

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-006408**Date Inspected:** 27-Apr-2009**Project Name:** SAS Superstructure**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Contractor:** Japan Steel Works**OSM Arrival Time:** 730**OSM Departure Time:** 1630**Location:** Muroan, Japan

CWI Name:	Chung Fu Kuan		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No	
Rod Oven in Use:	Yes	No	N/A
Weld Procedures Followed:	Yes	No	N/A
Verified Joint Fit-up:	Yes	No	N/A
Approved WPS:	Yes	No	N/A
Delayed / Cancelled:	Yes	No	N/A
Component:	Tower, Jacking, and Deviation Saddles		

Bridge No: 34-0006**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. Art Peterson was present during the times noted above for observations relative to the work being performed in Fabrication shop #4 and the Foundry shop at Japan Steel Works.

Fabrication Shop #4

Machining Operation of Saddle: Tower Saddle Segment T1-1 (cast section welded to steel section)

The QA Inspector observed that tower saddle segment T1-1 is located in Machine Shop #4 to have the final machining performed. On this date, the QA Inspector observed that no machining was performed on the tower saddle segment.

Machining Operation of Saddle: West Deviation Saddle Segment W2-E2 (cast section welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E2 is located in Machine Shop #2. On this date, the QA Inspector observed JSW personnel were drilling holes in the end rib plate.

Machining Operation of Saddle: West Deviation Saddle Segment W2-E1 (cast welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E1 is located in Machine Shop #2 to have the lifting lugs machined /milled off. On this date, the QA Inspector observed JSW personnel breaking the edges of the rib plates at the locations of where the lifting lugs were machined off.

Storage of Saddle: Tower Saddle Segment T1-3 (steel section)

The QA Inspector observed that tower saddle segment T1-3 (steel section) is located in Fabrication Shop #4 for

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storage until tower saddle segment T1-3 (cast section) is ready for the fit-up operation. On this date, the QA Inspector observed that no work was performed on the (steel section) of the saddle segment.

Welding Operation of Saddle: West Deviation Saddle Segment W2-E3 (cast section joined to steel section)

The QA Inspector observed the partial-joint penetration groove weld operation on the rib plate (steel section) to rib plate (cast section) of west deviation saddle segment W2-E3. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the welding operation that the minimum preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. K. Kobayashi (08-5023) on weld joint no. E3Y-17U-1, Mr. T. Ohkawa (03-3091) on weld joint no. E3Y-9U, and Mr. H. Mitsumori (81-5438) on weld joint no. E3Y-10U were in compliance with WPS SJ-3011-6/-7 per the FCAW process in the (1G) and position using (1.6) mm diameter TM95 electrode. The QA Inspector observed that the partial-joint penetration groove weld operation was in process at the end of the QA Inspectors' shift.

Storage of Saddle: West Deviation Saddle Segment W2-W1 (steel section)

The QA Inspector observed that west deviation saddle segment W2-W1 (steel section) is located in Fabrication Shop #4 for storage until west deviation saddle segment W2-W1 (cast section) is ready for the fit-up operation. On this date, the QA Inspector observed that no work was performed on the (steel section) of the west deviation saddle segment.

Post Weld Heat Treatment Operation of Saddle: Tower Saddle Segment T1-2 (cast section welded to steel section)

The QA Inspector observed that the post weld heat treatment- (stress relief) operation on tower saddle segment T1-2 was completed. The Quality Control Inspector Mr. Kuan informed the QA Inspector that JSW personnel will move the tower saddle segment into Machine Shop #4 to perform the machining of the root face on the double bevel groove weld joint to meet the mill to bear tolerances of the rib and stem plates prior to the fit-up operation of the base plate.

Welding Operation on Saddle: West Deviation Saddle Segment W2-W2 (steel section)

The QA Inspector observed the partial-joint penetration groove weld operation on the rib plate to stem plate and the rib plate to base plate of west deviation saddle segment W2-W2. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the welding operation that the minimum preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Watanabe (08-5153) on weld joint no. W2Y-17L-2, Mr. M. Kato (08-5018) on weld joint no. W2Y-12V, Mr. R. Iizuka (06-2643) on weld joint no. W2Y-17L, and Mr. T. Yaegashi (07-2941) on weld joint no. W2Y-13L were in compliance with WPS SJ-3011-2 and WPS SJ-3011-3 per the FCAW process in the (1G) flat position using (1.6) mm diameter TM95 electrode. The QA Inspector observed that the partial-joint penetration groove weld operation was in process at the end of the QA Inspectors' shift.

