

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-001525**Date Inspected:** 23-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**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:** Fu Yu Hong**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**Summary of Items Observed:**

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

Production Monitoring test (PMT) and Fabrication

The QA inspector performed random fit-up verifications to the PMT coupons and Deck Panel DP-018-002 and DP-063-001 at the junction of the U-ribs to deck plate. The QA found that U-ribs fit-up appeared to be in compliance with the contract documents.

The QA inspector witnessed the welding operations at the PMT at the junction of the 800 mm U-ribs and the deck plate.

The QA inspector observed welding operators Han Chang Hou welder ID # 059464, Chen Jie ID # 059468, Gao Xin Dong ID # 059361, Jian Ting Guang ID # 062265, Zhao Cheng Shuang ID # 059400 and Dan Yi Gun ID # 059450 performing welding operations on the root pass weld joints # 1 thru 6 with the automatic Gantry Lincoln machine with the gas metal arc welding (GMAW) process on the metal transferring with spray transfer mode following the (WPS) WPS-B-T-2342-U1 (Urib). The QA observed that ZPMC performed welding on the following order weld 3 and 4, 5 and 6 and 1 and 3. ZPMC welded the U-ribs one by one due to limited space between the ribs on the PMT. The QA inspector had a conversation with Caltrans QA Task Leader. The QA inspector brought to the attention of Mr. Robert Cuellar that ZPMC did not weld at least two consecutive U-ribs on the PMT. An incident report was written due to ZPMC did not simultaneously weld multiple ribs as per Caltrans Special Provisions.

ZPMC had approximately one (1) control panel Operator, six (6) Welders, one (1) QC inspectors, two (2) QC representatives, one (1) Supervisor and six (6) Grinders. ABF representative Mr. Warren Buehler, ZPMC

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

representatives Mr. Shen Xue Jun and Caltrans representatives Mr. Robert Cuellar, Timothy McClendon and Mr. Bruce Berger were present at the OBG fabrication shop.

ZPMC certified welding inspector Chen Xi performed visual weld inspection to the root pass. ZPMC found that welds were in accordance with the contract documents.

Note: After completing the deck panel DP-063-001, ZPMC proceed welding the root passes on the deck panel DP-18-002 without completing welding and testing the PMT coupons. An incident report was written to address this non compliant condition.

The welding operators welding on the production deck panel DP-63-001 were as follows:

Weld joint (WJ) # 1 and 3, Han Chang Hou; WJ # 2 and 4, Chen Jie; WJ # 7 and 10 Gao Xin Dong; WJ # 6 and 8, Jiang Tin Guang, WJ # 9 Zhao Cheng Shuang and WJ# 5 Don Yi Gun.

The QA inspector had a conversation with ZPMC representatives Shen Xui Jun, Li Li Ming, ABF representative Warren Buehler and the QA inspector. ABF representative disagreed with ZPMC representatives on how ZPMC evaluate the amount of LOP. ZPMC states that ZPMC was following the contract documents because ZPMC was determined their inspection on the minimum of 80 % depth of penetration determined by measuring the actual thickness of the rib and subtracting by amount of LOP. ABF representative relayed that all the ZPMC's procedure was prepared based upon the design thickness. ZPMC disagreed staying that ZPMC position was that as soon as ZPMC meet the 80 % of depth penetration (9.6 mm) the LOP was acceptable.

ZPMC QC inspector Li Li Ming was observed performing 100 % Ultrasonic testing (UT) to the weld tacks areas on the partial penetration weld joints (PJP) from the deck panel DP-058-001. ZPMC continued their verifications after the end of the QA inspector shift.

OBG-Production Monitoring Test (PMT) #9 for closed rib welding on Deck Plates DP-013-001 and DP-018-001 was run on Friday 02-22-208. ZPMC performed ultrasonic testing on the closed rib PMT PJP's and reported on weld # 1 with 65 mm of length of lack of penetration (LOP). ZPMC rejected weld # 1 (welding operator Han Chan Hou) for exceeding 5 % of LOP on the total length.

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