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 #: 04-0120F4
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-004522
Date Inspected: 30-Oct-2008

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

OSM Arrival Time: 800
OSM Departure Time: 1800
Location: Muroran, Japan

CWI Name:	Chung Fu-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: Tower, Deviation and Jacking Saddles

Summary of Items Observed:

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components regarding the West Deviation and the Tower Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the shift, the QA inspector observed the scheduled Partial Joint Penetration (PJP) groove welding of the structural steel grillage to the casting, QC inspection and the verification of the Alternating Current (AC) welding parameters during the welding on the West Deviation Saddle identified as W2E1. The welding was performed of the grillage stem to the casting stem connection identified as E1S-2U.

The welding on the E1Y-2U connection was performed by Japan Steel Works, Ltd. (JSW) welding personnel Watanabe Sotaru ID 08-5159 Yamashita Masao ID 73-4195 and Takatoshi Inowe ID 08-5163 utilizing the Shielded Metal Arc Welding (SMAW) process. The welding of the PJP connection was performed utilizing the Welding Procedure Specification (WPS) SJ-3011-5, which was also used as a reference by Intertek Testing Services (ITS) Quality Control (QC) Inspector Chung Fu-Kuan during QC verification of the welding parameters.

The QA inspector also observed the welding was performed utilizing the Distortion Control Plan, identified as Document Number SJ-3109 Revision 4. It was also noted the welding was performed in the horizontal (2G) position with the work in the vertical plane and the axis of the weld horizontal.

The consumable utilized by the welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as Hoballoy 9018-M which appeared to comply with the AWS Specification A5.5 and the AWS

Electrode Classification E9018-M-H4R. The diameter of the electrodes utilized was 4.8 in diameter.

Later in the shift the QA inspector observed the weld build-up of the casting stem on the Tower Saddle identified as T1-1. The welding was performed on the casting stems which were identified as 7S-2U and 7S-3U utilizing the Welding Procedure Specification (WPS) SJ-3012-1-1. The WPS was also used by the QC inspector as a reference during QC verification of the Alternating Current (AC) welding parameters. The SMAW process was performed on the weld identified as 7S-2U by JSW welding personnel Ryota Kato ID 07-4510, Daisuke Hirakawa ID 08-3566 and 7S-3U was performed by the welding personnel Yuta Saito and Ryouichi Iizuka. The tower saddle was positioned so that the performance of the welding was in the flat position with the work in the horizontal plane and the weld metal deposited from above.
The 5.0 diameter consumable utilized by the JSW welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as LB52-A which appeared to comply with the AWS Specification A5.1 and the AWS Electrode Classification E7016.

The QA inspector also observed the welder performance test and the QC inspection during the testing by JSW personnel Kashiwada Mutuo ID 08-2008. The test was performed in horizontal (2G) position utilizing the gas shielded Flux Cored Arc Welding (FCAW-G) process as per the WPS SJ-2983 WP-5, which was also used by the QC inspector as a reference during the monitoring of the welding and verification of the Direct Current (DC) welding parameters. At the conclusion of the testing the QC inspector performed a final visual examination of the welding and no rejectable discontinuities were noted. The QA inspector concurs with the QC inspector assessment.

The consumable utilized appeared to be a Hobart Brothers Product identified by the trade mark brand TM-55 and appeared to comply with the AWS Specification A5.29 and Electrode Classification E70T-5MJ H4. The testing was conducted by JSW Welding Engineer, Takaaki Maruya.

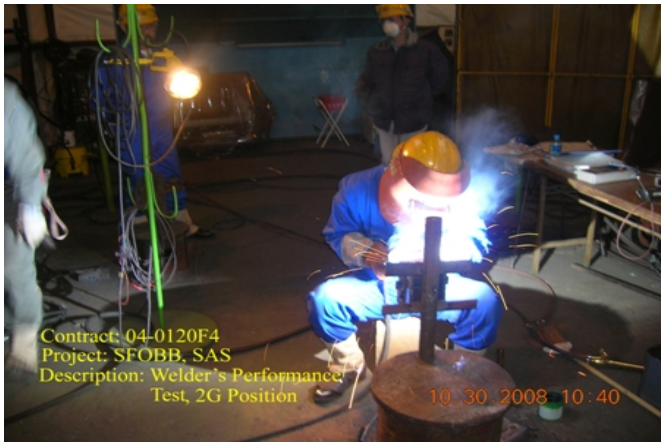
At random intervals the QA inspector observed the QC inspector performing QC verification of the welding parameters, the minimum preheat and maximum interpass temperatures.

The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators were utilized during the verification of the heat control. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Chung Fu-Kuan appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

See Weld Joints in Progress Inspected on page 3 of this report in regards to QA observation of the welding parameters recorded during this shift and digital photographs illustrates the observations of the activities performed on this date.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	7S-2U	SJ-3012-1-1	C. Fu-Kuan	260 AC	24 AC	170mm/m	205 Degrees C.	Saito
2	7S-3U	SJ-3012-1-1	C. Fu-Kuan	262 AC	24.5 AC	168mm/m	200 Degrees C.	Kato
3	E1S-2U	SJ-3011-5	C. Fu-Kuan	264 AC	23 AC	154mm/m	195 Degrees C.	Sotoru
4	E1S-2U	SJ-3011-5	C. Fu-Kuan	259 AC	24 AC	166mm/m	210 Degrees C.	Masao

Summary of Conversations:

There were no pertinent conversations relative to the project on this date.

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) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer