

**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-005103**Date Inspected:** 27-Dec-2008**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:

T1-3 Tower Saddle Steel Structure: Caltrans Quality Assurance Inspector (QAI) representative observed Japan Steel Works (JSW) welders perform Flux Cored Arc Welding (FCAW) processes on a rib 9Y-7V (3-2) and 9Y-8V (3-3) of T1-3 tower saddle steel structure. The two welders started welding from 70% weld complete and continued to 100% complete. The filler metal and shield gas used for FCAW welding is Hoballoy wire TM-95K2, 1.6 diameter made by Hobart Brothers, USA with 100% C02. The parameters used for FCAW welding of assemblies were verified to be in accordance with Caltrans approved WPS #SJ-3012-3. The FCAW welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observation, the FCAW welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract documents.

W2E3 West Deviation Saddle Steel Structure: Caltrans QAI representative observed JSW welders in process fit up and SMAW temporary tack welding on the W2E3 west deviation saddle steel structure portion. Total of two rib plates numbered 3-5 and 3-6 have been fit up and tack weld attached to stem plate numbered 3-2. During observation Caltrans QAI has found two more cracks on the prior task welding. All the cracks have been found will be 100% remove from the tack welds by grinding and the areas reevaluated by Magnetic Particle Test (MT) after the fit up process finish. The fit up and tack welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan.

## Casting Shop:

T1-2 Tower Saddle Casting: The QAI observed Nikko Inspection Service (NIS) NDT technicians performed dry

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MT testing on all the surfaces of T1-2 tower saddle casting after blasting. The dry MT was performed and evaluated in accordance with ASTM standard E709 and Caltrans Special Provisions, using the yoke method. The yoke utilized appeared to be model UM 3BF, serial numbers 93-05. The yoke light output was verified with a Hioki model 3408 light meter. The magnetic field was verified with a field indicating gauge (pie gauge). Visible dry red magnetic particles were utilized and made by Magnotron, Japan. During MT test, no relevant indication on the surface were discovered. The MT test has been completed today. Based on Caltrans QA observation, the MT test operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract 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.

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<b>Inspected By:</b>	Pau,Wai	Quality Assurance Inspector
<b>Reviewed By:</b>	Lanz,Joe	QA Reviewer

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