

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-005850**Date Inspected:** 02-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Japan Steel Works**Location:** Muroran, Japan

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

<b>CWI Present:</b>	Yes	No	
<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved WPS:</b>	Yes	No	N/A
<b>Delayed / Cancelled:</b>	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 Foundry at Japan Steel Works.

**Fabrication Shop #4**

Welding Operation of middle stiffener plates to (cast section) of Tower Saddle: Tower Saddle Segment T1-1

The QA Inspector observed the partial-joint penetration groove weld operation on middle stiffener plates to tower saddle (cast section) of tower saddle segment T1-1. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the welding operation that the preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. K. Sadakawa (06-2929) on middle stiffener plate weld no. 7ST-16, Mr. S. Watanabe (08-5159) on middle stiffener plate weld no. 7ST-17, Mr. T. Inoue (08-5163) on middle stiffener plate weld no. 7ST-15, and Mr. Y. Ohhinata (74-1825) on middle stiffener plate weld no. 7ST-14 were in compliance with WPS SJ-3012-8-1 per the FCAW process in the (3G) vertical position. The QA Inspector observed that the welding operation was in process at the end of the QA Inspectors' shift.

**Machining of completed segment: West Deviation Saddle Segment W2-E2**

The QA Inspector observed that west deviation saddle segment W2-E2 is located in Machine Shop #2 to have the final machining performed. The QA Inspector observed that no machining was being performed on this date.

**West Deviation Saddle Segment W2-E1 (After PWHT and Final Machining)**

The QA Inspector observed that no work was performed on this date.

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Grinding Operation on bevels of rib plates and stem plate (steel section): West Deviation Saddle Segment W2-E3

The QA Inspector observed JSW personnel performing the grinding operation on the rib plates and stem plate's prepared edges (face of bevels) of west deviation saddle W2-E3 (steel section). These areas that are being prepared by grinding were difficult to be machined. The JSW personnel are grinding to the scribe lines (layout marks and punch marks of the final dimension of the groove area) prior to the fit-up operation of west deviation saddle W2-E3 (cast section). The QA Inspector observed that the grinding operation was in process at the end of the QA Inspectors' shift.

Machining of (steel section): West Deviation Saddle Segment W2-W1 (After PWHT)

The QA Inspector observed that west deviation saddle segment W2-W1 is in Machine Shop #4 to have the root face dimension machined (partial-joint penetration groove welds) on the stem and ribs so the fit-up tolerances will meet the mill to bear surface requirements per the approved shop drawings and the contract specifications. The QA Inspector observed that the machining was completed on this date.

Welding operation on rib (steel section) to rib (cast section): Tower Saddle Segment T1-2

The QA Inspector observed the partial-joint penetration groove weld operation on rib (steel section) to rib (cast section) of tower saddle segment T1-2. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the welding operation that the preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Watanabe (08-5169) on weld joint no. 8Y-6U and Mr. T. Matudate (08-5151) on weld joint no. 8Y8U were in compliance with WPS SJ-3012-5 per the FCAW process in the (1G) flat position. The QA Inspector observed that the welding operation was in process at the end of the QA Inspectors' shift.

The QA Inspector also observed the complete-joint penetration groove weld operation on rib (steel section) to rib (cast section) of tower saddle segment T1-2. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the welding operation that the preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Sudo (03-3082) on weld joint no. 8Y-5U-1 / -2 and Mr. M. Yamashita (73-4195) on weld joint no. 8Y5U-2 / -3 were in compliance with WPS SJ-3012-4 per the SMAW process in the (1G) flat position. The QA Inspector observed that the welding operation was in process at the end of the QA Inspectors' shift.

Fit-up operation of (steel section): West Deviation Saddle Segment W2-W2

The QA Inspector observed the fit-up and tack-weld operation of rib plate (5-4) to base plate and to stem plate of west deviation saddle segment W2-W2. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the tack-welding operation that the preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. K. Koyanagi (08-5144) were in compliance with WPS SJ-3011-11 per the SMAW process in the (2G) and (3G) horizontal and vertical position. The QA Inspector observed that the tack-welding operation was in process at the end of the QA Inspectors' shift.

Buttering operation on (cast section): Tower Saddle Segment T1-3

The QA Inspector observed the buttering weld operation on the square edge of the ribs (cast section) on tower saddle (cast section) T1-3. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the welding operation that the preheat temperature of 150 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Kawagishi (08-5026) on rib (cast section) 9Y-5U-1, Mr. H. Narita (08-5092) on rib (cast section) 9Y-5U-3, Mr. D. Hiragawa (08-3566) on rib (cast section) 9Y-10U, and Mr. T.

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Mitsui (07-4528) on rib (cast section) 9Y-11U were in compliance with WPS SJ-3012-1-1 per the SMAW process in the flat position. The QA Inspector observed that the buttering weld operation was in process at the end of the QA Inspectors' shift. The tower saddle (steel section) has been previously completed and will be fit to tower saddle (cast section) upon completion of the buttering operation.

### Foundry Shop:

NDT of (cast section): West Deviation Saddle Segment W2W2

The QA Inspector observed NIS NDT personnel Mr. H. Kohama performing the magnetic particle test (MPT) inspection (wet method) on west deviation saddle W2-W2 on the as finished surface (cast section) level 1 area on the outside of the saddle. The NIS NDT Inspector verified the lifting force and the sensitivity of the yoke prior to the start of the MPT inspection. The QA Inspector observed that the MPT inspection was in process at the end of the QA Inspectors' shift.

Shaping of (cast section): East Saddle E2-E1

The QA Inspector observed that JSW personnel were performing the shaping (scarfing) operation- (removal of cast material on the rough casting) on the outside of east saddle E2-E1 to profile to the proper dimension and radius. The QA Inspector observed the shaping operation was in process at the end of the QA Inspectors' shift.

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

The QA Inspector observed that no work was performed on this date on the outside of the saddle section where the shaping operation was completed and JSW were in process on the grinding operation to profile the shaped areas to a smooth finish on east saddle E2-W1 (cast section).

Moving (cast section) to Machine shop #2: West Deviation Saddle Segment W2-W1

The QA Inspector observed that west deviation saddle W2-W1 (cast section) was moved to machine shop #4 to be machined prior to the fit-up operation to the west deviation saddle W2-W1 (steel section). The QA Inspector observed that no machining was performed on this date.

Heat Treatment of weld repairs on (cast section): West Deviation Saddle Segment W2-W3

The QA Inspector was informed by JSW representative Mr. Hideaki Kon that the post weld heat treatment (stress relief) operation was being performed of the minor weld repairs on west deviation saddle W2-W3 (cast section) 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.

### 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.

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**Inspected By:** Peterson, Art

Quality Assurance Inspector

**Reviewed By:** Lanz, Joe

QA Reviewer