

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-006235**Date Inspected:** 14-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Chung Fu Kuan**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 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

Removal of Temporary supports on Saddle: Tower Saddle Segment T1-1 (cast welded to steel section)

The QA Inspector observed that the post weld heat treatment operation was completed on tower saddle segment T1-1. The QA Inspector observed that JSW personnel were removing the stay plates (temporary supports) from in between the troughs of the tower saddle by the air-carbon-arc gouge operation. The QA Inspector observed that the air-carbon-arc gouge operation was in process at the end of the QA Inspectors' shift.

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

The QA Inspector observed that the machining operation is being performed on west deviation saddle segment W2-E2 in Machine Shop #2. The QA Inspector observed that the machining on inside of the trough was in-process at the end of the QA Inspectors' shift.

Machining 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 in Machine Shop #2 to have the lifting lugs machined off. The QA Inspector observed that no work was performed on this date.

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

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The QA Inspector observed that tower saddle segment T1-3 (steel section) is located in Fabrication Shop #4 for storage until tower saddle segment T1-3 (cast section) is ready for the fit-up operation. The QA Inspector observed that no work was performed on this date.

Grinding Operation of Saddle: West Deviation Saddle Segment W2-E3 (steel section)

The QA Inspector observed that JSW personnel completed the grinding operation on the rib plates and stem plate's edges (face of bevel and root face of double bevel prepared groove) of west deviation saddle W2-E3 (steel section). The QA Inspector observed that no work was performed on this date.

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

The QA Inspector observed that JSW personnel were performing the grinding operation on west deviation saddle segment W2-W1 (steel section). The JSW personnel were grinding on the lands (root face dimension) of the double bevel groove weld joint areas that were not accessible to be machined so as to meet the mill to bear surface requirements. The QA Inspector observed that the grinding operation was in process at the end of the QA Inspectors' shift.

Removal of excess material on Saddle: Tower Saddle Segment T1-2 (cast being welded to steel section)

The QA Inspector observed that JSW personnel were removing excess material by the air-carbon-arc method from in between the rib (cast section) and rib (steel section) on tower saddle segment T1-2. The QA Inspector observed that the removal of excess material was in process at the end of the QA Inspectors' shift.

Rib plate to Stem Plate Weld Operation: 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 portion of west deviation saddle W2-W2. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the welding operation that the preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Kawakami (08-5079) on rib plate W2-Y-12V plate (5-10) and plate (5-14) side; Mr. K. Nakasato (91-2247) on rib plate W2-Y-11V plate (5-9) side; and Mr. M. Kubota (74-3666) on rib plate W2-Y-17V plate (5-16) side were in compliance with WPS SJ-3011-3 and WPS SJ-3011-4 per the SMAW process in the (3G) vertical position using 9018M electrode. The QA Inspector observed that the partial-joint penetration groove weld operation was in process at the end of the QA Inspectors' shift.

Welding lifting lugs on Saddle: West Deviation Saddle Segment W2-E3 (cast section)

The QA Inspector observed JSW welding personnel Mr. R. Iizaka (06-2643) was preparing (preheating cast section) to weld lifting lugs per the FCAW process in the (3G) vertical position to one end of the trough. The Quality Control Inspector Mr. Chung Fu Kuan informed the QA Inspector that JSW uses their in-house weld procedure specifications to perform the welding of the lifting lugs on the ends of the trough (cast section) onto the build-up weld metal- (weld surface layers). The QA Inspector observed that the preheat operation was in process at the end of the QA Inspectors' shift.

Post weld heat treatment of Saddle: Tower Saddle Segment T1-3 (cast section)

The QA Inspector observed JSW loaded tower saddle segment T1-3 onto a rail car to send the segment for post weld heat treatment for the weld surface layers welded to the square edges on the ribs and stems of the cast section. The QA Inspector observed that JSW personnel were in process on moving the tower saddle segment by the end

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of the QA Inspectors' shift.

Foundry Shop:

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

The QA Inspector observed that NIS NDT Personnel prepared the west deviation saddle segment W2-W2 for ultrasonic testing (UT) inspection by (laying out) marking (300 x 300) mm grid lines on the inside and outside of the trough and also on the rib sections for the purpose of tracking and for guidance in scanning. The QA Inspector observed that the layout operation was completed and no UT was performed on this date.

Grinding operation of Saddle: East Saddle E2-E1

The QA Inspector observed that JSW were performing the grinding operation of the shaped areas on the outside of the trough section and on the rib sections where the removal of cast material on the rough casting was previously performed on east saddle E2-E1. The purpose of the grinding operation is profile the areas to a smooth finish for the NDT operation. The QA Inspector observed that the grinding operation was in process at the end of the QA Inspectors' shift.

NDT operation of Saddle: East Saddle E2-W1 (cast section)

The QA Inspector observed that JSW personnel completed the grinding operation of the shaped areas on the outside of the east saddle E2-W1 (cast section). The JSW personnel previously performed the grinding operation to profile the shaped areas on the exterior of the trough section and stem section on the saddle to a smooth finish prior to the start of the NDT operation. The QA Inspector observed that no work was performed on this date.

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

The QA Inspector observed that west deviation saddle W2-W1 (cast section) is located in the storage yard prior to being moved into fabrication shop #4. The QA Inspector observed that no work was performed on the saddle (cast section) on this date.

Grinding operation of Saddle: West Deviation Saddle Segment W2-W3 (cast section)

The QA Inspector observed JSW personnel completed the grinding operation on one side of the segment on the areas that had both major and minor weld repairs performed on the trough, stem and rib sections of west deviation saddle W2-W3 (cast section). The QA Inspector observed the segment has been flipped over for the JSW personnel to complete the grinding operation on the major and minor repairs on that side. The QA Inspector observed that no work was performed on this date.

Rough Machining operation: West Jacking Saddle (cast section)

The QA Inspector observed that the west jacking saddle (cast section) is located in Machine Shop #4 to have the rough machining of the base plate and end sections of the west jacking saddle. The QA Inspector observed that the machining was being performed on one end of the west jacking saddle on this date.

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.

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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
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Reviewed By:	Lanz, Joe	QA Reviewer
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