

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-003399**Date Inspected:** 26-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 600**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**CWI Name:** See below**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:** Skin plates**Summary of Items Observed:**

The names of ABF Certified Welding Inspector (CWI) are Mr. Liu Cheng, Mr. Xiao Jim Peng, Mr. Jiang Zi Men, Mr. Lai Quan and Mr. Wu Gui Cai.

Ultrasonic Testing (UT) on splice welds of skin plate (Tower Bay#1): Caltrans Quality Assurance Inspector (QAI) performed straight beam and angle beam QA UT on splice welds of skin plate. The metrical of splice weld plate is ASTM 709 345 wall thickness from 45mm to 65mm and the test surface has been cleaned. The weld numbered # SSD1-SA237A/F-1A, SSD1-SA237A/F-2A, SSD1-SA237A/F-7A, SSD1-SA237A/F-8A, SSD1-SA237A/F-21A, SSD1-SA237A/F-22A and SSD1-SA237A/F-24A. All the welds inspected by Caltrans QAI were previously UT test accepted by ZPMC technicians NDT technicians. Based on Caltrans QA inspection, the splice welds appeared to be in general compliance with requirements of the Caltrans Special Provisions and AWS D1.5 2002 Sec.6. See QAI UT report for more details.

Submerged Arc Welding (SAW) process on longitudinal stiffener plate and skin plate (Tower Bay#1 and Bay#2): Caltrans QAI observed Zhenhua Port Machinery Co (ZPMC) welding operators performed semi-automatic SAW on the splice weld of ASTM 709 345 longitudinal stiffener plate P503A to P503B with 60mm wall thickness, weld# ESD1-SA227A/H-51A (Bay#1), longitudinal stiffener plate P155A to P155B with 60mm wall thickness, weld# ESD1-SA277A/H-57A (Bay#1), skin plate P147 to P37 to P128 to P219 with 70mm wall thickness, weld# SSD1-SA173A/K-14B (Bay#1), skin plate P56 to P1269 with 90mm wall thickness, weld# NSD1-SA159 D/J-3A (Bay#1), skin plate P1270 to SA17 with 60mm wall thickness, weld# SSD1-SA178C/D-24B (Bay#1). The weld designed is a double -V-groove with welding conducted in the in flat position (1G) with proper 4.8mm diameter wire feed electrode JW3 and flux/J1-B, made by China Company and completed with approximate five pass. The parameters used for SAW welding of splice weld was conducted in accordance with Caltrans approved WPS-B-T-2221-B-U3. The semi-automatic SAW was monitored and recorded by ZPMC QC and ABF Certified

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Welding Inspector (CWI). Based on Caltrans QAI observations, no discrepancies were noted.

Magnetic particle testing (MT) on tack welds of deck panel (Tower Bay#1 & Bay #2): Caltrans QAI performed QA MT testing on splice welds of skin plate side plates and the weld numbered ESD1-SA294F/G-156, ESD1-SA294F/G-158B, ESD1-SA294G/G-58B, ESD1-SA294G/G-54 (Bay #2) and NSD1-SA159D/J-1B (Bay#1).

The power source of MT testing is used electromagnetic yoke with Alternating Current (AC) made by Magnaflux. The detection media is used dry red ferromagnetic particles. The QA MT testing of weld areas appeared to be in compliance with the requirements of AWS D1.5 (2002) and Caltrans contract documents.

Summary of Conversations:

As Note within the report above.

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 Wahbeh Mazen (818)292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Pau,Wai	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
