

**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-022981**Date Inspected:** 18-Apr-2011**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:** See below**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 and Tower Components**Summary of Items Observed:**

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

**Bay 10**

This QA Inspector randomly observed the following work in progress in the Bay 10:

Heat straightening of 31TR3-001-034, 035, 038~043, 045, 046 located on PCMK OBG traveler rail. QC was identified as ZPMC CWI Shi Yu (QC1). Heat treatment variables recorded by QC1 appeared to comply with ZPMC document HSR1(B)-10292 as presented to this QA Inspector and verbally identified by QC1. QC1 informed this QA Inspector that not all of the above noted welds had heat treatment performed on this date and none of the welds had more than the approved 3 total applications of heat treatment performed.

**Bay 11**

This QA Inspector randomly observed the following work in progress in the Bay 11:

SMAW welding of weld joints WSD1-TL6-4A/D-1, 4 located on PCMK west tower, lift 6. Welder was identified as 041271. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was ZPMC QC Zhu Feng (QCA), who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-B-P-2212 as verbally identified by QCA1.

SMAW welding of weld joints ESD1-TL6-2A/D-1, 4 located on PCMK east tower, lift 6. Welder was identified

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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as 040614. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was QCA, who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-B-P-2212 as verbally identified by QCA1.

SMAW welding of weld joint ESD1-FGSA6-2-17 located on PCMK east tower, lift 6. Welder was identified as 046704. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was QCA, who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-B-P-2213-TC-U4c as verbally identified by QCA1.

SMAW repair welding of weld joint 34TR1-001-009 located on PCMK OBG traveler rail. Welder was identified as 044541. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was QCA1, who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-345-SMAW-2G(2F)-repair as displayed on ZPMC Weld Repair Report B-WR20598 as presented to this QA Inspector and verbally identified by QCA1.

SMAW repair welding of weld joint 25TR1-002-016 located on PCMK OBG traveler rail. Welder was identified as 044551. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was QCA1, who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-345-SMAW-2G(2F)-repair as displayed on ZPMC Weld Repair Report B-WR20599 as presented to this QA Inspector and verbally identified by QCA1.

SMAW repair welding of weld joint 32TR1-002-009 located on PCMK OBG traveler rail. Welder was identified as 044541. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was QCA1, who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-345-SMAW-2G(2F)-repair as displayed on ZPMC Weld Repair Report B-WR20609 as presented to this QA Inspector and verbally identified by QCA1.

### OBG Trial Assembly Area

This QA Inspector randomly observed the following work in progress in the OBG Trial Assembly Area:

FCAW welding of weld joint BK17-001-015 located on PCMK OBG bike path cantilever beam. Welder was identified as 052763. QC was identified as ZPMC CWI Li Yang (QC2). Assisting QC2 at this location and appearing to be monitoring the welding operation and recording data was ABF CWI Ji Cai Fang, who was not a CWI. Weld variables recorded by QC2 appeared to comply with WPS-B-T-2233-ESAB as verbally identified by QC2.

FCAW welding of weld joint BK17B-001-015 located on PCMK OBG bike path cantilever beam. Welder was identified as 040367. QC was identified as QC2. Assisting QC2 at this location and appearing to be monitoring the welding operation and recording data was QCA2, who was not a CWI. Weld variables recorded by QC2 appeared to comply with WPS-B-T-2233-ESAB as verbally identified by QCA2.

SMAW welding of weld joints EP3009-013~020 located on PCMK OBG Segment 12CW. Welder was identified as 067611. QC was identified as QC2. Weld variables recorded by QC2 appeared to comply with WPS-B-P-2112-FCM-1 as verbally identified by QC2.

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# WELDING INSPECTION REPORT

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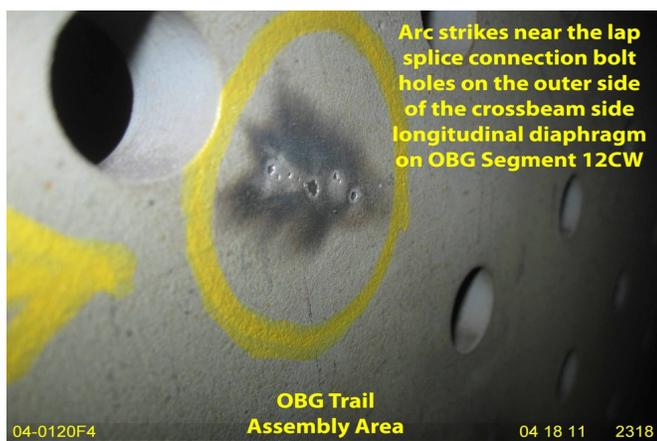
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FCAW welding of weld joints EP3020-001, 002 located on PCMK OBG Segment 12CW. Welder was identified as 066673. QC was identified as QC2. Weld variables recorded by QC2 appeared to comply with WPS-B-T-2132-ESAB as verbally identified by QC2.

SMAW welding of weld joint SEG3013U-102 located on PCMK OBG Segment 13AW. Welder was identified as 069683. QC was identified as QC2. Weld variables recorded by QC2 appeared to comply with WPS-B-P-2212-TC-U4b-FCM-1 as verbally identified by QC2.

During random observation of the welding operations in OBG Trial Assembly Area, several arc strikes were observed on outer side of the crossbeam side longitudinal diaphragm on both sides of the OBG Segments 12CW/13AW transverse joint. See photos below of several of the arc strikes. This QA Inspector clearly marked the visual indications in yellow paint with the notation 'arc strikes', date, this QA Inspector's Caltrans lot number, and then informed QC2 of the arc strikes and marking. QC2 informed this QA Inspector that the arc strikes would be corrected in a manner compliant with the relevant contract documents.

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



### Summary of Conversations:

As noted 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 James Devey 15000026784, who represents the Office of Structural Materials for your project.

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**Inspected By:** Goulet, George

Quality Assurance Inspector

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**Reviewed By:** Riley, Ken

QA Reviewer