

**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-000500**Date Inspected:** 02-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Lu Jian Ping & Cui Yi Ru**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 Mock-Up**Summary of Items Observed:**

On this date, Caltrans Office of Structural Materials (OSM), Quality Assurance (QA) Inspector, David A. Smith was present for the random observations related to the following;

Item-1 Top Plate 114-B Plates MA101 & MP1014 Lifting devices are being welded in position.

Item-2 Skin Plate-C Stiffener plate 1 Filler weld is being deposited by welder operator Liu Xie on both sides of plate. The welding parameters recorded by this QA Inspector was travel speed of 293.08 mm/min., Amps of 302 & Volts of 29.7. Present during this QA Inspector observations were ZPMC CWI Gu Xinzhai & QC Zhu Zhong Hai.

Item-3 Bottom Plate 114-B MA102 to MP1015. A visual observation completed by this QA Inspector disclosed areas of slag within the root areas. The areas were marked by this QA Inspector and the ZPMC CWI/QC's, Lu Jian Ping & Cui Yi Ru, made aware of their locations. Once the grinding had been completed and the slag removed the Caltrans QA Inspector did observe Zhou Dong Yun #12179 performing an unacceptable MT test. The test was being conducted in one direction only. This was brought to his attention and an acceptable MT test followed.

Caltrans QA Inspector performed an MT test of 25% of the root and found it to be in compliance with project specifications. The area was preheated to 136 degrees C and welding proceeded. The SAW welding operator was Han Changhou #059464 with welding parameters recorded by this QA Inspector of a travel speed of 561.33 mm/min., amps 618 & volts 32.4.

Item-4 Plate 114-D Plates MA110 & MP1016. The Magnetic Particle testing (MT) of the tack welding is being monitored by Caltrans QA Inspector & performed by Cai Xin Xin. One tack weld located in the center area of the plate was found to exhibit a linear indication its full length. The removal of the linear indication was accomplished by grinding. Approximately half of the tack weld had been removed when their lunch break came. At 1905 hours, ZPMC QA Inspector Zhang Jia Di called inform this QA Inspector that the repair listed above is completed and ready for QA Inspection. This Caltrans QA Inspector performed an MT test on approximately 40% of the repaired

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tack welding. Upon completion of reexamination of said tack weld, now exhibits a linear indication on the opposite side or toe of the weld (towards the thinner plate). This Caltrans QA Inspector contacted David McClary also with Caltrans who suggested that the whole bevel area be preheated before welding the tack weld. It was also suggested by the Caltrans QA that the tack weld upon completion be cooled at a slower rate. Item-5 Skin Plate-A Stiffener Plate 4. The preheat was noted to be 110 degrees C+ prior to beginning the filler welding. The welder was Sun Houfu #059843 and had a travel speed of 283.53 mm/min., Amps 303 and Volts at 31.1. Welding is continuing on one side of the Stiffener plate.

### Summary of Conversations:

There were no conversations pertinent to this project that took place during this shift.

### 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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<b>Inspected By:</b>	Smith,David	Quality Assurance Inspector
<b>Reviewed By:</b>	Cochran,Jim	QA Reviewer

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