

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-006369**Date Inspected:** 02-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Bo**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 Components**Summary of Items Observed:**

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

Bay 12

This QA Inspector, George Goulet, proceeded to Bay 12 in response to a ZPMC notification of witness inspection #2506 to perform MT inspection as follows:

This QA Inspector, George Goulet, performed final VT of 100% of the area previously tested and accepted by ZPMC Quality Control personnel. The member is identified as DP416-001. The weld designations reviewed are as follows: 001~010. This QA Inspector, George Goulet, also notated VT review on the member.

This QA Inspector, George Goulet, performed final VT of 100% of the area previously tested and accepted by ZPMC Quality Control personnel. The member is identified as DP498-001. The weld designations reviewed are as follows: 001~006. This QA Inspector, George Goulet, also notated VT review on the member.

This QA Inspector, George Goulet, performed final VT of 100% of the area previously tested and accepted by ZPMC Quality Control personnel. The member is identified as DP309-001. The weld designations reviewed are as follows: 001~006. This QA Inspector, George Goulet, also notated VT review on the member.

Bay 9 – PMT

This QA Inspector, George Goulet, monitored OBG Production Monitoring Test (PMT) #1 for deck panels

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DP377-001 and DP215-001 at Gantry #2. Prior to PMT #1, the magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Cai Xin Xin. The visual inspection of tack welds and root gap was performed by ABF Representative Huang Wen Guang (ABF), ZPMC CWI Sun Bo (QC), and this QA inspector, George Goulet. The start time for welding of PMT #1 was approximately 0028 hours on Friday, 4/3/09. This QA Inspector, George Goulet, randomly verified and documented the welding amperage, voltage and travel speed during the gas metal arc welding (GMAW) process, welds 1 thru 6 at the completion of the GMAW root pass. The welds were visually inspected by QC and rejected by QC for incomplete fusion in excess of contract documents in weld 6. QC and ABF informed this QA Inspector, George Goulet, that PMT #1 was rejected and another PMT would be performed.

This QA Inspector, George Goulet, monitored OBG Production Monitoring Test (PMT) #2 for deck panels DP377-001 and DP215-001 at Gantry #2. Prior to PMT #2, the magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Cai Xin Xin. The visual inspection of tack welds and root gap was performed by ABF Representative ABF, QC, and this QA Inspector, George Goulet. The start time for welding of PMT #2 was approximately 0120 hours on Friday, 4/3/09 and the finish time was approximately 0149 hours. This QA Inspector, George Goulet, randomly verified and documented the welding amperage, voltage and travel speed during the GMAW and submerged arc welding (SAW) processes, welds 1 thru 6 at the completion of both the GMAW root pass and SAW cover pass. The welds were visually inspected by ABF, QC and this QA Inspector, George Goulet. QC and ABF informed this QA Inspector, George Goulet, that all six welds were acceptable and QA inspector concurred. This QA inspector randomly witnessed ZPMC ultrasonic testing (UT) inspector, identified as Xu Wei, perform UT on each of the 500 mm test welds for depth of penetration and conformance. This QA Inspector, George Goulet, selected fifteen designated locations for macroetch sampling per contract requirements. Each macroetch location was stamped by ZPMC personnel with the number 377, the letter J, and an individual macroetch identifying number for each macroetch. After removal from each of the weld test specimens and polishing of the selected end, the macroetches were evaluated with a 7X optical comparator and a 10X optical comparator and accepted by QC, ABF, and this QA Inspector, George Goulet.

All fifteen sample macros appeared to meet requirements and were noted to appear acceptable. See Caltrans U-ribs PMT Inspection Sheet, ZPMC production monitoring test plate inspection report, and Caltrans Macro Etch Log - all dated 4/3/2008 for additional information.

Summary of Conversations:

As noted above, and this QA Inspector, George Goulet, asked QC if all the welding variables observed by him appeared to comply with the appropriate WPS, including the preheat requirements according to thickness of the thickest member being welded. QC showed this QA Inspector, George Goulet, that he was carrying the proper temperature sticks to monitor the minimum and maximum preheat and interpass temperatures and replied that all he observed did appear to comply.

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 Eric Tsang, 134-8257-0045, who represents the Office of Structural Materials for your project.

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Inspected By:	Goulet, George	Quality Assurance Inspector
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Reviewed By:	Carreon, Albert	QA Reviewer
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