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 #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002057
Date Inspected: 27-Apr-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1545
OSM Departure Time: 2200
Location: Shanghai, China

CWI Name:	Zhu Zhonghai / Zhang BaoLei	**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: Orthotropic Box Girder/Tower

Summary of Items Observed:

On this date, Caltrans Office of Structural Materials (OSM) Quality Assurance (QA) Inspector Edward Leach was present to randomly observe and document the welding and Quality Control (QC) functions performed by ZPMC personnel relative to the fabrication of SAS Superstructure project. While on site, the QA Inspector noted the following work.

New OBG Assembly Shop

The QA Inspector randomly observed ZPMC welding personnel continuing to apply the side panel supports underneath the side panel plates. This work was taking place at both ends of the assembly shop. During the observation the QA Inspector observed ZPMC continuing fit-up operations for the side and bottom panels of the first OBG segment. The QA Inspector also observed that ZPMC personnel were in the process of performing submerged arc welding (SAW) in the flat (1G) position for subsequent filler passes on a complete joint penetration (CJP) weld splice for side panel segment designation SEG018A-001 (SP66A-SP54A). The QA Inspector observed ZPMC using welding procedure specification (WPS) WPS-B-T-223(2)1T to perform the welding. The QA Inspector observed ZPMC CWI Zhang BaoLei monitoring electrical welding parameters, travel speed and interpass temperature as the welding progressed. The QA Inspector identified the welding personnel as Wang Mi, ID #048296. The welder was observed using proper interpass cleaning methods with a brush and slag hammer. The electrode used for this application was identified as JW-3, 4.8mm diameter wire electrode. The welding was still in progress at the end of the shift. The welding and workmanship randomly observed at this location appeared to comply with the noted WPS and the contract specifications.

New Tower Shop-Bay 1

The QA Inspector performed random observations in bay 1, observing ZPMC personnel at multiple locations performing heat-straightening procedures on various tower skin plates. The QA Inspector observed ZPMC personnel performing in-process heat-straightening on plate designations P401(S) and P401 (N), using HSR procedure HSR1 (T)-1079. The QA Inspector observed ZPMC QC personnel Sun Tianliang monitoring the pre-heat with a thermal heat gun to verify that the pre-heat temperature did not exceed 650 degrees Celsius. The work in progress appeared to meet the general requirements of the contract specifications.

New Tower Shop-Bay 2

The QA Inspector observed ZPMC personnel performing flame cutting and welding operations at multiple locations for various tower skin plates. The QA Inspector observed ZPMC welding personnel Chen Hongxia utilizing the Flux Cored Arc Welding (FCAW) process in the flat (1G) position (see digital picture below) with E71T-1 Supercored 71H, 1.4mm diameter electrode to weld a non-critical weld repair for the CJP weld splice on tower skin plate designation ESD1-SA107B/J-16A. Mr. Hongxia was performing the welding to the requirements of WPS-FCAW-1G-repair. The electrical welding parameters, interpass temperature and travel speed were being monitored by ZPMC CWI personnel Jiang Jian Fei. The welder was observed using proper interpass cleaning methods with a slag hammer and wire brush. The work observed at this location appeared to meet the general requirements of the WPS and the contract specifications.

New Tower Shop-Bay 3

The QA Inspector made periodic observations to bay 3 and observed that ZPMC personnel were in the process of performing repair work to several deck panel closed rib PJP welds. The repair work observed at this time was being performed by grinding. The QA Inspector was informed by swing shift lead QA Inspector Kenneth Riley that the repair work is for visual defects per Caltrans state letter 05.03.01-001773, Submittal 634, revision 1. The work in this shop was being monitored by ZPMC CWI personnel Chen Xi. The work in progress appeared to meet the general requirements of the contract specifications.

The following digital images below detail the work in progress at the new OBG assembly shop and bay 3 of the new tower assembly shop.

Summary of Conversations:

As noted above in report.

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

Inspected By:	Leach,Ed	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer