

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-024445**Date Inspected:** 05-May-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Mr. Gang Wei		
<b>Inspected CWI report:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A

<b>CWI Present:</b>	Yes	No	
<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved WPS:</b>	Yes	No	N/A
<b>Delayed / Cancelled:</b>	Yes	No	N/A

**Bridge No:** 34-0006**Component:** Orthotropic Box Girder (OBG)**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Shailesh Gaikwad 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 Chang xing Island in Shanghai, China. QA observed and/or found the following:

**OBG Trial Assembly**

This QA Inspector performed randomly Visual Inspection and Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated a TL-6027 (UT) report for this date. The member is identified as OBG Segment 14 East. The weld designations reviewed are as follows.

SEG3019AP-029, 033, 041

SEG3019AQ-039, 043, 051

NDT Notification No-09033

This QA Inspector observed the following work in progress:

**OBG Trial Assembly****SMAW Process:**

This QA Inspector observed ZPMC qualified welding personnel identified as 216080 Perform Shielded Metal Arc

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Welding (SMAW) on OBG Segment 14 East. Joint identified as SEG3019BB-229, 233, 237, 241. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2114-FCM-1.

This QA Inspector observed ZPMC qualified welding personnel identified as 216080 Perform Shielded Metal Arc Welding (SMAW) on OBG Segment 14 East. Joint identified as SEG3019BB-245, 249, 253, 257. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2114-FCM-1.

Repair welding, SMAW Process:

This QA Inspector observed ZPMC qualified welding personnel identified as 501946 Perform Shielded Metal Arc Welding (SMAW) on inside the OBG Segment 14 East, after removing temporary attachment and base metal repair. ZPMC QC Identified as Zhu Yuan Yuan with Critical welding repair report CWR-B-CWR2944. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-345-SMAW-1G, 2G, 3G (1F, 2F, 3F)-FCM-Repair-1.

Ultrasonic Testing:

This QA Inspector observed ZPMC Ultrasonic Testing Inspector, performing UT on OBG Segment 14 East Deck panel to Deck panel joint. Joint identified as SEG3019AV-046, 051.

Description of Incident:

During the Quality Assurance Ultrasonic Testing (UT) verification of weld located on OBG Segment 14 East, this Quality Assurance Inspector (QA) discovered the following issue:

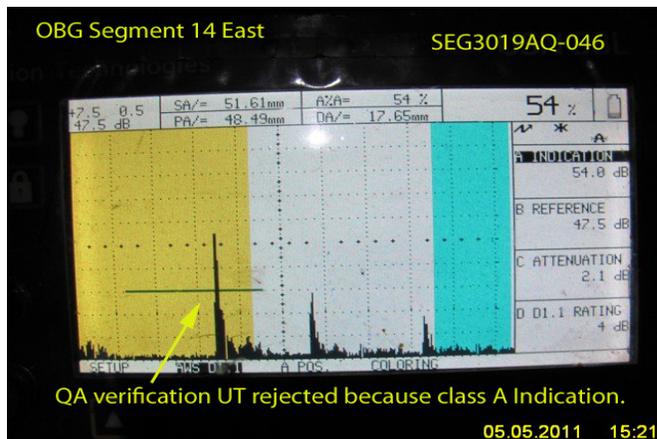
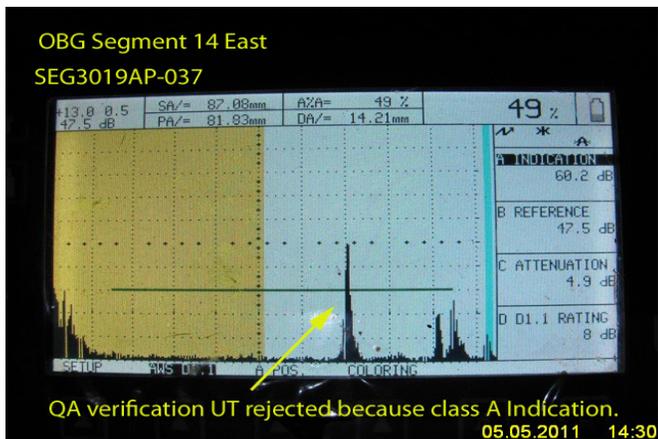
-Two (2) Class "A" rejectable indications measuring approximately 15 and 20mm in length. The welds are identified as SEG3019AP-037 and SEG3019AQ-046. Material thickness is 22mm. The Depth of the indications are approximately 14 and 18mm respectively. -The indications db ratings are +8 and +4 respectively. The weld is Complete Joint Penetration (CJP) T Joint, joining the floor beam vertical stiffener (X4639) to the underside of the AP Deck. The welds are designated on the contract drawings as a Fracture Critical Weld (FCW). The indications are clearly marked near the welds. The Y location measured approximately 95mm and 90mm. The OBG segment 14E is located in the trial assembly yard.

The Notice of Witness Inspection Number (NWIT) is 09033. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% UT inspection of this weld. Incident report generated on this date. For more information see below attached pictures.

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

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**Summary of Conversations:**

Only general conversation was held between QA and QC concerning this project.

**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.

**Inspected By:** Gaikwad,Shailesh

Quality Assurance Inspector

**Reviewed By:** Patterson,Rodney

QA Reviewer