

**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-002324**Date Inspected:** 06-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** Japan Steel Works**Location:** Muroran, Japan

<b>CWI Name:</b>	Chung Kuan / MaKhmun Ashadi			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	PQR Test Plate SJ-2942-WP-6		

**Summary of Items Observed:**

PQR qualification test:

Caltrans Quality Assurance Inspector (QAI) representative Mr. Wai Pau, travel to Japan Steel Works (JSW) Muroran plant to witness an AWS D1.5 standard PQR qualification welding test. The number of PQR qualification welding test is SJ-2942-WP-6 (SW-4-2). The PQR qualification tests utilizing two welding processes, the Shielded Metal Arc Welding (SMAW) from root pass to the 30mm thick weld metal with uphill vertical position (3G) and Flux Cored Arc Welding (FCAW) from 30mm SMAW weld metal to the top of the test plate with flat position (1G) were conducted by welder Mr. Masashi Ito (73-4632) performing.

The material used for the PQR qualification test specimens was reported by JSW Welding Engineer Mr. Takaaki Maruya as ASTM a 709M-HPS-485WT plate and having a wall thickness measurement of 110mm. The weld joint design used butt joint, single-V-groove weld with 20mm x 75mm backing bar. The proper filler metal and shield gas used in the test for SMAW and FCAW is Hoballoy 9018-M with 5mm diameter electrode and TM-95K2, 1.6 diameter with 100% CO2 made by Hobart Brothers, USA. The welder performed the SMAW welding process and parameters have been monitored and recorded by CWI inspectors Mr. Chung Kuan, Mr. MaKhmun Ashadi and JSW Welding Engineer Mr. Takaaki Maruya, also observed by Caltrans QAI. A total of thirteen interior filler weld passes (#1 to #6) were completed on this date. The preheat temperature of the test plate is to be held at 120 C overnight for the continuation of the welding at tomorrow. Based on Caltrans QA observation, no discrepancies were noted.

Tack welder qualification test:

Caltrans QAI Mr. Wai Pau, witnessed tack welder qualification test. The tack welder qualification test utilizing the SMAW process was conducted by Mr. Hirokazu Umemoto (77-2054) and Mr. Akechi Kitahara (73-2680)

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performed in both horizontal position (2F) and vertical position (3F). The material used for the PQR qualification test specimens was reported by JSW Welding Engineer Mr. Takaaki Maruya as ASTM a 709M-HPS-485WT plate with T-joint design. The SMAW welding parameters used for the welder qualification tests were conducted in accordance with Procedure No. SJ-2983-WP-4. The two tack welder qualification tests were monitored and recorded CWI Mr. Mr. Chung Kuan, aslo was observed by Caltrans QA. After tack welding completion, the ruptur break test has been applied on those tack welding specimen. The tack welding test and rupture break test were appeared to be in general compliance with requirements of AWS D1.5 2002 section 5. A Caltrans Lot# B88-037-08 thru B88-040-08 were assigned on the results of these tack welder tests for tracking propose.

### **Summary of Conversations:**

As Note within the report above.

### **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)697-6363, 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>	Brasel,Ron	QA Reviewer

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