

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



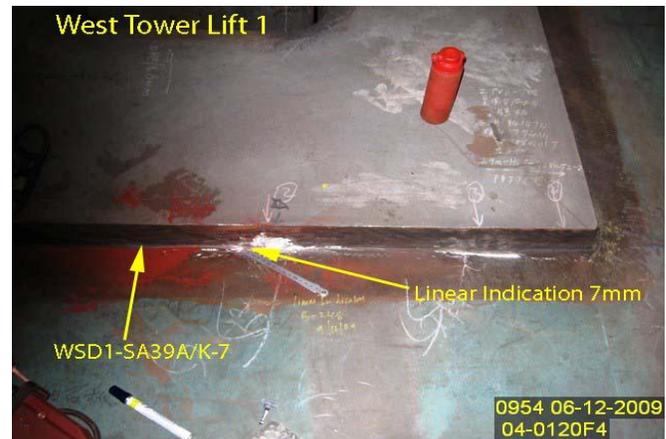
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-000317**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 12-Jun-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0291**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: West Tower, Lift 1
Procedural	Procedural	Description: Missed MT indications on West Tower, Lift 1	

Reference Description: Missed MT indications on West Tower, Lift 1 doubler plate welds**Description of Non-Conformance:**

QA discovered two 7mm long linear indications during random verification Magnetic Particle Testing (MT) of West Tower, Lift 1 doubler plate welds WSD1-SA39A/K-7 and WSD1-SA39B/K-6. These welds were previously tested and accepted by ZPMC QC MT Technicians.

**Applicable reference:**

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5-2002 Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.”

Who discovered the problem: Dhanasingh Sukanthan**Name of individual from Contractor notified:** Chen Wen Uang

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 6/12/09, 9:55; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 6/15/09, 8:00; Verbal

QC Inspector's Name: Xu Lie Feng

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
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Reviewed By:	Wahbeh,Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge

333 Burma Road
Oakland CA 94607
Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	Date:	15-Jun-2009
Dear:	Mr. Charles Kanapicki	Contract No:	04-0120F4 04-SF-80-13.2 / 13.9
Attention:	Mr. Thomas Nilsson Project/Fabrication Manager	Job Name:	SAS Superstructure
Subject:	NCR No. ZPMC-0291	Document No:	05.03.06-000280

Reference Description: Linear Indication (MT) / West Shaft Lift 1 / Doubler Plate Welds

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

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: Tower **Lift:** 01

Remarks:

QA discovered two 7mm long linear indications during random verification Magnetic Particle Testing (MT) of West Tower, Lift 1 doubler plate welds WSD1-SA39A/K-7 and WSD1-SA39B/K-6. These welds were previously tested and accepted by ZPMC QC MT Technicians.

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5-2002 Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.”

Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance that addresses the failure of Quality Control to identify the linear indication (MT). Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

In addition to the Quality Control failure, propose a resolution for the identified material/workmanship non-conformance, documenting that the repaired welds are in compliance with the contract requirements.

Recent failures by Quality Control to identify linear indications have resulted in the issuance of NCR ZPMC-0212, ZPMC-0216, ZPMC-0231, ZPMC-0223, ZPMC-0234 and ZPMC-0235 related to Tower and ZPMC-0244, ZPMC-0245, ZPMC-0258, ZPMC-0278, ZPMC-0279, ZPMC-0281, ZPMC-0285, ZPMC-0289 and ZPMC-0290 related to OBG.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0291

NCT

(*Continued Page 2 of 2*)

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Dated: 21-Jul-2009

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

Attention: Pursell, Gary
Resident Engineer

Job Name: SAS Superstructure

Document No.: ABF-NPR-000264 **Rev:** 00

Ref: 05.03.06-000280

Subject: NCR No. ZPMC-0291

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to the NCR and has attached the necessary documents for closure. ZPMC requests closure of this NCR.

ZPMC has responded to the NCR and has attached the necessary documents for closure. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000264R00;

Caltrans' comments:

Status: CLO

Date: 05-Aug-2009

The proposed resolution is acceptable. The welding inspectors have received additional training, and tests have been administered to ZPMC MT technicians to demonstrate their ability to detect MT indications. Also, the welds in question have been accepted by MT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0291 is closed.

Submitted by: Wright, Doug

Date: 05-Aug-2009

Attachment(s):



No. T-040

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2009-7-15

REGARDING: NCR-000317 ZPMC-0291

ZPMC received NCR-000317(ZPMC-0291), it mentioned that QA discovered two 7mm long linear indications during random verification MT of west tower lift 1 doubler plate welds WSD1-SA39A/K-7 and WSD1-SA39B/K-6. These welds were previously tested and accepted by ZPMC QC MT technicians.

