends of stiffener. Weld detail on drawing shows the fillet weld shall be welded both sides and not welded all around (wrapped).
3. SEG1C-152~172 and SEG1D-152~170- The approved drawings require a tight fit joint. The joint had been fillet welded then the weld was removed by carbon arc gouging resulting in base metal damage. ZPMC caulked over the gouged welds prior to Caltrans QA Inspector verification of the 2mm tight fit requirements.
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5. SEG1D-002, SEG1D-092, and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.
6. 28mm thick sloping stiffeners at location A41 (2) and location A12 (2) which require a PJP weld with a 8mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.
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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-0257

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
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, P.R. China **Report No:** NCR-000283
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 22-May-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0257

Type of problem:

Welding	☑	**Concrete**	☐	**Other**	☐	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** OBG Segment 1AAW
Procedural	☑	**Procedural**	☐	**Description:**		

Reference Description: Improper Joint Fit-up, Poor Weld Quality, Deviation from Shop Drawings, Segment 1AAW

Description of Non-Conformance:

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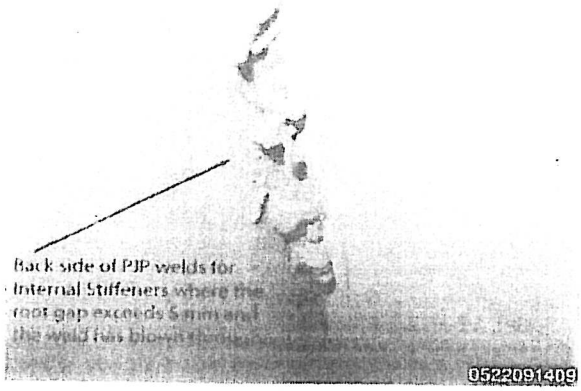
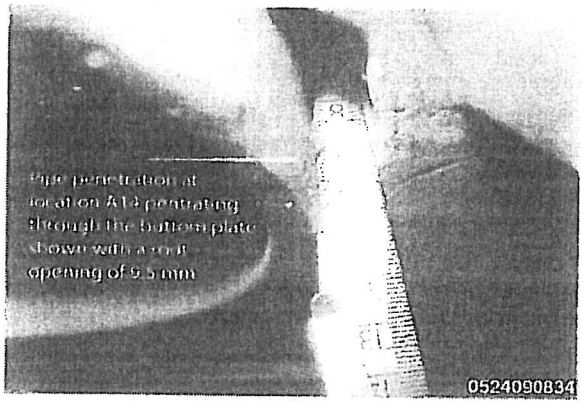
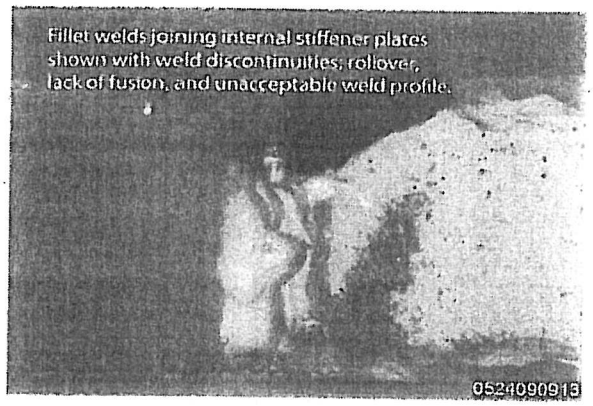
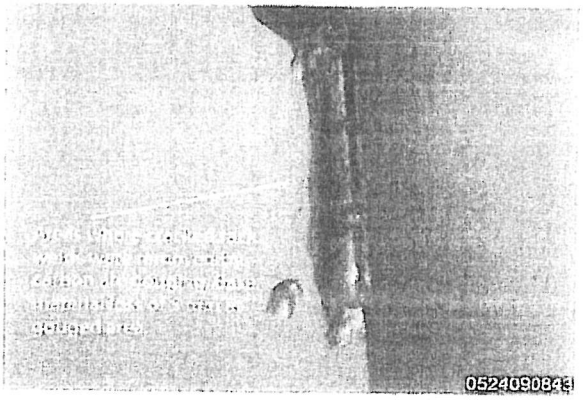


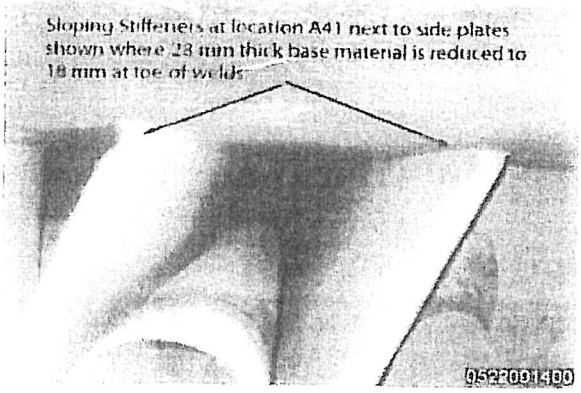
Table 1: PJP Root Openings

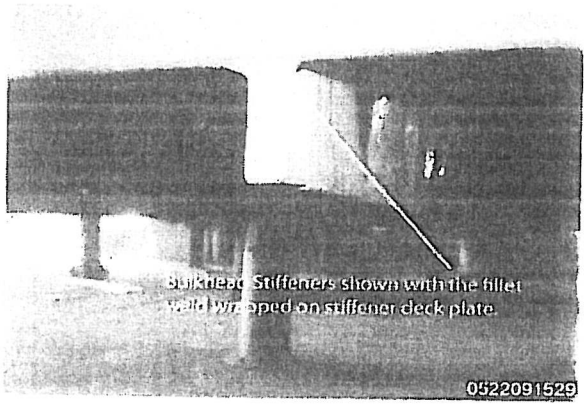
Weld Joint #	Root Opening (mm)	Weld Joint #	Root Opening (mm)
SEG1E-227	12 mm	SEG1E-137	9 mm
SEG1E-187	10 mm	SEG1E-316	7 mm
SEG1E-443	10 mm	SEG1E-241	7 mm
SEG1E-402	10 mm	SEG1E-110	8 mm
SEG1E-361	7 mm	SEG1E-192	7 mm
SEG1E-434	7 mm	SEG1E-151	12 mm
SEG1D-305	10 mm	SEG1E-242	10 mm
SEG1D-299	8 mm	SEG1E-195	6 mm
SEG1D-422	7 mm	SEG1F-022	10 mm
SEG1E-416	7 mm	SEG1F-026	9 mm
SEG1B-084	8 mm		











Applicable reference:

AWS D1.5 (02) Section 3.3.2 "The root opening between parts to be joined by PJP groove welds parallel to the member length (bearing joints excepted) shall be zero, or as small as practicable."

AWS D1.5 (02) Section 3.5.1.10 "Where tight fit of intermediate stiffeners is specified, it shall be defined as allowing a gap of up to 2 mm [1/16 in.] between stiffener and flange."

AWS D1.5 (02) Section 3.7.1 "The removal of weld metal or portions of the base metal may be done by machining, air carbon arc cutting and gouging, thermal cutting, chipping, or grinding. It shall be done in such a manner that the remaining weld metal or base metal is not nicked or undercut (see 3.2.6 for restrictions on the use of air carbon arc gouging and thermal cutting). Unacceptable portions of the weld shall be removed without substantial removal of the base metal. Any additional weld metal shall be deposited using a qualified WPS".

AWS D1.5 (02) Section 6.26, Quality of Welds

Segment Assembly Drawing SEG1D

Segment Assembly Drawing SEG1G – Joint design on drawing calls for an 8 mm fillet weld welded both sides not wrapped.

WPS-B-T-2233-Tc-U4b-F

WPS-B-T-2333-Tc-U4b-F

Who discovered the problem: Chandra Kumar, Erik Prue
Name of individual from Contractor notified: Man Kit Le
Time and method of notification: 05/22/09, 16:30, Verbal
Name of Caltrans Engineer notified: Stanley Ku
Time and method of notification: 05/25/09, 09:00, Verbal
QC Inspector's Name: Shen Xie Jun
Was QC Inspector aware of the problem:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 4 of 4)

☐ 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

ZPMC	关键焊缝返修报告 Critical Welding Repair Report (CWR)				版本 Rev. No.:
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SEG1E	报告编号 Report No.	B-CWR575
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAW	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of Welding Discontinuity:

经检查发现1AAW部分隔板点焊裂纹去除后，伤及母材，长度100mm，最深达到8mm。涉及焊缝~~SEG2E~~ SEG1E -031, 034, 078, 039, 040, 658, 659, 660, 661, 662, 663。 Lizhijiang 2009.8.9

The base metal was gouged after removing tack welds cracks at 1AAW segment, 100mm in length, maximum 4mm in depth, relevant welds: ~~SEG2E~~ SEG1E -031, 034, 078, 039, 040, 658, 659, 660, 661, 662, 663。486, 489. Lizhijiang 2009.8.9

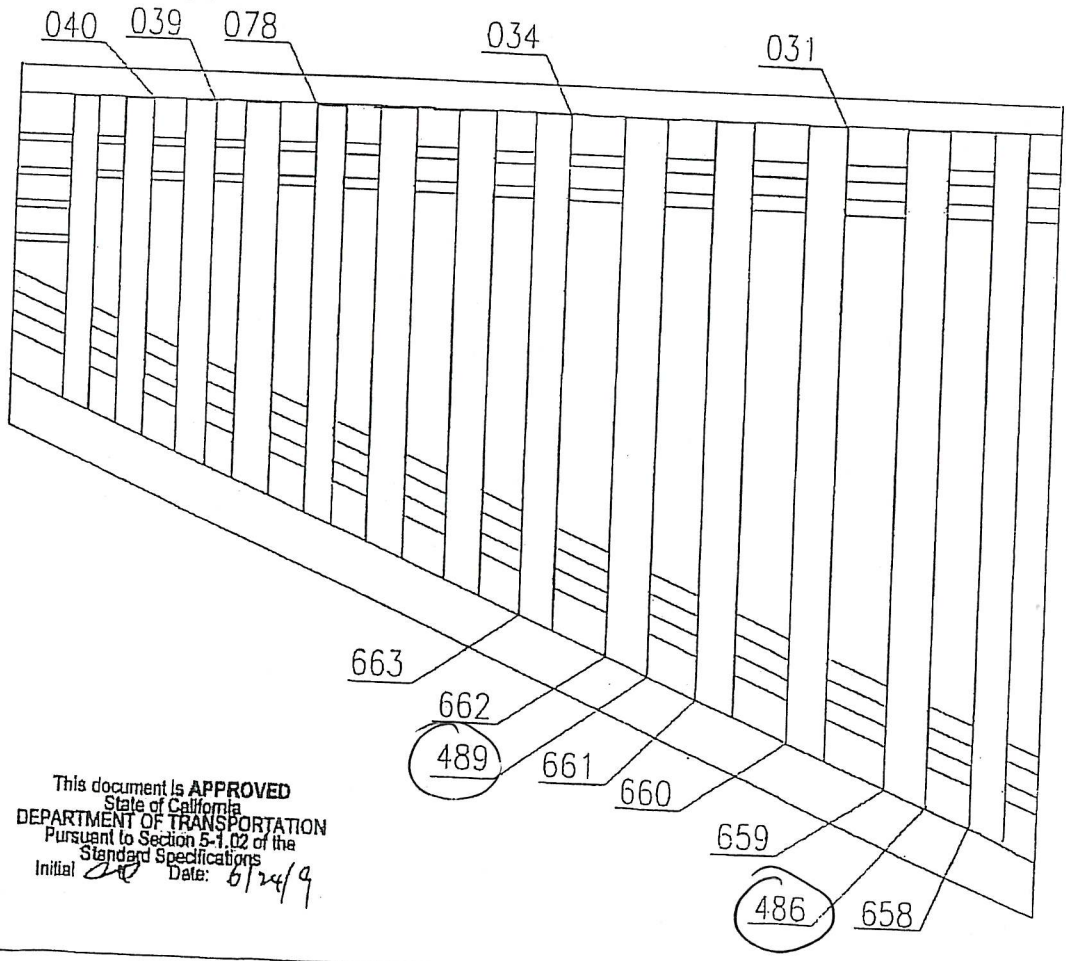
Shenxijun 2009.9.10.

