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-003297
Date Inspected: 25-Jul-2008

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

OSM Arrival Time: 2300
OSM Departure Time: 700
Location: Muroran, Japan

CWI Name: Makhmud Ashadi

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 Saddles relative to this project. The following was observed:

Fabrication Shop # 4

The QA inspector traveled to the Fabrication Shop # 4 to observe the work scheduled for the C-Shift. Upon the QA inspector's arrival at the shop facility it was noted that the West Deviation Saddle identified as W2E2 had been mobilized from Lane A to Lane B and set in the positioner located between column lines B3 and B4. Shortly thereafter, the QA inspector observed the Quality Control (QC) Inspector, Intertek Testing Service personnel Makhmud Ashadi performing a visual weld inspection of the tack welds at the stem plate to rib and base plate connections and the rib plate to base plate connections. The QC inspection revealed twenty (20) cracked tacks which appeared to be isolated at the rib to stem plate connection. The cracks appeared to be located along the fusion zone at the toe of the weld on the rib plate side for the following weld joints identified as E2Y-5V, E2Y-7V, E2Y-9V, E2Y-12V, E2Y-14V, E2Y-15V and E2Y-16V. For additional information see Summary of Conversations.

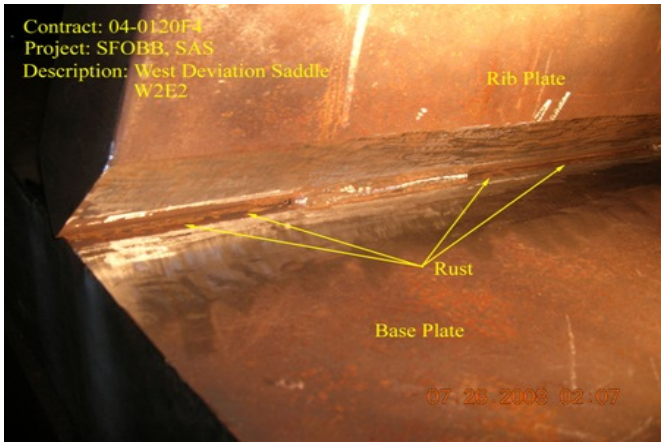
Later in the shift the QA inspector observed that the Japan Steel Works, Ltd. (JSW) personnel had commenced the removal of the cracked tacks utilizing grinding tools.

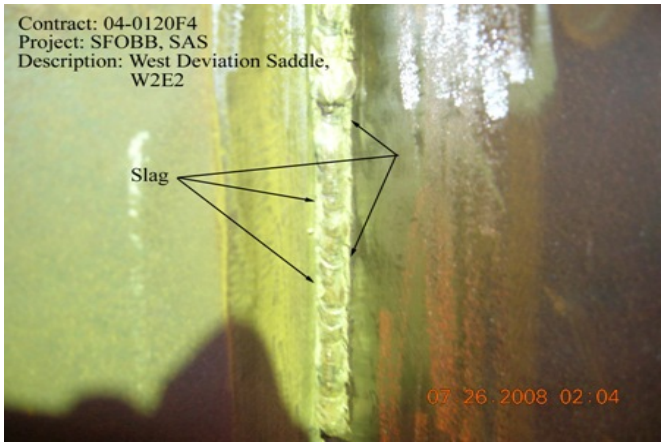
The QA inspector also observed the repair welding on the West Deviation Saddle identified as W2E1. The welding was performed by Japan Steel Works, Ltd. (JSW) welding personnel Mamoru-Kubota ID 3666 who utilized the Welding Procedure Specification (WPS) SJ-3011-2 which was also used by the QC inspector as a reference. The Shielded Metal Arc Welding (SMAW) process was utilized and the electrode size appeared to be 4.

0 mm in diameter. The trade name appeared to be identified as Hoballoy 9018-M which appeared to comply with the AWS Specification A5.5 and the AWS Classification E9018-M H4R.
The QA inspector observed the QC inspector Makhmud Ashadi verify the minimum preheat temperature of 180 Celsius and the maximum interpass temperature of 200 Celsius. At the conclusion of verifying the surface temperatures the QC inspector verified the Alternating Current (AC) welding parameters and was observed as follows, 195 amps and 23 volts with a travel speed measured at 100 mm/m. The scheduled repair welding was performed on the welds identified as E1Y-12V and 12L, E1Y-16V and E1Y-17L-1 which were not completed on this date.

QA Observation Summary

This QA inspector randomly observed the in process Shielded Metal Arc Welding (SMAW) during the repair 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 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 preheat temperatures. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector, 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.





WELDING INSPECTION REPORT

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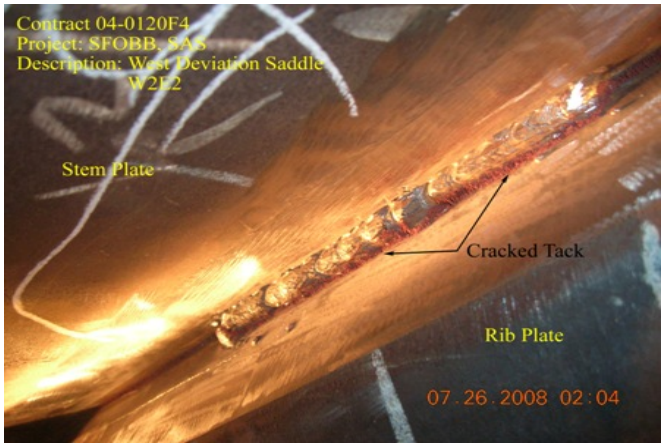

Summary of Conversations:

At the conclusion of the QA inspector verifying the locations of the cracked tacks it was also noted that there were a number of the tack welds that will require the removal of slag located at the toe of the tack weld prior to Visual Inspection (VT) and Magnetic Particle Testing (MPT). It was also noted that there appears to be rust in the Partial Joint Penetration (PJP) groove weld that will require removal prior to the continued tack welding of the PJP groove weld. The QA inspector informed the QC inspector of these issues and at the conclusion of review of the areas in question the QC inspector concurred with the QA inspector's assessment. The QC inspector, Mr. Ashadi also informed the QA inspector that the dayshift QC inspector, ITS personnel Chung Fu-Kuan would also be notified of these issues.

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