

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-000270**Date Inspected:** 02-Jul-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**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 and started the welding procedure for the PQR HP2007148 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 16 through 23 (layers 10 thru 13). The QA inspectors performed random verifications of the welding parameters for a total of 7 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. ZPMC, welder operator Chen Ru Yang was observed by the QA Inspector performing welding operations following the preliminary welding procedure specification PWPS-B-T-3211 for the PQR identified as HP2007148. 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 (1G) position with the 5.0 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 1 through 6 (layers 1 thru 6). The QA inspectors performed random verifications of the welding parameters for a total of 6 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

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be accurate and in accordance with the contract documents.

However, the QA inspector had a conversation with the ABF QA inspector Kevin Dye. The QA inspector requested to Mr. Dye to show the empty containers from the electrodes of E7018-1 to verify the Lot, Batch or Heat numbers from the electrodes. After verified the electrodes containers, the QA inspector did not observed any Lot, Batch or Heat numbers on the outside of the electrode containers. The QA inspector relayed to Mr. Dye that the QA could not find any Lot, Batch or Heat number to refer to the electrode manufacturer certificate. ZPMC and ABF representative agreed that the electrodes containers were not identified with a batch /lot or heat # in compliance with AWS D1.5-2002 and AWS A5.1-91 specification for carbon steel electrodes for SMAW process part C, Manufacture, Identification and packaging. The QA inspector had a conversation with the Task Leader Robert Cuellar. The QA inspector brought to attention that the electrodes were not identified as per AWS A5.1-91.

Mr. Cuellar had a conversation with ZPMC and ABF representatives. ABF representative Nate Lindell relayed to Mr. Cuellar that the next batch from the electrode manufacturer would be identified as per contract documents. Mr. Lindell relayed to ZPMC that the electrodes were not in compliance with the contract documents. Later, ZPMC representative Lu Jian Hua relayed to ABF and Caltrans representatives that a letter from the electrode manufacturer would be submitted to Caltrans addressing the electrodes identification issues. Mr. Lu relayed to Mr. Cuellar that ZPMC desired to continue welding while waiting for the pending resolution for the E7018-1 electrode batch # 09321 and 09421. Mr. Cuellar relayed to Mr. Lu that ZPMC was continuing welding at their own risk. The photos below show the box and containers from the Chinese Brand electrode designated as E-7018-1 without lot, Batch or Heat number and electrode size.



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.

Inspected By: Acuna, Alfredo

Quality Assurance Inspector

Reviewed By: McClary, David

QA Reviewer