

**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-000269**Date Inspected:** 01-Jul-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**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:** Xu Bing**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:** N/A**Summary of Items Observed:**

The CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the welding qualification testing pertinent for the welding qualification record (PQR) HP2007149 scheduled for this project. ZPMC, welder operator Zhu Hai Ping was observed by the QA Inspector performing welding operations following the preliminary welding procedure specification PWPS-B-T-3213 for the PQR identified as HP2007149. Base metal was designated as A-709 Grade HPS485WT2/Z (Heat # 07101250N). ZPMC followed the Production procedure WPS criteria (AWS 5.13) using the shielded metal arc welding (SMAW) process in the vertical (3G) position with the 4.0 mm diameter designated as E7018-1, brand name THJ506Fe-1. The QA Inspector verified dimensions for the test coupon, amperages, voltages, travel speeds, preheat and heat interpass temperatures. The QA inspector witnessed passes 8 through 16 (layers 7 thru 10). The QA inspectors performed random verifications of the welding parameters for a total of 9 passes. The QA inspectors found that the welding parameters taken by Quality Control (QC) inspector Xu Bing and ZPMC QA inspector Lu Jian Ping appeared to be accurate and in accordance with the contract documents. However, the QA inspector found that ZPMC was not storing low hydrogen electrodes E-7018-1 as per AWS D1.5 and special provisions. The QA inspector had a conversation with the ABF QA inspector Dustin Brungardt. At 1100 hours the QA inspector brought to Mr. Brungardt attention that ZPMC was returning back inside the oven electrodes exposed to the atmosphere and that the electrodes needed to meet the requirements of AWS D1.5 and special provisions. At the 1300 hours ZPMC before re-started welding, the QA inspector questioned Mr. Brungardt how ZPMC was going differentiate the exposed electrodes with other electrodes stored, when the electrodes were on the same tray in the oven. After Mr. Brungardt met with ZPMC representatives. ZPMC and ABF resolution was continuing welding and discard from the project all electrodes after being exposed to the atmosphere from that point forward. The QA inspector had a conversation with Task Leader Robert Cuellar. The QA inspector brought to the attention of Mr. Cuellar that ZPMC returned exposed

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electrodes to the oven for welding A-709 Grade HPS485W without separating the exposed electrodes and as corrective action ZPMC was discarding from the project all the electrodes exposed to the atmosphere from that point forward. Mr. Cuellar relayed to the QA inspector that ZPMC was continuing welding at their own risk. ZPMC QC Inspector Xu Bing witnessed the testing and performed visual weld inspections. The PQR HP2007149 was still in process at the end of the shift.

The QA inspector assigned a lot # B72-054-07 on this date to the PQR-HP2007147-1 after performed visual weld inspection to the weld reinforcement.

The photographs below show the PQR HP2007149 in process (right side) and PQR-HP2007147-1 after completion (left side).



## Summary of Conversations:

As noted on paragraph above.

## 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>	Acuna,Alfredo	Quality Assurance Inspector
<b>Reviewed By:</b>	McClary,David	QA Reviewer

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