

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004826**Date Inspected:** 25-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Japan Steel Works**Location:** Muroan, Japan

CWI Name:	Chung-Fu Kuan		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No	
Rod Oven in Use:	Yes	No	N/A
Weld Procedures Followed:	Yes	No	N/A
Verified Joint Fit-up:	Yes	No	N/A
Approved WPS:	Yes	No	N/A
Delayed / Cancelled:	Yes	No	N/A
Component:	Tower, Jacking and Deviation Saddles		

Bridge No: 34-0006**Summary of Items Observed:**

The following report is based on METS observations at Japan Steel Works (JSW) in Muroan Japan. Current work: Casting, machining and nondestructive testing of Saddles.

Fabrication Shop 4

T1-1 Base

No work performed on this date.

T1-1 Casting

Four JSW employees were observed grinding the overlay weld areas of the rib and stem plates of T1-1 casting. The grinding was performed to smooth the weld joint surface and remove excess weld metal prior to fit up to T1-1 base. Work was not completed on this date and appears to meet the minimum requirements of the contract documents.

T1-2 Base

The QA inspector observed the in process welding of the structural steel plates for the Tower Saddle Base T1-2. The JSW welding personnel Toshiyuki Watanabe, ID 08-5153 continued the fill welding of joint 8Y-12V (2-2) in the flat position. Kouzo Kobayashi, ID 08-5023 continued the fill welding of joint 8Y-5V (2-2) in the flat position.

The welding was performed utilizing the gas shielded flux cored arc welding process per the welding procedure specification (WPS) SJ-3012-3. Intertek Testing Services Quality Control (QC) inspector Mr. Chung-Fu Kuan monitored the welding parameters and heat control at periodic intervals. The minimum preheat temperature of

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110°Celsius and maximum interpass temperature of 260° Celsius were verified to meet the WPS requirements by Mr. Kuan and the QA inspector utilizing Tempilstik temperature indicators. This data was entered into the QC inspector's daily log, identifying the location on a weld map. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

T1-3 Base

The QA inspector observed the in process assembly layout and fit-up operation of the structural steel plates for the Tower Saddle Base T1-3. The end plates were aligned on the base plate and to the stem plates. The JSW fitter personnel Kiyotaka Koanagi performed the layout in accordance with approved drawings. The JSW welding personnel Yoshihiro Ohta, ID 08-2017 performed the in process tack welding of joint 9Y-12V (3-3) in the vertical position. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ-3012-2. The welding parameters and heat control were monitored by Intertek Testing Services Quality Control (QC) inspector Mr. Chung-Fu Kuan at periodic intervals. The minimum preheat temperature of 110°Celsius was verified to meet the WPS requirements by Mr. Kuan and the QA inspector utilizing Tempilstik temperature indicators. This data was entered into the QC inspector's daily log, identifying the location on a weld map. The work was completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

W2-E1

The QA inspector periodically observed The Nikko Inspection Services QC/NDT technicians Mr. Kazuya Kobayashi perform magnetic particle (MT) testing of West Deviation Saddle W2-E1 base and base to casting partial penetration welds after post weld heat treatment. The MT was performed in accordance with ASTM standard E709 and Nikko Inspection Services procedure SF-MT-01 using the yoke method with dry visible powder. The testing was evaluated in accordance with the contract special provisions. Several relevant indications were marked by Mr. Kobayashi for grinding and reexamination. The testing was not completed on this date and the work appears to meet the minimum requirements of the contract specifications.

The QA inspector performed magnetic particle testing (MT) verification of West Deviation Saddle Base W2-E1.

- 1) Rib plate 1-9 to base plate, partial joint penetration weld E1Y-9L.
- 2) Rib plate 1-9 to casting, partial joint penetration weld E1Y-9U.
- 3) Rib plate 1-7 to base plate, partial joint penetration weld E1Y-7L.
- 4) Rib plate 1-7 to casting, partial joint penetration weld E1Y-7U.
- 5) End Plate 1-4 to casting, partial joint penetration weld E1Y-4U-1.

QA verification was performed after MT was performed by Nikko Inspection Services QC/NDT technician Mr. Kazuya Kobayashi. The welds were examined using magnetic particle testing of approximately 10% of the locations examined by Mr. Kobayashi. The QA inspector performed the magnetic particle testing in accordance with ASTM E709 and JSW procedure SF-MT-01 using a magnetic particle AC yoke. No relevant indications were identified. The QA inspector did concur with the QC/NDT inspector's assessment. Please see the Magnetic Particle Testing Report (TL-6028) that was generated on this date for details of welds that were tested in accordance with the contract requirements.

The QA inspector observed JSW personnel begin to remove temporary bracing from W2-E1 base ribs in preparation for final machining. The bracing was removed using the oxygen-fuel gas method. The work was not completed on this date and appears to meet the minimum requirements of the contract documents.

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W2-E2 Base

No work performed on this date.

W2-W1 Casting

The QA inspector observed The Nikko Inspection Services QC/NDT technician Mr. Mr. Harumi Kohama perform preliminary magnetic particle (MT) testing of West Deviation Saddle Casting W2-W1. The MT was performed in accordance with ASTM standard E709, Nikko Inspection Services procedure SF-MT-01 using the yoke method with dry visible powder. The testing was evaluated in accordance with the contract special provisions. The testing was not completed on this date and the work appears to meet the minimum requirements of the contract specifications.

Foundry

W2-E2 Casting

No work performed on this date.

W2-E3 Casting

A JSW employee was observed grinding areas where excess material has been removed from the exterior surface of the casting W2-E3. The grinding was performed to smooth the surface of the casting where the Air-Carbon Arc method was utilized. Work was not completed on this date and appears to meet the minimum requirements of the contract documents.

T1-2 Casting

The QA inspector observed the in process casting repair welding on Tower Saddle casting T1-2. The welding was performed where defects found during non-destructive testing were removed. The repair locations and repair details for this casting were submitted as Transmittal number 1652, revision 00. The JSW welding personnel Yoshio Kabutomori, ID 06-8000 continued the repair welding of repair numbers 19 and 25. Fujii Mitshunori, ID 06-8004 continued the repair welding of repairs 17, 18 and 21. The repairs were performed utilizing Shielded Metal Arc Welding (SMAW) per the welding procedure specification (WPS) SJ 3026-4. JSW welding engineer Mr. Imai monitored the welding parameters and heat control at periodic intervals. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

T1-3 Casting

Two JSW employees were observed removing excess riser material from the exterior surface of the casting T1-3. The material was removed utilizing the Air-Carbon Arc method. Work was not completed on this date and appears to meet the minimum requirements of the contract documents.

East Saddle Casting

The East Saddle casting was removed from the foundry.

The following digital photographs illustrate observations of the activities being performed.

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Summary of Conversations:

There were general conversations with Intertek Testing Services Certified Welding Inspector Mr. Chung-Fu Kuan relative to the location of the welding and inspection personnel in the fabrication shop number 4.

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 Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Lanz,Joe	Quality Assurance Inspector
Reviewed By:	Brasel,Ron	QA Reviewer
