

**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-005253**Date Inspected:** 27-Dec-2007**Project Name:** SAS Superstructure**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Contractor:** Japan Steel Works**OSM Arrival Time:** 830**OSM Departure Time:** 2000**Location:** Muroran, Japan**CWI Name:** Kenji Takemi / Samfort 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:** test plate**Summary of Items Observed:**

Caltrans Quality Assurance Inspector (QAI) representative Mr. Wai Pau, travel to Japan Steel Works (JSW) Muroran plant to witness two AWS D1.5 standard PQR qualification welding tests and six ASME IX standard welder qualification test.

**PQR qualification welding test (1G):**

The PQR qualification tests utilizing the Shielded Metal Arc Welding (SMAW) process were conducted by welder Mr. Kouzou Kobayashi (08-5023) performed in the flat position (1G). The number of PQR qualification welding test is SJ-2942-WP-2. The material used for the PQR qualification test specimens was reported by JSW Welding Engineer Mr. Takaaki Maruya as ASTM A148 Gr.620-415 (casting) and ASTM A709-HPS-485WT (plate) both having a wall thickness measurement of 50mm. The weld joint design used butt joint, single-V-groove weld with 20mm x 75mm backing bar. The filler metal used in the test is Hoballoy 9018-M with 5mm diameter electrodes, made by Hobart Brothers, USA. The electrode certification is 38H621. The SMAW welding and parameters have been monitored and recorded by CWI inspectors Mr. Samfort Kuan also observed by Caltrans QAI. A total of seventeen interior filler weld passes (#27 to #43) were completed on this date. The parameters detail check with QAI TL-6032 welding report (12-25-07). The preheat temperature of the test plate is to be held at 30 C overnight for the continuation of the welding at tomorrow. Based on Caltrans QA observation, no discrepancies were noted.

**PQR qualification welding test (3G):**

The PQR qualification tests utilizing the Shielded Metal Arc Welding (SMAW) process were conducted by welder Mr. Tatuyu Naitoh (71-2736) performed in the uphill vertical position (3G). The number of PQR qualification welding test is SJ-2942-WP-3. The material used for the PQR qualification test specimens was reported by JSW

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Welding Engineer Mr. Takaaki Maruya as ASTM A148 Gr.620-415 (casting) and ASTM A709-HPS-485WT (plate) both having a wall thickness measurement of 50mm. The weld joint design used butt joint, single-V-groove weld with 20mm x 75mm backing bar. The filler metal used in the test is Hoballoy 9018-M with 4mm diameter electrodes, made by Hobart Brothers, USA. The electrode certification is 30H438. The SMAW welding and parameters have been monitored and recorded by CWI inspectors Mr. Kenji Takemi and JSW Welding Engineer Mr. Takaaki Maruya, also observed by Caltrans QAI. A total of ten interior filler weld passes (#11 to #23) were completed on this date. The parameters detail check with QAI TL-6032 welding report (12-26-07). The preheat temperature of the test plate is to be held at 30 C overnight for the continuation of the welding at tomorrow. Based on Caltrans QA observation, no discrepancies were noted.

Witness ASME IX standard welder qualification welding test:

The welder qualification tests utilizing the Shielded Metal Arc Welding (SMAW) process were conducted by welders performed in the horizontal position (2G) and vertical position (3G). The 2G position welder test names are Toshio Kubota (75-1928), Yuuhei Suzuki (03-2302), Akira Takenami (06-8001), Kazuya Komai (06-8002) and Mitshunori Fujii (06-8004), the 3G position welder test names are Akira Takenami (06-8001) and Kazuya Komai (06-8002). The material used for the welder qualification test specimens was reported by JSW Welding Engineer Mr. Jomio Imai as ASME SA-516M Grade 450 having a wall thickness measurement of 19mm. The weld joint design used butt joint, single-V-groove weld with backing welding (ASME IX QW-402.4). The filler metal used in the test is LB-52 (AWS A5.1/ E7016) with 4mm and 5mm diameter electrode, made by Kobe Steel, Japan. The SMAW welding parameters used for the welder qualification tests were conducted in accordance with procedure No. SP-78067-WP-2 which was previously submitted two days prior qualification test. Monitoring and recording of the welder qualification tests by JSW Welding Engineer Mr. Jomio Imai was observed by Caltrans QAI. The ten welder qualification tests appeared to be in general compliance with requirements of ASME IX 2005 section QW-400 and Caltrans contract documents.

### Summary of Conversations:

JSW Welding Engineer Mr. Jomio Imai and Mr. Takaaki Maruya informed Caltrans QAI that ASME standard SMAW welder qualification test and AWS D1.5 standard PQR qualification test will be schedule continue on 0830, 12-28-07.

### 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>	Lanz,Joe	QA Reviewer

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