

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-003344**Date Inspected:** 30-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 shift the QA inspector traveled to the Fabrication Shop # 4 to observe the work scheduled on this shift for the West Deviation Saddle identified as W2E2. Upon arrival at the fabrication shop the QA inspector observed the in process welding and the Magnetic Particle Testing (MPT) of the Partial Joint Penetration (PJP) groove welds. The welding process utilized appeared to be the Shielded Metal Arc Welding (SMAW) and was performed by Japan Steel Works, Ltd. (JSW) welding personnel Yuichi-Arai ID 08-5157. The Welding Procedure Specification (WPS) utilized by the welder appeared to be SJ-3011-2 which was also used by the Intertek Testing Service (ITS) Quality Control (QC) Inspector Makhmud Ashadi as a reference during verification of the welding parameters. It was also noted by the QA inspector that JSW Distortion Control Plan identified as Document No. SJ-3109 Rev. 1 was utilized in conjunction with the WPS. The welding of the PJP groove weld was performed on the structural steel end plate to base plate connection identified as weld numbers E2Y-17L-1 and E2Y-17L-2 which appeared to comply with the AWS D1.5-2002 joint designation TC-P5. The welding was performed on the stamped side of the end plates.

The consumables used appeared to be a Hobart Brothers product and was identified as a Hoballoy 9018-M, with a diameter size of 4.0 and 4.8 mm which appeared to comply with the AWS Specification A5.5 and AWS Classification E9018-M H4R.

The QA inspector observed the QC inspector, Makhmud Ashadi verify the preheat temperature of 197 degrees Celsius and the welding parameters during the welding of the root pass which were observed as follows, 195 AC

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amps and 23 AC volts with a travel speed measured at 110 mm/m.

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. There appeared to be one relevant indication noted by the QC technician during the testing of the root pass. The QC inspector verified the indication and informed Kunio-Nagaya, JSW Supervisor personnel that the indication exceeded the code limitations and that removal of the indication was required. The indication was removed by grinding and was visually accepted and the MPT was performed prior to and after the repair welding.

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-17L-1 and E2Y-17L-2. 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.

At the conclusion of the QA MPT verification the welder Yuichi-Arai commence the welding of the subsequent fill passes utilizing a 4.8 mm consumable. The welding parameters were verified by the QC inspector and were observed as follows, 250 amps and 24 volts with a travel speed measured at 141 mm/m.

Later in the shift, at random intervals, the QA inspector observed the QC inspector, Makhmud Ashadi perform the following QC activities, verification of the preheat temperatures, the welding parameters and performing visual weld inspection.

The QA inspector's observations were performed at random intervals during the shift and 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.

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

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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
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Reviewed By:	Lanz,Joe	QA Reviewer
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