

**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-001164**Date Inspected:** 08-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2130**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:****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:** Tower Mock Ups, OBG components**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) inspector, Scott Croff, was present at Zhenhua Port Machinery Company, Ltd (ZPMC) to observe the scheduled mock up construction and production construction of the SAS Superstructure.

Bay 3: The QA inspector observed ZPMC technician Cai Xin Xin conducting magnetic particle testing (MT) on the base metal gouge on the flange of T-stiffener SP020-01 near weld joint 002. This base metal gouge was observed by the QA inspector on the TL-6031 report from 1-6-2008. The QA inspector noted that today, the gouge appears to have been ground to bright metal prior to the MT. The QA inspector observed that Cai Xin Xin accepted the MT for this gouge. The QA inspector then observed the MT equipment being taken to a different location and the QA inspector observed the ZPMC technician Zhou Dong Yun conduct MT on a completed fillet weld. The QA inspector noted that the fillet weld "cover" on SP077-01-018 was accepted by Zhou Dong Yun. Upon completion of the observed MT, the QA inspector was asked to conduct verification MT on the parts. The QA inspector asked the ZPMC worker Liu Xiao Ping to review the documentation of these parts. The QA inspector was shown the approved critical weld repair (CWR) 013, for SP077-01-018. During the documentation review, the QA inspector noted that the CWR requires an MT to be conducted on the excavation prior to welding. The QA inspector could not identify any legible markings on the part or included in the CWR documents to indicate that an MT was conducted and accepted prior to welding. The QA inspector showed this requirement (as it is written in English and Chinese in the CWR) to the worker and technician. The QA inspector noted that there was lively conversation in between the worker, technician and another ZPMC person. The QA inspector's question was not answered directly, but it appeared to the QA inspector that no MT had been conducted prior to welding the CWR. The QA inspector noted that the CWR weld was visually accepted by Xu Xian Ping on

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1-5-2008. Also during the review of documents, the QA inspector noted that the base metal gouge / repair documentation the ZPMC worker has does not appear to be approved by the Engineer. The QA inspector noted that the documents for the repair of the gouge near SP020-01 weld joint 002 are numbered B-WR024. See the attached photos.

The QA inspector observed ZPMC personnel operating the gantry mounted flux cored arc welding (FCAW) to make fillet welds on SP011-01. The QA inspector noted that 4 welders are each operating 2 machines. The QA inspector was informed that the welders are Guo Yang Wei, Li Zhou Qian, Xin Meng and Li Shu Liang. The QA inspector observed that the 2nd weld pass is being made on joints 030, 031, 034, 035, 038, 039, 042 and 043. The QA inspector observed the welding operation on approximately 1/2 the full length of the stiffeners and the approximate time of the welding operation was 20 minutes. The QA inspector noted that the welding parameters are being measured and recorded by Sun Zi Wang and there appeared to be no other ZPMC personnel monitoring the welding. The QA inspector asked Sun Zi Wang if he was a CWI or CAWI. The QA inspector was informed that he was not a CWI or CAWI.



## Summary of Conversations:

As noted above, the QA inspector Scott Croff had conversations with ZPMC personnel Liu Xiao Ping and Zhou Dong Yun. The QA inspector attempted to determine if MT had been conducted on the CWR excavation. There were no Liaisons present to assist in the conversation / translation. The available CWR documents were written in English and Chinese and the conversation consisted mainly of pointing to the applicable lines of writing on the CWR documents. Based on the reactions and conversations between the ZPMC personnel that the QA inspector

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was asking these questions, the QA inspector believes that the questions were fully understood. The QA inspector was not informed that any MT was conducted before the CWR was welded.

The QA inspector Scott Croff informed the QA inspectors Paul Stovall and Bruce Berger of the observed CWR MT and base metal MT. The QA inspector Scott Croff was not present to conduct further investigation of these observations and the QA inspector Scott Croff relayed that these items appeared to be non-conforming at this time.

The QA inspector also generated a summary report of these observations to be included in the daily shift notes. There were no other notable conversations 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>	Croff,Scott	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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