

**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-005801**Date Inspected:** 18-Mar-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:** Zhou Dong Yun**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 9 - PMT**

This QA inspector monitored OBG Production Monitoring Test (PMT) #1 for deck panels DP265-001 and DP184-001 at Gantry #1. 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 Zhou Dong Yun. The visual inspection of tack welds and root gap was performed by ABF Representative Cao Hai Zhou (ABF), ZPMC CWI Zhou Dong Yun (QC), and this QA inspector. The start time for welding of PMT #1 was approximately 0043 hours on Thursday, 3/19/09 and the finish time was approximately 0116 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 welds were visually inspected by ABF, QC and this QA inspector. QC and ABF informed QA Inspector that all six welds were acceptable and 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 location was stamped by ZPMC personnel with the number 265, the letter H, 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.

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

---

---

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 3/19/2008 for additional information.

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

Bay 12

This QA inspector proceeded to Bay 12 in response to a ZPMC notification of witness inspection to perform initial VT and final VT inspections.

This QA Inspector performed final VT of 100% of the area previously tested and accepted by ZPMC Quality Control and ABF personnel. The member is identified as DP-492-001-001~006. This QA inspector observed weld profile that included rough transition to base metal at 12 locations at the ends of the U-ribs. This QA inspector clearly marked each location.

This QA Inspector performed initial VT of 100% of the area previously tested and accepted by ZPMC Quality Control and ABF personnel. The member is identified as DP-330-001-001~008. This QA inspector observed weld profile that included rough transition to base metal at 7 locations at the ends of the U-ribs. This QA inspector clearly marked each location.

### **Summary of Conversations:**

As noted above, and this QA inspector asked QC noted above if all the welding variables observed by him appeared to comply with the appropriate WPS, including preheat and interpass temperature requirements according to thickness of the thickest member being welded. QC showed this QA Inspector that he was carrying the appropriate 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.

---

<b>Inspected By:</b>	Goulet, George	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer

---