

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-002332**Date Inspected:** 03-Mar-2008**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 and MaKhmun Ashadi			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:	PQR test plate		

Summary of Items Observed:

PQR welding test SJ-2942-WP-12:

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-12 (test plate SW-8-1).

The material used for the PQR qualification test specimens was reported by JSW Welding Engineer Mr. Takaaki Maruya as ASTM a 709 M-HPS-485WT and A148-Gr-620-415 plate to casting and having a wall thickness measurement of 90mm. The weld joint design considered a Partial joint penetration (PJP) double bevel groove weld with one side 39mm thick, root face 2mm and other side 49mm thick. The PQR qualification test utilizing two welding processes, the Shielded Metal Arc Welding (SMAW) and Flux Cored Arc Welding (FCAW) were conducted by welder Mr. Kouzou Kobayashi (08-5023) performed in the flat position (1G).

The proper filler metal and shield gas used in the test for FCAW is Hoballoy 9018-M with 5mm diameter electrode and TM-95K2, 1.6 diameter with 100% C02 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 eight interior filler weld passes have been completed on 49mm thick side and the PQR welding for this plate has been completed. Based on Caltrans QA observation, The PJP welding test was appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract document. The PQR will schedule to macro etch test.

Observed Magnetic Particle Test (MT) on West Deviation Saddle Segments numbered W2E1:

The QAI periodically observed The Nikko Inspection Services (NIS) NDT technicians Mr. Harumi Kohama perform dry MT testing of casting W2E1 exterior surface trough all of excavated area after grinding. The dry MT

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

was performed in accordance with ASTM standard E709, using the yoke method. The yoke utilized appeared to be model UM 3BF, serial numbers 93-01. The yoke dead lift was verified with a 4.65kg test plate. The yoke light output was verified with a Hioki model 3408 light meter to be 2050Lx and 1450Lx. The magnetic field was verified with a field indicating gauge (pie gauge). Visible dry red magnetic particles were utilized and made by Magnotron, Japan. The testing was evaluated in accordance with the contract special provisions and ASTM E709. During MT test four spots excavated areas were found line indication (size 0.5mm x 1mm) on the surface that be marked by NDT technicians for additional grinding repair after inspection.

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.

Inspected By:	Pau,Wai	Quality Assurance Inspector
Reviewed By:	Brasel,Ron	QA Reviewer
