

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-008821**Date Inspected:** 02-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Japan Steel Works**Location:** Muroran, Japan

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|------------------------------------|---------------|----|-----|
| 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 |

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 at Japan Steel Works.

Fabrication Shop #4:

NDT Operation in-process on Saddle: Tower Saddle Segment T1-3

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. R. Kumagai (#132) performing the magnetic particle test (MPT) inspection (dry method) on the partial-joint penetration (PJP) groove and fillet welds on the upper, middle, and lower stiffener plate prior to the final post weld heat treatment (PWHT) stress relief operation of tower saddle T1-3. The QA Inspector observed that the MPT inspection was in-process at the end of the QA Inspectors' shift.

Final Post Weld Heat Treatment Operation pending on Saddle: West Deviation Saddle Segment W2-W3

The QA Inspector observed that west deviation saddle segment W2-W3 is in preparation to have the final post weld heat treatment (PWHT) stress relief operation performed on the saddle segment.

Fillet Weld Operation in-process on Pipe Sleeves for the West Deviation and West Jacking Saddles

The QA Inspector observed the fillet weld operation being performed on the pipe sleeves- ASTM A709M Grade 345 steel flanges fit-up to each end of the ASTM A106 (2") schedule 80 pipe to the lengths of (1008.7), (1019.0), and (1020.7) mm (+ 0 / - 3) for the west deviation and the west jacking saddles. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the fillet weld operation that the

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minimum preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. M. Yamashita (73-4195) were in compliance with WPS SJ-3177-5 per the SMAW process in the (2F and 3F) horizontal and vertical positions using (4.0) mm diameter LB52 electrode. The QA Inspector observed that the fillet weld operation was in-process on the pipe sleeves at the end of the QA Inspectors' shift.

Fillet Weld Operation in-process on MC Shape to Rocker Bearing Plate Assembly: East Saddle E2-E1

The QA Inspector observed the fillet weld operation on the miscellaneous channel (MC) shape fit-up to the bearing plate on rocker bearing plate assembly E2-E1. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the weld operation that the minimum preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Sudo (03-3082) and Mr. T. Ohkama (03-3091) fillet welding the MC shape piece mark no. 21-2 to bearing plate piece mark no. 21-1 were in compliance with WPS SJ-3177-4 per the SMAW process in the (2F) horizontal position using (4.0 and 5.0) mm diameter LB52A electrode. The QA Inspector observed that the fillet weld operation was in-process at the end of the QA Inspectors' shift.

Foundry:

NDT Operation in-process on Saddle: East Saddle E2-E1 (cast saddle)

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) personnel Mr. H. Kohama (#86) performing the magnetic particle test (MPT) inspection (wet method) on east saddle E2-E1 on the as finished surface of level (1) areas as shown on the plans on the outside of the trough section and of level (3) areas as shown on the plans on the rib sections of the east saddle. The NIS QC NDT Inspector verified the lifting force of the yoke and the sensitivity of the yoke as per ASTM E709 prior to the start of the MPT inspection. The QA Inspector also verified that the bath concentration of the non-fluorescent particles were between (1.2 and 2.4) mL per (100) mL as per ASTM E709 Section 20.6.3 and the manufacturer recommendations. The actual settling volume was recorded at (2.1) mL as measured using a centrifuge tube with a (1.5) mL stem and after allowing the particles to settle for approximately (30) minutes prior to taking the settling volume measurement. The QA Inspector observed that the MPT inspection performed by Mr. H. Kohama was in process at the end of the QA Inspectors' shift.

NDT Operation in-process on Cast Saddle: West Jacking Saddle

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. A. Seino (#82) performing the liquid penetrant test (PT) inspection on the ground out excavated areas- (1st time) to ensure the complete removal of defects on the base plate of the west jacking saddle. The PT inspection is being performed first on the excavated areas prior to the magnetic particle test (MPT) inspection (wet method) as per JSW's manufacturers procedure plan (MPP) for the west jacking saddle. The QA Inspector observed that the PT inspection was in process on the remaining excavated areas at the end of the QA Inspectors' shift.

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

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

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remedial efforts please contact Nina Choy at (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: | Guest, Kittric | QA Reviewer |
