

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: 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-000992**Date Inspected:** 06-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**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:** 89/144 M mockup and OBG floor beam**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon 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. While on site the QA Inspector observed and/or discovered the following.

(CWR026)114 Mockup Interior Splice Assembly Face D (Sub Assembly-A75):

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Jiong Zhou ID #040261 groove welding fill passes at weld joint #3 for the interior splice plate assembly longitudinal stiffener plate p920-5. Mr. Jiong was observed welding in the 1G (flat) position utilizing flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 semi automatic. QA Inspector Brannon observed the ZPMC QC CWI Inspector Zhu Zhonghai verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Zhu Zhonghai to be: preheat temperature of 210°C and welding parameters amps of 320, volts of 31, a travel speed of 330 mm/min and a shielding gas flow of 23L/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-345-FCAW-1G(1F)-repair.

(CWR029)114 Mockup Interior Splice Assembly Face A (Sub Assembly-A58):

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Bai Wenming ID #060434 groove welding fill passes at weld joint #3 for the interior splice plate assembly longitudinal stiffener plate p268-2. Mr. Bai was observed welding in the 1G (flat) position utilizing flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 semi automatic. QA Inspector Brannon

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observed the ZPMC QC CWI Inspector Zhu Zhonghai verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Zhu Zhonghai to be: preheat temperature of 210°C and welding parameters amps of 310, volts of 31, a travel speed of 316 mm/min and a shielding gas flow of 23L/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-345-FCAW-1G(1F)-repair.

(CWR028)114 Mockup Interior Splice Assembly Face A (Sub Assembly-A58):

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Chang Chuan Cang ID #053870 groove welding fill passes at weld joint #1 for the interior splice plate assembly longitudinal stiffener plate p268-1. Mr. Chang was observed welding in the 1G (flat) position utilizing flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 semi automatic. QA Inspector Brannon observed the ZPMC QC CWI Inspector Zhu Zhonghai verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Zhu Zhonghai to be: preheat temperature of 220°C and welding parameters amps of 303, volts of 31, a travel speed of 295 mm/min and a shielding gas flow of 23L/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-345-FCAW-1G(1F)-repair.

89 Meter Mockup Sear Link Beam (FCM):

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Han Xiaofeng ID #054467 tack welding weld joint #30A, piece # P1114-1 to p1115-1. Mr. Han was observed welding in the 4G (overhead) position utilizing shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand Excalibur 9018M MR, class E9018M manual. QA Inspector Brannon observed the ZPMC QC CWI Inspector Ye Yongjun verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Zhu Zhonghai to be: preheat temperature of 180°C and welding parameters amps of 155/146. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-33(1)14.

89 Meter Mockup Heat Straightening(Sub Assembly-MA38):

QA Inspector Brannon randomly observed ZPMC personnel performing heat straightening on MA38. ZPMC heat straightening numbers HR1(CT)-118, weld map # MUSB-MA38 A/B, drawing #mp502-1, MA38-1. QA Inspector Brannon observed the ZPMC QC CWI Inspector Mr. zaXu Fe Feng observing the process.

Bay 7

OBG-Floorbeams

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Hu Ya Cheng ID #049339 tack welding joining weld joint #'s FB026-01-108, FB022-01-108, FB017-01-108 and FB017-02-108, side a. Mr. Hu was observed welding in the 1G (flat) position utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand E7018, class TL-508, manual. QA Inspector Brannon observed the ZPMC QC Inspector Li Zhi Jiang verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Li Zhi Jiang to be: welding parameters amps of 160. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2211-Bu2.

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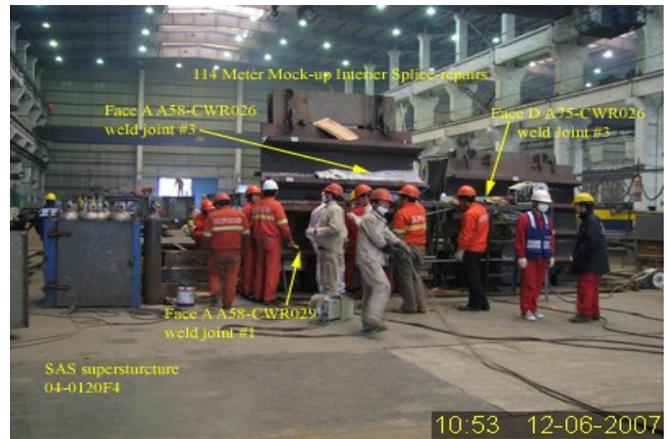
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The following digital photograph below illustrates observation of the activities being performed.



## Summary of Conversations:

No relevant conversations on this date.

## 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.

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**Inspected By:** Brannon, Sherri

Quality Assurance Inspector

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**Reviewed By:** Cuellar, Robert

QA Reviewer