

**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 #: 04-0120F4Cty: 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-005244**Date Inspected:** 17-Jan-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**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:

T1-1 Tower Saddle Casting and Steel Structure joint section: Caltrans QAI representative observed Japan Steel Works (JSW) welders perform Flux Cored Arc Welding (FCAW) process on rib plate weld 7Y-6U-1, 7Y-5U-1, 7Y-5U-2 and 7Y-5U-3 of T1-1 tower. These welds are connecting casting and steel structure. The filler metal used for FCAW is Hoballoy wire TM-55, 1.6 diameter made by Hobart Brothers, USA. The parameters used for FCAW welding of assemblies were conducted in accordance with Caltrans approved WPS #SJ-3011-6. 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, CWI Mr. Chung Kuan and NIS NDT level II technician performed VT and dry MT test on longitudinal and transverse cracks which caused from metal shrinkage and located on horizontal tack welds during fit up process. A total 4 cracks on tack welds have been found on welds E3Y-17L-2 and E3Y-4L-1 after MT test. All the cracks have been removed by grinding. The crack remove areas have re-examined by dry MT test. After MT test completion, Caltrans QAI observed one JSW welder performed SMAW root pass welding. The SMAW root pass welding surface also has been MT test after welding. The proper filler metal used for SMAW is Hoballoy 9018-M with 4.2mm diameter electrode made by Hobart Brothers, USA. The entire steel structure remains preheated to a temperature of 110C degree during the crack removal and root pass welding. The root pass welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. All of root pass welds were also accepted by MT test after welding and Caltrans QAI used same method verified the root pass welds. Based on Caltrans observation, no discrepancies were noted

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# WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

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**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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