DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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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-001074
Date Inspected: 23-Dec-2007

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

OSM Arrival Time: 1300
OSM Departure Time: 2330
Location: Shanghai, China

CWI Name: Wu Ming Kat

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG and Tower Mockup

Summary of Items Observed:

Caltrans Quality Assurance (QA) Inspector Joe Lanz arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions during second shift. While on site the QA Inspector observed and/or discovered the following.

Bay 3
OBG Beams
The QA Inspector randomly observed ZPMC welding personnel Wei Dashuai, ID # 051246 tack welding side plate SP025-01 stiffeners, weld numbers 012, 013, 014, 015, 016, 017, 018, 019, 020 and 021. The welding was performed in the 2F (horizontal) utilizing the self shielded flux cored arc welding (FCAW-S) process. The QA Inspector periodically observed the ZPMC QC Certified Welding Inspector Wu Ming Kat monitoring the welding and the ZPMC QC Inspector Li Peng Fei verifying that the welding parameters and the minimum pre-heat of 20 Centigrade were in accordance with the Welding Procedure Specification WPS-B-T-2132-2. The QA Inspector observed that the preheat and welding parameters measured by the QC Inspector (280 amps, 29.3 volts) appeared to be within the WPS ranges. The welding parameters and work observed by QA Inspector appear to meet the minimum requirements in accordance with the WPS and contract documents.

The QA Inspector randomly observed ZPMC welding personnel He Yumei, ID # 048625 tack welding side plate SP021-01 stiffeners, weld numbers 012, 013, 014, 015, 016, 017, 018, 019, 020 and 021. The welding was performed in the 2F (horizontal) utilizing the self shielded flux cored arc welding (FCAW-S) process. The QA Inspector periodically observed the ZPMC QC Certified Welding Inspector Wu Ming Kat monitoring the welding and the ZPMC QC Inspector Huang Min verifying that the welding parameters and the minimum pre-heat of 20

Centigrade were in accordance with the Welding Procedure Specification WPS-B-T-2132-2. The QA Inspector observed that the preheat and welding parameters measured by the QC Inspector 290 amps, 29.0 volts) appeared to be within the WPS ranges. The welding parameters and work observed by QA Inspector appear to meet the minimum requirements in accordance with the WPS and contract documents.

The QA inspector performed ultrasonic verification testing of side plate complete joint penetration welds. The ultrasonic testing (UT) was performed to verify the welds and testing performed meets the requirements of the contract documents and AWS D1.5-2002. The weld and base metal were scanned utilizing a Krautkramer Branson USN 60 for the following scans. The base metal lamination check was performed with a 1.0"dia. round 2. 25 MHz transducer. The weld shear wave scan was performed with a 0.75" x 0.625” 2.25 MHz transducer on a 70 degree angle wedge from face A. Scanning patterns A, B, C, and E were utilized. Following is a list of welds examined and acceptance in accordance with AWS D1.5- 2002 table 6.3 and the contract documents.

a) SP009-01-001, 21mm thick, Y location = 0mm, Length tested = 300mm.
b) SP021-01-001, 21mm thick, Y location = 1,000mm, Length tested = 300mm.
c) SP025-01-001, 21mm thick, Y location = 2,100mm, Length tested = 300mm.
d) SP029-01-001, 21mm thick, Y location = 2,500mm, Length tested = 300mm.

The QA inspector did not concur with the ZPMC NDT level II technician Li Li Ming’s assessment of weld SP029-01-001. The QA inspector observed a possible a class A rejectable indication in this weld that was found acceptable by Li Li Ming. The QA inspector marked the weld location to have the weld reinforcement on face A and face B to allow verification of the indication and the ZPMC QC inspector Fu Yuhong was notified of the possible indication. An Ultrasonic Test Report (TL-6027) for the welds that were tested was generated for this date.

Summary of Conversations:

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

Inspected By:	Lanz,Joe	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer