

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-004224**Date Inspected:** 27-Oct-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 performed Phased Array Ultrasonic Testing (PAUT) after Caltrans NDE technicians performed the preliminary scan with conventional Ultrasonic Testing (UT) in the tacked areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plates. This QA inspector performed 100 % PAUT in the areas that exhibited crack like indications with conventional UT. This QA inspector confirmed crack like indications as follows:

DP-459-001: (PAUT)

Weld# 1 – 5 tacks PAUT'ed – 1 indications verified*

Weld# 2 – 1 tacks PAUT'ed – 0 indications verified

Weld# 3 – 4 tacks PAUT'ed – 1 indications verified**

Weld# 4 – 2 tacks PAUT'ed – 2 indications verified***

Weld# 5 – 5 tacks PAUT'ed – 4 indications verified****

* weld 1 “Y” location 14405mm / depth 9.65mm / dbs 7.2 / length 10mm.

** weld 3 “Y” location 12045mm / depth 9.86mm / dbs 7.4 / length 10mm.

*** weld 4 “Y” location 7915mm / depth 9.67mm / dbs 11.2 / length 8mm.

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- *** weld 4 “Y” location 9060mm / depth 10.32mm / dbs 9.2 / length 50mm.
- **** weld 5 “Y” location 10290mm / depth 9.11mm / dbs 10.1 / length 20mm.
- **** weld 5 “Y” location 10845mm / depth 8.36mm / dbs 3 / length 15mm.
- **** weld 5 “Y” location 11495mm / depth 9.20mm / dbs 12.2 / length 5mm.
- **** weld 5 “Y” location 12700mm / depth 9.39mm / dbs 10.9 / length 5mm.

QA did not complete the PAUT on this deck panel. Weld 5 still needs to be finished and welds 6 thru 10 still require PAUT.

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

2mm macroetch crack sample 5-9 DP-564: 9.2 dbs.

4mm macroetch crack sample 5-6 DP-564: 6.8 dbs.

NOTE: 2 Deck Panels were purchased by Caltrans for testing and initial UT and PAUT procedural development purposes. At this time no written PAUT procedure has been issued. However, all the test samples identified with the PAUT method as crack indications were confirmed after macro-etching and magnetic particle testing.

QA along with ZPMC QC Mr. Testino Wang and ABF QC Mr. Wang Heng green tagged the following deck panels:

DP-008-001 (TAG #001352), DP-020-001 (TAG #001353), DP-042-002 (TAG #001354), DP-051-001 (TAG #001355), DP-052-001 (TAG #001356), DP-053-001 (TAG #001357), DP-058-001 (TAG #001358), DP-059-001 (TAG #001359), DP-062-001 (TAG #001360), DP-063-001 (TAG #001361), DP-067-001 (TAG #001362), DP-078-001 (TAG #001363).

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.

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