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 #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 70.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002982
Date Inspected: 11-Jun-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Japan Steel Works

OSM Arrival Time: 800
OSM Departure Time: 1830
Location: Muroran, Japan

CWI Name: Chung-Fu Kuan

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**CWI Present:**	☑ Yes ☐ No
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
				Approved WPS:	☑ Yes ☐ No ☐ N/A
				Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: Tower, Jacking and Deviation Saddles

Summary of Items Observed:

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

Fabrication Shop 4

On this date the Caltrans Quality Assurance (QA) inspector, Joe Lanz arrived at JSW fabrication shop number 4 and observed the in process assembly fit-up operation of the structural steel plates for the West Deviation Saddle Base W2E2. The JSW fitter personnel Kiyotaka Koanagi continued assembly by aligning the end plate, piece mark 2-4 with the stem plate, piece mark 2-2, joint designations E2Y-4V. The JSW welding personnel Yoshihiro Ohta, identified as number 08-2017 performed the in process tack welding utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ-3011-3. The filler metal utilized was identified as 4.0mm diameter, Class E9018-M-H4R, Brand name Hoballoy 9018-M. 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 160° Celsius and maximum interpass temperature of 260° 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 SMAW welding average amperage and voltage by clamp type meter and travel speed were verified to be within the welding procedure specification parameter range of 145 amps to 165 amps, 21 volts to 24 volts and travel speed of 72 to 97 mm per minute for the 4.0mm electrode by the QA inspector. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

Foundry

On this date the QA representative Joe Lanz traveled to JSW foundry to monitor the in process casting repair welding on West Deviation Saddle casting W2E1. The welding was performed to build up the thickness of the ribs in areas that were found to not meet the minimum thickness of the contract special provisions. The repair locations and repair details for this casting were submitted as number 000643, revision 02. The JSW welding personnel Mr. H. Sato, identified as number 69-2697 started the in process repair welding of Rib 4L, repair 3-2, utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ 3026-2. The welding was performed in the 2G (Horizontal) position. The filler metal utilized was identified as 4. 8 mm diameter, Class E10016-G, Brand name LB-106. The minimum preheat temperature of 150° Celsius and maximum interpass temperature of 260° Celsius was verified to meet the WPS requirements by the QA inspector utilizing Tempilstik temperature indicators. The SMAW welding average amperage and voltage by clamp type meter and travel speed were verified to be within the welding procedure specification parameter range of 180 amps to 240 amps, 22 volts to 26 volts and travel speed of 115 to 280 mm per minute by the QA inspector. The repair on rib 4L, number 3-2 length is 410 mm, width is 120 mm and maximum depth is 3 mm with an area of 492 square centimeters. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	W2E2, E2Y-4V	SJ-3011-3	C. Kuan	150 AC	23 AC	80 mm/min.	160° C	Y. Ohta
2	W2E1, 3L	SJ-3026-2	N/A	220 AC	23 AC	200 mm/min.	190° C	H. Sato

Summary of Conversations:

There were general conversations with Japan Steel Works, Ltd. representative and Mr. Kazunori Sato and Intertek Testing Services Certified Welding Inspectors Mr. Chung-Fu Kuan relative to the location of the welding and inspection personnel in the fabrication shop number 4 and as noted above.

On this date the QA inspector attended an informal meeting at Japan Steel Works Muroran facility. The QA inspector met with JSW personnel Mr. Hiroshi Iga, General Manager and Mr. Kazunori Sato, Deputy Manager. The requirements of the contract special provisions section 8-3.01 ‘Welding’ requirements for fillet weld soundness test requirements and the specific test requirements of AWS D1.5-2002 were discussed.

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