

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-004189**Date Inspected:** 26-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 assy bay 2

QA performed Phased Array Ultrasonic Testing (PAUT) in the tacked areas on u-rib to deck plate Partial Joint Penetration (PJP) welds after the contractor performed R1 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 panels:

DP-351-001: (PAUT)

Weld# 5 – 3 tacks PAUT'ed – 0 indications non-compliant.

Weld# 6 – 4 tacks PAUT'ed – 0 indications non-compliant.

Weld# 7 – 5 tacks PAUT'ed – 1 indications non-compliant*.

*DP-351-001 weld 7 “Y” location 13250mm / depth 10.56mm / db 5.6 / same location as original indication.

DP-042-002: (PAUT)

Weld# 1 – 1 tacks at Y 6130 PAUT'ed – 0 indications non-compliant.

DP-378-001: (PAUT)

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Weld# 2 – 1 tacks PAUT’ed at Y 11420 – 0 indications non-compliant.

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-486-001: (PAUT)

Weld# 1 – 6 tacks PAUT’ed – 0 indications verified

Weld# 2 – 2 tacks PAUT’ed – 0 indications verified

Weld# 3 – 6 tacks PAUT’ed – 0 indications verified

Weld# 4 – 2 tacks PAUT’ed – 0 indications verified

QA did not complete the PAUT on this deck panel. Welds 4 and 5 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: 7.6 dbs.

4mm macroetch crack sample 5-6 DP-564: 4.7 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.

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
Reviewed By:	Cuellar,Robert	QA Reviewer
