

**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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-020583**Date Inspected:** 12-Feb-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) Chanxing Island**Location:** Shanghai, China**CWI Name:** Mr. Qui Wen**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 Segment**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance Inspector (QA), Vibin Kumar Selvanayaham, was present during the times noted above for observations relative to the work being performed.

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This QA Inspector observed the following work in progress:

Shielded Metal Arc Welding (SMAW) welding of weld joint SEG3020U-588 located on Bottom Plate to Vertical Shear Plate at panel point 126 of OBG Segment 14W. ZPMC Welders are identified as 067707, 067904 and 067588. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-Tc-U4b-FCM.

SMAW welding of weld joint SEG3020H-032 located on longitudinal Diaphragm to Floor Beam at panel point 127.5 of OBG Segment 14W. ZPMC Welder is identified as 066398. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2213-Tc-U4b-FCM.

Flux Core Arc Welding (FCAW) welding of weld joint SEG3020BB-055 located on Anchor Plate to Vertical Shear Plate at panel point 125/126 of OBG Segment 14W. ZPMC Welder is identified as 066734. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2132-ESAB.

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FCAW welding of weld joint SEG3020BB-035 located on Anchor Plate to Vertical Shear Plate at panel point 126 of OBG Segment 14W. ZPMC Welder is identified as 06421. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2233-ESAB.

SMAW welding of weld joint DP3174-001-017 located on Deck Panel to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 037780. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-Tc-U4b-FCM-1.

SMAW welding of weld joint DP3174-001-018 located on Deck Panel to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 067611. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-Tc-U4b-FCM-1.

SMAW welding of weld joint DP3174-001-019 located on Deck Panel to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 067520. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-Tc-U4b-FCM-1.

SMAW welding of weld joint DP3174-001-021 located on Deck Panel to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 066155. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-Tc-U4b-FCM-1.

SMAW welding of weld joint DP3173-001-021 located on Deck Panel to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 037779. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-Tc-U4b-FCM-1.

SMAW welding of weld joint DP3173-001-024 located on Deck Panel to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 066443. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-Tc-U4b-FCM-1.

FCAW welding of weld joint DP3175-001-400 to 404 located on Deck Panel U-ribs to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 048433. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2133-ESAB.

FCAW welding of weld joint DP3176-001-333 to 336 located on Deck Panel U-ribs to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 048696. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2133-ESAB.

FCAW welding of weld joint DP3177-001-246 to 248 located on Deck Panel U-ribs to Deck Panel Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 203781. ABF Quality Control (QC) is identified as Mr. Shen Jian. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2133-ESAB.

FCAW welding of weld joint SEG3015B-005 located on Deck Panel Diaphragm to Floor Beam at panel point 124.5 of OBG Segment 13CW. ZPMC Welder is identified as 201583. ZPMC Quality Control (QC) is identified as Mr. Zhang Lin. The welding variables recorded by QC appeared to comply with the Applicable

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WPS-B-T-2232-ESAB.

### Description of VT Observation:

During the Quality Assurance random visual inspection of welds located on Floor beam (FL2)-deck panel diaphragm to Longitudinal Diaphragm welds of OBG Segment 13CW at panel point 123 and 123.5, this Quality Assurance Inspector (QA) observed the following issues;

- Linear Longitudinal Crack measuring approximately throughout the weld lengths and near to crack base metal gets damage.
- After back gouging, these indications were discovered visually and confirmed by Magnetic particle Testing (MT) by ZPMC MT personnel.
- The indications are clearly marked on the material near the weld for further repairs. The weld numbers are identified as DP3148-001-247 and DP3148-001-250. The panel point is identified as a PP123 and PP123.5 Counter Weight Side FL2.
- This weld is a CJP weld joining the Deck Panel Diaphragm to Longitudinal Diaphragm.
- The Deck Panel Diaphragm to Longitudinal Diaphragm weld is identified as Seismic Performance Critical Member (SPCM).
- The cracks are completely removed and re-weld shall be performed as per required contract document and approved CWR and WPS. For further information, Please see attached pictures.

Bay 19

This QA Inspector observed the following work in progress:

FCAW welding of weld joint BK004A1-014-079 and 084 located on Anchor Housing Pipe of OBG Bike Path. ZPMC Welder is identified as 062755. ZPMC Quality Control (QC) is identified as Mr. Guo Xing Hui. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2232-ESAB.

FCAW welding of weld joint BK4SD1-013-029, 030, 031 and 032 located on closure box of OBG Bike Path. ZPMC Welder is identified as 062732. ZPMC Quality Control (QC) is identified as Mr. Guo Xing Hui. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2231-ESAB.

FCAW welding of weld joint BK4SD1-013-050, 052, 053 and 054 located on closure box of OBG Bike Path. ZPMC Welder is identified as 062732. ZPMC Quality Control (QC) is identified as Mr. Guo Xing Hui. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2231-ESAB. See the attached picture.

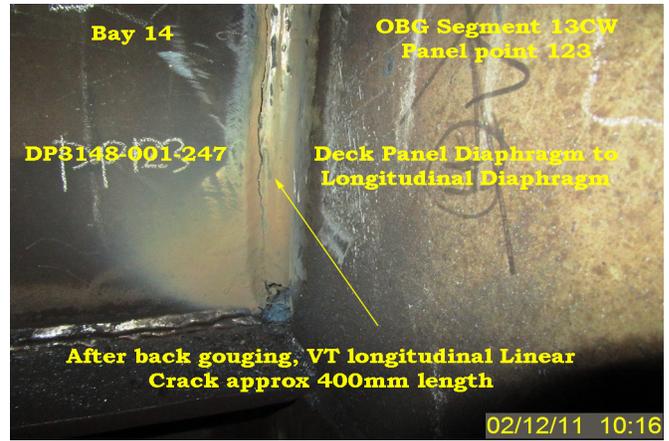
Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.

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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 , who represents the Office of Structural Materials for your project.

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**Inspected By:** Kumar,Vibin

Quality Assurance Inspector

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**Reviewed By:** Patel,Hiranch

QA Reviewer