

**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-009185**Date Inspected:** 19-Sep-2009**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

<b>CWI Name:</b>	Ma Yun, Liu Zhong An, Guo Yan			<b>CWI Present:</b>	Yes	No	
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Tower and OBG Components		

**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance 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 the following work in progress in Bay 10:

FCAW welding of weld joints NSD1-SPSA3-56-2A located on north tower, lift 3, skin A splice plate. Welder was identified as 040533. ZPMC QC was identified as CWI Ma Yun(QC1). The welding variables recorded by QC1 appeared to comply with WPS-B-T-2231-TC-U5-F.

SMAW welding of weld joints ND1-A6002-11-9B, 7A located on a tower strut. Welders were identified respectively as 052930, 050289. ZPMC QC was identified as QC1. The welding variables recorded by QC1 appeared to comply with WPS-B-T-3212-TC-U5b-1.

SMAW layer welding of weld the end of P169. Welders were identified as 040256, 040453. ZPMC QC was identified as CWI Liu Zhong An (QC2). Assisting QC2 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Wang Hao, who was not a CWI. The welding variables recorded by QC2 and QC2's assistant appeared to comply with WPS-B-P-2214-C-U2.

## Bay 11

This QA inspector randomly observed the following in Bay 11:

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# WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

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This QA inspector observed several arc strikes on the outside of east tower, lift 3, near the B/C corner at the 40M mark on the lift.

## Bay 9 – PMT

This QA inspector monitored OBG Production Monitoring Test (PMT) #3028 for deck panels DP3028-001, DP3043A-001, and DP3003A-001 at Gantry #2. Prior to the start of the PMT, the magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Jin Jianting on 9/19/09. The visual inspection of tack welds and root gap was performed by ABF Representative Huang Wen Guang (ABF), ZPMC CWI Guo Yan Fei (QC), and this QA inspector. The start time for welding was approximately 0035 hours on 9/20/09 and the finish time was approximately 0110 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 QC appeared to comply with WPS-B-T-2342-U1-(U-rib)-4. The welds were visually inspected by ABF, QC and this QA inspector. QC and ABF informed this QA inspector that all six welds were acceptable and this QA Inspector concurred. This QA inspector randomly witnessed ZPMC ultrasonic testing (UT) inspector, identified as Ma Jilong, 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 3028, the letter P laid sideways, and an individual 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 QC, ABF, 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 9/20/2008 for additional information.

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

### Summary of Conversations:

This QA inspector reported and showed the above noted arc strikes to ZPMC QC Mao Bin Bin and ABF Representative Luo Lai Quan.

### 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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

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

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