

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-022896**Date Inspected:** 17-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.

Heat straightening of BK014A-001-002~005, 008, 010, 017~036, 041~046, 049, 050, 057, 060, 061, 070, 075, 093 located on PCMK OBG traveler rail. QC was identified as QC1. Heat treatment variables recorded by QC1 appeared to comply with ZPMC document HSR1(B)-10197 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.

Fit-up and SMAW tack welding of weld joints BK014A5-001-111, 112, 114 located on PCMK OBG bike path. Welder was identified as 040533. QC was identified as QC1. Weld variables recorded by QC1 appeared to

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comply with WPS-B-P-2113-B-U2 as verbally identified by QC1.

Bay 11

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

SMAW welding of weld joint NSD1-TBSA7-3-20 located on PCMK north tower, lift 7. Weldes were identified as 041271, 040614. QC was identified as QC1. Weld variables recorded by QC1 appeared to comply with WPS-B-P-2211-TC-U4c as verbally identified by QC1.

SMAW welding of weld joint ESD1-TBSA7-3-20 located on PCMK north tower, lift 7. Weldes were identified as 041713, 046704. QC was identified as QC1. Weld variables recorded by QC1 appeared to comply with WPS-B-P-2211-TC-U4c as verbally identified by QC1.

SMAW repair welding of weld joint 34TR1-001-009 located on PCMK OBG traveler rail. Welders were identified as 044551. QC was identified as QC1. Weld variables recorded by QC1 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 QC1.

SMAW repair welding of weld joint 32TR1-001-009 located on PCMK OBG traveler rail. Welders were identified as 044541. QC was identified as QC1. Weld variables recorded by QC1 appeared to comply with WPS-345-SMAW-2G(2F)-repair as displayed on ZPMC Weld Repair Report B-WR20610 as presented to this QA Inspector and verbally identified by QC1.

SMAW repair welding of weld joint 32TR1-002-009 located on PCMK OBG traveler rail. Welders were identified as 046769. QC was identified as QC1. Weld variables recorded by QC1 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 QC1. See photo below of ZPMC Weld Repair Reports B-WR20609, ZPMC Weld Repair Report B-WR20610, and ZPMC Weld Repair Report B-WR20598, all included in one document.

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 BK16-001-015 located on PCMK OBG bike path cantilever beam. Welder was identified as 052763. QC was identified as ABF CWI Sheng Qing Quan (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 QCA2 appeared to comply with WPS-B-T-2233-ESAB as verbally identified by QCA2.

FCAW welding of weld joint BK16B-001-003 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 QCA2 appeared to comply with WPS-B-T-2233-ESAB as verbally identified by QCA2. See photo below showing this welding operation in progress, including welder 052763 recorded above.

SMAW repair welding of weld joint SEG3001C-019 located on PCMK OBG Segment 13BE. Welder was

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identified as 044760. 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 QCA2 appeared to comply with WPS-B-P-2213-TC-U4b as verbally identified by QCA2. QCA2 informed this QA Inspector that this repair was the response to indications observed during ZPMC or ABF visual testing.

SMAW repair welding of weld joints SEG3009B-093, 133 located on PCMK OBG Segment 13BE. Welder was identified as 050969. 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 QCA2 appeared to comply with WPS-345-SMAW-3G(3F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-WR20726 as presented and verbally identified by QCA2.

SMAW repair welding of weld joints SEG3011F-173, 174 located on PCMK OBG Segment 13CE. Welder was identified as 051359. 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 QCA2 appeared to comply with WPS-345-SMAW-4G(4F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-WR20574 as presented and verbally identified by QCA2.

SMAW repair welding of weld joints AH3002-016, 017, 042, 043 located on PCMK OBG Segment 13BW. Welder was identified as 045196. 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 QCA2 appeared to comply with WPS-345-SMAW-1G(1F)-FCM-repair-1 and WPS-345-SMAW-4G(4F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-WR20569 as presented and verbally identified by QCA2.

SMAW repair welding of weld joints AH3001-014, 015 located on PCMK OBG Segment 13AW. Welder was identified as 069683. 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 QCA2 appeared to comply with WPS-345-SMAW-1G(1F)-FCM-repair-1 and WPS-345-SMAW-4G(4F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-WR20163 as presented and verbally identified by QCA2.

SMAW repair welding of weld joint SA7512-001-002 located on PCMK OBG Segment 13AW. Welder was identified as 047864. 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 QCA2 appeared to comply with WPS-345-SMAW-4G(4F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-CWR2927 as presented and verbally identified by QCA2.

SMAW repair welding of weld joint SEG3013A-015 located on PCMK OBG Segment 12CW. Welder was identified as 066674. QC was identified as ZPMC CWI Li Yang (QC3). Weld variables recorded by QC3 appeared to comply with WPS-345-SMAW-3G(3F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-CWR2767 as presented and verbally identified by QC3.

SMAW welding of weld joint CA3011-005 located on PCMK OBG Segment 12CW. Welder was identified as 066673. QC was identified as QC3. Weld variables recorded by QC3 appeared to comply with WPS-B-P-2212-TC-U4b-FCM-1 as verbally identified by QC3.

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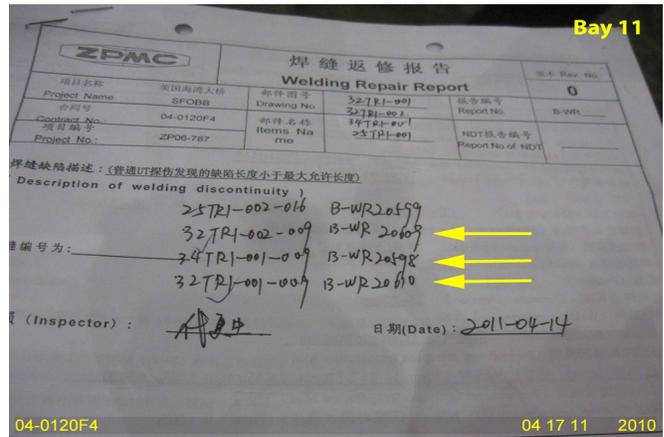
SMAW welding of weld joints BP3028-009~016 located on PCMK OBG Segment 12CW. Welder was identified as 067588. QC was identified as QC3. Weld variables recorded by QC3 appeared to comply with WPS-B-P-2112-FCM-1 as verbally identified by QC3.

SMAW welding of weld joint SEG3006T-129 located on PCMK OBG Segment 12CW. Welder was identified as 066674. QC was identified as QC3. Weld variables recorded by QC3 appeared to comply with WPS-B-P-2212-TC-U4b-FCM-1 as verbally identified by QC3.

FCAW welding of weld joints SP3057-032~041 located on PCMK OBG Segment 12CW. Welder was identified as 048696. QC was identified as QC3. Weld variables recorded by QC3 appeared to comply with WPS-B-T-2132-ESAB as verbally identified by QC3.

SMAW welding of weld joint SEG3006B-137 located on PCMK OBG Segment 12CW. Welder was identified as 067611. QC was identified as QC3. Weld variables recorded by QC3 appeared to comply with WPS-B-P-2112-FCM-1 as verbally identified by QC3.

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.

Inspected By: Goulet, George

Quality Assurance Inspector

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Reviewed By: Riley, Ken

QA Reviewer