

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-002148**Date Inspected:** 22-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 745**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1405**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**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 (3) ribs totaling (6) weld joints(wj), numbered wj1 thru wj6. Welding was performed on Gantry 1 and represents production for Deck Panels (DP) DP-327-001 and DP-193-001.

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:30-30.5 Amperage:360-370 Travel Speed:530mmppm

SAW-Volts:25-25.1 Amperage:673-685 Travel Speed:520mmppm

Base Metal/Ambient Temperature: 17/18 degrees C

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

wj1-Xu guyoyen(059443) wj2-Xiang jie(059378)
wj3-Zhang hui(059403) wj4-Liung huang feng(059416)
wj5-Gaoxing dong(054361) wj6-Jiang ting guang(062265)

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,Lindenmuth, marked areas of the PMT that will have macro-etch samples removed.

Production Welding of DP327-001

The following is information that pertains to the welding of Deck Panel DP327-001 (4 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:30.2-30.8 Amperage:360-385 Travel Speed:532-535mmpm

SAW-No SAW welding performed

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

wj1-Xu guyoyen(059443) wj2-Xiang jie(059378) U-rib 216
wj3-Zhang hui(059403) wj4-Liung huang feng(059416) U-rib 50
wj5-Zhang hui(059403) wj6-Liung huang feng(059416) U-rib 210
wj7-Gao xing dong(054361) wj8-Jiang ting guang(062265) U-rib 199

The GMAW weld passes have been completed on all eight weld joints. SAW welding had not begun on the U-ribs during the AM shift.

Production Welding of DP193-001

The following is information that pertains to the welding of Deck Panel DP193-001 (5 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 and maximum range recorded is as follows:

GMAW-Volts:30.1-31 Amperage:363-375 Travel Speed:530mmpm

SAW-No SAW welding performed

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

wj1-Xu guo yen(059443) wj2-Xiang jie(059378) U-rib 285
wj5-Zhang hui(059403) wj6-Liung huang feng(059416) U-rib 280

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wj9-Gao xing dong(054361) wj10-Jiang ting guang(062265) U-rib 284

7335mm of GMAW weld pass had been completed for Weld Joint #6 prior to a wire feeder problem on weld head #4. The wire feed issue caused the welder to stop weld head #4 leaving the remainder of the weld unfinished. Weld Joints # 1,2,5,9 and 10 continued welding without interruption. Weld Joints # 1,2,5,9 and 10 were approximately 85% complete at the end of the AM shift. No SAW welding had begun during 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
Reviewed By:	Cuellar,Robert	QA Reviewer
