

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-015290**Date Inspected:** 27-Jun-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:** OBG 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 10

This QA Inspector randomly observed no welding related work in progress in Bay 10.

Bay 11

This QA Inspector randomly observed no welding related work being performed in Bay 11.

OBG Trial Assembly Area - MT

In response to ZPMC Notification Inspection #006068 for magnetic particle testing (MT) inspection of holdback welds at the FL3 area of OBG 8AW, this QA Inspector performed random visual testing (VT) and then MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an MT report for this date. The members were identified as follows:

SSD10A-PP062. The weld designations reviewed were: 168, 174, 175, 177, 178.

SSD11A-PP063. The weld designations reviewed were: 166, 172, 173, 175, 176.

SSD12A-PP064. The weld designations reviewed were: 172, 173, 177, 178, 181.

FB019-009. The weld designations reviewed were: 001~007, 009, 012~015.

FB023-009. The weld designations reviewed were: 002~004, 010~015, 017, 019.

FB027-009. The weld designations reviewed were: 002~004, 009~015, 017, 019.

No relevant indications were observed.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

Bay 9 – PMT

This QA Inspector monitored OBG Production Monitoring Test (PMT) #3092 for deck panels DP3092(PL3188A/B)-001 and DP3087(PL3183A/B)-001 at Gantry #2. Prior to the start of the PMT, this QA Inspector observed the root openings to be within the 0.0 to 0.5mm tolerance. The magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Wang Wei on 6/27/10. The visual inspection of tack welds and root gaps was performed by ABF Representative Huang Wen Guang (PABF), ZPMC CWI Guo Yan Fei (PQC), and this QA Inspector. The tack welds and root gaps appeared to be within prescribed tolerances. This QA Inspector observed that the deck plate of the test panel was 20mm thick and the deck plate of the production panels were 20mm thick. This QA Inspector observed that the test panel was generally representative of the production panels. The ambient temperature was above 25°C. ZPMC personnel used an oxy-fuel torch to preheat the specimens to above 60°C and the interpass temperature was still above 60°C without additional heating in conformance with WPS-B-T-2342-U1-(U-rib)-5. The start time for welding of the 3–12mm x 20mm specimens was approximately 0019 hours on 6/28/10 and the finish time was approximately 0048 hours. This QA Inspector randomly verified and documented the welding amperage, voltage, and travel speed during the gas metal arc welding (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 welding variables recorded by PQC appeared to comply with WPS-B-T-2342-U1-(U-rib)-5. The welds were visually inspected by PABF, PQC and this QA Inspector. PQC and PABF informed this QA Inspector that all six welds were acceptable and after random inspection this QA Inspector concurred. This QA inspector randomly witnessed ZPMC ultrasonic testing (UT) inspector, identified as Xue Hai Rong, perform UT on each of the 500 mm test welds for depth of penetration and conformance. This QA Inspector selected fifteen designated locations for macroetch sampling per contract requirements. Each macroetch sample location was stamped by ZPMC personnel with the number 3092, a number 1, chosen randomly by this QA Inspector as a verification mark, and an individual progressive macroetch identifying number for each macroetch. After removal from each of the weld test specimens, polishing, and acid etching of the selected end, the macroetches were evaluated with a 7X optical magnifier and accepted by PQC, PABF, and this QA Inspector.

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 6/28/2010 for additional information.

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 Eric Tsang, 150-0042-2372, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Inspected By:	Goulet, George	Quality Assurance Inspector
----------------------	----------------	-----------------------------

Reviewed By:	Dawson, Paul	QA Reviewer
---------------------	--------------	-------------
