

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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000540**Date Inspected:** 31-Aug-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Lefeng**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:** Tower Mock-up 77**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication of the Mock-ups 77 elevation scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

ZPMC, welder operator Li Dong and Zhang Xiagrong were observed by the QA Inspector performing tack welding operations at the junction of the longitudinal stiffener to the skin plate C following the approved welding procedure specification WPS-B-T-2211-B-U3b. Base metal was designated as A-709 Grade 345. ZPMC was using the Shielded Metal arc welding (SMAW) process in the horizontal(2G) position with the 4.0 mm diameter designated as E7018/AWS A5.1, brand name TL-508. The QA Inspector verified joint fit-up, amperages, preheat and heat interpass temperatures.

ZPMC, welder operator Liu Xie was observed by the QA Inspector performing welding operations on the skin panel C, filler and cover passes at the junction of the mp7 to skin panel C, joint # 7 & 8 and started to weld at the joint 9 & 10 following the approved welding procedure specification WPS-B-T-2332-TC-P5-F. Base metal was designated as A-709 Grade 50. ZPMC was using the flux cored arc welding (SAW) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xiu Zhai Gu appeared to be in accordance with the contract documents.

The QA inspector witnessed the ZPMC MT ASNT level II Cai Xin Xin performing MT verification on the root pass, skin panel D, at the junction of MA5 to mp3, weld joint # 9 and 10. The QA inspector observed that Mr. Cai's MT verifications appeared to be in compliance with the contract documents.

ZPMC, welder Zhan Binghua was observed performing welding operations, the filler and cover passes at the

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

junction of the mp1 to skin panel D, joint # 2 following the approved welding procedure specification WPS-B-T-2332-TC-P5-F. Base metal was designated as A-709 Grade 50. ZPMC was using the flux cored arc welding (FCAW) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored 71H. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xiu Zhai Gu appeared to be in accordance with the contract documents.

Item	Description	WBS	Dwg No.	Status
------	-------------	-----	---------	--------

1	Diaphragms Tower Mock-up 77 Meters Elevation			
---	--	--	--	--

The QA inspector observed the ZPMC performing backgouging operations at the other side on the diaphragm skin plate SA-95 weld joint # 73.

ZPMC welder operator Cao Xiahua was observed by the QA inspector welding the filler passes at the junction of the diaphragm SA-104 plates splice joint # 73 following the approved welding procedure specification WPS-B-T-3221-B-U3b. Base metal was designated as A-709 HPS485 W. ZPMC was using the submerged arc welding (SAW) process in the flat (1G) position with the 4.8 mm diameter electrode designated as ENi5/AWS A5.23, brand name LA-85. The QA Inspector verified amperage, voltages, travel speed, preheat and heat interpass temperatures. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xu Lefeng appeared to be in accordance with the contract documents.

The QA inspector observed the ZPMC performing backgouging operations at the other side on the diaphragm skin plate SA-95 weld joint # 73.

The photos below show when ZPMC was turning over the diaphragm plate SA-104. ZPMC appeared to be turning the plates several times to balance the weld and the amount of distortion.



Summary of Conversations:

The QA inspector had a conversation with QA Manager Hu Gang and ABF QA Supervisor Kevin Carpenter. The QA inspector discussed section 12.6.6 SAW, Flux handling and Gravity Feed Delivery Systems. Mr. Hu voiced to the QA inspector that the he would confirm with ZPMC CWI QC inspectors that the they fully understand the requirements for flux handling and the gravity feed delivery systems when welding A709 HPS 485W material in accordance with AWS D1.5 (2002)section 12.

Comments

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

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

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