Welder ID No. (焊工编号):202654 Position:(位置): 3F

检验员 (Inspector) : Li Zhijiang Li Zhijiang 日期 (Date) : 2009-6-20

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 Date: 6/24/9

产生原因:

Cause:

在打磨去除点焊裂纹时，工人操作失误，导致母材损伤。

Worker operated error during removing tack welds cracks caused base metal gouged.

车间负责人 (Foreman): Hu Yuzhang 日期 (Date): 09.06.23

处理意见

Disposition :

1. QA和CWI在整个修补过程中都应在场;
2. 准备一个正确的接头型式，具体参照相应的返修WPS;
3. 将碳刨区域打磨光滑，开始和结束的接头交错布置;
4. 在对修补区域焊接前对修补区域进行VT与MT检测;
5. 根据批准的返修焊接工艺规程（WPS）进行预热及焊接;
6. 将修补区域打磨与母材或相邻焊缝平齐;
7. 对承受拉应力和反向应力的构件焊缝修补区域应按照AWS D1.5，3.2.2.3上要求的UT和MT进行检测;

1. QA and CWI should be present to witness the repair.
2. Prepare excavation according to the approved repair WPS.
3. Grind the gouged area to a smooth and shiny finish, with tapered ends, to ensure staggered starts and stops.
4. VT and MT the repair area prior to welding of the repair area.
5. Preheat and weld according to the relevant repair WPS.
6. Grind the repaired area flush with base metal or the adjacent weld.
7. Weld repairs are being performed on TM/SRM member, per AWS D1.5, 3.2.2.3 UT and MT is required.

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial [illegible] Date: 6/24/9

工 艺: Technical Engineer: Niu Tiefang

审核: Approved By: Liyianhua for Chenbin

日期: Date: 09.06.24

#R787-QCP-900

ZPMC	关键焊缝返修报告 Critical Welding Repair Report (CWR)				版本 Rev. No.:
项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	SEG1E	报告编号 Report No.	B-CWR575
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	1AAW	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

培训和教育工人，提高操作水平。

Train and educate worker to improve operation skil.

WPS-345-SMAW-G(1F)-Repair

WPS-345-FCAW-G(1F)-Repair

Lingshilong 09.6.23

车间负责人 (Foreman): Hu Yuzhang 日期 (Date): 09.06.23

参照的WPS编号 Repair WPS No.:	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1 WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1	工艺员 Technologist:	Niu Tiefeng 09.06.23
返修（碳刨）前预热温度 Preheat Temperature Before Gouging:	90℃	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:	127℃
最大碳刨深度 Max. Depth of Gouge:	3mm	碳刨总长 Total Length of Gouge:	1040mm

焊工 Welder:	4G 045268 JT Yi 1G 207464 zhangsumin	焊接类型 Welding Type:	SMAW	焊接位置 Position:	1G 4G
焊接电流 Current:	160	焊接电压 Voltage:	25	焊接速度 Speed:	114

返修后检查

Inspection After Repair:

外观检查 VT Result:	ACC	检验员 Inspector:	Chen Xi	日期 Date:	2009.8.9
NDT复检 NDT Result:	MT ACC	探伤员 NDT Person:	Sun Yong Chang SUN Yin	日期 Date:	09.08.09 2009.08.09

见证：

Witness/Review:

备注：

Remark:

#R787-QCP-900

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant to Section 5-1.02 of the
Standard Specifications
Initial Date: 6/24/9

ZPMC

周数	92#
日期	2009.08.09

Visual Weld Inspection Report **焊缝目视检查报告**		**Girder/ 梁:**	**OBG Floor Beam**
		Tower/ 塔:	**NA**
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	ShenXuqian
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	C W I : 检验员:	Chenxi 07072021
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	Lu Jianhua

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-486	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-489	207464	3F	TL508	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☐ After cover pass

☑ After CWR or WRR No. :B-CWR575 ☐ After HSR No. : ☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-8172	DATE 2009.08.09	PAGE 1 OF 2		Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG PLATE PANEL SPLICE	DRAWING NO.: 图号 SEG1E	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 NA	JOINT TYPE 焊缝类型 NA	CALIBRATION DUE DATE 仪器校正有效期 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 IIW BLOCK TYPE Ⅱ	C.M.C	A709M-345T2-Z	45/35/28/38mm

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 a	Reference Level b	Attenuation Factor c	Indication Rating d	LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y		
SEG1E-031		0				34								ACC.	100%
SEG1E-034		0				34								ACC.	100%
SEG1E-078		0				34								ACC.	100%
SEG1E-039		0				34								ACC.	100%
SEG1E-040		0				34								ACC.	100%
SEG1E-658		0				34								ACC.	100%
SEG1E-659		0				34								ACC.	100%

EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 09.08.09	REVIEWED BY 审核 Zhu Qing LEVEL - II SIGN / DATE 09.08.09
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-8172 DATE 2009.08.09 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(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		
SEG1E-660		0				34								ACC.	100%
SEG1E-661		0				34								ACC.	100%
SEG1E-662		0				34								ACC.	100%
SEG1E-663		0				34								ACC.	100%
SEG1E-486		0				34								ACC.	100%
SEG1E-489		0				34								ACC.	100%
BLANK															

EXAMINED BY主探 Sun yin Sun Yin

LEVEL - II SIGN / DATE 9.08.09

REVIEWED BY 审核 Zhu Qin

LEVEL - II SIGN / DATE 9.08.09

质量经理 / QCM

签字 SIGN / 日期 DATE

用户CUSTOMER

签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12952	DATE日期 2009.08.10	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:	SEG1E OBG PLATE PANEL SPLICE	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 45/35/28/38mm 9/16mm
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA

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			
SEG1E-031				ACC.		BASE MATERIAL
SEG1E-034				ACC.		BASE MATERIAL
SEG1E-078				ACC.		BASE MATERIAL
SEG1E-039				ACC.		BASE MATERIAL
SEG1E-040				ACC.		BASE MATERIAL
SEG1E-658				ACC.		BASE MATERIAL
SEG1E-659				ACC.		BASE MATERIAL
SEG1E-660				ACC.		BASE MATERIAL
SEG1E-661				ACC.		BASE MATERIAL
SEG1E-662				ACC.		BASE MATERIAL
SEG1E-663				ACC.		BASE MATERIAL
SEG1E-486				ACC.		BASE MATERIAL
SEG1E-489				ACC.		BASE MATERIAL
AFTER B-CWR575						
BLANK						

EXAMINED BY主探 Sun gong chang LEVEL - II SIGN 签名 Sun gong chang / DATE日期 09.08.10	REVIEWED BY 审核 Wangquel LEVEL-II SIGN / DATE日期 09.08.10
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REQUEST FOR INFORMATION (RFI)

RFI No.: ABF-RFI-001778R00 **Submitted By:** Raynor, Dan **Pages:** 3
Pages Attached: 2

RFI Date: 08-June-2009 **Contact Name:** Weidong, Sun **Phone No.** 86-21-51907428

Subject: Propose Wrap-around Fillet Weld at West End OBG	
References:	
Sub/Sup: ZPM	**Sub RFI #:** RFI-ZPM-000675R00
Response Required by: 15-June-2009	**Response affects critical path activity?** Yes

Description:

Please review and respond to the attached RFI from ZPMC (RFI-ZPM-000675R00)

Contractor Disposition:

This RFI is being submitted for:

The Cost and Time Impact from this RFI is: Not selected

Response: **Agreed Ext. Due Date:**

Pages: 1
Pages Attached: 0

The Department takes no exception to the proposed wrap-around weld.

Update affected shop drawings accordingly.

Administrative Action:

This response resolves this RFI.

Date: 16-June-2009	**Respondent:** Altamirano, Victor	**Phone No.:**

REQUEST FOR INFORMATION (RFI) – ABF&SUB.

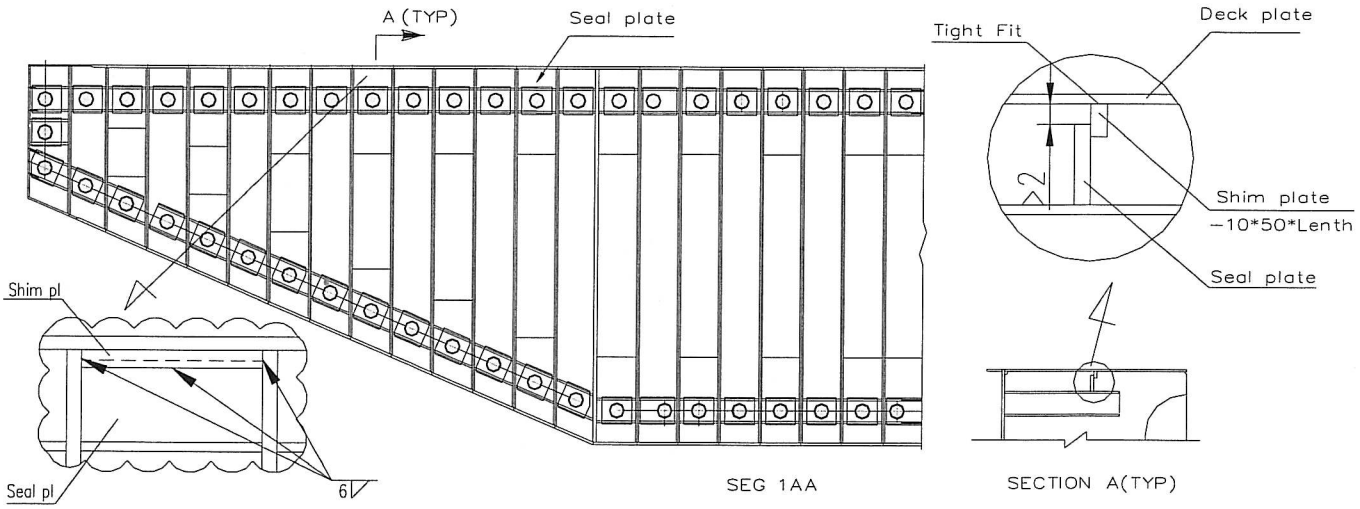
RFI No.: RFI-ZPM-000702R00 Submitted by: Ling Shihua Page(s): 1
RFI Date: 2009-6-16 Contact Name: Lu Shihua Phone No. 021-27414950

Subject: Fabrication Issue: Root Gap of PJP between End Stiffener and Strand Stiffener
References:
Response required by: 2009-6- 17(date) Response affects critical path activity? X YES ____ NO

Description:

During fabrication of 1AA, in the drawings of SEG1C, SEG1D, SEG2C, SEG2D, it should be tight fit between seal plates and deck plate, but shop workers missed the requirements when fitting. That leaded to excessive fit-up gap. For the fit-up gap >2mm, we propose to add a shim plate（A709M-345T2） tight fit to deck plates (no weld, sealed with silicone). The shim plates will be 6mm fillet welded with the seal plates and end stiffeners. For details, see the following fig.

lease review and respond ASAP.



This RFI is being submitted for:

- ☐ Material Procurement
- ☐ Contractor Convenience
- ☐ Clarification of the Contract Documents
- ☐ Engineering Review Request (ERR) for missing design information/coordination.

The Cost and Time Impact from this RFI is:

- ☐ No cost or time impacts in the performance of our Work.
- ☐ Cost and/or time impacts in the performance of our Work will result.
- ☐ We are unable to determine at this point whether there will be cost and/or time impacts.

