

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-022401**Date Inspected:** 30-Mar-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 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:

Fit-up and SMAW tack welding of weld joints BK17-001-016, 020 located on PCMK OBG bike path cantilever beam. Welders were identified, respectively, as 500363, 040581. QC was identified as QC1. Assisting QC1 at this location and appearing to also be monitoring the welding operation and recording data was ABF CWI Zhang Ji Hai (QCA1). Weld variables recorded by QC1 appeared to comply with WPS-B-T-2214-TC-U4c as verbally identified by QC1. See photo below of ZPMC personnel checking alignment of plates at weld joint BK17-001-020 prior to tack welding.

Heat straightening of 29TR1 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 QCA1. Heat treatment variables recorded by QC1 appeared to comply with ZPMC document HSR1(B)-10186 as presented to this QA Inspector and verbally identified by QC1. See photos below of page 1 of ZPMC HSR1(B)-10186 noting 29TR1.

**Bay 11**

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

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

---

SMAW welding of weld joint 34TR1-001-002 located on PCMK traveler rail. Welder was identified as 040614. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding operation and recording data was ZPMC QC Mao Bin Bin (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.

SMAW welding of weld joint 34TR1-001-011 located on PCMK traveler rail. 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 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.

SMAW welding of weld joint 32TR1-001-002 located on PCMK 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 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.

SMAW welding of weld joint 32TR1-001-011 located on PCMK traveler rail. Welder was identified as 041713. 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-2213-TC-U4b as verbally identified by QCA2.

SMAW welding of weld joint 32TR1-001-013 located on PCMK traveler rail. Welder was identified as 040611. 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-2213-TC-U4b as verbally identified by QCA2.

### 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 joint DP3078-001-020 located on PCMK OBG 13AE. Welder was identified as 068924. QC was identified as ABF CWI Bao Qian (QC2). Assisting QC2 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-345-SMAW-3G(3F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-WR20509 as presented to this QA Inspector and verbally identified by QCA3.

FCAW welding of weld joint RS3106-001-001 located on PCMK OBG 13AE. Welder was identified as 055564. QC was identified as QC2. Assisting QC2 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-2231-ESAB as verbally identified by QCA3.

FCAW welding of weld joint RS3106-001-003 located on PCMK OBG 13AE. Welder was identified as 050242. QC was identified as QC2. Assisting QC2 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

# WELDING INSPECTION REPORT

(Continued Page 3 of 4)

WPS-B-T-2231-ESAB as verbally identified by QCA3.

SMAW repair welding of weld joint SEG3007AB-095 located on PCMK OBG 13AE. Welder was identified as 200113. QC was identified as QC2. Assisting QC2 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-4G(4F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-WR20486 as presented to this QA Inspector and verbally identified by QCA3.

SMAW repair welding of weld joint SEG3013AD-012 located on PCMK OBG 13AE. 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 QCA3, who was not a CWI. Weld variables recorded by QCA3 appeared to comply with WPS-345-SMAW-4G(4F)-FCM-repair-1 as displayed on ZPMC Weld Repair Report B-WR20486 as presented to this QA Inspector and verbally identified by QCA3.

FCAW welding of weld joints SEG3007E-036, 041, 046, 051 located on PCMK OBG 13AE. Welder was identified as 048433. QC was identified as QC2. Assisting QC2 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-2233-ESAB as verbally identified by QCA3.

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



Bay 10 ZPMC 火工校正记录 Heat Straightening Record (HSR1)		报告号 Record #	HSR1(B)-10186
		版本号 Revision #	0
		日期 Date	2011.03.13
工程名称 San Francisco Oakland Bay Bridge		工程编号 JOB# : ZP06-787	
Assembly:		质检代表/Quality Control Representative	
Sub-Assembly:		3/13/11	
Gird: 27TR、37TR、29TR、28TR、26TR		质检经理/Quality Assurance Manager-Approval	
Tower:	N/A	[Signature]	
Weld No:	见下表 (See Sketeh)		
Weld Map No:	见下表 (See Sketeh)		
<b>描述 Description of Condition</b>			
原因	Welding distortion 焊接变形		
缺陷类型	Welding distortion 焊接变形		
检查方法	Visual 目视		
<b>方法 Disposition</b>			
除方法(Defect Removal Method): Flame Straightening by natural gas 运用天然气进行校火			
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.		
应用次数(Number of application):	1-3		
最高温度(Maximum temperature):	<650°C		
<b>Sketch</b>			
10165			
04-0120F4		03 30 11 1954	

