

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-001314**Date Inspected:** 19-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1615**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1030**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

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|------------------------------------|------------|----------------------------------|------------|----|
| CWI Name: | N/A | 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:** 77, 89 & 114 Meter Mock-Up**Summary of Items Observed:**

This Quality Assurance Inspector oversaw Quality Assurance Inspectors Ken Jobses and Gabriel Quintana performing fabrication inspection out on the shop floor today.

Mr. Quintana performed 10% verification ultrasonic testing on floor beams in Bay 7. Floor beam welds tested were FB022-01-078, 079, 080, 081, 101 & 108 and FB017-02-078, 079, 080, 081, 101 & 108. Weld joints FB022-01-079, 081, 101 & 108 and FB017-02-079 & 101 were marked for grinding. Mr. Jobses observed the welding in Bay 2 on the 77 Meter Mock-Up weld joints MUSA-SA104-58, MUSA-SA95-58 and on the 89 Meter Mock-Up in the New Tower Shop Bay MUB-MA21 D/J-5A.

This Quality Assurance Inspector witnessed Zhenhua Port Machinery Company Magnetic Particle Technician Zhou Don Yin performing magnetic particle testing in Bay 2 on the root welds of four complete joint penetration welds on the 77 Meter Mock-Up. The weld joints being tested were MUSA-SA104 A/B-57 & 59 and MUSA-SA95 A/B-57 & 59. Mr. Zhou appeared to be using acceptable technique by placing the magnetic yoke parallel and at right angles to the weld joint while applying the magnetic powder medium while maintaining a constant power voltage to the yoke. The weld temperature during testing was checked and found to be 250° Celsius. This Quality Assurance Inspector performed 10% verification magnetic particle testing on the welds. For details see magnetic particle testing report TL-6028 dated January 19, 2008.

89 Meter Mock-Up

This Quality Assurance Inspector observed welding by four Zhenhua Port Machinery Company welders on the 89

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Meter Mock-Up in the New Tower Shop with the shield metal arc welding process. The first welder, Tan Xiaobo, welder identification number 066459 was welding on weld joint MUB-MA21-A/J-20. The essential welding variables were checked and found to be as follows: voltage 23.8, amperage 175, travel speed 111 millimeter per minute and the preheat 201° Celsius. The next welder Xu Changxue, welder identification number 066002 was welding on weld joint MUB-MA21-G/J-19. The essential welding variables were checked and found to be as follows: voltage 24.1, amperage 178, travel speed 109 millimeter per minute and the preheat 210° Celsius. The following welder Yang Shuwei, welder identification number 066280 was welding on weld joint MUB-MA21-G/J-24. The essential welding variables were checked and found to be as follows: voltage 24.5, amperage 175, travel speed 113 millimeter per minute and the preheat 212° Celsius. The last welder Liang Yanhai, welder identification number 066457 was welding on weld joint MUB-MA21-A/J-25. The essential welding variables were checked and found to be as follows: voltage 24.1, amperage 155, travel speed 110 millimeter per minute and the preheat 198° Celsius.



Summary of Conversations:

Zhenhua Port Machinery Company translator (Eric) Xu Jun phoned this Quality Assurance Inspector at 1708 while waiting for a boat to Changxing Island. The boat was on the way from the island with the first shift of quality assurance inspector. As the boat schedule has been reduced quality assurance can no longer have over laps in their shifts. Mr. Xu wanted a quality assurance inspector to come and witness the quality control magnetic particle testing of several complete joint penetration root welds. Mr. Xu was informed that quality control would need to wait until the on coming shift of quality assurance inspectors arrived at the Zhenhua Port Machinery Company Facility. On arrival to site Mr. Xu was found waiting outside the quality assurance offices and stated that quality control had already performed the testing. Mr. Xu was informed that this would be written up in the report that quality assurance was denied opportunity to witness the testing. Mr. Xu then arranged to have the testing re-conducted to give quality assurance opportunity to witness the testing.

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: Berger, Bruce

Quality Assurance Inspector

Reviewed By: Cochran, Jim

QA Reviewer