DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 70.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-005500
Date Inspected: 25-Feb-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Japan Steel Works

OSM Arrival Time: 830
OSM Departure Time: 1630
Location: Muroran, Japan

CWI Name: Chung Kuan

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ 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:
Test Lab

T1-3 Tower Saddle Casting Portion (witness casting mechanical tests): Caltrans QA Inspector representative, traveled to Nikko Inspection Service (NIS) test lab, to witness two mechanical tests for T1-3 tower saddle casting for material approval. The mechanical test includes one casting metal tension test and three Charpy impact test at 0 degree Celsius. The entire mechanical tests operation were monitored and accepted by the NIS foramen Mr. Hideo Domon. Based on Caltrans QA observation, the various mechanical tests appeared to be in general compliance with requirement of Caltrans Special Provision and ASME IX 2006 Section. A Caltrans Lot# B240-013-09 was assigned on the results of these two mechanical tests for tracking propose.

Steel Structure Welding Shop:

W2W1 West Deviation Saddle Steel Structure (FCAW welding): Caltrans QAI representative observed two welder perform FCAW processes on rib plates 5L and 5U and weld numbers W1Y-15L, W1Y-15V, W1Y-16V and W1Y-17L, west deviation saddle. The filler metal and shield gas used for FCAW is Hoballoy wire TM-95K2, 1.6 diameter with 100% C02. The entire welding zone has been preheated to minimum 110 C prior welding. 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.

T1-1 Tower Saddle Casting and Steel Structure Joint Section (base plate FCAW welding): Caltrans QAI

representative observed JSW welders in process of Shielded Metal Arc Welding (SMAW) root pass on base plate of T1-1. The weld numbers is 7Y-6L, 7Y-8L and 7Y-9L. The proper filler metal used is LB-52 (AWS A5.1/ E7016) with 4mm and 5mm diameter electrode, made by Kobe Steel, Japan. The entire steel structure remains preheated to temperature minimum 110 C degree during root pass welding. The root pass welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. The SMAW root pass welding surface also has been MT test after welding. Based on Caltrans QA observation, the SMAW root pass welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract documents.

T1-2 Tower Saddle Casting and Steel Structure Joint (pre fitup): Caltrans QA Inspector representative observed JSW welders perform fit up on casting and steel portion of the T1-2 tower saddle. Numerous bevel areas require additional grinding after the gap and alignment of rib plates and stem plates are adjusted to meet the requirement of approved drawing. Base on Caltrans observation, no discrepancies were noted. The permanent fit up and production welding for T1-2 will schedule on next week. Based on Caltrans observation, no discrepancies were noted.

Casting Shop:

T1-3 Tower Saddle Casting (MT test): Caltrans observed QAI NIS NDT level II technician perform dry MT test on the surface of T1-3 tower saddle casting portion after sand blasting. The dry MT test is using the yoke method. The yoke utilized appeared to be model UM 3BF, serial numbers 93-05. The magnetic field was verified with a field indicating gauge (pie gauge). Visible dry red magnetic particles were utilized and made by Magnotron, Japan. During dry MT test a various small size linear indications have been found on the few surface spots and those indications will be ground after MT test. The MT test will continue to tomorrow. Based on Caltrans QA observation, the MT test operation appeared to be in general compliance with requirements of ASTM standard E709 and Caltrans contract documents.


T1-2 pre fit up casting and steel portion


W2W1 rib plate welding

WELDING INSPECTION REPORT

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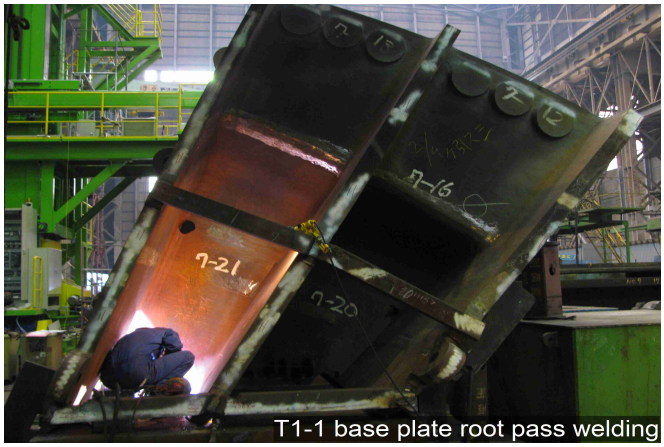

Summary of Conversations:

As noted 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:	Lanz,Joe	QA Reviewer