Response:

Date: 06-16-2009	**Respondent: Gang Jiao**	**Phone No.:**

The proposed fill plate size and welds are acceptable for the specified repair. The fillet welds on both sides should have a 2 to 5mm holdback to avoid connecting to the deck. Please note pre-approved material should be used for caulking the tight-fit end.

RFI Status: (sign and date)

Closed:	**Revision Pending:**

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	SEG1/2	报告编号 Report No.	B-WR5642
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of welding discontinuity:

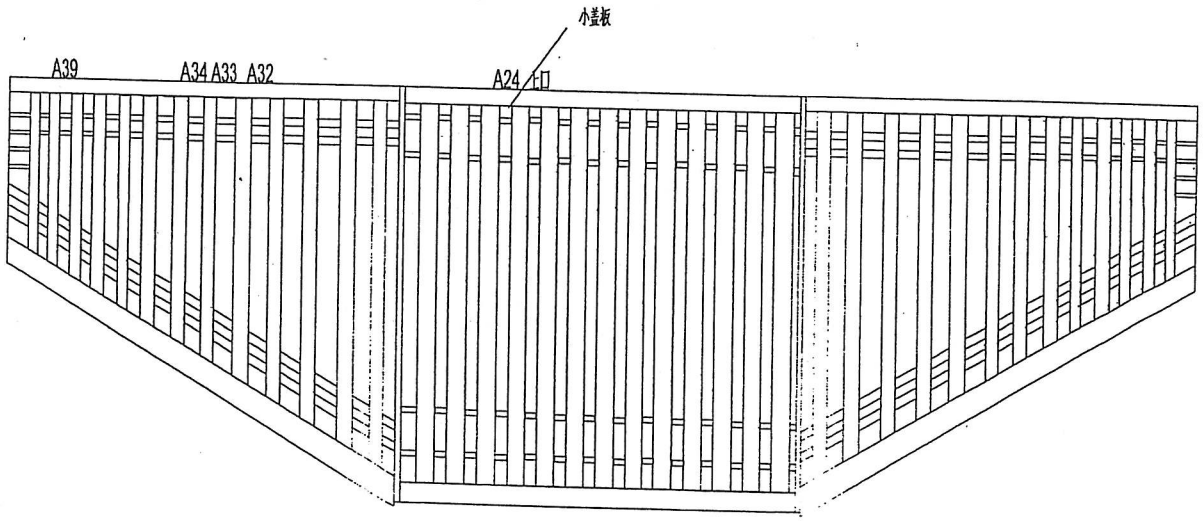
1AAW,1AAE两个箱体顶板位置图纸上（小盖板）不允许烧焊，现场原烧焊又割掉，现去除小盖板。

1AAW, 1AAE box deck plate, the small cover plate didn't allow to weld, however, it has finished welding and cut it.

检验员（Inspector）：Xiang Fengfeng 日期(Date)：09.06.19

焊缝返修位置示意图：

Draft of welding discontinuity:



产生原因:

Caused:

工人在制作时，没有将图纸看清楚图纸要求。

Worker didn't review drawing requirement during fabrication.

车间负责人(Foreman): Lizhigang 日期(Date): 09.06.30

处理意见

Disposition：

1. 采用热切割或碳刨的方法去除封板，注意不得伤及母材；
2. 打磨去除缺陷,使与周边母材平齐；
3. 进行MT检测；
4. 重新装配封板，注意与顶板贴合。

1. Remove the seal plates by heat cutting or gouging, note not to gouge base metal.
2. Remove all defects and grind the area flush to base metal.
3. Perform MT of this area.
4. Re-assemble seal plates tight fit to deck plates..

工 艺: NiuTiefeng
Technical engineer

09.06.30

审核:
Approved by

日期
Date

09.06.28

#R787-QCP-900

ZPMC	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.	SEG1/2	报告编号 Report No.	B-WR5642
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:.

Corrective action to prevent re occurrence:

培训和教育工人，提高操作水平。

Train and educate worker to improve operation skill.

车间负责人(Foreman): Lizhigang 日期(Date): 09.06.30

参照的WPS编号 Repair WPS No.	WPS-B-T-2132-3 NA	工艺员 technologist	NiuTiefeng 09.06.30
返修（碳刨）前预热温度 Preheat temperature before gouging	70℃	返修的缺陷 Description of discontinuity	crack
焊前处理检查 Inspection before welding	Ac	焊前预热温度 Preheat temperature before welding	90℃
最大碳刨深度 Max. depth of gouging	10mm	碳刨总长 Total length of gouging	320mm

焊工 welder 062708	焊接类型 welding type FCAW	焊接位置 position 2F
焊接电流 Current 290	焊接电压 Voltage 29	焊接速度 Speed 426

返修后检查

Inspection After repairing:

外观检查 VT result Ac	检验员 Inspector chenxi	日期 Date 2009.7.3
NDT复检 NDT result MT Ac	探伤员 NDT person Sun yong chang	日期 Date 09.07.12

见证：
Witness/Review:

备注：
Remark：

#R787-QCP-900

ZPMC

周数	87#
日期	2009.07.03

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	C W I: 检验员:	Chen(XJ 0707202)
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG2/1	062708	2F	supercorrd71h Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☑ After CWR or WRR No. :B-WR5642
☐ After cover pass
☐ After HSR No. :
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

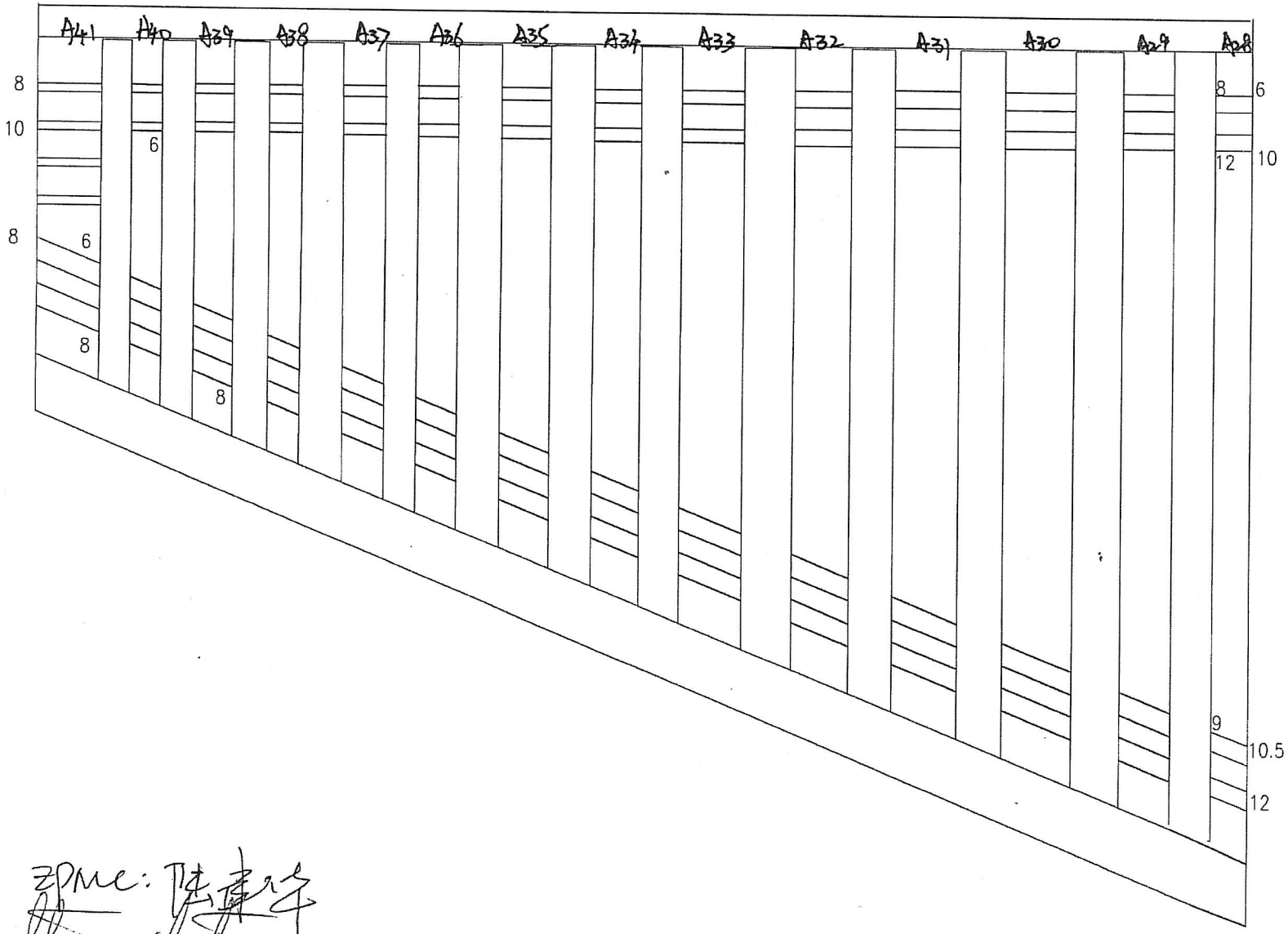
REPORT NO. 报告编号 B787-MT-12079	DATE日期 2009.07.06	PAGE OF页码 1/1	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1/2 OBG PLATE PANEL SPLICE	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-345F2-X 38 mm
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1				ACC.		BASE MATERIAL
SEG2				ACC.		BASE MATERIAL
AFTER B-WR5642						
BLANK						

EXAMINED BY主探 Sun gong chang Sungong Chang LEVEL - II SIGN 签名 / DATE日期 09.7.06	REVIEWED BY 审核 Wangwei LEVEL-II SIGN / DATE日期 09.7.06
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

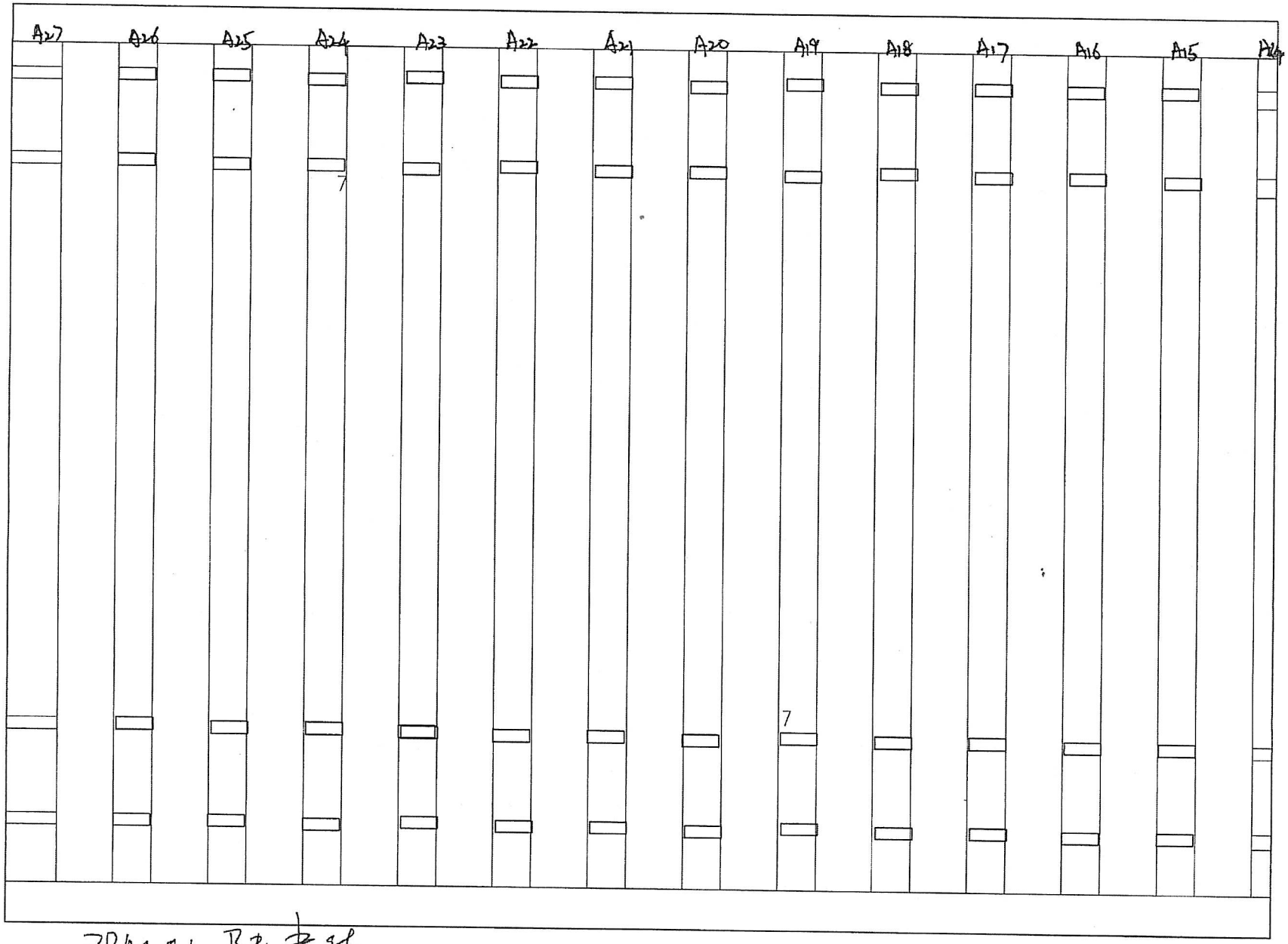
(FORM# ZPQC-MT01)



