

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-008465**Date Inspected:** 10-Aug-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**CWI Name:** Lu Li Qing**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 segments**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG assembly bay 13

This QA observed ZPMC qualified welding personnel identified as 044779 perform SMAW repair welding on OBG segment 8AE weld joints identified as SEG044E-038 and 041. ZPMC QC identified as Mr. Guo Xing Hui was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-485-SMAW-3G (3F)-FCM-repair for weld 038 and WPS-345-SMAW-3G (3F)-FCM-repair for weld 041. The above mentioned weld repairs were originally rejected by ZPMC QC utilizing the Ultrasonic Testing (UT) method. This QA noted that, according to the WPSs presented by ZPMC QC, it appears that the repairs are being performed in conformance with Fracture Critical Member (FCM) WPSs. American Bridge Fluor (ABF) inspector identified as Mr. Lu Xiao Ying informed this QA that the welds being repaired are not joining Seismic Performance Critical Material (SPCM) or FCMs, thus the welds are not Fracture Critical Welds (FCW). This QA researched the approved shop drawings concerning these welds and verified that these welds do not appear to be FCWs. It is not clear to this QA at this time as to why the contractor has opted to use FCM WPSs to perform these repairs.

During random in process inspection of OBG segment 8AE this QA observed two noncompliant tack welds joining part #X3S to the corner assembly deck panel between PP063 and PP063.5. One of the tack welds exhibited excessive porosity and the other was cracked for its full length. This QA informed ZPMC QC identified as Mr.

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Guo Xing Hui and ABF QA identified as Mr. Lu Xiao Ying of this issue. Both parties informed this QA that the contractor would remove the defective tack welds and perform Magnetic particle Testing (MT) at the removal sites. This QA has informed day shift Caltrans QA inspectors Via Email, concerning all of the above mentioned issues for further investigation.

This QA observed ZPMC qualified welding personnel identified as 044772 perform SMAW repair welding on OBG segment 8CW weld joint identified as SEG047\*-045. ZPMC QC identified as Mr. Guo Xing Hui was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-345-SMAW-4G (4F)-FCM-repair-1.

This QA observed ZPMC qualified welding personnel identified as 200432 perform SMAW welding on OBG segment 8AE weld joints identified as SEG044E-101, 092, 083, 074 and 019. ZPMC QC identified as Mr. Guo Xing Hui was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-P-2213-Tc-U4b-FCM-1.

OBG assembly bay 14

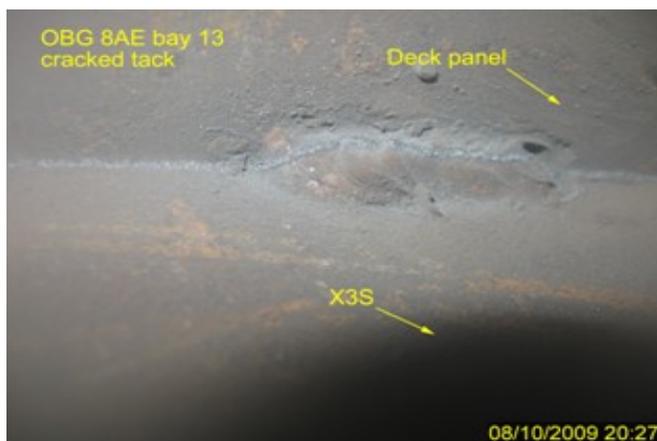
This QA observed ZPMC personnel fitting and tack welding floorbeam identified as FB024-008 to side panel identified as SP629-001 on OBG segment identified as 10AE @ PP087.

This QA observed that ZPMC has set three OBG deck panels on top of OBG segment identified as 9AE in preparation for fit up and tack welding to this segment.

Outside OBG segments 7DW, 7BW, 7EW, 6AW, 6CW, 6CE, 7EE, 7DE, 7CE, 6AE, 7CW, 7BE, 7AW, 6BE, 6BW and 7AE

This QA observed that no significant work was being performed on these segments during the time QA was present.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



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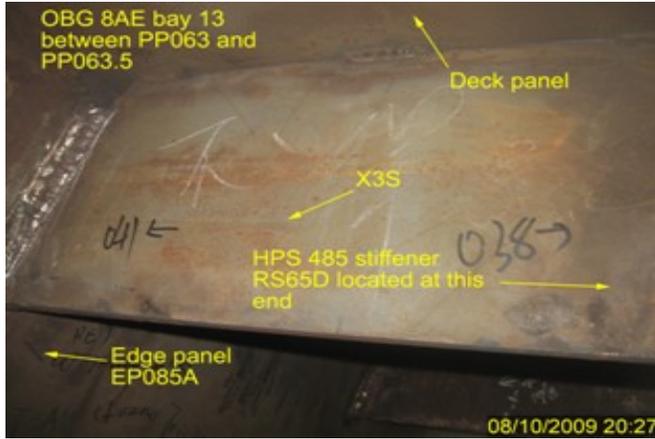
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## Summary of Conversations:

As mentioned 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 (15000422372), who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hall,Steven	Quality Assurance Inspector
<b>Reviewed By:</b>	Prue,Erik	QA Reviewer

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