

**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-009145**Date Inspected:** 18-Sep-2009**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:** Chen Xi**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 Crossbeams**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 CROSS BEAM CB1**

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

**OBG CROSS BEAM CB2**

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

**OBG CROSS BEAM CB3**

This crossbeam has been loaded on the ship.

**OBG CROSS BEAM CB4**

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

### OBG CROSS BEAM CB5

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

### OBG CROSS BEAM CB6

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

### OBG CROSS BEAM CB7

During random Visual Testing (VT) this QA observed numerous welds being repaired by grinding. The welds appeared to exhibit areas of overlap and weld profile inconsistencies. These welds had been inspected and rejected by ZPMC QC and/or ABF inspectors. QA also observed that ZPMC QC appears to have performed Ultrasonic Testing (UT) on welds that were changed from fillet welds to Complete Joint Penetration (CJP) welds. It appears as though only two of these welds were accepted and ten of the welds appear to have been rejected. No other significant work was observed on this crossbeam during the time QA was present.

### OBG CROSS BEAM CB8

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

### OBG CROSS BEAM CB9

This QA observed ZPMC qualified welding personnel identified as 053609 perform FCAW welding on weld joint identified as FB204-021-069. ZPMC QC identified as Mr. Liu Cheung Gang 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-T-2232-Tc-U4b-F.

This QA observed ZPMC qualified welding personnel identified as 048625 perform FCAW welding on weld joint identified as CB202A-009-019. ZPMC QC identified as Mr. Liu Cheung Gang 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-T-2132.

This QA observed ZPMC qualified welding personnel identified as 070007 perform SMAW welding on weld joint identified as CB202G-022-143. ZPMC QC identified as Mr. Liu Cheung Gang 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-2113.

### OBG CROSS BEAM CB10

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

### OBG CROSS BEAM CB11

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

### OBG CROSS BEAM CB12

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

### OBG CROSS BEAM CB13

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

### OBG CROSS BEAM CB14

This QA observed that the contractor appeared to be “cold bending” Seismic Performance Critical Material (SPCM) and a Fracture Critical Weld (FCW). This QA observed two three (3) ton weights had been placed on the material, one on each side of the FCW. The weights appeared to be for the purpose of bending the material. This QA asked ZPMC QC CWI identified as Mr. Chen Xi why the weights were placed on this material. Mr. Chen informed this QA that the workers placed them there to get them out of the way for another project in this bay. This QA requested that the weights be removed from the material. Mr. Chen instructed the workers to remove the weights. After the weights were removed the material exhibited severe distortion. This QA informed Mr. Chen Xi and ABF inspector identified as Mr. Wang Wen Bin that an incident report would be generated for cold bending SPCM. AWS D1.5 2002 section 12.12 states “Cold bending shall be prohibited for all fracture critical steels”. The SPCM is identified as FB202A. The FCW joint is identified as CB202E-014-002. See attached photos for details.

### OBG CROSS BEAM CB15

This QA observed ZPMC personnel fitting floor beam sections to the side panels of this crossbeam. No other significant work was observed on this crossbeam during the time QA was present.

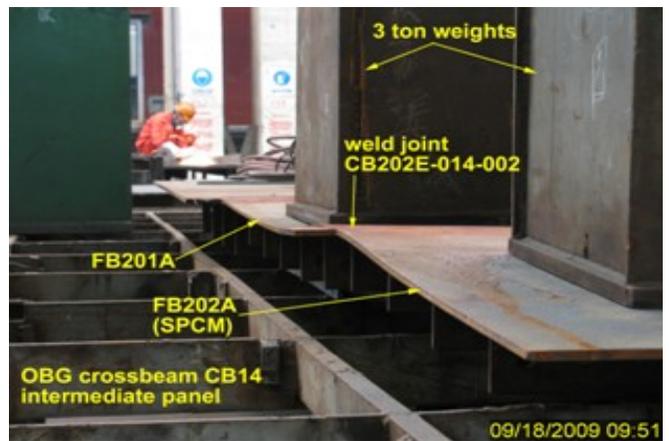
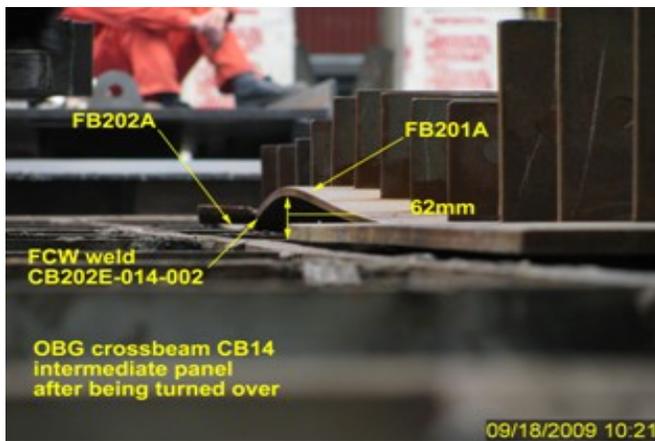
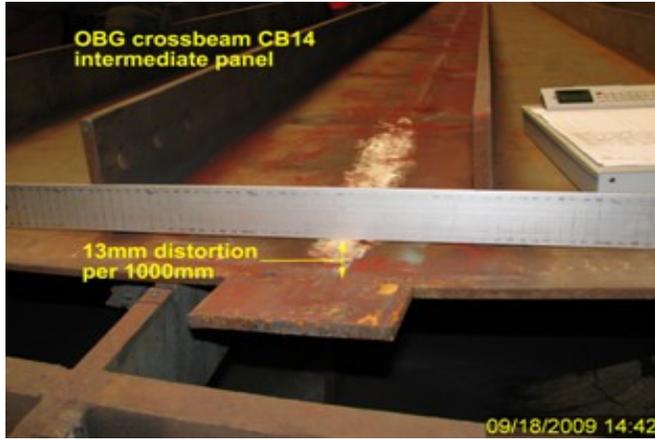
### OBG CROSS BEAM CB16

This QA observed that no significant work was being performed on this crossbeam 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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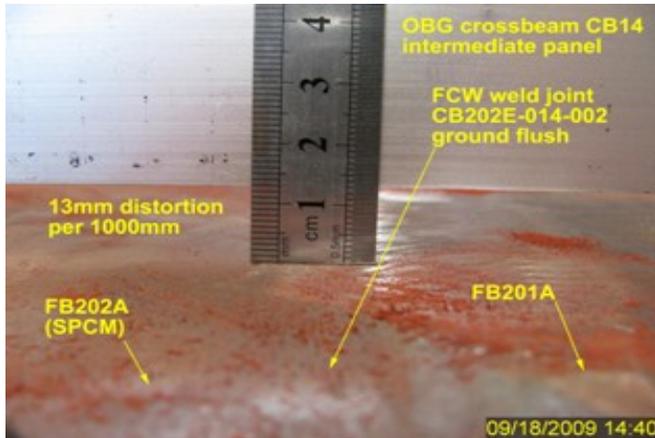
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## Summary of Conversations:

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
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<b>Reviewed By:</b>	Prue,Erik	QA Reviewer
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