ABEJV

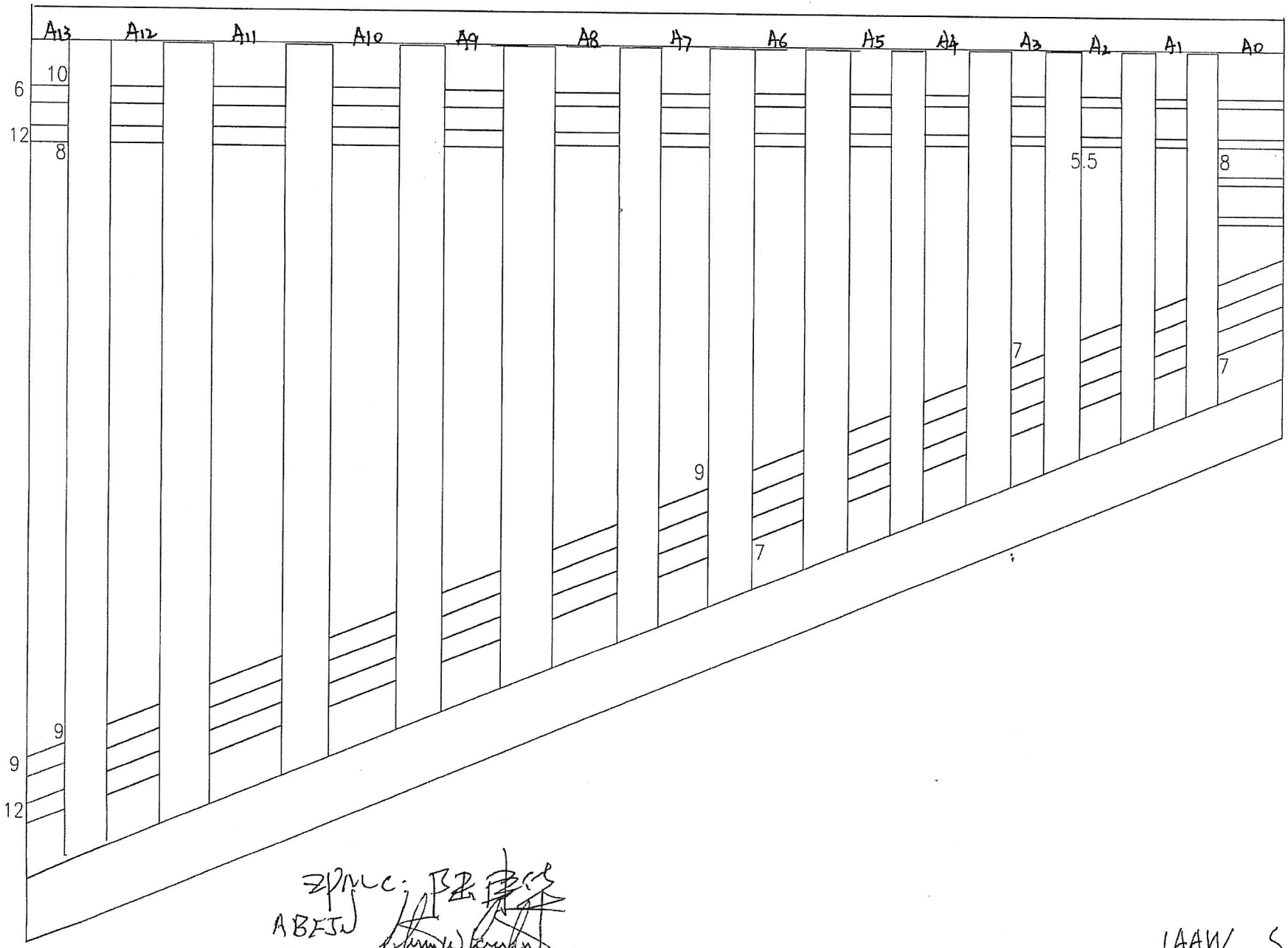
ZPMC: 陆康华

IAAW SEG 1



ZPME: 陈惠琴
ABFJV:

IAAW SEG 1



ABFJ

IAAW SEG 1

ZPMC

周数	86#
日期	2009.06.22

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	C W I : 检验员:	Whijiang 03.05.7m
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1D-002	066283	2F	supercored71h Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☐ After CWR or WRR No. :
☑ After cover pass
☐ After HSR No. :
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12075	DATE日期 2009.07.06	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:	SEG1D OBG FLOOR BEAM	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 10 mm
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			
SEG1D-002				ACC.		100%MT
SEG1D-035				ACC.		100%MT
SEG1D-032				ACC.		100%MT
SEG1D-029				ACC.		100%MT
SEG1D-026				ACC.		100%MT
SEG1D-023				ACC.		100%MT
SEG1D-020				ACC.		100%MT
SEG1D-017				ACC.		100%MT
SEG1D-014				ACC.		100%MT
SEG1D-011				ACC.		100%MT
SEG1D-008				ACC.		100%MT
SEG1D-003				ACC.		100%MT
BLANK						

EXAMINED BY主探 SunGongchang Sun Gongchang 09.7.6 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Lin zheng Hua 09.7.6 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE 09.7.6	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

BVT 32410

ZPMC

周数	87#
日期	2009.06.30

Visual Weld Inspection Report **焊缝目视检查报告**		**Girder/ 梁:**	**OBG Floor Beam**
		Tower/ 塔:	**NA**
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	C W I : 检验员:	Chen Xi 07/07/2021
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1-036	207465	2G	supercored71hΦ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-001	067947	3G	supercored71hΦ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-092	068858	3G	supercored71hΦ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No. : ☐ After HSR No. : ☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7360R1	DATE 2009.07.20	PAGE 1 OF 1		Revision No: 0
PROJECT NO. :工程编号 ZP06-787			CONTRACTOR : CALTRANS	
ITEMS NAME: 部件名称 OBG FLOOR BEAM	DRAWING NO.: 图号 SEG1/D		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 SMAW	JOINT TYPE 焊缝类型 CORNER-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-345F2-X 22/38/20mm		

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 Indication Level a	Reference Level b	Attenuation Factor c	Indication Rating d	DISCONTINUITY 不连续性 LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y	Discontinuity Evaluation 缺陷估计	Remark 备注
SEG1D-001	1R1	70				33								ACC.	100%
	2R1	70				33								ACC.	100%
	3R1	70				33								ACC.	100%
	4R1	70				33								ACC.	100%
SEG1D-092	1R1	70				33								ACC.	100%

AFTER B-WR6058 6057

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EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 09.07.20	REVIEWED BY 审核 Han Feng LEVEL - II SIGN / DATE 09.07.20
质量经理 / QCM 签字 SIGN / 日期 DATE 09.07.20	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

ZPMC

周数	87#		
日期	2009.7.5		

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG Floor Beam
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/塔:	NA
Project No.: 项目编号:	ZP06-787	Quality Control Representative: 质检代表:	
		CWI: 检验员:	chen xi 07/07/2021
		Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1C-002	045268	3G	Supercored71HΦ1.4	√	√	√	√	√	√	√	ACC	ACC	√

☐ After root weld

☑ After CWR or WRR No. :B-WR6059

☐ After cover pass

☐ After HSR No. :

☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号	B787-UT-7361R1	DATE	2009.07.20	PAGE 1 OF 2	Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG FLOOR BEAM	DRAWING NO.: 图号 SEG1/C	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 SMAW	JOINT TYPE 焊缝类型 CORNER-JOINT	CALIBRATION DUE DATE仪器校正有效期 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 IIW BLOCK TYPE Ⅱ	C.M.C	A709M-345F2-X 22/38/20mm	

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 Indication Level a	Reference Level b	Attenuation Factor c	Indication Rating d	DISCONTINUITY 不连续性 LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y	Discontinuity Evaluation 缺陷估计	Remark 备注
SEG1C-002	1R1	70				33								ACC.	100%
	2R1	70				33								ACC.	100%
	3R1	70				33								ACC.	100%
SEG1C-094	1R1	70				33								ACC.	100%
	2R1	70				33								ACC.	100%
	3R1	70				33								ACC.	100%
	4R1	70				33								ACC.	100%
	5R1	70				33								ACC.	100%

EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 09.07.20	REVIEWED BY 审核 Han Feng LEVEL - II SIGN / DATE 09.07.20
质量经理 / QCM 签字 SIGN / 日期 DATE 09.07.20	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7361R1 DATE 2009.07.20 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(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		
	6R1	70				33								ACC.	100%
AFTER B-WR6059 6060															
BLANK															

EXAMINED BY主探

Sun yin Sun Yin

LEVEL - II SIGN / DATE 09.07.20

REVIEWED BY 审核

Hem Feng

LEVEL - II SIGN / DATE 09.07.20

质量经理 / QCM

签字 SIGN / 日期 DATE 09.07.20

用户CUSTOMER

签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

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	SEG1	报告编号 Report No.	B-WR5443
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述：

Description of welding discontinuity:

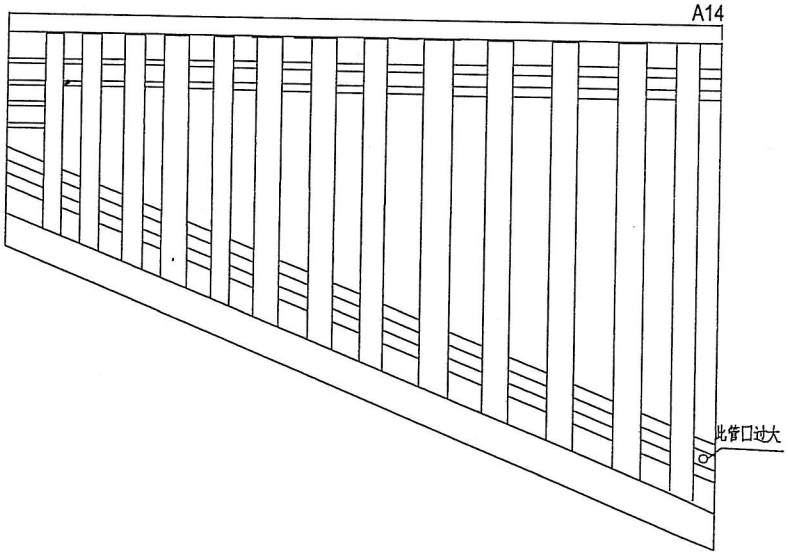
1AAW，管子孔过大，使管子装上后间隙过大。先要求堆焊。

1AAW assembly gap exceeded technology requirement after assembly pipe, it needed to build up.

