

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-023715**Date Inspected:** 15-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**CWI Name:** An Qing Xiang**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**Summary of Items Observed:**

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

This Quality Assurance (QA) Inspector observed the following work in progress:

TA YARD

OBG Seg 14W:

Repair welding of weld joint no: SEG3020AW-089 [Side Panel (SP) 3131A to SP 3145B, Complete Joint Penetration (CJP) weld at Panel Point (PP) 125 to PP 127]. The welder is identified as 066361 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F) FCM-Repair-1. Repair welding was done as per Welding Repair Report (WRR): B-WR 20971 Rev-0.

Repair welding of weld joint no: SEG3020X-007 [Longitudinal Diaphragm (LD) 3049B to Top Anchorage Plate (AP) 3017A, CJP weld at PP 126.5 to PP 127]. The welder is identified as 045196 and was observed welding in the 4G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was

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identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-4G(4F) FCM-Repair-1. Repair welding was done as per Welding Repair Report (WRR): B-WR 20845 Rev-0.

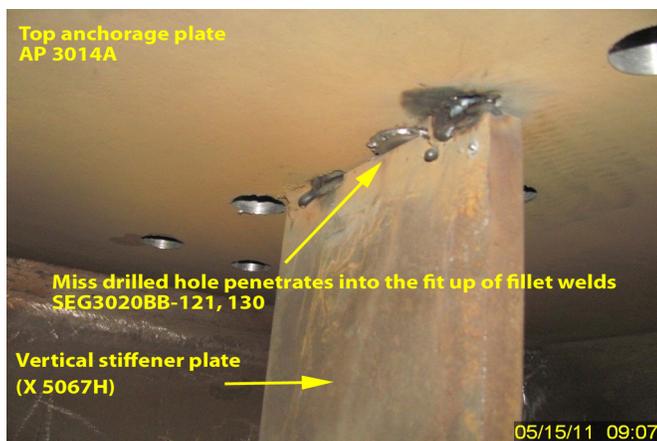
Repair welding of weld joint no: SEG3020U-591 [Anchor Plate (AP) 3032A to Top Anchorage Plate (AP) 3014A/AP 3015A, Complete Joint Penetration (CJP) weld at Panel Point (PP) 126]. The welder is identified as 045246 and was observed welding in the 4G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-4G(4F) FCM-Repair-1. Repair welding was done as per Critical Welding Repair (CWR) Report: B-CWR 2943 Rev-0.

During a Quality Assurance (QA) random visual inspection of OBG Segment 14 West Top anchorage plate, this Caltrans QA Inspector observed the following issue:

- ZPMC personnel have misdrilled a total of Four (4) 30mm diameter bolt holes resulting in damage to the weld below.
- The holes were match drilled in the Top Anchorage Plate (AP3013A), and due to the incorrect layout penetrate into the Vertical shear plate extension plate (X5058A) to the Top Anchorage Plate (AP3013A) CJP (completed joint penetration) T-joint weld at three (3) locations at panel point 126.
- A hole was match drilled in the Top Anchorage Plate (AP3014A), and due to the incorrect layout penetrates into the fit up and tack welded location of fillet welds (SEG3020BB-121 and 130) of Vertical stiffener plate (X5067H) to the Top Anchorage Plate (AP3014A) at one location at panel point 126.
- The members are identified as Seismic Performance Critical Member (SPCM).
- The damaged CJP weld is identified as SEG3020BB-012.
- The damaged welds are designated as Fracture Critical Welds (FCW).
- OBG Segment 14 West is located in Trial assembly.

An Incident Report was generated on this date. For further details, see the attached pictures below.

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

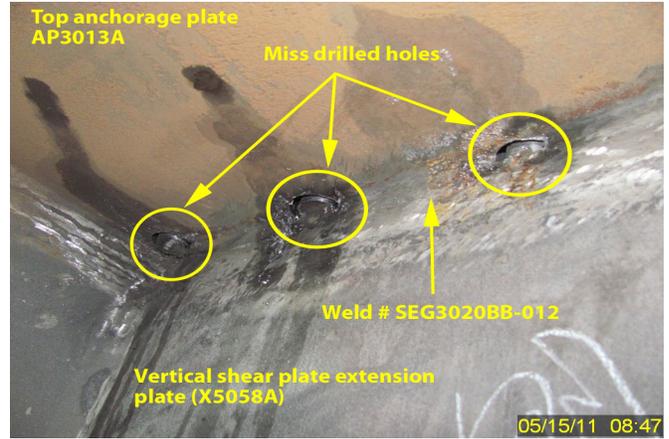
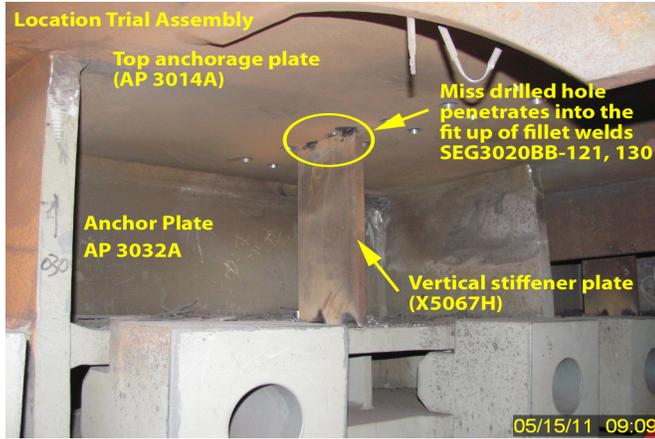


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## Summary of Conversations:

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.

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**Inspected By:** Gaikwad,Umesh

Quality Assurance Inspector

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**Reviewed By:** Peterson,Art

QA Reviewer