

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-002952**Date Inspected:** 13-Jun-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 observed the repair welding on the saddle castings and the welding of the structural steel plate components scheduled on this date. 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 continued Partial Joint Penetration (PJP) groove welding of the structural steel plate components for the West Deviation Saddle identified as W2E1. The Welding Procedure Specification (WPS) SJ-3011-2 was utilized by the Japan Steel Works, Ltd. (JSW) personnel during the performance of the production welding of the stem plate to base plate connection identified as E1Y-4L-1 and E1Y-4L-2.

At the conclusion of welding the root pass the Intertek Testing Services (ITS) Quality Control (QC) Inspector Makhmud Ashadi performed the visual weld inspection of the root pass. At the completion of the inspection the QC inspector noted no visual defects were found and appeared to record the information into the daily production log. At this time the Nikko Inspection Service (NIS) QC Technician, Rikuo Kumagai performed the Magnetic Particle Testing (MPT). The testing was performed utilizing an AC Yoke, Type A-6 testing unit which appeared to be manufactured by Eishin Kagaku Co., Ltd. The MPT was conducted utilizing the MPT procedure identified as SF-MT-01. There appeared to be no indications noted by the QC technician during the 100% testing of the root passes. The visual inspection and the MPT was observed and witnessed by the QA inspector.

At the conclusion of the inspection and testing the welders, Mamoru Kubota ID 74-3666 and Hidetaka Nishikawa ID 08-5162 commenced the welding of the PJP groove weld. The QA inspector observed the QC inspector verify the preheat temperatures and the Alternating Current (AC) welding parameters.

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At the completion of the welding the JSW welding personnel rotated the positioner platform 360 degrees to access the second side of the ribs. At the conclusion of rotating the positioner platform the welders commence the welding of the end plate identified as E1Y-17L-1 and E1Y-17L-2. The QA inspector observe the verification of the AC welding parameters, visual weld inspection and the MPT testing of the root pass performed by the ITS QC inspector and the NIS QC technician.

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

The calibration dates of the measuring instruments utilized by the QC inspector and QC technician, the clamp amp/volt meter, the digital surface thermometer and AC Yoke, were previously verified by this QA inspector.

Fabrication Shop # 4, QA Observation Summary

This QA inspector randomly observed the in process Shielded Metal Arc Welding (SMAW) during the 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.

Foundry Shop

At approximately 02:00 hours of the shift the QA inspector traveled to the Foundry Shop to observe the repair welding on the saddle casting scheduled on this date. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) SJ-3026-2 which was also used by the QA inspector as a reference during verification of the welding parameters. The welding was performed by Japan Steel Works, Ltd. (JSW) welding personnel, Hitoshi Sato ID 69-2697 and Akira Takenami ID 06-8001 which was conducted on the West Deviation Saddle identified as W2E1 and was performed in the horizontal (2G) position with the work in the vertical plane and the axis of the weld horizontal. The repair welding was conducted on the rib castings identified as 8U and 1U and the consumable appeared to be identified as LB-106, a product of Hobart Brothers which appeared to comply with the AWS Specification A5.5 and the AWS Classification E10016-G.

The QA inspector verified the preheat, interpass temperatures and the Alternating Current (AC) welding parameters at random intervals during this shift.

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

Foundry Shop, 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

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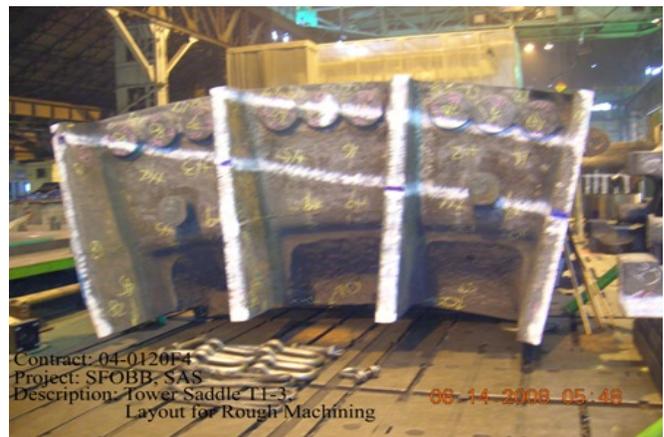
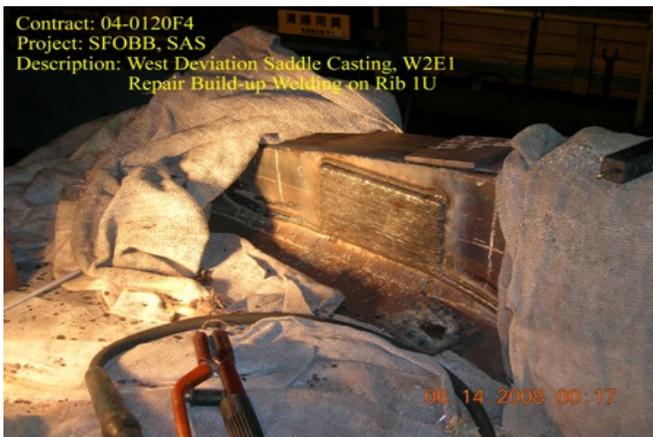
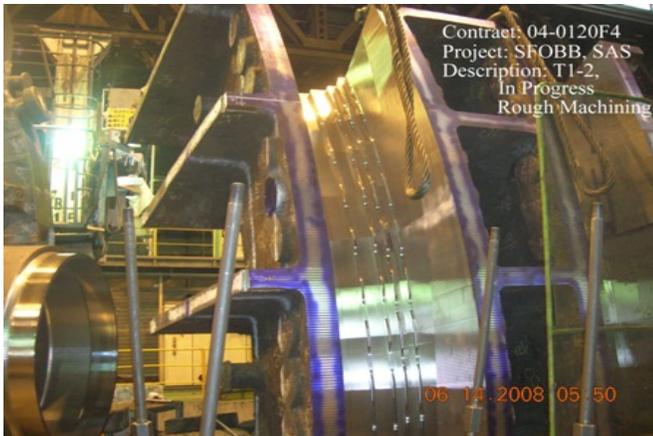
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temperatures. The filler metal utilized at the welding stations was also verified. The welding was not completed during this shift and appeared to be in general compliance with the contract documents.

Machine Shop # 4

On this date the QA inspector traveled to the machine shop and was escorted by JSW personnel Kunio Nagaya. The QA inspector observed the Tower Saddle Castings identified as T1-2 and T1-3 were in different stages of machining. It appeared the T1-2 casting was in the process of machining the troughs to the rough dimensions. The layout of the T1-3 casting for the rough machining was completed and appeared to be prepared for milling. No work was performed on either Tower Saddle casting at the time of observation.

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



Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	Casting W2E1, 8U-2-1	SJ-3026-2	N/A	212 AC	23 .0AC	175 mm/m	210 Degrees C.	Hitoshi-Sato

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2	Casting W2E1, 1U-3-9 SJ-3026-2	N/A	208 AC	23.5 AC	174 mm/m	205 Degrees C.	Takenami-Akira
3	Steel W2E1, E1Y-4L-2 SJ-3011-2	M. Ashadi	251 AC	23.0 AC	141 mm/m	195 Degrees C.	Mamoru-Kubota
4	Steel W2E1, E1Y-4L-1 SJ-3011-2	M. Ashadi	253 AC	24.0 AC	144 mm/m	195 Degrees C.	Hidetaka-Nishikawa

Summary of Conversations:

There were no general 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