检验员（Inspector）：Xiang Fengfeng 日期(Date)：09.06.11

焊缝返修位置示意图：

Draft of welding discontinuity:



产生原因:

Caused:

制作误差。

Fabrication error.

车间负责人(Foreman): Lizhigang 日期(Date): 2009.06.12

处理意见

Disposition：

1. 将返修区域根据批准的WPS准备接头形式；
2. 背面贴陶瓷衬垫，具体参照AWS D1.5 3.13;
3. 根据批准的焊接工艺规程WPS进行预热及焊接；
4. 去除陶瓷衬垫，将圆孔修割到要求尺寸，并将焊缝打磨平滑；
5. 根据批准的图纸要求对焊缝进行检查。

1. Prepare excavation with relevant WPS；
2. Add steel ceramic backing from reference to AWS D1.5.3.13；
3. Preheat and weld according to the approved WPS；
4. Remove ceramic backing, cut the hole to according to the shop drawings and grind the area flush to base metal；
5. Check the welds according to the working drawings.

工 艺: Technical engineer	审核: Approved by	日期 Date
Niu Tiefang 09.06.12		09.07.8

#R787-QCP-900

ZPMC	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.	SEG1	报告编号 Report No.	B-WR5443
合同号 Contract No.:	04-0120F4	部件名称 Items Name	OBG FLOOR BEAM	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:.

Corrective action to prevent re occurrence:

加强制作过程中的监控，减少误差。

Enhance supervision in process of fabrication to reduce error.

车间负责人(Foreman): Lizhi gang 日期(Date): 2009.6.12

参照的WPS编号 Repair WPS No.	WPS-345-FCAW-1 G(1F)-Repair-1 WPS-345-SMAW-1 G(1F)-Repair	工艺员 technologist	Niu Tiefang 09.06.12
返修（碳刨）前预热温度 Preheat temperature before gouging	100℃	返修的缺陷 Description of discontinuity	dimension error
焊前处理检查 Inspection before welding	Acc	焊前预热温度 Preheat temperature before welding	127℃
最大碳刨深度 Max. depth of gouging	4mm	碳刨总长 Total length of gouging	400mm

焊工 welder 045268	焊缝类型 welding type SMAW	焊接位置 position 1G
焊接电流 Current 151	焊接电压 Voltage 25	焊接速度 Speed 127

返修后检查
Inspection After repairing:

外观检查 VT result Acc	检验员 Inspector Lishijiang	日 期 Date 09.7.3
NDT复检 NDT result MT Acc	探伤员 NDT person Sun Yang Chang	日 期 Date 09.07.12

见证：
Witness/Review:

备注：
Remark：

#R787-QCP-900

B-VT 31084

ZPMC

周数	85#
日期	2009.6.18

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/ 梁:	OBG
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/ 塔:	NA
Project No.: 项目编号:	ZP06-787	Quality Control Representative: 质检代表:	
		CWI: 检验员:	Wuhyiang 02295311
		Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1	045268	3G	TL-508 φ4.0	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA
SEG2	045268	3G	TL-508 φ4.0	✓	✓	✓	✓	✓	✓	✓	Acc	NA	NA

☐ After root weld

☑ After CWR or WRR No.: B-WR5443

☐ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-8004	DATE 2009.07.16	PAGE 1 OF 1		Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG 1AAW	DRAWING NO.: 图号 SEG1	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 NA	JOINT TYPE 焊缝类型 NA	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-345 28/40mm	

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 Indication Level a	Reference Level b	Attenuation Factor c	Indication Rating d	DISCONTINUITY 不连续性 LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y	Discontinuity Evaluation 缺陷估计	Remark 备注
SEG1		70				34								ACC.	100%
AFTER B-WR5443															
BLANK															

EXAMINED BY主探 Sun yin Sun Yin LEVEL - II SIGN / DATE 07.7.16	REVIEWED BY 审核 Zhang Yi LEVEL - II SIGN / DATE 07.7.16
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12400	DATE日期 2009.07.20	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:	SEG1 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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	NA 28/40mm
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1				ACC.		material
AFTER B-WR5443						
BLANK						

EXAMINED BY主探 Jin Jianting Jin Jianting LEVEL - II SIGN 签名 / DATE日期 09.7.20	REVIEWED BY 审核 Sun Fengchang LEVEL-II SIGN / DATE日期 09.7.20
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

周数	86#
日期	2009.06.12

Visual Weld Inspection Report **焊缝目视检查报告**		**Girder/ 梁:**	**OBG Floor Beam**
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	C W I : 检验员:	Lvhijiang 07-051311
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-584	050316	3G	supercordø1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No. : ☐ After HSR No. : ☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is r applicable.

REPORT OF ULTRASONIC EXAMINATION
UT探伤报告

REPORT NO. 报告编号 B787-UT-7224	DATE 2009.06.23	PAGE 1 OF 1		Revision No: 0

PROJECT NO. :工程编号 ZP06-787		CONTRACTOR : CALTRANS
ITEMS NAME: 部件名称 OBG FLOOR BEAM	DRAWING NO.: 图号 SEG1E	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 CORNER-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-X 45mm	

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 Indication Level a	Reference Level b	Attenuation Factor c	Indication Rating d	DISCONTINUITY 不连续性 LOCATION OF DISCONTINUITY 不连续位置(mm) Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y	Discontinuity Evaluation 缺陷估计	Remark 备注
SEG1E-584		70				33								ACC.	100%

BLANK

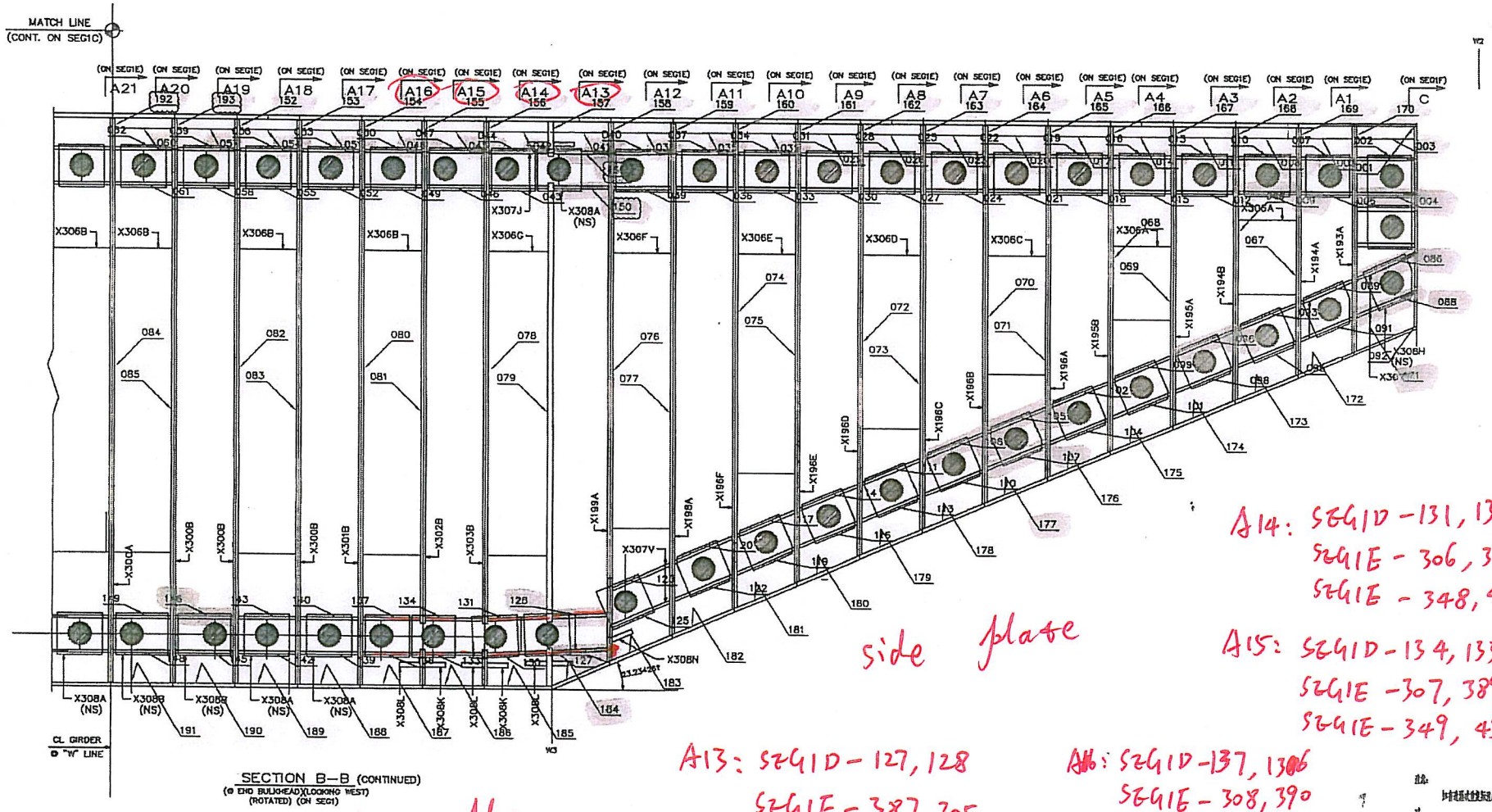
EXAMINED BY主探 Shuzh LEVEL - II SIGN / DATE 9.06.23	REVIEWED BY 审核 Zhuqin LEVEL - II SIGN / DATE 9.06.23
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-UT01)

1AAW

Tag#1

Tag#3



side plate

bottom plate.

A14: SEG1D - 131, 130
SEG1E - 306, 388
SEG1E - 348, 430

A15: SEG1D - 134, 133
SEG1E - 307, 389
SEG1E - 349, 431

A13: SEG1D - 127, 128
SEG1E - 387, 305
SEG1E - 429, 347

A16: SEG1D - 137, 136
SEG1E - 308, 390
SEG1E - 350, ~~[illegible]~~ 432

SEG1D XXX

ZPMC
SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

WELDING MAP

DRAWN		SHOP DRAWING NO.	PAGINATION
CHECKED		SEG1D	1/1

B-VT 31092

ZPMC

		周数	85#
		日期	2009.6.18

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/梁:	OBG segment
		Tower/塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Wuhujiang 07051311
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-137	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-227	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-347	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-305	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-341	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-299	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-340	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-298	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-337	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1E-298	068923	3G	supercored 71H 6/4	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

#R787-QCP-603

☑ After cover pass

☐ After HSR No.:

☐ Others

" √ " is no defects. " X " is defects. "NA" is not applicable.

