

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-002146**Date Inspected:** 25-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 745**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1415**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** 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:** OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mahlon Lindenmuth, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following:

Caltrans QA Inspector, Lindenmuth, monitored the Production Monitoring Tests (PMT) and production welding for the OBG Deck Panels U-rib welding.

The weld joint is a single bevel Partial Joint Penetration (PJP) weld that joins the U-rib to the deck plate. The Production Monitoring Test (PMT) is performed prior to the production of the Deck Panels (DP).

PMT #1 consists of (2) ribs totaling (4) weld joints(wj), numbered wj1 thru wj4. Welding was performed on Gantry 1 and represents production for Deck Panels (DP) DP-491-001 and DP-489-001.

The following is information that pertains to the welding of the PMT #1. Listed below are the WPS, welding essential variables, welders and weld joint number. Followed by a short summary:

*WPS: WPS-B-T-2342 (Dual Process GMAW root pass SAW fill and cover pass)

Welding variables minimum maximum range recorded is as follows:

GMAW-Volts:29.9-30.9 Amperage:364-376 Travel Speed:532mmpm

SAW-Volts:24.8-25.7 Amperage:673-678

Base Metal/Ambient Temperature: 17/18 degrees C

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*Weld joint#(wj#)/welder(ID):

wj1-Gao xing dong(059361) wj2-Jiang ting guang(062265)

wj3-Zhang hui(059403) wj4-Chien jie(059468)

ZPMC Quality Control (QC) performed visual inspection of the GMAW weld pass and the subsequent SAW weld pass. ZPMC QC noted both welds as visually compliant. ZPMC QC also performed Ultrasonic Testing of all of the weld joints and noted them as compliant. Caltrans QA Inspector,Lindenmuth, visually reviewed the GMAW weld pass and the SAW weld pass and noted them as compliant with contract documents. Upon completion of the visual review Caltran QA Inspector,Lindnemuth, marked areas of the PMT that will have macro-etch samples removed.

Production Welding of DP491-001

The following is information that pertains to the welding of Deck Panel DP491-001 (3 ribs). Listed below are the WPS,welding essential variables,welders and weld joint number. Followed by a short summary:

*WPS: WPS-B-T-2342 (Dual Process GMAW root pass SAW fill and cover pass)

Welding variables minimum maximum range recorded is as follows:

GMAW-Volts:29.8-30.4 Amperage:365-382 Travel Speed:528-531mmpm

SAW-No SAW welding performed

*Weld joint#(wj#)/welder(ID)/U-rib#:

wj1-Gao xin dong(059361 wj2-Jiang ting guang(062265) U-rib 195

wj3-Zhang hui(059403) wj4-Chien jie(059468) U-rib 183

wj5-Zhang hui(059403) wj6-Chien jie(059468) U-rib 160

The GMAW weld passes have been completed on weld joints # 1,2,5 and 6. GMAW weld passes for Weld Joints # 3 and 4 were approximately 75% complete at the end of the AM shift. SAW welding had not begun on DP491-001 during the AM shift.

Production welding of Deck Panel DP489-001 had not begun on the AM shift.

Gantry 2 was idle on the AM shift.

Summary of Conversations:

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: Lindenmuth,Mahlon

Quality Assurance Inspector

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Reviewed By: Cuellar,Robert

QA Reviewer