About this situation we ZPMC at the first time remove the linear indications .CT people Dhanasingh Sukanthan witnessed all the processes .When we finish the repair work. Sukanthan did the MT again to make sure no problem about the final welds.

So ZPMC hope CT to close this NCR.

ATTACHMENT:

ZPMC's NCR-T-050

NCR-000317(ZPMC-0291)

T787-MT-4861

Li Xinyang
09.7.15



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-T-050(ZPMC-0291)

Item: miss MT linear indication
 名称描述: MT 漏检
 Item Number:
 件号:
 West tower lift 1 6
 doubler plate welds
 Drawing: 图号:
 WSD1-SA39A/K-7, WSD1-SA39B/K-6

Location: bay 11
 位置: 11 车间
 Date:
 日期: 2 009-06-17

Description of Nonconformance: 不符合项状态描述:
 QA discovered two 7mm linear indications during random verification Magnetic Particle Testing (MT) of West tower lift 1 doubler plate welds WSD1-SA39A/K-7 and WSD1-SA39B/K-6. These welds were previously tested and accepted by ZPMC QC MT Technicians.
 加州检验员在西塔第一吊装段双层板 MT 检测的时候发现焊缝编号为 WSD1-SA39A/K-7, WSD1-SA39B/K-6 的时候发现了两条长度分别为 7 毫米的裂纹, 此焊缝均被我们 MT 人员接收。

Work By: Li Liming P
 施工方: 09.06.20
 prepared by: Li Xinyang
 准备: 09.6.17
 Reviewed by QCE: Zhou Shuangbao
 质量工程师批准: 09.6.17
 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: 返修, 加强对梯脚角处 MT 检测
 Repair and enhance MT inspection at corner.

Prepared by: Li Liming of 06.20 Approved by QCA: _____
 准备 质量经理批准

Reason for Nonconformance:

不符合原因:

在对西塔第一吊梁吊钩双片隔板MT检测时，发现线性缺陷。

The linear indication didn't find during inspection west tower first lifting double diaphragm by use of MT.

Prevention of Re-occurrence:

预防措施:

规范操作，加强培训

perform according to procedure and enhance training.

Approved by/批准:

[Signature]

[Handwritten mark]

Technical Justification for Use-As-Is/Repair:

回用或返修的技术依据:

Attachment

附件

Non-attachment

无附件

Reviewed /批准: _____

Verification:

Acceptable

可接受

Unacceptable

不可接受

确认:

Verified by QCI/质检确认: _____

Reviewed by QCA/质检主任审核: _____

#R787-QCP-1300



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV Date: 15-Jun-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: 05.03.06-000280
 Subject: NCR No. ZPMC-0291

Reference Description: Linear Indication (MT) / West Shaft Lift 1 / Doubler Plate Welds

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

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

Material Location: Tower Lift: 01

Remarks:

QA discovered two 7mm long linear indications during random verification Magnetic Particle Testing (MT) of West Tower, Lift 1 doubler plate welds WSD1-SA39A/K-7 and WSD1-SA39B/K-6. These welds were previously tested and accepted by ZPMC QC MT Technicians.

Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5-2002 Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance that addresses the failure of Quality Control to identify the linear indication (MT). Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

In addition to the Quality Control failure, propose a resolution for the identified material/workmanship non-conformance, documenting that the repaired welds are in compliance with the contract requirements.

Recent failures by Quality Control to identify linear indications have resulted in the issuance of NCR ZPMC-0212, ZPMC-0216, ZPMC-0231, ZPMC-0223, ZPMC-0234 and ZPMC-0235 related to Tower and ZPMC-0244, ZPMC-0245, ZPMC-0258, ZPMC-0278, ZPMC-0279, ZPMC-0281, ZPMC-0285, ZPMC-0289 and ZPMC-0290 related to OBG.

Transmitted by: Scott Kennedy Sr. Bridge Engineer
 Attachments: ZPMC-0291

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



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

Contract #: 04-0120F4
 Cty: SF/ALA Rte: 80 PM: 13.2/13.9
 File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000317

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 12-Jun-2009

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

NCR #: ZPMC-0291

Type of problem:

Welding Concrete Other

Welding Curing Procedural Bridge No: 34-0006

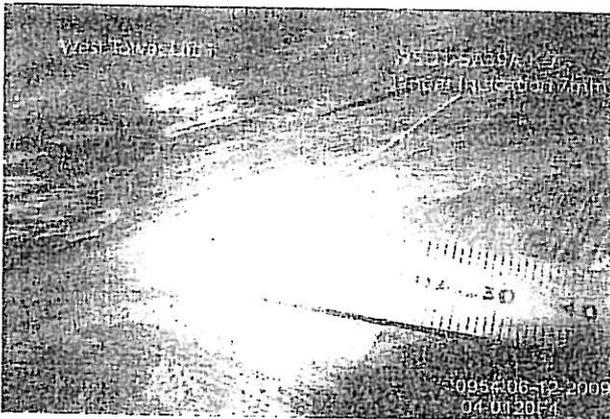
Joint fit-up Coating Other Component: West Tower, Lift 1

