

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-002792**Date Inspected:** 15-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:** 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:

At approximately 09:00 hours, this QA inspector traveled to the Fabrication Shop # 4 without a Japan Steel Works, Ltd. (JSW) escort to observe the continued assembly fit-up operation of the structural steel plates for the West Deviation Saddle W2E1. Upon the QA inspector's arrival at the Fabrication Shop # 4, Intertek Testing Services (ITS) Quality Control (QC) Inspector Chung Fu-Kuan informed this QA inspector that a QC visual weld inspection was performed on the tack welds and a total of six (6) cracks were found. The cracked tack welds appeared to be located at the stem plate to base plate connection identified accordingly as 1-2 and 1-3. The QC inspector Chung Fu-Kuan informed this QA inspector that the removal of the defective tack welds will be scheduled at a later date and JSW will inform the QC inspector of the scheduling of the repairs. This cracking issue appeared not to apply with tack welding of the rib plate to stem plate or the rib plate to base plate connection. The QC inspector informed this QA inspector that JSW was going to increase the preheat area to eliminate the tack weld cracking issue. In regards to the JSW scheduling of the tack weld repairs this QA inspector informed QC inspector Chung Fu-Kuan that the QA inspector is required to be present at the start of the Non-Destructive Testing (NDE) as stated per AWS D1.5-2002, Chapter 6 Paragraph 6.6.6, "The Contractor shall schedule NDT to facilitate attendance by the QA Inspector. The QA Inspector shall be advised by the Contractor of operational and NDT schedules and scheduled changes."

Later in the shift, this QA inspector observed the JSW fit-up personnel performing the placement and alignment of the rib plates identified as 1-9, 1-10, 1-11 and 1-12. The QC inspectors at this time performed a QC dimensional

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

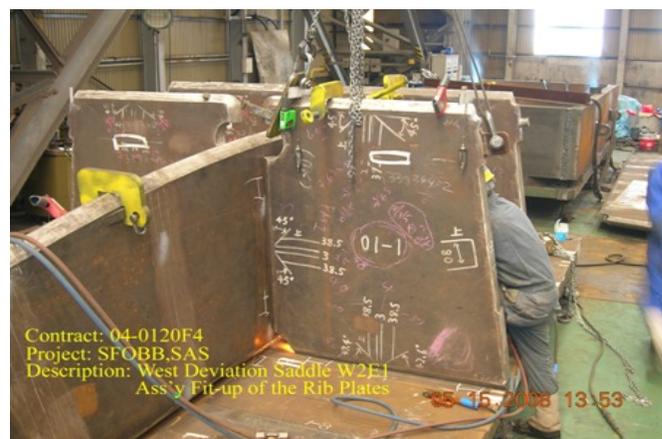
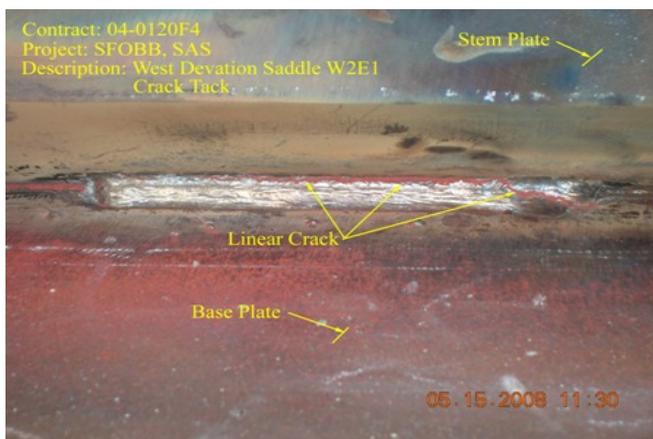
verification prior to the tack welding and no misalignment of the structural steel plate components were noted by the QC inspectors. The minimum preheat of 160 degrees Celsius was verified by QC inspector Mr. Ashadi prior to the tack welding and at this time, the QA inspector observed that the area of the preheat surface was increased substantially prior to the tack welding. The tack welding was performed by JSW welding personnel Ohta-Yoshihiro, ID 08-2017 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 tack welding was performed in the horizontal (2G) and the vertical (3G) position.

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 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 and Mukhmud Ashadi 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 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 recorded during this shift on this date.

This QA inspector also observed the calibration dates of the measuring units utilized by the QC inspectors during QC verification and were as follows, the Anritsu HA 100E digital surface thermometer, JSW ID ST-22 and the calibration due date appeared to be 11/01/08.



Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	W2E1, E1Y-9V	SJ-3011-11	M. Ashadi	150 AC	24 AC	69 mm/m		Ohta-Yoshihiro

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

2 W2E1

SJ-3011-11

C. Fu-Kuan

250 AC

25 AC

140 mm/m

Ohta-Yoshihiro

Summary of Conversations:

There were general conversations relative to this project on this date, "As Noted Above."

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