

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-005258**Date Inspected:** 23-Jan-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Chung Kuan**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:** Tower, Jacking and Deviation Saddles**Summary of Items Observed:**

Steel Structure Welding Shop:

T1-2 Tower Saddle Casting: Caltrans QAI representative observed four welders perform buttering build up welding on rib plates numbered 8Y-5U1, 8Y-5U-2, 8Y-5U-3, 8Y-9U and 8Y-12U-3 of T1-2 tower saddle casting portion. This buttering welding is approved by Caltrans RFI# ABF-RFI-001453. The buttering buildup metal welding utilizing the SMAW process was conducted by welders in the flat position. A 10mm high weld metal has been weld up entire surface of rib plate. The proper filler metal used for SMAW is LB52A (E7016) with 5mm diameter electrode made by Kobe, Japan. The SMAW welding process and parameters have been uses Caltrans approved WPS # SJ-3012-1-2, also monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observation, the buildup SMAW welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans approved RFI documents.

W2W1 West Deviation Saddle Steel Structure: Caltrans QAI representative observed JSW welders in process fit up and Shielded Metal Arc Welding (SMAW) temporary tack welding on the W2W1 west deviation saddle steel structure portion. Total of two rib plates numbered 4-4 and 4-16 have been fit up and tack weld attached to stem plate numbered 4-2. The proper filler metal used for SMAW is Hoballoy 9018-M with 4.2mm diameter electrode made by Hobart Brothers, USA. The task weld areas have been preheated to 110C prior welding. The fit up and tack welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans observations, no discrepancies were noted.

W2E3 West Deviation Saddle Steel Structure: Caltrans QAI representative observed two welders perform Shielded Metal Arc Welding (SMAW) 4 layer root pass on stem plate 3-2 of W2E3 west deviation saddle. The

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proper filler metal used for SMAW is Hoballoy 9018-M with 4mm diameter electrode made by Hobart Brothers, USA. The entire steel structure remains preheat temperature minimum 110C degree during root pass welding. The root pass welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observation, the SMAW root pass welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract documents. The SMAW root pass welding surface also has been MT test after welding.

Casting Shop:

T1-3 Tower Saddle Casting: Caltrans QAI observed a JSW welder perform SMAW major buildup metal repair welding on exterior rib 9-9 of T1-3 tower saddle casting portion. The size of lack of thickness area is 760mm L x 530mm W x 14mm H. The lack of thickness area is caused by the unexpected shrinkage. The repair welding has been approved by Caltrans. The proper filler metal used for SMAW is LB62 with 5mm diameter electrode made by Kobe, Japan. The SMAW welding process and parameters have been Caltrans approved WPS SJ-3026-4. The entire casting portion is preheated to a min 150C during repair welding. Based on Caltrans QA observations, the buildup SMAW welding operation appeared to be in general compliance with requirements of ASME IX 2005 and Caltrans approved RFI documents.

Summary of Conversations:

As noted within the report.

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 Nina Choy (510)385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Pau,Wai	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer
