

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-018703**Date Inspected:** 11-Dec-2010**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 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 Bay 10:

FCAW repair welding of weld joint BK004A1-033-043 located on PCMK OBG BK004-033, straight edge plate to deck plate. Welders were identified as 040302, 040434. QC was identified as ZPMC CWI Yu Dong Ping (QC1). Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was ZPMC QC Li Peng Fei (QCA1), who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-345-FCAW-2G(2F)-ESAB-repair as listed on ZPMC Weld Repair Report B-WR18691 presented to this QA Inspector and as verbally identified by QCA1.

Heat straightening of weld joints NSD1-FDSA6-3-1~8 located on PCMK north tower, lift 6, skin D. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the heat straightening operation and recording data was QCA1, who was not a CWI. Heat treatment variables recorded by QCA1 appeared to comply with ZPMC document HSR1(T)-11644 as presented to this QA Inspector and verbally identified by QCA1.

Heat straightening of PCMK BK004A-029. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the heat straightening operation and recording data was QCA1, who was not a CWI.

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Heat treatment variables recorded by QCA1 appeared to comply with ZPMC document HSR1(B)-9865 as presented to this QA Inspector and verbally identified by QCA1. Weld numbers were identified as N/A on the document.

FCAW repair welding of weld joint located on PCMK GGL-MQ-2021-21-2, deck plate U-rib splice plates. Welder was identified as 052763. 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. Welding variables recorded by QCA1 appeared to comply with WPS-345-FCAW-2G(2F)-ESAB-repair as displayed on ZPMC Weld Repair Report B-WR18443 as presented to this QA Inspector and verbally identified by QCA1. Attached to that document was ZPMC Application Form for NDT B787-UT-17724 which listed several pages of PCMK numbers and weld numbers.

Bay 11

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

FCAW welding of weld joints BK004A1-053-001, 005, 006, 010, located on PCMK OBG BK004-053, doubler plate to deck plate. Welders were identified as 040723, 040704. QC was identified as QC1. Weld variables recorded by QC1 appeared to comply with WPS-B-T-2132-ESAB as verbally identified by QC1. See photo below showing QC1's record of the welding.

FCAW welding of weld joints BK004A1-053-004, 008, 013, 038, located on PCMK OBG BK004-053, doubler plate to deck plate. Welders were identified as 054460, 053316. QC was identified as QC1. Weld variables recorded by QC1 appeared to comply with WPS-B-T-2132-ESAB as verbally identified by QC1.

OBG Trial Assembly Area

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

SMAW repair welding of weld joints SP667-001-021~030 located on PCMK OBG 11EW and SP3094-001-033~042 located on PCMK OBG 12AW, side plate T-rib to side plate, holdback welds, north (counterweight) side. Welders were identified as 049502, 057333. QC was identified as ZPMC CWI Zhu Zhong Hai (QC2). Assisting QC2 at this location and appearing to be monitoring the welding operation and recording data was ZPMC QC Zhou Peng (QCA2), who was not a CWI. QCA2 informed this QA Inspector that this welding was being performed as a result of ZPMC visual testing (VT). Welding variables recorded by QCA2 appeared to comply with WPS-345-SMAW-2G(2F)-repair-1 and WPS-345-SMAW-4G(4F)-repair-1 as verbally identified by QC2.

Heavy Dock

This QA Inspector randomly observed no apparent work being performed on the Heavy Dock.

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

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Bay 11
787-B-QCR-500

The welding process inspection

| Inspection Item | Inspection Method | Inspection Result | Inspection Date |
|---------------------|-------------------|-------------------|-----------------|
| Welding process | Visual | OK | 12/11/2021 |
| Welding material | Visual | OK | 12/11/2021 |
| Welding parameters | Visual | OK | 12/11/2021 |
| Welding location | Visual | OK | 12/11/2021 |
| Welding quality | Visual | OK | 12/11/2021 |
| Welding safety | Visual | OK | 12/11/2021 |
| Welding environment | Visual | OK | 12/11/2021 |
| Welding equipment | Visual | OK | 12/11/2021 |
| Welding personnel | Visual | OK | 12/11/2021 |
| Welding records | Visual | OK | 12/11/2021 |

QC1's record of welding of 8 welded joints performed by the 4 welders listed above

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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 Eric Tsang, 150-0042-2372, who represents the Office of Structural Materials for your project.

Inspected By: Goulet, George
Reviewed By: Carreon, Albert

Quality Assurance Inspector
 QA Reviewer