

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 #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003345**Date Inspected:** 31-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Makhmud 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, 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 Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the C-shift the QA inspector traveled to the Fabrication Shop # 4 to observe the continued Partial Joint Penetration (PJP) groove welding of the root and the subsequent fill passes on 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 Document Number SJ-3109 Rev. 1 was utilized by the Japan Steel Works, Ltd. (JSW) personnel during the performance of the production welding of the rib plate to base plate connections which was also used as a reference by the QC inspector during the verification of the welding parameters and the monitoring of the welding sequence plan during production. The welding was performed in the Horizontal Position (2G) with the work in the vertical plane and with the axis of the weld horizontal. The Shielded Metal Arc Welding (SMAW) process was utilized and the welding was performed by the following JSW personnel; Sotoru-Watanabe ID 08-5159, Yuichi-Arai ID 5157, Masao-Yamashita ID 73-4195 and Makoto-Kato ID 08-5018. The PJP welding appeared to be performed as per Step 1, Attachment 6 of the JSW Distortion Control Plan Revision 1.

The consumable utilized by the welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as Hoballoy9018-M which appeared to comply with the AWS Specification A5.5 and the AWS Classification E9018-M H4R. The size of the electrodes used appeared to be 4.0 and 4.8 mm in diameter. The Quality Control (QC) inspection was performed by Intertek Testing Services (ITS) personnel Makhmud

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Ashadi. The QC inspector verified the preheat temperatures of 180 and shortly thereafter the QA inspector observed the QC inspector, Mr. Ashadi verify the Alternating Current (AC) welding parameters. 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 on this date.

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 the QA inspector.

The welding, inspection and the verification tasks were performed on the weld joints identified as E2Y-6L, E2Y-7L, E2Y-8L, E2Y-10L, E2Y-12L and E2Y-13L.

The MPT was performed by the Nikko Inspection Services (NIS) personnel QC Technician, Rikuo Kumagai utilizing an AC Yoke, Type A-6 testing unit which appeared to be manufactured by Eishin Kagaku Co., Ltd. The MPT was performed on 100% of the root pass and was conducted utilizing the MPT procedure identified as SF-MT-01. The following were tested and observed by the QA inspector; E2Y-7L, E2Y-8L, E2Y-10L and E2Y-13L. The tests were performed on both the stamped and unstamped sides of the PJP weld joint. At the conclusion of the testing there appeared to be no relevant indications noted by the QC Technician, Rikuo Kumagai.

At the conclusion of the QC testing, the QA inspector performed a random MPT verification test of the Partial Joint Penetration (PJP) groove root pass. A total area of approximately 10% was tested to verify that the welds and testing by Nikko Inspection Services (NIS) personnel complies with the requirements of the contract documents. The locations are identified by a unique weld identification number and the root passes for the following welds were examined: E2Y-7L-1, E2Y-8L-2, E2Y-10L and E2Y-13L. The QA inspector utilized an AC Parker Contour Probe to perform the testing which revealed no relevant indications at the conclusion of the testing. An MPT report, TL-6028, was generated for this date.

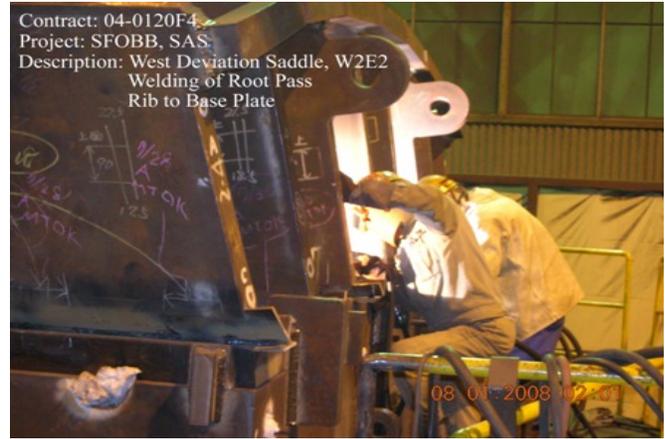
The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel 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 QA inspector also observed the JSW welding personnel removing the rust from the surface of the PJP groove weld prior to welding the weld joints.

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.

The digital photographs on Page 3 of this report illustrates 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	E2Y-7L	SJ-3011-2/Root	Makhmud Ashadi	195 AC	22 AC	105mm/m	197 Degrees C.	Arai
2	E2Y-8L	SJ-3011-2/Root	Makhmud Ashadi	198 AC	24 AC	110mm/m	195 Degrees C.	Yamashita
3	E2Y-12L	SJ-3011-2/Fill	Makhmud Ashadi	262 AC	24 AC	145mm/m	193 Degrees C.	Kato
4	E2Y-13L	SJ-3011-2/Root	Makhmud Ashadi	197 AC	23 AC	109mm/m	202 Degrees C.	Watanabe

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
