

**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 #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006701**Date Inspected:** 08-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2030**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR

<b>CWI Name:</b>	Steve Barnett		
<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:** Hinge-K Components**Summary of Items Observed:**

Summary of Items Observed: On this date, Caltrans Quality Assurance Inspector (QA) Clete Henke was present at Oregon Iron Works, Inc. (OIW) in Clackamas, OR for observation of fabrication of the Hinge K Pipe Beams and related activities including in process welding and OIW Quality Control (QC) visual and nondestructive testing. The following observations were recorded:

**OIW Fabrication Shop – Bay 1 North**

The QA Inspector arrived at OIW and relieved Caltrans QA Inspector Sean Vance in order to witness in-progress Gas Tungsten Arc Welding (GTAW) procedure qualification record (PQR) identified as SSCS-012. The QA Inspector observed as OIW welder Randy Kleman (WID K20) deposited 10 GTAW fill passes in the flat (1G) position utilizing a Precision TIG 275 system and CK 20RG torch with AWS A5.9 ER316L electrode. OIW personnel had previously provided Mr. Vance with Certificates of Compliance (COC) for the electrodes in use and Mill Test Reports (MTR) for the base material. The QA Inspector observed OIW QC Inspector Scott Reed monitoring and recording the in process GTAW parameters and verifying preheat/interpass temperatures. The QA Inspector also intermittently observed the in process welding parameters and determined that the GTAW parameters and min/max preheat/interpass temperatures appeared to be in general compliance with the contract requirements. The QA Inspector deferred to Mr. Vance for assignment of witness Lot No. for the above as he performed the bulk of the observation. Please reference TL-6032 report generated by Mr. Vance for detailed information.

**OIW Fabrication Shop-Bay 3****Hinge-K Pipe Beam Fuse Sub-Assembly 120A-5:**

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# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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a125 stiffener ring to a124-14 Fuse

The QA Inspector intermittently monitored OIW welder Yuriy Bannikov (WID B61) during in progress Submerged Arc Welding (SAW) at weld joint WM3-15 joining a125 stiffener ring to a124-14 Fuse Section. The QA Inspector randomly observed as welder B61 deposited SAW fill and cover passes in the flat (1G) position in accordance with approved welding procedure 4020. The QA Inspector noted the OIW welder was maintaining continuous preheat utilizing two torches. An OIW helper was observed assisting welder B61 during SAW process.

The QA Inspector observed OIW QC Inspector Steve Barnett regularly monitoring and recording the in process SAW parameters. The QA Inspector also intermittently observed in process welding parameters and determined that the SAW parameters and minimum preheat/interpass temperature of 350deg F appeared to be in general compliance with the contract requirements -- (31.5 volts, 500 amperes, 457 mm/min travel speed).

Hinge-K Pipe Beam Base Assembly 102A-1:

a111-1 forging to a110-4 base plate

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift. During routine visual inspection, the QA Inspector noted that one a125 interior ring stiffener had minor base metal blemishes presumably caused by a clamp during material relocation or fit-up. The QA Inspector marked the location for blending and made OIW QC Inspector Steve Barnett aware of the situation. Mr. Barnett subsequently marked the adjacent area for repair also.

Hinge-K Pipe Beam Base Assembly 102A-2:

a111-2 forging to a110-2 base plate

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

Hinge-K Pipe Beam Fuse Assembly 120A-1:

a124-6 to a124-7

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

Hinge-K Pipe Beam Fuse Assembly 120A-2:

a124-3 to a124-11

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

Hinge-K Pipe Beam Fuse Assembly 120A-4:

a124-13 to a124-4

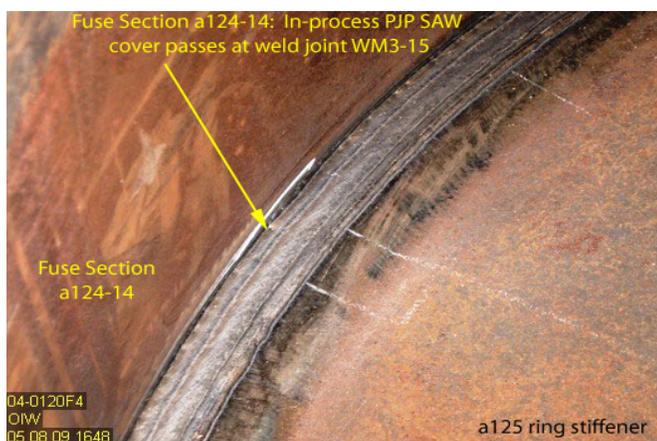
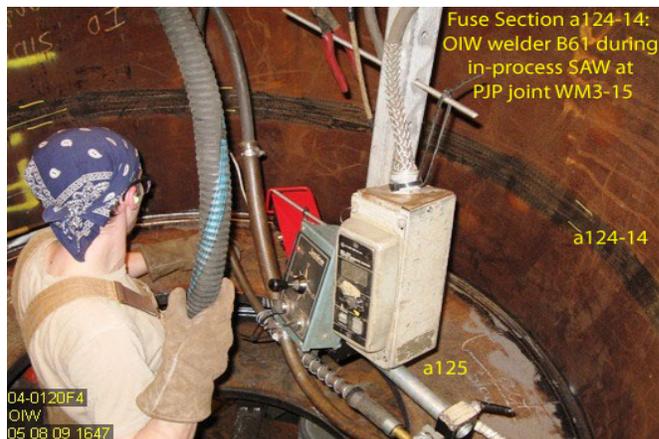
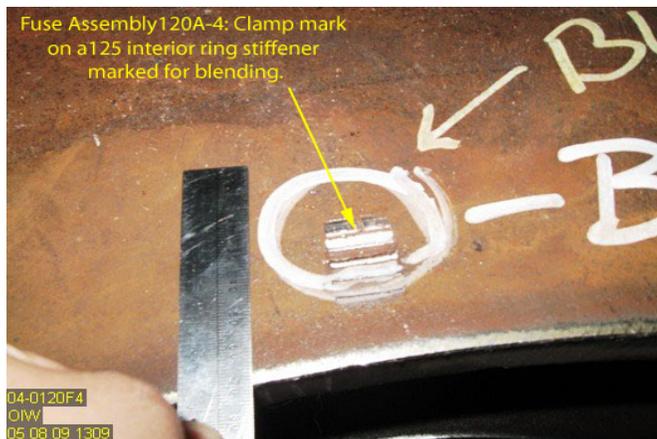
The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

Material, Equipment, and Labor Tracking:

The QA Inspector performed verification of personnel involved with this project and equipment in use. The QA Inspector accounted for 2 OIW production personnel and 1 Quality Control Inspector present on this date.

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )



## Summary of Conversations:

As noted in the body of the report.

## 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 Mohammad Fatemi (916) 813-3677 , who represents the Office of Structural Materials for your project.

**Inspected By:** Henke,Clete

Quality Assurance Inspector

**Reviewed By:** Adame,Joe

QA Reviewer