

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



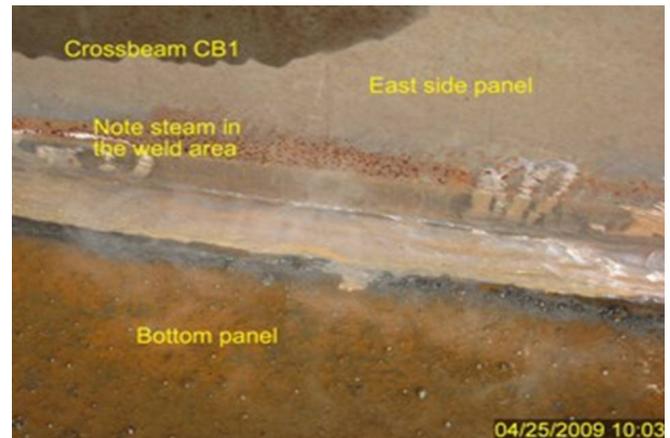
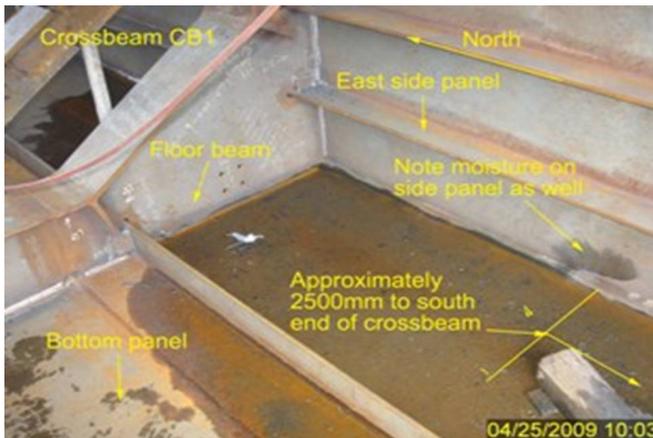
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, PRC**Report No:** NCR-000255**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Apr-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0229**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Crossbeam CB1
Procedural	Procedural	Description:	

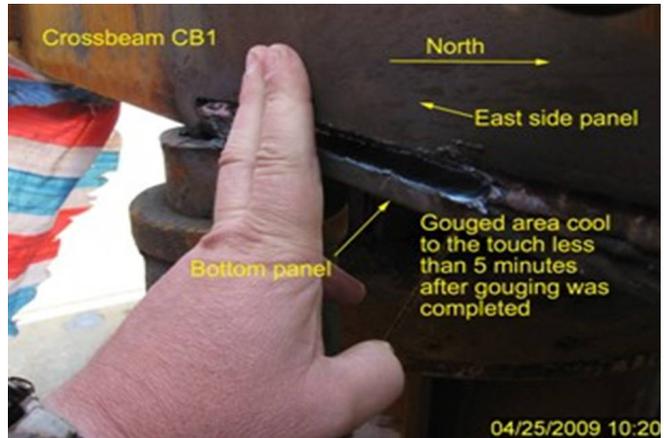
Reference Description: Weld Repair on Wet Material, Crossbeam CB1**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed the Contractor excavating weld repairs on SPCM material while the material was wet on the adjacent side of the repaired area. The welder was arc gouging on the corner joint between the east side panel and bottom panel approximately 2500mm from the south end of the crossbeam. Four areas were being excavated. All four excavations were located in a 1500mm area along the length of the weld.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 2002 Section 3.1.3 - "Welding shall not be done when the ambient temperature is lower than -20°C [0°F] (see 4.2), when surfaces are wet or exposed to rain, snow, or high wind velocities, nor when welders are exposed to inclement conditions".

AWS D1.5 2002 Section 3.2.1 - "Surfaces to be welded and surfaces adjacent to a weld shall also be free from loose or thick scale, slag, rust, moisture, grease, and other foreign material that would prevent proper welding or produce objectionable fumes."

