

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-002238**Date Inspected:** 05-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li yan hao/Chen Xi**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:** Deck Panels**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG bay 1 (Gantry 1)

QA observed ZPMC qualified welding personnel perform the GMAW and SAW welds joining the closed U-Ribs to deck panels DP-219-001 and DP-192-001. QA observed 3 ZPMC QC inspectors in the vicinity of the welding operations including ZPMC CWI's identified as Li yan hao and Chen Xi. There were also 3 American Bridge/Fluor (ABF) inspectors in the area as well.

Upon returning from lunch QA observed ZPMC welding personnel performing weld repairs on weld# 8 deck panel DP-219-001 GMAW root pass using the FCAW process and following the guide lines of repair WPS-345-FCAW-1G-(1F)-1. According to ZPMC CWI identified as Chen Xi, during the Visual Testing (VT) of the GMAW root pass on this weld an area of porosity measuring approximately 1660mm in length was discovered approximately 900mm from the opposite end of the weld designated "Y". The weld and some of the base metal was removed by grinding and the base metal was being repaired per the above mentioned repair WPS. The GMAW weld itself would be repaired using the Gantry and the GMAW process. However, there is not an approved procedure to perform this repair. QA informed ZPMC CWI identified as Chen Xi that an incident would be forth coming concerning this issue.

QA and QC monitored the welding process continuously throughout the evening. QA completed a production panel welding report for deck panels DP-219-001 and DP-192-002. The reports are on file in the Caltrans QA

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office. The welder identifications and the welding parameters as measured with the calibrated gages on the machines appeared to be in conformance with the posted WPS's and were as follows:

DP-219-001 GMAW

Volts: 29.8 – 30.5 Amps: 340 – 368 Travel speed: 535mmpm

DP-219-001 SAW

Volts: 25 – 25.5 Amps: 682 – 684 Travel speed: 515mmpm

DP-192-001 GMAW

Volts: 29.8 – 30.8 Amps: 357 – 378 Travel speed: 535mmpm

DP-192-001 SAW

Volts: 24.5 – 26 Amps: 676 – 682 Travel speed: 515mmpm

Welder ID#'s

Weld joint 1: 062265

Weld joint 2: 059361

Weld joint 3: 059378

Weld joint 4: 059416

Weld joint 5: 059378

Weld joint 6: 059416

Weld joint 7: 059468

Weld joint 8: 059403

Weld joint 9: 059468

Weld joint 10: 059403

Gantry 2 (idle)

Other general observations by QA were as follows:

QA observed ZPMC has approximately 60-70 workers performing various functions relative to the fabrication of the OBG Deck Panels. These functions include; closed rib press forming, hole drilling at ends of U-Ribs using a drill template, PJP bevel preparation, closed rib splice FCAW welding, closed rib diaphragm fit-up and FCAW welding, closed rib to deck plate fit-up and tack welding.

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Summary of Conversations:

as noted 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 Patrick Lowry (858)-344-2712, who represents the Office of Structural Materials for your project.

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
