

**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-002821**Date Inspected:** 14-Mar-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 and MaKhmud Ashadi			<b>CWI Present:</b>	Yes	No	
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A
<b>Bridge No:</b>	34-0006			<b>Component:</b>	PQR test plate		

**Summary of Items Observed:**

Witness welding test for PQR #SJ-2942-WP5 (test plate SW-4-1)

Caltrans Quality Assurance Inspector (QAI) representative Mr. Danny Reyes and 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-5 (test plate SW-4-1). The PQR qualification tests utilizing two welding processes, the Shielded Metal Arc Welding (SMAW) from root pass to the 30mm thick weld metal and Flux Cored Arc Welding (FCAW) from 30mm SMAW weld metal to the top of the test plate were conducted by welder Mr. Kouzou Kobayashi (08-5023) performed in the flat position (1G)

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 FCAW is TM-95K2, 1.6 diameter with 100% CO2 made by Hobart Brothers, USA. The welder performed the FCAW welding process and parameters have been monitored and recorded by CWI inspectors Mr. Chung Kuan, Mr. MaKhmud Ashadi and JSW Welding Engineer Mr. Takaaki Maruya, also observed by Caltrans QAI. A total of twenty-seven interior filler weld passes (#50 to #62) 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.

Witness AWS D1.5 standard welder qualification welding test:

Caltrans Quality Assurance Inspector (QAI) representative Mr. Wai Pau witnessed three welder qualification tests. The qualification welding tests utilizing the Shielded Metal Arc Welding (SMAW) process were conducted by welders performed in the vertical position (3G). The welder test names are Mr. Makoto Kato (08-5018), Mr. Kazuo Sibuki (08-5050), and Mr. Yoshimitsu Watanabe (73-3873). The material used for the welder qualification

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test specimens was reported by JSW Welding Engineer Mr. Jomio Imai as ASTM a 709M-HPS-485WT plate having a wall thickness measurement of 25mm. The weld joint design used butt joint, single-V-groove weld with 25mm backing bar . The proper filler metal used in the test for SMAW is Hoballoy 9018-M with 5mm diameter electrode made by Hobart Brothers, USA. The SMAW welding process and parameters have been monitored and recorded by CWI inspectors Mr. Chung Kuan. However, the three welder qualification welding tests have been rejected by CWI Mr. Chung Kuan and verified by Caltrnas QAI result in weld profiles excess of code allowances on the specimen. Caltrnas QAI offered immediate retest which refused by JWS welding foreman.

**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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