Who discovered the problem: Steve Hall

Name of individual from Contractor notified: Kelvin Cheung

Time and method of notification: 04/25/09, 14:00, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 04/27/09, 9:40, Verbal

QC Inspector's Name: Shen Xuejun

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Skyler Guest, +(86) 1500 042 2360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



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: 30-Apr-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: 05.03.06-000221

Subject: NCR No. ZPMC-0229

Reference Description: Weld Repair on Wet Material, Crossbeam CB1

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: Xbeam **Lift:**

Remarks:

Caltrans Quality Assurance (QA) Inspector observed the Contractor excavating weld repairs on SPCM material while the material was wet on the adjacent side of the repaired area. The welder was arc gouging on the corner joint between the east side panel and bottom panel approximately 2500mm from the south end of the crossbeam. Four areas were being excavated. All four excavations were located in a 1500mm area along the length of the weld.

Please see the attached NCR report #ZPMC-229 for more details.

Action Required and/or Action Taken:

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

Transmitted by: Ching Chao

Attachments: ZPMC-0229

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Doug Wright, Ching Chao

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000221

Subject: NCR No. ZPMC-0229

Dated: 20-May-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000225 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ABF has notified ZPMC QA/QC and Production to monitor environmental conditions properly prior to welding and or gouging. Inspection documents will be provided for this weld at a later date.

ABF has notified ZPMC QA/QC and Production to monitor environmental conditions properly prior to welding and or gouging. Inspection documents will be provided for this weld at a later date.

Submitted by:

Attachment(s): ABF-NPR-000225R00

Caltrans' comments:

Status: REJ

Date: 09-Jun-2009

The proposed resolution is not acceptable. Welding and/or gouging of welds while wet has been a recurring issue. In addition to NCR ZPMC-229, this issue has been documented in NCRs ZPMC-243, ZPMC-248, and ZPMC-266.

Please submit details describing what will be done to prevent future occurrences of this issue, and what testing will be done to ensure that the welds are sound. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0229 at that time.

Submitted by: Wright, Doug

Date: 09-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000221

Subject: NCR No. ZPMC-0229

Dated: 03-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000225 **Rev:** 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000225R01;

Caltrans' comments:

Status: CLO

Date: 19-Aug-2009

The proposed resolution is acceptable. The welds in questions have been accepted by VT, MT, and UT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0229 is closed.

Submitted by: Wright, Doug

Date: 19-Aug-2009

Attachment(s):



Nonconformance Report

不符合项报告

Project Name: S.F.O.B.B
 项目名称: 美国加州海湾大桥

NCR Number:
 NCR 编号: NCR-B-149 (NCR-000255)

Item: weld repair on wet material
 名称描述: 潮湿母材上返修

Item Number:
 件号:

Drawing: CB1
 图号:

Location: OBG trail assembly yard
 位置: OBG 总拼外场

Date:
 日期: 2009-05-08

Description of Nonconformance:

Caltrans Quality Assurance Inspector observed the Contractor excavating weld repairs on SPCM material while the material was wet on the adjacent side of the repaired area. The welder was arc gouging on the corner joint between the east side panel and bottom panel approximately 2500mm from the south end of the crossbeam. Four areas were being excavated. All four excavations were located in a 1500mm area along the length of the weld. Applicable reference: AWS D1.5 Section 3.13 & AWS D1.5 2002 Section 3.2.1.

加州 QA 检验员发现, 作业人员在湿母材区域对 SPCM 母材进行刨除返修作业时邻近的母材区域是潮湿的。焊工在对距扭曲横梁南侧大约 2500mm 位置, 东边侧板和底板间进行碳刨工作。共有四处位置。所有四处刨除位置长度都为沿焊缝长度的 1500mm 区域。参考标准: AWS D1.5 章节 3.13 以及 AWS D1.5 2002 章节 3.2.1.

Work By: *Hu Yuzhang*
 施工方:

Prepared by: *[Signature]*
 准备: 518109

Reviewed by QCE: *[Signature]*
 质量工程师批准:

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

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

Recommendation:

建议:

Prepared by: _____
 准备

Approved by QCA: _____
 质量经理批准

Reason for Nonconformance:

不符合原因:

- 1. 由于下雨后未清理箱体内存水; 1' Didn't remove rain completely;
- 2. 工人盲目施工作业, 未检查作业前环境; 2' Worker didn't inspect environment before fabrication.
- 3. 现场管理人员, 检验人员未及时发现问题, 未及时发现不良环境, 未及时发现并制止工人作业; 3. Didn't prohibit worker immediately by management personnel and QC.

