

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-013430**Date Inspected:** 27-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**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:** Tower Components**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance Inspector (QA Inspector) George Goulet was present during the times noted above for observations relative to the work being performed.

Bay 11

This QA Inspector randomly observed the following work in progress in Bay 11:

SMAW layered repair welding of 18mm transverse plate described on drawing TD5-4. Welders were identified as 046704, 040656. ZPMC QC was identified as CWI An Qing Xiang (QC1). Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Li Jun, who was not a CWI. The welding variables recorded by QC1's assistant appeared to comply with WPS-485-SMAW-2G(2F)-repair-1 as listed on ZPMC repair order T-CWR541. Also present at this location and appearing to be monitoring the welding related operations was ABF Representative Luo Lai Quan.

Bay 10

This QA Inspector randomly observed the following work in progress in Bay 10:

FCAW welding of weld joints NSTL4-3B/L-3B located inside PCMK north tower, lift 4, at 135M elevation. Welder was identified as 500373. ZPMC QC was identified as ZPMC CWI Di Zhi Qun (QC2). The welding variables recorded by QC2 appeared to comply with WPS-345-SMAW-2G(2F)-repair as listed on the unnumbered ZPMC repair order. The repair order also noted that this was the second repair at this location. The preheat and interpass temperature was noted to be 180°C. QC2 was observed checking the temperature using Tempilstiks

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marked as 180°C and 230°C. Electric heating pads were being utilized on the inside and outside of the weld joint when welding was not occurring and on the outside only as the weld was being performed on the inside. Also present at this location and appearing to be monitoring the welding related operation was ABF Representative Li Nan.

Heavy Dock

This QA Inspector, George Goulet, randomly observed the following on the ship moored to the end of the heavy dock in response to Bolting Inspection Notification Sheet No. 00310:

OBG segment CB4, panel points 32~33, cable tray supports.

ZPMC workers performed final ASTM A325 bolt tightening verification of 48 bolt sets noted below at the direction of ZPMC QC Inspector Hu Mei Gang (QCB) using ZPMC calibrated wrench #X02-114 at CB4. No less than 10% of the ASTM A325 bolt sets at each connection were torque tested. QCB provided this QA Inspector, George Goulet, with the following information regarding the bolt sets installed at this location. This QA Inspector, George Goulet, observed ZPMC's Bolt Test Log for SFOBB (RoCap list), listing the RoCap Set numbers, bolt set size, and the NM test result for torque tightening purposes. The information presented by QCB and listed below appeared to this QA Inspector, George Goulet, to match the RoCap list as follows:

CB4 - RC Set No. DHG60580 – ¾" x 2 1/4" – test result 340NM

The torque of the above noted bolt sets was verified by torque testing with the above noted calibrated wrench with the wrench setting displayed as 340NM, at the direction of QCB. Based on the information above this QA Inspector, George Goulet, concurred with QCB for the issuance of green tag numbers.

OBG segment 6AW/6BW joint, panel points 40~41, deck plate U-ribs to deck plate U-ribs:

ZPMC workers performed final ASTM A325M bolt tightening verification of bolt sets noted below at the direction of QCB using ZPMC calibrated wrench #X02-578. No less than 10% of the ASTM A325 bolt sets at each connection were torque tested. QCB provided this QA Inspector, George Goulet, with the following information regarding the bolt sets installed at this location. This QA Inspector, George Goulet, observed ZPMC's Bolt Test Log for SFOBB (RoCap list), listing the RoCap Set numbers, bolt set size, and the NM test result for torque tightening purposes. The information presented by QCB and listed below appeared to this QA Inspector, George Goulet, to match the RoCap list as follows:

1092 bolt sets - RC Set No. DHGM240013 – M22x85 – test result 433NM

234 bolt sets - RC Set No. DHGM240012 – M22x80 – test result 427NM

204 bolt sets - RC Set No. DHGM240035 – M22x65 – test result 433NM

The torque of the above noted bolt sets was verified by torque testing with the above noted calibrated wrench with the wrench setting displayed as 435NM at the direction of QCB. Based on the information above this QA Inspector, George Goulet, concurred with QCB for the issuance of green tag numbers.

OBG segment 6CW, panel point 46, suspender bracket:

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ZPMC workers began to perform final ASTM A325M bolt tightening verification of bolt sets noted below at the direction of QCB using ZPMC calibrated wrench #X02-654. The attempts to tighten several bolts all failed, even after a man was sent to the bolt side of the connection to hold the bolt head while the nut was turned. QCB informed this QA Inspector that QCH chose to cancel the final tightening inspection of suspender bracket bolt sets.

Total number of bolt sets not established - RC Set No. DHGM240020 – M24x75 – test result 600NM

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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 Skyler Guest, 150-0042-2360, who represents the Office of Structural Materials for your project.

Inspected By:	Goulet,George	Quality Assurance Inspector
Reviewed By:	Dawson,Paul	QA Reviewer