B-VT 31090

ZPMC

Visual Weld Inspection Report
焊缝目视检查报告

		周数	85#
		日期	2009.6.18
		Girder/梁:	OBG segment
Caltrans Contract No. 加州合同编号	04-0120F4	Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Quality Control Representative: 质检代表:	
		CWI: 检验员:	Wuhujiang 07051311
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1D-150	066283	2F	Supercored 71M 0.4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1D-128	066283	2F	Supercored 71M 0.4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1D-108	066283	2F	Supercored 71M 0.4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1D-105	066283	2F	Supercored 71M 0.4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1D-096	066283	2F	Supercored 71M 0.4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1D-009	066283	2F	Supercored 71M 0.4	√	√	√	√	√	√	√	Acc	NA	NA
SEG1D-086	066283	2F	Supercored 71M 0.4	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No. :

☑ After cover pass

☐ After HSR No. :

☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

B-VT 30626

ZPMC

周数	84#
日期	2009.6.14

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Quality Control Representative: 质检代表:	
		CWI: 检验员:	LWhijiang 07051311
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-429	048433	3G	Supercored 71H(014	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-387	048433	3G	Supercored 71H(014	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-127	048433	2F	Supercored 71H(014	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☐ After CWR or WRR No.:
☑ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

B-VT 25482

ZPMC

周数	78
日期	2009.05.01

Visual Weld Inspection Report **焊缝目视检查报告**		**Girder/梁:**	**OBG PlatePanelSplice**
		Tower/塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	07120761
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-097	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-178	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-430	251243	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-388	251243	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-387	251243	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-429	251243	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-096	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-177	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-255	045240	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-333	045240	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1F-023	045240	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1F-026	045240	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No.: ☐ After HSR No.: ☐ Others

#R787-QCP-603

B-V1 23481

ZPMC

周数	78
日期	2009.05.01

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG PlatePanelSplice
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Luanzhao Yang 0712 0741
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1D-044	045203	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-130	251243	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-127	251243	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-151	045206	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-024	045240	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-088	045240	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No.: ☐ After HSR No.: ☐ Others

#R787-QCP-603

ZPMC

周数	78
日期	2009.05.03

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/ 梁:	OBG PlatePanelSplice
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/ 塔:	
Project No.: 项目编号:	ZP06-787	Quality Control Representative: 质检代表:	
		CWI: 检验员:	Luai Zhaogang 07/20761
		Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1D-043	045203	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-131	045203	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-150	215767	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-128	215767	2G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld

☐ After CWR or WRR No. :

☑ After cover pass

☐ After HSR No. :

☐ Others

" √ " is no defects " X " is defects. "NA" is not applicable

ZPMC

周数	78
日期	2009.05.03

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/梁:	OBG PlatePanelSplice
		Tower/塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Lucan 2009-4-29 07/20761
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-138	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-137	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-227	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-228	045203	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-348	215767	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-347	215767	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-305	215767	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-306	215767	3G	supercore71H(Φ1.4)	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☐ After CWR or WRR No. :
☑ After cover pass
☐ After HSR No. :
☐ Others

#R787-QCP-603

B-VT 27551

ZPMC

周数	80 #		
日期	2009-05-15		

Visual Weld Inspection Report 焊缝目视检查报告		**Girder/ 梁:**	**OBG Floor Beam**
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Huweiping 04062001
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Overlap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1D-046	045240	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-134	045221	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No.: ☐ After HSR No.: ☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

BUT9815

ZPMC

周数	72#		
日期	2009.03.16		

Visual Weld Inspection Report **焊缝目视检查报告**		***Girder/ 梁:***	***OBG Floor Beam***
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Representative: 质检代表:	Wang Lu
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美 国海湾大桥	CWI: 检验员:	Huwei Bing 04062001
Project No.: 项 目编号:	ZP06-787	~Approval 质量控制经理:	Lu Jinghua

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1D-047	062708	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-133	202654	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☐ After CWR or WRR No.:
☑ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

B-VT 27536

ZPMC

周数	80 #		
日期	2009-05.15		

Visual Weld Inspection Report **焊缝目视检查报告**		**Girder/梁:**	**OBG Floor Beam**
		Tower/塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美 国海湾大桥	CWI: 检验员:	Huweiding 04062001
Project No.: 项 目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1C-134	045240	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-137	045221	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-140	045240	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-143	045221	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-146	045240	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-149	045221	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-149	045240	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-146	045221	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-143	045240	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-140	045221	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-137	045240	2F	supercored71H Φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No.: ☐ After HSR No.: ☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

B-VT 27552

ZPMC

周数	80#
日期	2009-05-15

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Quality Control Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	+ tuneising 04062001
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Overlap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-349	045240	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-350	045221	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-351	045240	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-352	045221	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-353	045240	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-354	045221	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-355	045240	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-356	045221	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-357	045240	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-358	045221	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-359	045240	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld
☐ After CWR or WRR No. :
☑ After cover pass
☐ After HSR No. :
☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

B-VT 27565

ZPMC

周数	80#		
日期	2009-05-15		

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/ 梁:	OBG Floor Beam
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/ 塔:	
Project No.: 项目编号:	ZP06-787	Representative: 质检代表:	
		CWI: 检验员:	Huweiding 04062001
		~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-307	045240	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-308	045221	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-309	045240	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-310	045221	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-311	045240	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-312	045221	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-313	045240	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-314	045221	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-315	045240	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-316	045221	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-317	045240	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld

☐ After CWR or WRR No. :

☑ After cover pass

☐ After HSR No. :

☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

BVT19808

ZPMC

周数	72#		
日期	2009.03.18		

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Representative: 质检代表:	Wang Lu
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Huweiding 04062001
Project No.: 项目编号:	ZP06-787	~Approval 质量控制经理:	LuTianhang

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Overlap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-430	062708	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-431	202654	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-432	062708	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-433	202654	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-434	062708	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-435	202654	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-436	062708	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-437	202654	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-438	062708	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-439	202654	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-440	062708	3G	supercored71Hφ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

BYT198#

ZPMC

周数	72#		
日期	2009.03.16		

Visual Weld Inspection Report
焊缝目视检查报告

		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Representative: 质检代表:	Wang Lu
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Huwaibing 04062001
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	Lu Jianhua

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Overlap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1E-389	062708	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-390	202654	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-391	062708	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-392	202654	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-393	062708	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-394	202654	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-395	062708	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-396	202654	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-397	062708	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-398	202654	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1E-399	062708	3G	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld

☑ After cover pass

☐ After CWR or WRR No. :

☐ After HSR No. :

☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

BVT19814

ZPMC

周数	72#
日期	2009.03.16

Visual Weld Inspection Report 焊缝目视检查报告		Girder/ 梁:	OBG Floor Beam
		Tower/ 塔:	
Caltrans Contract No. 加州合同编号	04-0120F4	Representative: 质检代表:	WangLu
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Huweiqing 04062001
Project No.: 项目编号:	ZP06-787	~Approval 质量控制经理:	LuJianhua

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Overlap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
SEG1C-136	045240	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-139	202654	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-142	045240	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-145	202654	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-148	045240	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1C-151	202654	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-148	045240	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-145	202654	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-142	045240	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-139	202654	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA
SEG1D-136	045240	2F	supercored71H φ1.4	√	√	√	√	√	√	√	ACC	NA	NA

☐ After root weld ☑ After cover pass

☐ After CWR or WRR No.: ☐ After HSR No.: ☐ Others

#R787-QCP-603

" √ " is no defects. " X " is defects. "NA" is not applicable.

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8329	DATE日期 2009.03.16	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:	SEG1D OBG 1AA SEGMENT FLOOR BEAM	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1D-047				ACC.		100%MT
SEG1D-133				ACC.		100%MT
BLANK						

EXAMINED BY主探 Cai Xin Xin 2009.03.16 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Lu Jin Jin LEVEL-II SIGN / DATE日期 09.03.16.
质量经理 / QCM Lu Jinhui 2009.03.21 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8328	DATE日期 2009.03.16	PAGE OF页码 1/4	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E OBG 1AA SEGMENT FLOORBEAM	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2009
EQUIPMENT 设备	MANUFACTURER 制造商	MODEL NO. 样式编号	SERIAL NO. 连续编号
MT YOKE	PARKER	B310S	5395 5617 5620
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-X 45/28 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-098				ACC.		100%MT
SEG1E-099				ACC.		100%MT
SEG1E-100				ACC.		100%MT
SEG1E-101				ACC.		100%MT
SEG1E-102				ACC.		100%MT
SEG1E-103				ACC.		100%MT
SEG1E-104				ACC.		100%MT
SEG1E-105				ACC.		100%MT
SEG1E-106				ACC.		100%MT
SEG1E-107				ACC.		100%MT
SEG1E-108				ACC.		100%MT
SEG1E-179				ACC.		100%MT
SEG1E-180				ACC.		100%MT
SEG1E-181				ACC.		100%MT
SEG1E-182				ACC.		100%MT

EXAMINED BY主探 Cai Xinxin 2009.03.16 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wu Yun Wm LEVEL-II SIGN / DATE日期 09.03.16
质量经理 / QCM Liu Jianhua 2009.03.21 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8328	DATE日期 2009.03.16	PAGE OF页码 2/4	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E OBG 1AA SEGMENT FLOORBEAM	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2009
EQUIPMENT 设备	MANUFACTURER 制造商	MODEL NO. 样式编号	SERIAL NO. 连续编号
MT YOKE	PARKER	B310S	5395 5617 5620
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-X 45/28 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-183				ACC.		100%MT
SEG1E-184				ACC.		100%MT
SEG1E-185				ACC.		100%MT
SEG1E-186				ACC.		100%MT
SEG1E-187				ACC.		100%MT
SEG1E-188				ACC.		100%MT
SEG1E-189				ACC.		100%MT
SEG1E-389				ACC.		100%MT
SEG1E-390				ACC.		100%MT
SEG1E-391				ACC.		100%MT
SEG1E-392				ACC.		100%MT
SEG1E-393				ACC.		100%MT
SEG1E-394				ACC.		100%MT
SEG1E-395				ACC.		100%MT
SEG1E-396				ACC.		100%MT

EXAMINED BY主探 Cai Xin Xin 2009.03.16 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Chun Yun LEVEL-II SIGN / DATE日期 09.03.16
质量经理 / QCM Lu Jianhua 2009.03.21 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8328	DATE日期 2009.03.16	PAGE OF页码 3/4	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E OBG 1AA SEGMENT FLOORBEAM	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 45/28 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-397				ACC.		100%MT
SEG1E-398				ACC.		100%MT
SEG1E-399				ACC.		100%MT
SEG1E-430				ACC.		100%MT
SEG1E-431				ACC.		100%MT
SEG1E-432				ACC.		100%MT
SEG1E-433				ACC.		100%MT
SEG1E-434				ACC.		100%MT
SEG1E-435				ACC.		100%MT
SEG1E-436				ACC.		100%MT
SEG1E-437				ACC.		100%MT
SEG1E-438				ACC.		100%MT
SEG1E-439				ACC.		100%MT
SEG1E-440				ACC.		100%MT
SEG1E-109				ACC.		100%MT

EXAMINED BY主探 Cai Xin Xin 2009.03.16 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Lu Jun Jun LEVEL-II SIGN / DATE日期 09.03.16
质量经理 / QCM Lu Jianhua 2009.03.21 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8328	DATE日期 2009.03.16	PAGE OF页码 4/4	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E OBG 1AA SEGMENT FLOORBEAM	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 45/28 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-190				ACC.		100%MT
SEG1E-400				ACC.		100%MT
SEG1E-441				ACC.		100%MT
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EXAMINED BY主探 Cai Xinxin 2009.03.16 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Gu Yuan LEVEL-II SIGN / DATE日期 09.03.16
质量经理 / QCM Lu Jianhua 2009.03.21 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8327	DATE日期 2009.03.16	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:	SEG1C/D OBG 1AA SEGMENT FLOOR BEAM	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1C-017				ACC.		100%MT
SEG1C-018				ACC.		100%MT
SEG1C-019				ACC.		100%MT
SEG1C-020				ACC.		100%MT
SEG1C-021				ACC.		100%MT
SEG1C-022				ACC.		100%MT
SEG1D-062				ACC.		100%MT
SEG1D-059				ACC.		100%MT
SEG1D-056				ACC.		100%MT
SEG1D-053				ACC.		100%MT
SEG1D-050				ACC.		100%MT

EXAMINED BY主探 Cai Xinxin 2009.03.16 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Lu Jianhua LEVEL-II SIGN / DATE日期 09.03.16
质量经理 / QCM Lu Jianhua 2009.03.21 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8327	DATE日期 2009.03.16	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:	SEG1C/D OBG 1AA SEGMENT FLOOR BEAM	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1C-136				ACC.		100%MT
SEG1C-139				ACC.		100%MT
SEG1C-142				ACC.		100%MT
SEG1C-145				ACC.		100%MT
SEG1C-148				ACC.		100%MT
SEG1C-151				ACC.		100%MT
SEG1D-148				ACC.		100%MT
SEG1D-145				ACC.		100%MT
SEG1D-142				ACC.		100%MT
SEG1D-139				ACC.		100%MT
SEG1D-136				ACC.		100%MT

