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-003525
Date Inspected: 18-Aug-2008

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

OSM Arrival Time: 800
OSM Departure Time: 1630
Location: Muroran, Japan

CWI Name: Chung Fu-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, 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 for the West Deviation relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the shift the QA inspector traveled to the Fabrication Shop # 4 to observe the continued Partial Joint Penetration (PJP) groove welding of the structural steel plate components for the West Deviation Saddle identified as W2E2. The Welding Procedure Specification (WPS) SJ-3011-2 and the Distortion Control Plan, identified as Document SJ-3109 Revision 3 was utilized by the Japan Steel Works, Ltd. (JSW) personnel during the production welding of the rib plate to base plate connection identified as EY2-7L and EY2-8L. The WPS and the Distortion Control Plan were also used as a reference during QC verification of the welding parameters and the monitoring of the weld sequence. The production welding sequence was performed as per Attachment 5, Case 2 Step 2 and Attachment 6, Step 4 of the Distortion Control Plan. The welding was performed in the Flat (1G) Position with the work in the horizontal plane and the weld metal deposited from above.

The gas shielded Flux Cored Arc Welding (FCAW-G) was performed by JSW welding personnel Mamoru Kubota ID 74-3666 and Masatugu Kabayashi ID 08-5154. The consumable utilized by the welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as TM 95K2 which appeared to comply with the AWS Specification A5.29 and the AWS Classification E90T5-K2C H4. The size of the electrode was 1.6 mm in diameter.

The Quality Control (QC) inspection was performed by Intertek Testing Services (ITS) personnel Chung Fu-Kuan

and verified the preheat temperatures, welding parameters and performed the in process weld inspection during this shift. The welding parameters were verified utilizing a Hioki 3109 Clamp Meter, Model RMS and the surfaces temperatures were verified utilizing an Anritsu HA 100E digital surface thermometer during the QC verification. The calibration dates of the measuring instruments utilized by the QC inspector were previously verified by this QA inspector.

Later in the shift this QA inspector observed, at random intervals, 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 for the surface temperatures. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Mukhmud Ashadi appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

Magnetic Particle Testing

Later in the shift the QA inspector observed Nikki Inspection Service personnel, Rikuo Kumagai perform the preliminary Magnetic Particle Testing (MPT) on the Partial Joint Penetration (PJP) groove welds on the West Deviation Saddle identified as W2E1. The 100% testing was performed utilizing an AC Yoke manufactured by Eishin Kagaku Co., Ltd. and the method of inspection used was the dry visible continuous inspection. The QC testing was completed during this shift and at the conclusion of the testing the QA inspector performed a preliminary MPT verification in which no relevant indications were noted by the QA inspector at this time.

See Weld Joints in Progress Inspected on Page 3 of this report regarding the QA observations of the production welding parameters recorded during this shift on this date.

The digital photographs, below and on Page 3 of this report illustrates the observations of the activities performed on this date.

WELDING INSPECTION REPORT

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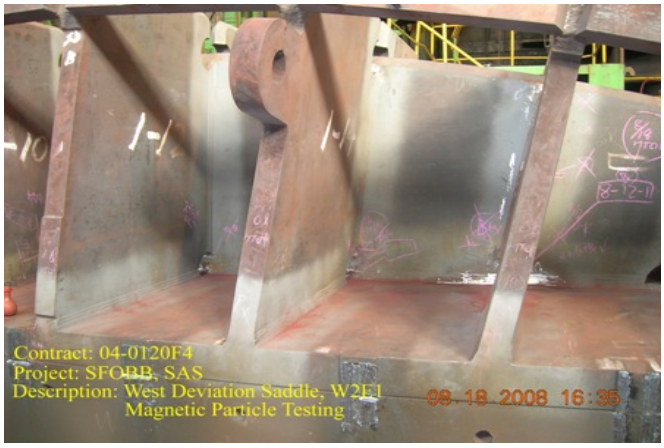

Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	E2Y-7L	SJ-3011-3	C. Fu-Kuan	330 DC	34 DC	280 mm/m	195 Degrees C.	M. Kubota
2	E2Y-8L	SJ-3011-3	C. Fu-Kuan	335 DC	36 DC	290 mm/m	195 Degrees C.	M. Kobayashi

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