

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-005257**Date Inspected:** 24-Jan-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**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:

W2E2 West Deviation Saddle Casting and Steel Structure Joint Section: Caltrans Quality Assurance Inspector (QAI) representative observed Japan Steel Works (JSW) welders perform Shielded Metal Arc Welding (SMAW), 4 layer root pass process on rib plate 2-10, 2-11 and 2-12 of W2E2 west deviation saddle and steel portions. These root pass welds are connecting to casting and steel structure. The proper filler metal used for SMAW is Hoballoy 9018-M with 4.2mm diameter electrode made by Hobart Brothers, USA. The entire structure has been preheated to minimum 160C prior welding. The root pass welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Base on Caltrans observation, no discrepancies were noted.

T1-2 Tower Saddle Casting: Caltrans QAI representative observed four welders perform buttering build up welding on rib plates numbered 8Y-5U-2, 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 and performed in the flat position. A 10mm high weld metal has been welded 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 used is Caltrans approved WPS SJ-3012-1-2, also monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observations, the buildup SMAW welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans approved RFI documents.

W2E3 West Deviation Saddle Steel Structure: Caltrans QAI representative observed two welders performed FCAW processes on a rib plate weld E3Y-15V and E3Y-16V of W2E3 west deviation saddle. The filler metal and

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shield gas used for FCAW is Hoballoy wire TM-55, 1.6 diameter with 100% C02 made by USA. The entire welding zone has been pre heat to minimum 110C prior welding. The FCAW welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observations, the FCAW welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract documents.

## Casting Shop:

Casting shop schedule for NDT test or welding has been cancelled for today.



## 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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**Inspected By:** Pau,Wai

Quality Assurance Inspector

**Reviewed By:** Lanz,Joe

QA Reviewer

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