EXAMINED BY主探 Cai Xinxin 2009.03.16 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Gu Jun Wu LEVEL-II SIGN / DATE日期 09.03.16
质量经理 / QCM Lu Jianhua 2009.03.21 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-10740	DATE日期 2009.05.09	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:	SEG1 OBG PLATE PANEL SPLICE	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-345 28/38 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1D-044				ACC.		100%MT
SEG1D-130				ACC.		100%MT
SEG1D-127				ACC.		100%MT
SEG1D-151				ACC.		100%MT
SEG1C-024				ACC.		100%MT
SEG1C-088				ACC.		100%MT
BLANK						

EXAMINED BY主探 Shang Xuegong LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Sun Gongchang LEVEL-II SIGN / DATE日期 09.05.09
质量经理 / QCM 签字 SIGN / 日期 DATE 09.05.12	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-10739	DATE日期 2009.05.09	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:	SEG1 OBG PLATE PANEL SPLICE	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S--	SERIAL NO. 连续编号 5395 5617 5620
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-345 28/45 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-097				ACC.		100%MT
SEG1E-178				ACC.		100%MT
SEG1E-430				ACC.		100%MT
SEG1E-388				ACC.		100%MT
SEG1E-387				ACC.		100%MT
SEG1E-429				ACC.		100%MT
SEG1E-096				ACC.		100%MT
SEG1E-177				ACC.		100%MT
SEG1E-255				ACC.		100%MT
SEG1E-333				ACC.		100%MT
SEG1F-023				ACC.		100%MT
SEG1F-026				ACC.		100%MT
BLANK						

EXAMINED BY主探 Shang Xuegong LEVEL - II SIGN 签名 DATE日期 09.5.9	REVIEWED BY 审核 Sun Gongchang LEVEL-II SIGN / DATE日期 09.05.09
质量经理 / QCM Lu Zhide 签字 SIGN / 日期 DATE 2009.05.12	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11184	DATE日期 2009.05.25	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:	SEG1 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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 28/45 mm
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			
SEG1E-138				ACC.		100%MT
SEG1E-137				ACC.		100%MT
SEG1E-227				ACC.		100%MT
SEG1E-228				ACC.		100%MT
SEG1E-348				ACC.		100%MT
SEG1E-347				ACC.		100%MT
SEG1E-305				ACC.		100%MT
SEG1E-306				ACC.		100%MT

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EXAMINED BY主探 Sun Gongchang LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE 2009.6.13	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11183	DATE日期 2009.05.25	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:	SEG1 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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 28/38 mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1D-043				ACC.		100%MT
SEG1D-131				ACC.		100%MT
SEG1D-150				ACC.		100%MT
SEG1D-128				ACC.		100%MT
BLANK						

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.05.25	REVIEWED BY 审核 Ding fa cheng LEVEL-II SIGN / DATE日期 09.05.25
质量经理 / QCM 签字 SIGN / 日期 DATE 09.6.13	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 1/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-307				ACC.		100%MT
SEG1E-308				ACC.		100%MT
SEG1E-309				ACC.		100%MT
SEG1E-310				ACC.		100%MT
SEG1E-311				ACC.		100%MT
SEG1E-312				ACC.		100%MT
SEG1E-313				ACC.		100%MT
SEG1E-314				ACC.		100%MT
SEG1E-315				ACC.		100%MT
SEG1E-316				ACC.		100%MT
SEG1E-317				ACC.		100%MT
SEG1E-321				ACC.		100%MT
SEG1E-322				ACC.		100%MT
SEG1E-323				ACC.		100%MT
SEG1E-324				ACC.		100%MT
SEG1E-325				ACC.		100%MT
SEG1E-326				ACC.		100%MT
SEG1E-327				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Zhang Schang LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE 2009.6.13	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 2/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-328				ACC.		100%MT
SEG1E-329				ACC.		100%MT
SEG1E-330				ACC.		100%MT
SEG1E-331				ACC.		100%MT
SEG1E-153				ACC.		100%MT
SEG1E-154				ACC.		100%MT
SEG1E-155				ACC.		100%MT
SEG1E-156				ACC.		100%MT
SEG1E-157				ACC.		100%MT
SEG1E-158				ACC.		100%MT
SEG1E-159				ACC.		100%MT
SEG1E-160				ACC.		100%MT
SEG1E-161				ACC.		100%MT
SEG1E-162				ACC.		100%MT
SEG1E-163				ACC.		100%MT
SEG1E-243				ACC.		100%MT
SEG1E-244				ACC.		100%MT
SEG1E-245				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Zhong LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE 2009.6.12	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 3/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2009
EQUIPMENT 设备	MT YOKE	MANUFACTURER 制造商	PARKER
MODEL NO. 样式编号	B310S	SERIAL NO. 连续编号	5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-246				ACC.		100%MT
SEG1E-247				ACC.		100%MT
SEG1E-248				ACC.		100%MT
SEG1E-249				ACC.		100%MT
SEG1E-250				ACC.		100%MT
SEG1E-251				ACC.		100%MT
SEG1E-252				ACC.		100%MT
SEG1E-253				ACC.		100%MT
SEG1E-363				ACC.		100%MT
SEG1E-364				ACC.		100%MT
SEG1E-365				ACC.		100%MT
SEG1E-366				ACC.		100%MT
SEG1E-367				ACC.		100%MT
SEG1E-368				ACC.		100%MT
SEG1E-369				ACC.		100%MT
SEG1E-370				ACC.		100%MT
SEG1E-371				ACC.		100%MT
SEG1E-372				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Acheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE 09.6.13	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 4/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-373				ACC.		100%MT
SEG1E-125				ACC.		100%MT
SEG1E-126				ACC.		100%MT
SEG1E-127				ACC.		100%MT
SEG1E-128				ACC.		100%MT
SEG1E-129				ACC.		100%MT
SEG1E-130				ACC.		100%MT
SEG1E-131				ACC.		100%MT
SEG1E-132				ACC.		100%MT
SEG1E-133				ACC.		100%MT
SEG1E-134				ACC.		100%MT
SEG1E-135				ACC.		100%MT
SEG1E-591				ACC.		100%MT
SEG1E-592				ACC.		100%MT
SEG1E-593				ACC.		100%MT
SEG1E-594				ACC.		100%MT
SEG1E-595				ACC.		100%MT
SEG1E-596				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding A dieng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE 09.06.12	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 5/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-597				ACC.		100%MT
SEG1E-598				ACC.		100%MT
SEG1E-599				ACC.		100%MT
SEG1E-600				ACC.		100%MT
SEG1E-601				ACC.		100%MT
SEG1E-282				ACC.		100%MT
SEG1E-283				ACC.		100%MT
SEG1E-284				ACC.		100%MT
SEG1E-285				ACC.		100%MT
SEG1E-286				ACC.		100%MT
SEG1E-287				ACC.		100%MT
SEG1E-288				ACC.		100%MT
SEG1E-289				ACC.		100%MT
SEG1E-290				ACC.		100%MT
SEG1E-291				ACC.		100%MT
SEG1E-292				ACC.		100%MT
SEG1E-256				ACC.		100%MT
SEG1E-257				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Achang LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE 2009.6.13	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 6/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2009
EQUIPMENT 设备	MT YOKE	MANUFACTURER 制造商	PARKER
MODEL NO. 样式编号	B310S	SERIAL NO. 连续编号	5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-258				ACC.		100%MT
SEG1E-259				ACC.		100%MT
SEG1E-260				ACC.		100%MT
SEG1E-261				ACC.		100%MT
SEG1E-262				ACC.		100%MT
SEG1E-263				ACC.		100%MT
SEG1E-264				ACC.		100%MT
SEG1E-265				ACC.		100%MT
SEG1E-266				ACC.		100%MT
SEG1E-229				ACC.		100%MT
SEG1E-230				ACC.		100%MT
SEG1E-231				ACC.		100%MT
SEG1E-232				ACC.		100%MT
SEG1E-233				ACC.		100%MT
SEG1E-234				ACC.		100%MT
SEG1E-235				ACC.		100%MT
SEG1E-236				ACC.		100%MT
SEG1E-237				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Haheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 7/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-238				ACC.		100%MT
SEG1E-239				ACC.		100%MT
SEG1E-215				ACC.		100%MT
SEG1E-216				ACC.		100%MT
SEG1E-217				ACC.		100%MT
SEG1E-218				ACC.		100%MT
SEG1E-219				ACC.		100%MT
SEG1E-220				ACC.		100%MT
SEG1E-221				ACC.		100%MT
SEG1E-222				ACC.		100%MT
SEG1E-223				ACC.		100%MT
SEG1E-224				ACC.		100%MT
SEG1E-225				ACC.		100%MT
SEG1E-335				ACC.		100%MT
SEG1E-336				ACC.		100%MT
SEG1E-337				ACC.		100%MT
SEG1E-338				ACC.		100%MT
SEG1E-339				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Zhang Scheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 8/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-340				ACC.		100%MT
SEG1E-341				ACC.		100%MT
SEG1E-342				ACC.		100%MT
SEG1E-343				ACC.		100%MT
SEG1E-344				ACC.		100%MT
SEG1E-345				ACC.		100%MT
SEG1E-139				ACC.		100%MT
SEG1E-140				ACC.		100%MT
SEG1E-141				ACC.		100%MT
SEG1E-142				ACC.		100%MT
SEG1E-143				ACC.		100%MT
SEG1E-144				ACC.		100%MT
SEG1E-145				ACC.		100%MT
SEG1E-146				ACC.		100%MT
SEG1E-147				ACC.		100%MT
SEG1E-148				ACC.		100%MT
SEG1E-149				ACC.		100%MT
SEG1E-349				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong cheng LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Zhg Acheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 9/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-350				ACC.		100%MT
SEG1E-351				ACC.		100%MT
SEG1E-352				ACC.		100%MT
SEG1E-353				ACC.		100%MT
SEG1E-354				ACC.		100%MT
SEG1E-355				ACC.		100%MT
SEG1E-356				ACC.		100%MT
SEG1E-357				ACC.		100%MT
SEG1E-358				ACC.		100%MT
SEG1E-359				ACC.		100%MT
SEG1E-293				ACC.		100%MT
SEG1E-294				ACC.		100%MT
SEG1E-295				ACC.		100%MT
SEG1E-296				ACC.		100%MT
SEG1E-297				ACC.		100%MT
SEG1E-298				ACC.		100%MT
SEG1E-299				ACC.		100%MT
SEG1E-300				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Zhong LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 10/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-301				ACC.		100%MT
SEG1E-302				ACC.		100%MT
SEG1E-303				ACC.		100%MT
SEG1E-617				ACC.		100%MT
SEG1E-618				ACC.		100%MT
SEG1E-619				ACC.		100%MT
SEG1E-620				ACC.		100%MT
SEG1E-621				ACC.		100%MT
SEG1E-622				ACC.		100%MT
SEG1E-623				ACC.		100%MT
SEG1E-624				ACC.		100%MT
SEG1E-625				ACC.		100%MT
SEG1E-626				ACC.		100%MT
SEG1E-627				ACC.		100%MT
SEG1E-279				ACC.		100%MT
SEG1E-280				ACC.		100%MT
SEG1E-603				ACC.		100%MT
SEG1E-604				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Scheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 11/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2009
EQUIPMENT 设备	MT YOKE	MODEL NO. 样式编号	B310S
MANUFACTURER 制造商	PARKER	SERIAL NO. 连续编号	5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-605				ACC.		100%MT
SEG1E-606				ACC.		100%MT
SEG1E-607				ACC.		100%MT
SEG1E-608				ACC.		100%MT
SEG1E-609				ACC.		100%MT
SEG1E-610				ACC.		100%MT
SEG1E-611				ACC.		100%MT
SEG1E-268				ACC.		100%MT
SEG1E-269				ACC.		100%MT
SEG1E-270				ACC.		100%MT
SEG1E-271				ACC.		100%MT
SEG1E-272				ACC.		100%MT
SEG1E-273				ACC.		100%MT
SEG1E-274				ACC.		100%MT
SEG1E-275				ACC.		100%MT
SEG1E-276				ACC.		100%MT
SEG1E-277				ACC.		100%MT
SEG1E-278				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Dong Achong LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11179	DATE日期 2009.05.25	PAGE OF页码 12/12	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1E 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-612				ACC.		100%MT
SEG1E-613				ACC.		100%MT
SEG1E-614				ACC.		100%MT
SEG1E-615				ACC.		100%MT
SEG1E-318				ACC.		100%MT
SEG1E-360				ACC.		100%MT
SEG1E-150				ACC.		100%MT
SEG1E-240				ACC.		100%MT
SEG1E-304				ACC.		100%MT
SEG1E-346				ACC.		100%MT
SEG1E-136				ACC.		100%MT
SEG1E-226				ACC.		100%MT
SEG1E-374				ACC.		100%MT
SEG1E-332				ACC.		100%MT
SEG1E-164				ACC.		100%MT
SEG1E-254				ACC.		100%MT
BLANK						