Prevention of Re-occurrence:

预防措施:

- 1. 严格要求施工人员, 检验人员检查作业环境。
- 2. 对积水区域清理干净, 对已碳刨区域, 做MT检测后施焊, 未碳刨区域预热后方可作业。
- 1' Perform work after QC inspect environment;
- 2' Remove rain completely and perform MT for gouging area and weld, preheat for non-gouging area. before welding.

Approved by/批准: Gao Jun

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

① 严格要求施工人员禁止类似问题发生, 并增加作业前检查这些环境是否有异常, 以便及时发现和采取相应措施。

② 加强现场监督力度, 并对相关人员进行教育和培训。

- 1) Inspect environment before work to prevention these issue;
- 2) Enhance supervision and educate, train relevant personnel.

Reviewed/批准: Yan Yan

Verification:

Acceptable

Unacceptable

确认:

可接受

不可接受

Verified by QCI/质检确认: _____

Reviewed by QCA/质检主任审核: _____



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Tel: 021-56856666 ext 207061 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV Date: 30-Apr-2009
375 BURMA ROAD
OAKLAND CA 95607 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: 05.03.06-000221
Subject: NCR No. ZPMC-0229

Reference Description: Weld Repair on Wet Material, Crossbeam CB1

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: Xbeam Lift:

Remarks:

Caltrans Quality Assurance (QA) Inspector observed the Contractor excavating weld repairs on SPCM material while the material was wet on the adjacent side of the repaired area. The welder was arc gouging on the corner joint between the east side panel and bottom panel approximately 2500mm from the south end of the crossbeam. Four areas were being excavated. All four excavations were located in a 1500mm area along the length of the weld.

Please see the attached NCR report #ZPMC-229 for more details.

Action Required and/or Action Taken:

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

Transmitted by: Ching Chao

Attachments: ZPMC-0229

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Doug Wright, Ching Chao

File: 05.03.06

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 DIVISION OF ENGINEERING SERVICES
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 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: 13.2/13.9File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000255

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 25-Apr-2009

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

NCR #: ZPMC-0229

Type of problem:

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

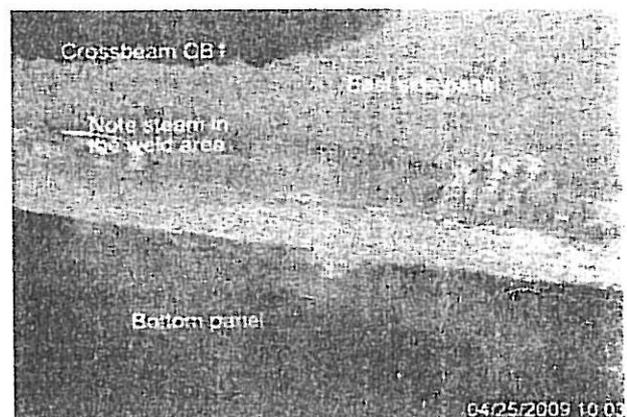
Bridge No: 34-0006

Component: Crossbeam CB1

Reference Description: Weld Repair on Wet Material, Crossbeam CB1

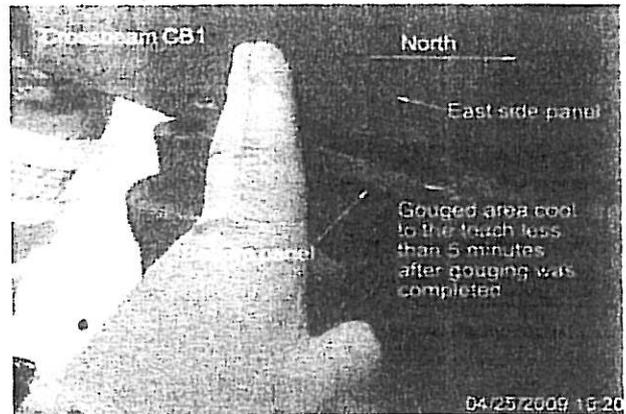
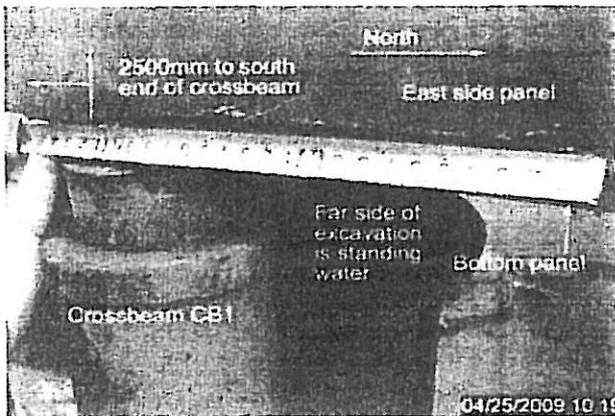
Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector observed the Contractor excavating weld repairs on SPCM material while the material was wet on the adjacent side of the repaired area. The welder was arc gouging on the corner joint between the east side panel and bottom panel approximately 2500mm from the south end of the crossbeam. Four areas were being excavated. All four excavations were located in a 1500mm area along the length of the weld.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5 2002 Section 3.1.3 - "Welding shall not be done when the ambient temperature is lower than -20°C [0°F] (see 4.2), when surfaces are wet or exposed to rain, snow, or high wind velocities, nor when welders are exposed to inclement conditions".

AWS D1.5 2002 Section 3.2.1 - "Surfaces to be welded and surfaces adjacent to a weld shall also be free from loose or thick scale, slag, rust, moisture, grease, and other foreign material that would prevent proper welding or produce objectionable fumes."

Who discovered the problem: Steve Hall

Name of individual from Contractor notified: Kelvin Cheung

Time and method of notification: 04/25/09, 14:00, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 04/27/09, 9:40, Verbal

QC Inspector's Name: Shen Xuejun

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Skyler Guest, +(86) 1500 042 2360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-6512 DATE 2009.05.20 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: THE 1&2 CROSS BEAMS DRAWING NO.: CB203A CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

REFERENCING CODE 参考规范 ACCEPTANCE STANDARD 接受标准 PROCEDURE NO. 程序编号
 AWS D1.5-2002 AWS D1.5-2002(Table 6.3) ZPQC-UT-01

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 FCAW CORNER JOINT Dec. 28ST, 2009

EQUIPMENT 设备 MANUFACTURER 制造商 MODEL NO. 样式编号 SERIAL NO. 序列编号
 UT SCOPE PANAMETRICS EPOCH-4B 071565311, 061488510, 061495811, 070152011,

CALIBRATION BLOCK 试块 COUPLANT 耦合剂 MATERIAL/THICKNESS 材料厚度
 AWS IIW BLOCK TYPE II C.M.C A709M-345F2-X 14/12mm

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
CB203A-001-017		70					33								ACC.	100%
CB203A-001-005		70					33								ACC.	100%

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EXAMINED BY 主探 Jiang Yang REVIEWED BY 审核 Huang Jing
 LEVEL - II SIGN / DATE 09.5.20 LEVEL - II SIGN / DATE 09.5.20

质量经理 / QCM [Signature] 用户CUSTOMER _____
 签字 SIGN / 日期 DATE _____ 签字 SIGN / 日期 DATE _____

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, PRC**Report No:** NCS-000282**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Jul-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0229**Type of problem:**

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

Date the Non-Conformance Report was written: 25-Apr-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed the Contractor excavating weld repairs on SPCM material while the material was wet on the adjacent side of the repaired area. The welder was arc gouging on the corner joint between the east side panel and bottom panel approximately 2500mm from the south end of the crossbeam. Four areas were being excavated. All four excavations were located in a 1500mm area along the length of the weld.

Contractor's proposal to correct the problem:

Train personnel to inspect conditions on both sides of metal before beginning work.

Corrective action taken:

Performed VT, MT, and UT and submitted reports with NPR.

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 For additional information 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**