

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004539**Date Inspected:** 04-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Chih-Ming**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** deck panels**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG assembly bay 2

QA was given a list of deck panels sent to Caltrans (CT) Via E-mail from Mr. Gang Jiao of American Bridge Fluor (ABF) stating that the deck panel u-rib to deck plate Partial Joint Penetration (PJP) welds in the tacked areas have been repaired and were ready for QA to re-inspect using PAUT on the following deck panels: DP-109-002 / DP-136-001 / DP-325-001 / DP-351-001 / DP-380-001 / DP-541-001 and DP-566-001.

CT QA Mr. Larry Viars with the assistance of ZPMC QA Mr. Testino Wang located all of the above mentioned deck panels however, only two of the panels were accessible for PAUT re-inspection (DP-351-001 and DP-109-002) all others were either turned rib side down or were stacked outside OBG assembly bay.

QA performed Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds" in the tacked areas on u-rib to deck plate Partial Joint Penetration (PJP) welds after the contractor performed R2 repairs and conventional Ultrasonic Testing (UT) in the areas that previously exhibited crack like indications discovered by Caltrans QA using the PAUT method. This QA inspector performed 100 % PAUT of the entire length of each repaired area on the following deck panel:

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DP-351-001

Weld# 5 – 1 tacks PAUT'ed – 0 indications non-compliant.

Weld# 7 – 2 tacks PAUT'ed – 1 indications non-compliant.*

Weld# 8 – 1 tacks PAUT'ed – 1 indications non-compliant.**

* weld 7 “Y” location 13250mm / depth 9.3mm / dbs 2.9 / length 10mm.

** weld 8 “Y” location 10250mm / depth 8.74mm / dbs 5.6 / length 10mm.

NOTE: The following are the dbs reference levels obtained from known cracks in three macroetch samples:

1.2mm macroetch crack sample 5-3 DP-564: 9 dbs.

2mm macroetch crack sample 5-9 DP-564: 8.2 dbs.

4mm macroetch crack sample 5-6 DP-564: 7 dbs.

. QA Performed gate to gate preliminary UT at tacked areas on u-rib to deck plate PJP welds for the following deck panel:

DP-244-001:

Weld# 1 – 4 tacks UT'ed – 0 indications

Weld# 2 – 4 tacks UT'ed – 1 indications

Weld# 3 – 4 tacks UT'ed – 2 indications

Weld# 4 – 4 tacks UT'ed – 1 indications

Weld# 5 – 4 tacks UT'ed – 1 indications

Weld# 6 – 10 tacks UT'ed – 3 indications

Weld# 7 – 10 tacks UT'ed – 1 indications

Weld# 8 – 10 tacks UT'ed – 4 indications

Weld# 9 – 10 tacks UT'ed – 1 indications

Weld# 10 – 10 tacks UT'ed – 1 indications

QA did not complete the UT on this deck panel.

Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

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 Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

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Inspected By:	Hall, Steven	Quality Assurance Inspector
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Reviewed By:	Cuellar, Robert	QA Reviewer
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