

**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-001264**Date Inspected:** 13-Jan-2008**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

<b>CWI Name:</b>	ZPMC-Xu Bing, Sun Wei and Zhang			<b>CWI Present:</b>	Yes	No	
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Bay 2, Bay 3 and Bay 7 Observations		

**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:

New Caltrans representative, Mr. Greg Bertlesman, arrived. He and the Caltrans representative went through the facility together to perform orientation and bay layout.

Bay 1:

Submerged Arc Weld (SAW) gantry welder was inactive.

Bay 2:

89m Built-up channels, shear link housings, had ongoing thermal operations for the Flux Core Arc Weld (FCAW) process under Welding Procedure Specification (WPS) number WPS-B-T-2132-1 for weld number MUSB-MA30-31, which was made by ZPMC welder Li Mengqian (054460). ZPMC Quality Control (QC) was present and actively taking welding parameters. Observed values appeared to be in accordance with the criteria set forth within the contractual documents.

114m upper and lower mock-up sections both had welding operations ongoing, upon arrival.

The 114m lower mock-up section was FCAW welded for joint numbers MUC-E2-6 for MA104 to MA110 and MUC-E2-10 for MA104 to MA111 plus MUC-E2-5 for MA103 to MA102 and MUC-E2-9 for MA103 to MA111. The 114m upper mock-up section was FCAW welded for joint numbers MUC-E2-28 for MA114 to MA101 and

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MUC-E2-26 for MA114 to MA112 plus MUC-E2-25 for MA105 to MA113 and MUC-E2-27 for MA105 to MA112.

ZPMC Certified Welding Inspector (CWI) Xu Bing was present along with two additional QC personnel. All were present and actively taking welding parameters. Observed values appeared to be in accordance with the criteria set forth within the contractual documents.

MUSB-MA26-1 and -2 shear links had ongoing thermal welding operations for the Shielded Metal Arc Weld (SMAW) process for Web to Flange attachment welds, which was made by ZPMC welder Han Xiaofeng (054467).

ZPMC Certified Welding Inspector (CWI) Sun Wei was present and actively taking welding parameters. Observed values appeared to be in accordance with the criteria set forth within the contractual documents.

89m MUSB-MA29 Cross Brace has had heat straightening operations performed plus flange to inner, and outer, stiffener attachment welds have been tack welded and have root passes already in place, however the component remains incomplete and inactive.

New Tower Mock-up Bay:

89m mock-up was moved into the new bay on the off-shift. ZPMC QC performed a Dry Magnetic Particle Testing (DMT) inspection of the completed root passes for MA21, Plate A to diaphragm attachment welds, along the vertical stiffeners. QC inspector noted that three of the root passes which were inspected had cracks. ZPMC notified the Caltrans representatives. Upon arrival, weld numbers MUB-MA21 G/J-15, MUB-MA21 A/J-9 AND MUB-MA21 A/J-15 had cracking. ZPMC CWI Zhao Chen Sun notified the Caltrans representatives that they would grind out the root passes, DMT inspect the area to insure defect removal and then reweld.

Bay 3:

Plate 100C (SP62) was fabricated on the FCAW gantry welder for Stiffener to Plate attachment welds. No parameters were observed. Welding was observed from afar.

Bay 7:

Plate X49 to X49B (A709 Gr345) for FB025-01-122 welded under WPS-B-T-2221-B-L2c-S-1 was welded on 01/12/2008 by ZPMC welder Huang Xiulan (044780). The 30mm material was welded to a thinner section of plate. Distortion, of an upward angle, was noted by the Caltrans representative.

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

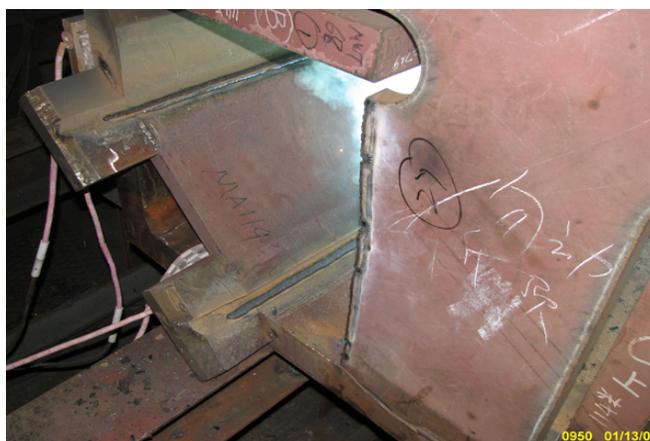
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## Summary of Conversations:

At the completion of the above stated operations, the ZPMC Certified Welding Inspectors, Xu Bing, Sun Wei and Zhao Chen Sun, 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.

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**Inspected By:** Tracy,John

Quality Assurance Inspector

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**Reviewed By:** Cuellar,Robert

QA Reviewer