

**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-007251**Date Inspected:** 15-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1200**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 witnessed QC Dye Penetrant Testing (PT) on PQR test sample plates identified as SSCS-013 & SSCS-014. OIW QC Inspector Bill Buck performed the referenced testing and subsequently stated that he intended to accept the plates based on the acceptance requirements of AWS D1.5. The QA Inspector reviewed the results and agreed with Mr. Buck's interpretation of the tests. PQR tests identified as SSCS-013 and SSCS-014 appear to meet minimum requirements of the contract documents. The QA Inspector assigned lot #s B221-011-09 and B221-010-09 respectively as witness to the above. Please reference TL-6032 reports for this date for details.

**OIW Fabrication Shop-Bay 3****Hinge-K Pipe Beam Fuse Sub-Assembly 120A-7:**

a125 stiffener ring to a124-15 Fuse

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.

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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.

Hinge-K Pipe Beam Fuse Assembly 120A-5:

a124-14 to a124-2

The assembly noted above was at A.G. Machine Works, Inc in Boring, OR for rough machining.

Hinge-K Pipe Beam Fuse Sub-Assembly 120A-6:

A124-9 to a124-1

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

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.

Hinge-K Pipe Beam Base Assembly 102A-4:

a111-4 forging to a110-4 base plate

The QA Inspector intermittently monitored OIW welders Mikhail Bannikov (WID B28) and Bui Liem (WID B10) during in progress Submerged Arc Welding (SAW) at weld joints W1-160 and W1-97 respectively joining c107 stiffeners to a111-4 forging and a107 stiffener. The QA Inspector observed as OIW QC Inspector Steve Barnett performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root passes at weld W1-160 and W1-97. Mr. Barnett stated that he had located no rejectable indications. The QA Inspector subsequently performed 100% VT & 50% MT verification at the locations noted above finding the root passes to be in general compliance with contract documents. Please reference TL-6028 report for this date for details. The QA Inspector intermittently observed as welders B28 & B10 continued to deposit SAW fill and cover passes in the flat (1G) position in accordance with approved welding procedures 4016 and 4020. The QA Inspector noted the OIW welders were maintaining continuous preheat utilizing two torches. 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 appeared to be in general compliance with the contract requirements -- (W1-143 - Root: 29 volts, 425 amperes, 432mm/min travel speed/W1-162 – Fill: 35 volts, 465 amperes, 432mm/min travel speed ).

OIW Fabrication Shop-Bay 6

Hinge-K Pipe Beam Fuse Assembly 120A-3:

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.

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## 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.

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<b>Inspected By:</b>	Henke,Clete	Quality Assurance Inspector
<b>Reviewed By:</b>	Adame,Joe	QA Reviewer

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