

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-001183**Date Inspected:** 30-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Zhi Jiang**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:** 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 1

The QA inspector performed ultrasonic verification testing of the partial joint penetration welds on the Deck mockup, piece mark MU3. The ultrasonic testing (UT) was performed to verify the weld depth of penetration and testing performed by ZPMC personnel meet the requirements of the contract documents. The base metal lamination check was performed with a 1.0" dia. round 2.25 MHz transducer. The shear wave scan was performed with a 0.375" 3.25 MHz transducer on a 70 degree angle wedge from face A. Scanning patterns A, B and C were utilized. Following is a list of welds examined and the relevant indications of inadequate penetration observed in accordance with the contract documents.

U rib U-01, weld 2 Y location of 0 to 2,225mm.

Lack of penetration was observed at Y location of 550mm with a length of 70mm and a depth of 3.3mm. The indication was 63% of full screen height on the ultrasonic test instrument. The QA noted the indications of lack of penetration were discovered during ultrasonic testing that was performed by ZPMC personnel. The QA inspector concurred with the NDT level II technician's assessment. An Ultrasonic Test Report (TL-6027) for the welds that were tested was not generated for this date.

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Bay 7

OBG Beams

At approximately 1830 hours the ZPMC QC inspector notified the QA inspector that ZPMC NDT personnel had completed ultrasonic testing of eight complete joint penetration welds on Floor Beam assemblies in bay 7. The QA inspector arrived in bay 7 to perform ultrasonic verification testing and discovered the following issues. The QA inspector observed that all of the welds were not marked in accordance with AWS D1.5-2002 paragraph 6.19. 2. Three welds (FB008-02-049, FB001-02-045 and FB001-03-045) were rejected by ZPMC personnel performing ultrasonic testing but the locations of the rejects were not marked on the welds. One weld (FB007-01-043) was found to have unacceptable undercut at the toe of the weld. This weld was marked UT OK and VT OK. One weld was observed to have an ultrasonic indication marked near the end of the weld but the weld was marked UT OK. ZPMC QC inspector Shen Xue Jun reported that the last twenty millimeters of the weld were not tested because there was some questions by ZPMC about how the weld should be terminated.

The following digital photograph below illustrates observation of the activities being performed.



Summary of Conversations:

As noted 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
