

**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-009970**Date Inspected:** 02-Nov-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1500**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Steve Barnett**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:** 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 3

Hinge-K Pipe Beam Base Assembly 102A-3:

a111-3 forging to a110-3 base plate

The QA Inspector intermittently monitored OIW welder Vincent Vu (WID V7) during in progress Submerged Arc Welding (SAW) at weld joints W1-44 & W1-48. The referenced connections are fillet welds joining c106 stiffeners to c107 gusset. The QA Inspector intermittently observed as OIW QC Inspector Steve Barnett performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root pass at weld joints referenced above. The testing performed was informational MT at root pass of these fillet joints at the behest of OIW QC management. Mr. Barnett stated that he had located no rejectable indications. The QA Inspector randomly observed as welder V7 deposited SAW root and fill passes in the horizontal (2F) position in accordance with approved welding procedure 4020. The QA Inspector noted the OIW welders were maintaining continuous preheat utilizing a torch. 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 -- (W1-62: 35 volts, 565 amperes, 432mm/min travel speed). The completion of the two welds referenced above marked the end of production welding at interior stiffener to

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# WELDING INSPECTION REPORT

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gusset connections. The QA Inspector subsequently observed welder V7 engaged in grinding at interior weld terminations in an attempt to achieve a 2:1 transition at these locations.

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

a111-4 forging to a110-4 base plate

No production activity was observed for the duration of the shift.

OIW Vancouver, WA Paint Shop

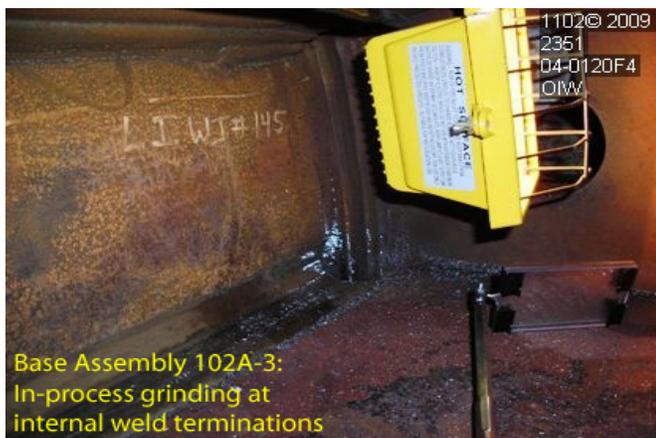
Hinge-K Pipe Beam Fuse Assembly 120A-1:

a124-6 fuse to a124-7 fuse

No production activity was observed 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 2 Quality Control Inspectors present on this date during swing shift.



### 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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**Inspected By:** Henke,Clete

Quality Assurance Inspector

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**Reviewed By:** Adame,Joe

QA Reviewer