Procedural Procedural Description: Missed MT indications on West Tower, Lift 1

Reference Description: Missed MT indications on West Tower, Lift 1 doubler plate welds

Description of Non-Conformance:

QA discovered two 7mm long linear indications during random verification Magnetic Particle Testing (MT) of West Tower, Lift 1 doubler plate welds WSD1-SA39A/K-7 and WSD1-SA39B/K-6. These welds were previously tested and accepted by ZPMC QC MT Technicians.



Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5-2002 Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.”

Who discovered the problem: Dhanasingh Sukanthan

Name of individual from Contractor notified: Chen Wen Uang



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-4861 DATE日期 2009.06.18 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: WSD1-SA225A/H, WSD1-SA39A/K(B/K) THE 1ST TOWER(W) SKIN E		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4	
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2009
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-345T2-Z/ A709M-HPS-485WT2-Z 75/60/50 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			
WSD1-SA225A/H-20				ACC.		100%MT
WSD1-SA225A/H-19				ACC.		100%MT
WSD1-SA225A/H-15				ACC.		100%MT
WSD1-SA39A/K-1				ACC.		100%MT
WSD1-SA39A/K-2				ACC.		100%MT
WSD1-SA39A/K-3				ACC.		100%MT
WSD1-SA39A/K-4				ACC.		100%MT
WSD1-SA39A/K-5				ACC.		100%MT
WSD1-SA39A/K-6				ACC.		100%MT
WSD1-SA39A/K-7				ACC.		100%MT
WSD1-SA39A/K-8				ACC.		100%MT
WSD1-SA39A/K-9				ACC.		100%MT
WSD1-SA39A/K-10				ACC.		100%MT
WSD1-SA39A/K-11				ACC.		100%MT

EXAMINED BY 主探 Fu zhi qiang LEVEL - II SIGN 签名 / DATE日期 09.26.08	REVIEWED BY 审核 Wang wei LEVEL-II SIGN / DATE日期 8-6-08
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-4861

DATE日期 2009.06.18

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: WSD1-SA225A/H, WSD1-SA39A/K(B/K) THE 1ST TOWER(W) SKIN E 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 5620 5395 5617

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

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

MATERIAL TO BE EXAMINED 检测材料 WELDING 焊接件 CASTING 铸件 FORGING 锻造 Material & thickness 母材, 厚度 A709M-345T2-Z / A709M-HPS-485WT2-Z 75/60/50 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			
WSD1-SA39A/K-12				ACC.		100%MT
WSD1-SA39B/K-1				ACC.		100%MT
WSD1-SA39B/K-2				ACC.		100%MT
WSD1-SA39B/K-3				ACC.		100%MT
WSD1-SA39B/K-4				ACC.		100%MT
WSD1-SA39B/K-5				ACC.		100%MT
WSD1-SA39B/K-6				ACC.		100%MT

BLANK

EXAMINED BY主探 Fu zhi qiang LEVEL - II SIGN 签名 / DATE日期 Fu zhi qiang 9.06.18	REVIEWED BY 审核 Wangwei LEVEL-II SIGN / DATE日期 Wangwei 9.06.18
质量经理 / QCM	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-000226**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Jul-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0291**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: 12-Jun-2009**Description of Non-Conformance:**

QA discovered two 7mm long linear indications during random verification Magnetic Particle Testing (MT) of West Tower, Lift 1 doubler plate welds WSD1-SA39A/K-7 and WSD1-SA39B/K-6. These welds were previously tested and accepted by ZPMC QC MT Technicians.

Contractor's proposal to correct the problem:

Repair affected welds.

Corrective action taken:

The affected welds have been repaired and a NDT report indicating sound welds has been submitted. The welds were verified by QA following the repair.

To resolve the recurring failure for QC to detect MT indications, ABF has held verbal interviews with ZPMC QC and MT technicians on several occasions. ABF has requested ZPMC to provide an analysis of missed indications to determine if they can be traced to a personnel trend, such as an inspector, welder, or weld location. ABF has also informed ZPMC to ensure adequate lighting is provided during inspections. Tests have also been administered to ZPMC MT technicians to demonstrate their ability to detect MT indications.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:****Date:****Is Engineer's approval attached?** Yes No**Comments:**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod, Serge

Quality Assurance Inspector

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Reviewed By: Wahbeh,Mazen

QA Reviewer