

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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002781**Date Inspected:** 14-May-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, Ltd.**Location:** Muroran, Japan

CWI Name:	T. Imai, C. Fu-Kuan, M. 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:	Tower, Jacking and Deviation Saddles		

Summary of Items Observed:

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes observed the following activities relative to this project. The following was observed:

Foundry Shop

At the start of the shift at approximately 08:45 hours, this QA inspector was escorted to the Foundry Shop by Japan Steel Works, Ltd. (JSW) personnel, Kunio Hagaya to observe the continued repair welding of the rib build-up areas identified as rib 1L repair area 2-2 and rib 8L repair area 3-10 on the West Deviation Saddle Casting identified as W2E1. The QA inspector observed the welding performed by JSW welding personnel Noritake-Tamura ID 93-2337 and Kazuya-Komai ID 06-8002 and the in process weld inspection performed by QC inspector Tomio Imai. The welding was performed utilizing the Welding Procedure Specification (WPS) identified as SJ-3026-2 which was also used by the QC inspector as a reference during QC verification of the AC welding parameters. The minimum preheat temperature of 186 degrees was verified by the QC inspector and the average welding parameters were observed as follows; 211 AC amps and 25.5 AC volts with a travel speed measured at 190 millimeters per minute (mm/m). The repair welding performed during this shift was not completed on this date.

Fabrication Shop # 4

At approximately 11:15 hours of this shift, this QA inspector was escorted to the Fabrication Shop # 4 by Japan Steel Works, Ltd. (JSW) personnel, Kunio Hagaya to observe the initial assembly fit-up operation of the structural steel plates for the West Deviation Saddle W2E1. Upon the arrival at the fabrication shop this QA inspector observed the JSW fit-up personnel, Ohta-Yoshihiro and Koyanagi-Kiyotaka, in the process of performing the

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layout on the base plate for the location of the stem plate and the rib plates. At the conclusion of the layout task Koyanagi-Kiyotaka commence the transferring of the heat numbers onto the individual steel components utilizing 10 millimeter round steel stamps.

At approximately 13:15 hours the JSW fit-up personnel commence the assembly fit-up of the stem plate to the base plate which was identified accordingly, 1-2 and 1-3. Prior to the assembly fit-up this QA inspector observed Intertek Testing Services (ITS) Quality Control (QC) Inspectors Chung Fu-Kuan and Makhmud Ashadi perform and verify the dimensional layout for the structural steel plate components. At the conclusion of the fit-up and alignment of the stem plate to base plate connection and prior to the tack welding of these components this QA inspector observed the QC Inspector Chung Fu-Kuan verify the alignment of the stem plate to base plate which at this time the QC inspector verified the Partial Joint Penetration (PJP) groove dimensions, in regards to the root opening and the groove angle. No discrepancies were noted by the QC inspector and the tack welding was performed by the welding personnel Ohta-Yoshihiro, ID 08-2017. Prior to the tack welding, QC inspector Makhmud Ashadi verified the minimum preheat temperature of 160 degrees Celsius and shortly thereafter the tack welding commenced, utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) SJ-3011-11 which was also used by the QC inspectors as a reference during the QC verification. The instruments utilized by the QC inspectors to perform QC verification of the welding parameters, preheat and interpass temperatures appeared to be a Hioki 3109-01amp/volt clamp meter and an Anritsu HA-100E digital surface thermometer identified as JSW ID-ST-22.

The consumable utilized during the tack welding appeared to be a Hobart Brothers Product identified as Hoballoy E9018-M with an electrode size of 4.8mm and appeared to comply with the AWS Specification A5.5 and Classification E9018-MH4R. The electrical current and polarity utilized was an Alternating Current (AC).

QA Observation Summary

This QA inspector randomly observed the in process Shielded Metal Arc Welding (SMAW) for the tack welding of the structural Steel components and the repair welding on the casting ribs for the West Deviation Saddles identified as W2E1. This QA inspector noted that it appeared the approved and latest revised WPS's were posted at the appropriate 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 as noted by this QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators for the preheat temperatures. The filler metal utilized by the JSW welding personnel was also verified. The QC inspectors, Chung Fu-Kuan, Makhmud Ashadi (AWS D1. 5-02) and Tomio Imai (ASME) appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters as per the contract documents. The tack welding, repair welding and inspection was not completed during this shift and appeared to be in general compliance with the contract documents.

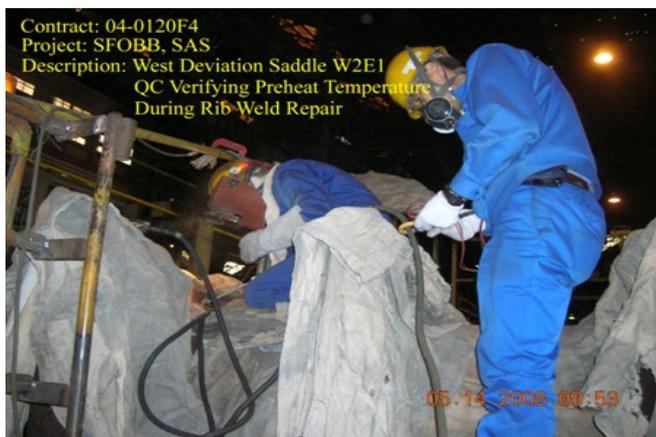
See Weld Joints in Progress Inspected, below, in regards to QA observation of the welding parameters during the tack welding of the structural steel plate recorded during this shift on this date.

The calibration dates of the measuring instruments utilized by the QC inspectors, the clamp amp/volt meter and the digital surface thermometer, were previously verified by this QA inspector.

The following digital photographs illustrate the observations of the activities performed on this date.

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Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	W2E1, EIS-2L	SJ-3011-11	C. Fu-Kuan	250 AC	23.5AC	147mm/mm	160 Degrees C.	Ohta-Yoshihiro

Summary of Conversations:

There were no pertinent conversations relative to this 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