

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-000095**Date Inspected:** 15-Mar-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:** Liu Liu**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:** Bid: 52, 55 Tower & Girder**Summary of Items Observed:**

Item	Description	WBS	Dwg No.	Status
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1

Caltrans Quality Assurance (QA) Inspector was present to witness procedure qualification (PQR) retesting for HP200713-1 as requested by ZPMC. The test plate was welded in the 2F (horizontal) position, using the flux core arc welding (FCAW) semi-automatic welding process. The test consisted of a minimum multi pass weld. The welding consumable (electrode) is identified as specification E71T1-1, classification AWS A5.20 and 1.4 mm diameter. The welding was performed in accordance with AWS D1.5, Section 5.10.3 fillet weld soundness requirements. The welding appeared to comply with the contract documents. See Caltrans Welding Witness Report (TL-6032), dated March 15, 2007 for additional information. Caltrans QA Inspector assigned lot number B49-007-07 for minimum multi pass weld.

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2

Caltrans QA inspector observed machining of the mechanical test specimens for welding procedure HP200710 at Shan Xun Gong Mao Machine Company and was accompanied by ZPMC QA Inspector, Mr. Liu Jian Hua. Caltrans QA inspector observed that the mechanical test sampling was being performed to AWS D1.5, Figure 5.1. The welding procedure was performed to AWS D1.5, paragraph 5.13. This calls out the machining of the mechanical test samples to Figure 5.3. Caltrans Quality Assurance Inspector (QA) spoke with ABF welding engineer Craig Knops regarding the machining of PQR HP-200710. Caltrans QA inspector had observed that they appeared to be machining the plate as though it was performed to AWS D1.5, Figure 5.1 which includes All Weld Metal Tension (AWMT) and Charpy-V notch samples. The welding was actually performed to AWS D1.5, Figure 5.3 for weld soundness and does not require either the AWMT or Charpy samples. Mr. Knops spoke with ZPMC Testing Center Director Mr. Liu Liu about this and was informed that this was due to miscommunication with the Machine Shop, and that ZPMC did not intend to test either the AWMT or Charpy samples.



3

Caltrans QA inspector observed welder and welder operator qualification testing being performed at ZPMC testing center. American Bridge/Fluor (ABF) representative, Mr. David Williams submitted a welder qualification list stating the names of the welders and welding processes. The list called out seven (7) submerged arc welding (SAW) welder operators, thirty (30) shield metal arc welding (SMAW) welders and thirteen (13) flux core arc welding (FCAW) welders for testing. Caltrans QA inspector observed Moody International Inspection conduction welder qualification tests. Caltrans QA inspector observed SAW welder operators performing 1G test in the flat position, SMAW welders performing 3G welder qualification test in the vertical position and FCAW welders performing 3G welder qualification testing in the vertical position. The testing appeared to be performed in conformance AWS D1.5

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requirements.



Summary of Conversations:

As identified within the contents of this report.

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: Hasler, Mike

Quality Assurance Inspector

Reviewed By: McClary, David

QA Reviewer