

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-022757**Date Inspected:** 08-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:

SMAW welding of weld joint 31TR1-001-018 located on PCMK OBG traveler rail. Welders were identified as 040581, 040582, 500363. QC was identified as ZPMC CWI Xu Le Feng (QC1). Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was Yu Zhi Lai (QCA1), who was not a CWI. Weld variables recorded by QCA1 appeared to comply with WPS-B-P-2212-TC-U5b as verbally identified by QCA1.

SMAW welding of weld joints BK009A6-001-056, 057 located on PCMK OBG bike path. Welder was identified as 216001. 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-B-P-2112 as verbally identified by QCA1.

SMAW welding of weld joints BK009A8-082-083 located on PCMK OBG bike path. Welder was identified as 057239. 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-B-P-2112 as verbally identified by QCA1.

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

FCAW welding of weld joints BK014A4-001-004, 005, 008, 009 located on PCMK OBG bike path. Welder was identified as 054069. 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-B-T-2132-ESAB as verbally identified by QCA1.

FCAW welding of weld joints BK014A4-001-056, 057, 060, 061 located on PCMK OBG bike path. Welder was identified as 057266. 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-B-T-2132-ESAB as verbally identified by QCA1.

Bay 11

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

SMAW welding of weld joint 25TR1-001-009 located on PCMK OBG traveler rail. Welder was identified as 202354. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was Shao Hai Lang (QCA2), who was not a CWI. Weld variables recorded by QCA2 appeared to comply with WPS-B-P-2212 as verbally identified by QCA2.

SMAW welding of weld joint 25TR1-001-006 located on PCMK OBG traveler rail. 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 QCA2, who was not a CWI. Weld variables recorded by QCA2 appeared to comply with WPS-B-P-2212 as verbally identified by QCA2.

SMAW welding of weld joint ESD1-FGSA6-2-29 located on PCMK tower, lift 6. Welder was identified as 057186. QC was identified as QC1. Assisting QC1 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 QCA1 appeared to comply with WPS-B-P-2213 as verbally identified by QCA2.

Heat straightening of 34TR1-001-001~016, 25TR1-002-001~016 located on PCMK OBG traveler rail. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the heat straightening operation and recording data was QCA2, who was not a CWI. Heat treatment variables recorded by QCA2 appeared to comply with ZPMC document HSR1(B)-10255 as presented to this QA Inspector and verbally identified by QCA2.

See photos below showing ZPMC document HSR1(B)-10255 as presented to this QA Inspector and some of the heat straightening operation in progress.

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 SEG3007Q-072 located on PCMK OBG Segment 13AE. Welder was identified as 050242. QC was identified as ABF CWI Bao Qian (QC3). Assisting QC3 at this location and appearing to be monitoring the welding operation and recording data was ZPMC QC Zhan Hai Feng (QCA3), who was not a CWI. Weld variables recorded by QCA3 appeared to comply with WPS-B-T-2232-ESAB as verbally identified by QCA3.

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

SMAW welding of weld joints SEG3007AA-085, 088, 092, 095, 102 located on PCMK OBG Segment 13AE. Welder was identified as 215553. QC was identified as QC3. Assisting QC3 at this location and appearing to be monitoring the welding operation and recording data was QCA3, who was not a CWI. Weld variables recorded by QCA3 appeared to comply with WPS-B-P-2213-TC-U4b-FCM-1 as verbally identified by QCA3.

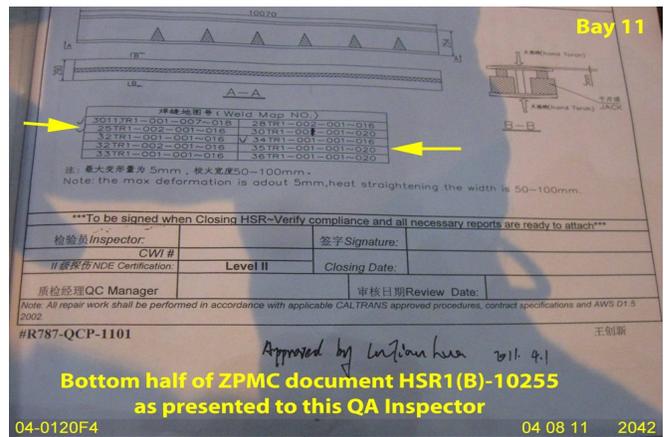
SMAW welding of weld joints SEG3007AA-099, 106, 109, 113, 116, 120, 123 located on PCMK OBG Segment 13AE. Welder was identified as 216086. QC was identified as QC3. Assisting QC3 at this location and appearing to be monitoring the welding operation and recording data was QCA3, who was not a CWI. Weld variables recorded by QCA3 appeared to comply with WPS-B-P-2213-TC-U4b-FCM-1 as verbally identified by QCA3.

SMAW repair welding of weld joints KP3002-001-006, 007, 011, 012 located on PCMK OBG Segment 13AE. Welder was identified as 200113. QC was identified as QC3. Assisting QC3 at this location and appearing to be monitoring the welding operation and recording data was QCA3, who was not a CWI. Weld variables recorded by QCA3 appeared to comply with WPS-345-SMAW-2G(2F)-FCM-repair-1 as displayed on B-WR20592, in QCA3's handbook as presented to this QA Inspector and verbally identified by QCA3.

SMAW repair welding of weld joints SEG3013A-001-002, 003 located on PCMK OBG Segment 13AW. Welder was identified as 069683. QC was identified as QC3. Assisting QC3 at this location and appearing to be monitoring the welding operation and recording data was QCA3, who was not a CWI. Weld variables recorded by QCA3 appeared to comply with WPS-345-SMAW-2G(2F)-FCM-repair-1 as displayed on B-WR20563, in QCA3's handbook as presented to this QA Inspector, and verbally identified by QCA3.

FCAW welding of weld joint SP3093-001-011~016 located on PCMK OBG Segment 13AW. Welder was identified as 203871. QC was identified as QC3. Assisting QC3 at this location and appearing to be monitoring the welding operation and recording data was QCA3, who was not a CWI. Weld variables recorded by QCA3 appeared to comply with WPS-B-T-2132-ESAB as verbally identified by QCA3.

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



WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Bay 11

Top half of ZPMC document HSR1(B)-10255
as presented to this QA Inspector

报告号 Record #	HSR1(B)-10255
版本号 Revision #	0
日期 Date	2011.04.01
工程编号 Job #	ZP06-787
名称 Assembly	San Francisco Oakland Bay Bridge
图号 Sub-Assembly	见下表 (See Sketch)
塔段 Tower	N/A
焊缝号 Weld No.	见下表 (See Sketch)
焊缝图号 Weld Map No.	见下表 (See Sketch)
情况描述 Description of Condition	Welding distortion 焊接变形 Cause 原因 Welding distortion 焊接变形
Type of Defect 缺陷类型	Welding distortion 焊接变形
Inspection Method 检查方法	Visual 目视
处理方法 Disposition	火焰去应力 (Defect Removal Method): Flame Straightening by natural gas 运用天然气进行校正
后续NDE (Post-Removal NDE)	After finishing heat straightening, the weld of the heat area shall perform NDT according to the approved shop drawing
纠正措施 (Corrective Action(s))	Control current, voltage and weld speed according to relevant WPS. If necessary anti-deformation or hold down device can be added.
实施次数 (Number of application)	1-3
最高温度 (Maximum temperature)	<650°C
附件 Sketch	

04-0120F4 10070 04 08 11 2042

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

Quality Assurance Inspector

Reviewed By: Riley, Ken

QA Reviewer