NDT Operation of Saddle: Tower Saddle Segment T1-3 (cast section)

The QA Inspector observed NIS QC NDT Personnel Mr. R. Kumagai (#132) performing magnetic particle test (MPT) inspection after the machining operation on the square edge of the rib and stem of tower saddle segment T1-3 (cast section). Previously, JSW welding personnel performed the weld surfacing (buttering operation / build-up of weld metal) on the square edges- (double bevel groove weld joint area) of the rib and stem on the saddle (cast section) per the SMAW process using LB52A E7016 electrode. The MPT inspection was performed was for

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information only per the visible dry method. The QA Inspector observed that the MPT inspection was in process at the end of the QA Inspectors' shift.

Buttering Weld Operation on Saddle: West Deviation Saddle Segment W2-W1 (cast section)

The QA Inspector observed the weld surfacing (buttering operation / build-up of weld metal) on the inside of the trough on west deviation saddle segment W2-W1 (cast section). The buttering operation is being performed at specific locations where the temporary attachments (stay plates) will be located for dimensional and distortion control. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start and during the buttering operation that the preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. R. Katou (07-4510) were in compliance with WPS SJ-3012-1-2 per the SMAW process in the horizontal position using (5.0) mm LB52A electrode. The QA Inspector observed that the buttering weld operation was in process at the end of the QA Inspectors' shift.

Foundry Shop:

Storage of Saddle: West Deviation Saddle Segment W2-W2 (cast section)

The QA Inspector observed that west deviation saddle segment W2-W2 (cast section) is located in the Foundry Shop for storage until west deviation saddle segment W2-W2 (steel section) is ready for the fit-up operation. On this date, the QA Inspector observed that no work was performed.

Grinding Operation on Saddle: East Saddle E2-E1

The QA Inspector observed that JSW personnel were not performing the grinding operation on this date of the shaped areas on the outside of the trough section and on the rib sections where previously the excess removal of cast material- (scarfing operation by the air-carbon-arc method) on the rough casting was performed on east saddle E2-E1. The purpose of the grinding operation is to profile the areas to a smooth finish and subsequently the NDT operation. The JSW representative Mr. Hideaki Kon informed the QA Inspector that the grinding operation would resume at a later date.

NDT Operation on Saddle: East Saddle E2-W1 (cast section)

The QA Inspector observed NIS QC NDT Personnel Mr. H. Kohama (#86) performing the ultrasonic test (UT) inspection on the rib section and trough section on the outside of east saddle E2-W1 (cast section) . The UT inspection was performed in accordance with ASTM A609M and to the acceptance quality levels in Table 2 of ASTM A609M. The ultrasonic testing quality level (1) is for within (30) mm of the exterior and interior surface for the full length of the trough as shown on the plans and ultrasonic testing quality level (3) for areas outside of (30) mm of the surface as shown on the the plans. The areas inspected were marked with (300 x 300) mm grid lines on the outside of the trough for the purpose of tracking and guidance in scanning. The QA Inspector observed that the UT inspection was in process at the end of the QA Inspectors' shift.

NDT Operation (pending) on Saddle: West Deviation Saddle Segment W2-W3 (cast section)

The QA Inspector observed JSW personnel performed and completed the cleaning operation- (blast cleaning) on west deviation saddle W2-W3 (cast section). The cleaning operation was performed prior to NIS QC NDT personnel performing the NDT (liquid penetrant test- for information only, magnetic particle test, and ultrasonic test) inspection. The QA Inspector was informed by JSW Representative Mr. Hideaki Kon that the layout (placement of grid lines) on the saddle segment (cast section) for the NDT inspection would commence on April 28th 2009.

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Rough Machining Operation of Saddle: West Jacking Saddle (cast section)

The QA Inspector observed that the rough machining operation on west jacking saddle (cast section) was completed. The next operation to be performed by JSW is the NDT inspection (liquid penetrant test- for information only, magnetic particle test, and ultrasonic test) inspection on the rough machined surfaces prior to JSW personnel performing the shaping operation.

Unless otherwise noted, all observations reported on this date appeared to be in general compliance with applicable contract documents.

Summary of Conversations:

No significant conversations were reported 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 Nina Choy, 510 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Peterson, Art	Quality Assurance Inspector
Reviewed By:	Lanz, Joe	QA Reviewer