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Zhicheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11177	DATE日期 2009.05.25	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:	SEG1D 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1D-006				ACC.		100%MT
SEG1D-009				ACC.		100%MT
SEG1D-012				ACC.		100%MT
SEG1D-015				ACC.		100%MT
SEG1D-018				ACC.		100%MT
SEG1D-021				ACC.		100%MT
SEG1D-024				ACC.		100%MT
SEG1D-027				ACC.		100%MT
SEG1D-030				ACC.		100%MT
SEG1D-033				ACC.		100%MT
SEG1D-036				ACC.		100%MT
SEG1D-089				ACC.		100%MT
SEG1D-093				ACC.		100%MT
SEG1D-096				ACC.		100%MT
SEG1D-099				ACC.		100%MT
SEG1D-102				ACC.		100%MT
SEG1D-105				ACC.		100%MT
SEG1D-108				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gongchang LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Ding Zhenyu LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11177	DATE日期 2009.05.25	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:	SEG1D 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1D-111				ACC.		100%MT
SEG1D-114				ACC.		100%MT
SEG1D-117				ACC.		100%MT
SEG1D-120				ACC.		100%MT
SEG1D-046				ACC.		100%MT
SEG1D-134				ACC.		100%MT
SEG1D-039				ACC.		100%MT
SEG1D-123				ACC.		100%MT
BLANK						

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09-5-25	REVIEWED BY 审核 Ding Acheng LEVEL-II SIGN / DATE日期 09-5-25
质量经理 / QCM 签字 SIGN / 日期 DATE 06.12	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11175	DATE日期 2009.05.25	PAGE OF页码 1/3	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1C/SEG1D 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1C-026				ACC.		100%MT
SEG1C-028				ACC.		100%MT
SEG1C-030				ACC.		100%MT
SEG1C-032				ACC.		100%MT
SEG1C-034				ACC.		100%MT
SEG1C-036				ACC.		100%MT
SEG1C-038				ACC.		100%MT
SEG1C-040				ACC.		100%MT
SEG1C-042				ACC.		100%MT
SEG1C-044				ACC.		100%MT
SEG1C-046				ACC.		100%MT
SEG1C-054				ACC.		100%MT
SEG1C-056				ACC.		100%MT
SEG1C-058				ACC.		100%MT
SEG1C-060				ACC.		100%MT
SEG1C-062				ACC.		100%MT
SEG1C-064				ACC.		100%MT
SEG1D-061				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Ji cheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11175	DATE日期 2009.05.25	PAGE OF页码 2/3	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1C/SEG1D 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38mm
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			
SEG1D-058				ACC.		100%MT
SEG1D-055				ACC.		100%MT
SEG1D-052				ACC.		100%MT
SEG1D-049				ACC.		100%MT
SEG1C-134				ACC.		100%MT
SEG1C-137				ACC.		100%MT
SEG1C-140				ACC.		100%MT
SEG1C-143				ACC.		100%MT
SEG1C-146				ACC.		100%MT
SEG1C-149				ACC.		100%MT
SEG1D-149				ACC.		100%MT
SEG1D-146				ACC.		100%MT
SEG1D-143				ACC.		100%MT
SEG1D-140				ACC.		100%MT
SEG1D-137				ACC.		100%MT
SEG1C-091				ACC.		100%MT
SEG1C-095				ACC.		100%MT
SEG1C-098				ACC.		100%MT

EXAMINED BY主探 Sun Gongchang Sun Gong chang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Guoheng LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-11175	DATE日期 2009.05.25	PAGE OF页码 3/3	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	SEG1C/SEG1D 1AAW	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1C-101				ACC.		100%MT
SEG1C-104				ACC.		100%MT
SEG1C-107				ACC.		100%MT
SEG1C-110				ACC.		100%MT
SEG1C-113				ACC.		100%MT
SEG1C-116				ACC.		100%MT
SEG1C-119				ACC.		100%MT
SEG1C-122				ACC.		100%MT
SEG1C-048				ACC.		100%MT
SEG1C-125				ACC.		100%MT
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EXAMINED BY主探 Sun Gongchang Sun Gongchang LEVEL - II SIGN 签名 / DATE日期 09.5.25	REVIEWED BY 审核 Ding Zhengchang LEVEL-II SIGN / DATE日期 09.5.25
质量经理 / QCM 签字 SIGN / 日期 DATE 2009.6.13	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12566	DATE日期 2009.07.28	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:	SEG1E/D OBG SEGMENT	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/45/38mm
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			
SEG1E-096				ACC.		100%
SEG1E-177				ACC.		100%
SEG1D-151				ACC.		100%
SEG1E-429				ACC.		100%
SEG1E-387				ACC.		100%
SEG1D-127				ACC.		100%
SEG1E-422				ACC.		100%
SEG1E-380				ACC.		100%
SEG1D-107				ACC.		100%
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EXAMINED BY主探 Ding Acheng LEVEL - II SIGN 签名 Ding Acheng / DATE日期 09.07.28	REVIEWED BY 审核 Sun Gong chang LEVEL-II SIGN / DATE日期 09.07.28
质量经理 / QCM 签字 SIGN / 日期 DATE 09.08.03	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12560	DATE日期 2009.07.28	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:	SEG1D OBG SEGMENT	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 28/38mm
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			
SEG1D-150				ACC.		100%
SEG1D-128				ACC.		100%
SEG1D-108				ACC.		100%
SEG1D-105				ACC.		100%
SEG1D-096				ACC.		100%
SEG1D-009				ACC.		100%
SEG1D-086				ACC.		100%

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EXAMINED BY主探 Ding Acheng Ding Acheng LEVEL - II SIGN 签名 / DATE日期 09.07.28	REVIEWED BY 审核 Sun Gong cheng LEVEL-II SIGN / DATE日期 09.07.28
质量经理 / QCM 签字 SIGN / 日期 DATE 09.08.03	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12553	DATE日期 2009.07.28	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:	SEG1E OBG SEGMENT	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 45/28mm
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			
SEG1E-137				ACC.		100%MT
SEG1E-227				ACC.		100%MT
SEG1E-347				ACC.		100%MT
SEG1E-305				ACC.		100%MT
SEG1E-341				ACC.		100%MT
SEG1E-299				ACC.		100%MT
SEG1E-340				ACC.		100%MT
SEG1E-298				ACC.		100%MT
SEG1E-337				ACC.		100%MT
SEG1E-298				ACC.		100%MT
SEG1E-148				ACC.		100%MT
SEG1E-238				ACC.		100%MT
SEG1E-353				ACC.		100%MT
SEG1E-311				ACC.		100%MT

EXAMINED BY主探 Ding Acheng Ding Acheng LEVEL - II SIGN 签名 DATE日期 09.07.28	REVIEWED BY 审核 Ding Acheng LEVEL-II SIGN / DATE日期 09.07.28
质量经理 / QCM 签字 SIGN / 日期 DATE 09.08.03	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-12553	DATE日期 2009.07.28	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:	SEG1E OBG SEGMENT	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. 28ST ,2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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-X 45/28mm
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 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SEG1E-255				ACC.		100%MT
SEG1E-333				ACC.		100%MT
SEG1E-373				ACC.		100%MT
SEG1E-331				ACC.		100%MT
SEG1E-152				ACC.		100%MT
SEG1E-242				ACC.		100%MT
SEG1E-362				ACC.		100%MT
SEG1E-320				ACC.		100%MT
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EXAMINED BY主探 Ding Acheng Ding Acheng LEVEL - II SIGN 签名 / DATE日期 09.07.28	REVIEWED BY 审核 Sun Gong chang LEVEL-II SIGN / DATE日期 09.07.28
质量经理 / QCM 签字 SIGN / 日期 DATE 09.08.03	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

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 #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island, Shanghai, P.R. China **Report No:** NCS-000355
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 30-Nov-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0257

Type of problem:

Welding	☑	**Concrete**	☐	**Other**	☐	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:**
Procedural	☑	**Procedural**	☐	**Descripton:**		

Date the Non-Conformance Report was written: 22-May-2009

Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector found the following issues by Visual Testing (VT) on welds previously inspected and accepted by ZPMC Quality Control (QC) and ABF QA Inspectors.

1. Thirteen (13) cracked tacks were found by QA MT Inspector on segment stiffener plates. ZPMC removed the cracked tacks by carbon arc gouging. Plates and stiffener base material will now need to be repaired. The weld numbers are as follows; Seg1E-031, 034, 039, 040, 078, 486, 489, 658, 659, 660, 661, 662, and 663.
2. Twenty Three (23) Bulkhead Stiffeners have fillet welds wrapped on both ends of stiffener. Weld detail on drawing shows the fillet weld shall be welded both sides and not welded all around (wrapped).
3. SEG1C-152~172 and SEG1D-152~170- The approved drawings require a tight fit joint. The joint had been fillet welded then the weld was removed by carbon arc gouging resulting in base metal damage. ZPMC caulked over the gouged welds prior to Caltrans QA Inspector verification of the 2 mm tight fit requirements.
4. Segment internal stiffener Partial Joint Penetration (PJP) Welds have root openings greater than the 5mm allowed per WPS-B-T-2333-Tc-U4b f. See attached table for weld joint numbers and root opening values. The back side of the PJP welds exhibit burn through with slag inclusions which have not been cleaned.
5. SEG1D-002, SEG1D-092, and SEG1C-002E have weld and base metal defects (excessive reinforcement, lack of fusion, no weld, and rollover) that need to be weld repaired.
6. 28 mm thick sloping stiffeners at location A41 (2) and location A12 (2) which require a PJP weld with a 8 mm reinforcing fillet do not have the required fillet weld size. The fillet weld has not been welded. Stiffeners cross section (28 mm) is reduced to 18mm thick outside the toe of the PJP weld. This does not meet the thickness requirement on the segment drawing (SEG1D) and weld detail (WD90H) of the stiffener component.
7. Fillet welds joining internal stiffeners to plates at locations A14 ~ A16 on W3 side bottom plate and location A14 W3 side bulkhead contain rollover, lack of fusion, and unacceptable weld profiles.
8. Pipe (219 mm diameter) penetration at location A14 bottom plate on segment assembly detail SEG1A has a root gap of 9.5 mm. Root gap exceeds the 5 mm maximum root gap for fillet welds.
9. The backing bar for complete joint penetration (CJP) weld SEG1E-587 is still in place in various locations

along the weld. The joint designation TC-U4b per WPS-B-T-2233-Tc-U4b-F requires the joint to be welded both sides then backgouged.

Contractor's proposal to correct the problem:

Perform repairs and required NDT.

Corrective action taken:

ZPMC performed all necessary repairs and submitted required documentation. All work was signed off of first shipment Punchlist by CT. ZPMC has proposed to increase in process supervision.

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