

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-001187**Date Inspected:** 30-Dec-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:** ZPMC- Wu Ming Kat**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:** 77m, 89m, 114m and #1 deck mock-ups**Summary of Items Observed:**

On this date, the Caltrans Quality Assurance (QA) representative, John P. Tracy, conducted assessments while on site at Zhenhua Port Machinery Company (ZPMC) for Caltrans Project 04-0120F4-SAS. The following is the detailed review of the following observations:

Bay 1: Sub Arc Weld (SAW) gantry welder is inactive. There is no reported activity for either the #1 deck mock-up.

Bay 2: 77m mock-up has ongoing thermal activity where active ceramic heating pads have been applied to internal locations. No welding was observed.

89m mock-up continues to be fit-up. Plates E to Plate A and Plate A to Plate B are being tacked into position. No welding was observed.

89m, MUSB-MA26-1 and -2, shear links has active ceramic heating pads applied to the assembly. No welding was observed.

114m interior splice plate A, MUC-A58, has completed heat straightening and machining operations. It was relocated to the boring station where the bolt holes layout and cut.

114m upper and lower mock-up sections are idle and no activity was observed.

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Bay 3: SP034-01 has Heat Straightening Report (HSR) number HRS1(B)138 in process. The report specifies that the maximum deformation is about 12.5 mm, transverse heat straightening the width is 50-100mm, longitudinal heat straightening the width is 20-50mm. No Certified Welding Inspector (CWI) was present. The ZPMC Quality Control (QC) inspector who was present actively monitored temperatures with a laser pyrometer. Parameters that were observed appeared to be in accordance with the criteria set forth within the contractual documents.

SP063-01 had Flux Core Arc Weld (FCAW) process performed Partial Joint Penetration (PJP) welds for WT stiffeners attachment to plate number 101AB for weld numbers SP063-01-25 thru -36 and SP063-01-11 thru -22. ZPMC CWI Wu Ming Kat was present. Consumable electrodes and welding parameters were monitored and appeared to be in accordance with the criteria set forth within the contractual documents.

NOTE Travel speed on the FCAW gantry welder is not being monitored despite several requests to do so. The gantry welder has an uncalibrated digital readout which does not provide a measure but instead supplies the operator with a value that will then be correlated to a measure on "a chart". The issue is that the chart is of an unknown origin and it is not posted at the site, despite several requests to do so. No CWI or QC inspector from ZPMC, or otherwise, can provide the Caltrans representative with a value for travel speed and thus heat input unless the operation is shut down and a technician physically walks to the office and looks the information up on above said chart or a physical time/distance measurement is taken.

Bay 7: Several plates were viewed in a cursory inspection of this bay's operations. FB008-01-017 was noted as having several areas with an oily substance on the floor beam plate and across weld number FB008-01-001. It is unclear as to whether the oily substance was on the floor beam during the welding operations.

FB002-04-010 was observed to have poor quality welding, by a visual standard, in all flange corner, vertical welds.

Bay 7 plates continue to be stacked in such a manner which may be damaging to the end product and/or a safety hazard to all personnel within. An incident report was written on 12/21/2007 (#000021), by the Caltrans representative, for the same issues.

Included below are digital pictures that support the observations recorded within this report.



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Summary of Conversations:

At the completion of the above stated operations, the ZPMC Certified Welding Inspector, Wu Ming Kat, reported that the parameters followed and their noted results were found to be in accordance with the criteria set forth within the contractual documents.

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:	Tracy,John	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
