

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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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-001499**Date Inspected:** 13-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

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|------------------------------------|---|-----------|------------|----------------------------------|------------|-----------|------------|
| CWI Name: | Xu Le Feng, Ye Yong Jun, Sha Zi Cui, Wu Jie | | | CWI Presenting | 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 and OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

Tower Fabrication Facility**89M Mock-Up Assembly**

The Quality Assurance Inspector observed ZPMC welding operator Ziu Xe, welder identification number, 066236, performing in process welding of corner stiffener to skin plate connection. Quality Control Inspector Xu Le Fang was monitoring the welder. The welder was using the flux cored arc welding process to produce the partial joint penetration weld in the horizontal position. The Quality Assurance Inspector measured the welding parameters at the welders station and found the parameters to meet the minimum requirements of welding procedure specification WPS-B-T-2332-TC-P4-F. The Quality Assurance Inspector measured the amperage at approximately 285, the voltage at approximately 30, and the travel speed at approximately 300 millimeters per minute. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

Bay 1

The Quality Assurance Inspector observed ZPMC squaring the length of closed ribs on the milling machine. Eight ribs were stacked and being milled simultaneously. The Quality Assurance Inspector measured the ribs to be approximately five meters in length, 12 millimeters in thickness and 790 millimeters in width. The Quality Assurance Inspector observed ZPMC drilling bolt holes in the closed ribs. ZPMC was observed beveling closed

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ribs in preparation for the partial joint penetration connection to the deck plate. ZPMC Quality Control would measure the bevel angle and record the values on the closed rib. The general appearance of the bevel appeared to be rough and contain sharp edges. After beveling, ZPMC was observed bending the closed ribs and performing dimensional inspections.

Deck Plate Welding

The Quality Assurance Inspector observed ZPMC welding operator Han Cheng Hai, welder identification number, 1059464, performing in process welding of deck plate butt weld DP002-01 and DP002-02 . Quality Control Inspector Xu Le Fang was monitoring the welder. The welder was using the submerged arc welding process to produce the complete joint penetration weld in the flat position. The part was stationary while the welding machine was on tracks to facilitate welding along the length of the part. The Quality Assurance Inspector witnessed Quality Control measure the welding parameters at Mr. Hai's station and found the parameters to meet the minimum requirements of welding procedure specification WPS-B-T-2221-B-L2C-S-1.

Bay 2

114M Mock-Up Upper Shaft Assembly

The Quality Assurance Inspector observed ZPMC performing fit-up operations of an internal bolted connection at skin plate A.

The Quality Assurance Inspector several ZPMC personnel drilling 30 millimeter bolt holes in various interior stiffener plates. Below is a digital photograph illustrating the drilling in progress.

Bay 3

The Quality Assurance Inspector observed ZPMC performing repair welding to Side Plate 32, welds 13 and 24. The welder was using the flux cored arc welding process to produce the fillet welds in the horizontal position.



Summary of Conversations:

As stated in the contents of the above 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.

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| Inspected By: | Bertlesman, Greg | Quality Assurance Inspector |
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| Reviewed By: | Cuellar, Robert | QA Reviewer |
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