

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-002868**Date Inspected:** 27-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2230**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 830**Contractor:** Japan Steel Works, Ltd.**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, Jacking and Deviation Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the repair welding of the Saddle Casting. The following was observed:

**Foundry Shop**

At the start of the shift, the QA inspector traveled to the Foundry Shop to observe the continued repair welding of the rib build-up areas on the West Deviation Saddle Casting identified as W2E1. The repair welding is being conducted at Lane 3 of the Foundry Shop at the designated area identified as "The Welding Area." The QA inspector observed the welding performed by Japan Steel Welding, Ltd. (JSW) welding personnel Hitoshi Sato ID 69-2697 on the repair area of rib 7L identified as 2-6 and Akira Takenami ID 06-8001 performing the repair welding on rib 1L identified as repair area 2-2. The welders performed the repair welding in the horizontal (2G) position with the work in the vertical plane and the axis of the weld horizontal and utilized the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) identified as SJ-3026-2.

At the conclusion of verifying the preheat temperature of 195 degrees Celsius at the weld repair area identified as 2-2, the QA inspector verified the Alternate Current (AC) welding parameters and shortly thereafter, verified the preheat temperature of 210 degrees Celsius at the weld repair area identified as 3-10, prior to verifying the AC welding parameters. The welding parameters appeared to comply with the contract documents.

The consumable utilized by the welders appeared to be a Hobart Brothers Product identified as LB-106, with the diameter size of 5.0 mm which appeared to comply with the AWS Specification A5.5 and the AWS Classification E10016-G.

At approximately 04:00, the QA inspector observed that the welder Akira Takenami completed the repair welding of the 1L rib and had commenced the repair welding on rib 2L repair area 3-8. This QA inspector verified the

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

---

minimum preheat, maximum interpass temperatures and the AC welding parameters and at the conclusion of the verification the welding parameters appeared to comply with the contract documents.

Later during this shift the QA inspector, at random intervals, observed the Shop Welding Supervisor and the welding personnel verify the welding parameters, minimum preheat temperature and the maximum interpass temperatures.

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

### Fabrication Shop # 4

At the start of the shift, this QA inspector traveled to the Fabrication Shop # 4 to observe the removal of the cracked tacks on the structural steel rib plates identified as follows; 1-2, 1-5, 1-7 and 1-9 for the West Deviation Saddle W2E1. A high cycle grinder was utilized to remove the tacks which were performed by Japan Steel Works, Ltd. (JSW) personnel Y. Ohhinata.

This QA inspector also observed the welding of the tie downs for the temporary jig fixture table to the positioner. The welding was performed by JSW welder's Mutuo Kashiwada ID 08-2008, Kawagishi ID 08-5026 and Makato Kato ID 08-5018 and appeared to utilize a Gas Shielded Flux Cored Arc Welding (FCAW-G) process.

The visual inspection, during the removal of the cracked tacks, was performed by the Quality Control (QC) Inspector Makhmud Ashadi.

### QA Observation Summary

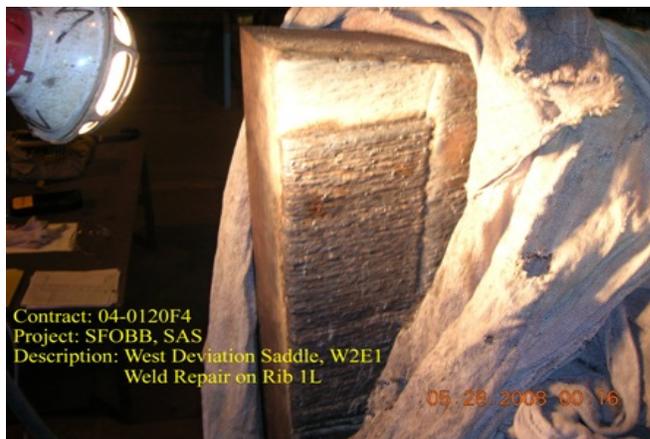
This QA inspector randomly observed the in process Shielded Metal Arc Welding (SMAW) for the repair welding of the ribs on the West Deviation Saddles identified as W2E1. This QA inspector noted that it appeared the approved and latest revised WPS's were posted at the appropriate welding station and that 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 preheat and interpass temperatures. The filler metal utilized at the welding stations was also verified. The JSW personnel appeared to perform the monitoring and the verification activities of the welding as per the contract documents. The welding and inspection was not completed during this shift and appeared to be in general compliance with the contract documents.

In regards to the removal of the cracked tack welds it appeared that the defective tack welds had been removed and the QC inspector Mahkmud Ashadi appeared to perform the visual inspection as per the contract documents.

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

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )



Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	W2E1, Rib 1L/3-10	SJ-3026-2		207 AC	25 AC	162.4 mm/m	210 Degrees C.	Akira Takenami
2	W2E1, Rib 7L/2-6	SJ-3026-2		209 AC	25 AC	147.7 mm/m	195 Degrees C.	Hitoshi Sato

### Summary of Conversations:

There were no 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