DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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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-004482
Date Inspected: 17-Oct-2008

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

OSM Arrival Time: 900
OSM Departure Time: 1700
Location: Muroran, Japan

CWI Name: Kuan Chung

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 Saddle

Summary of Items Observed:

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

FOUNDRY SHOP

On this date the QA representative Dong J. Shin arrived at Japan Steel Works (JSW) of Muroran Japan and traveled to JSW foundry and observed the build up welding on West Deviation Saddle casting W2-E2. 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 details for this casting were submitted as number 000643, revision 02. The JSW welding personnel Mr. Y. Kabutomori continued the in process build up welding of Rib8U, repair B-B, location B-7 build up weld 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 5mm diameter, Class E10016-G, Brand name LB-106. The minimum preheat temperature of 160 degrees Celsius and maximum interpass temperature of 260 degrees Celsius was verified to meet the WPS requirements. 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 work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

FABRICATION SHOP # 4

Mr. Kobayashi and Mr. Nakasato performed welding on E1Y-7V, E1Y-10V and E1Y-6Vrib plate to rib plate and

rib plate to stem plate of W2E1 casting to steel structure. The fill pass welding Flux Core Arc Welding (FCAW) process per the welding procedure specification (WPS) SJ-3011-5 and SJ 3011-6. The welding was performed in the 2G (Horizontal) position. And Shield metal Arc welding(SMAW) process per SJ-3011-5, SJ 3011-6 and SJ 3011-7. The filler metal utilized was identified as 1.6mm diameter, Class E90T5-K2C H4, Brand name TM 95K2 for FCAW and diameter 4.0 and 4.8 mm as Hoballoy 9018M AWS E 9018 for SMAW. 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 degrees Celsius and maximum interpass temperature of 260 degrees 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 325amps to 350 amps, 35 volts to 38 volts and travel speed of 255 to 310 mm per minute for the 1.6mm Wire and 140 amps, to160 amps, 21 volts to 24 volts for SMAW electrode. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

WQT WITNESS

QA Inspector observed a welder qualification test using welding procedure SJ-2983, WP-1 performed by JWS welding personnel Mr. Ryuoichi Hazuka ID 06-2643. The welding was performed utilizing the Flux Core Arc Welding Process in the Horizontal (2G) position and Shield Metal Arc Welding process in the vertical up (3G) position. The filler metal Flux Core Wire appears to be TM-55, E70T-SMJH4 AWS A5.29 for FCAW and diameter 4.0mm AWS E9018M for SMAW. The welding was performed as per the AWS D1.5, 2002 Section 5.23 requirements The Intertek QC inspectors, Mr. Chung Kuan checked welding parameter and recorded the preheat and interpass temperatures, the average amperage, voltage and the travel speed for all weld passes. The welding of this plate was completed on this date. The QA inspector noted that the welding appeared to meet the minimum requirements of AWS D1.5-2002 and the contract documents.

Summary of Conversations:

No specific conversations.

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:	Shin,DJ	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer