

**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-009969**Date Inspected:** 30-Oct-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

<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 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 W1-54, W1-58 & W1-62. 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).

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

a111-4 forging to a110-4 base plate

The QA Inspector intermittently monitored OIW welder Bui Liem (WID B10) during in progress Submerged Arc Welding (SAW) at weld joints W2-24 & W2-23 joining ab106 gusset to a109 cap plate and a110 base plate respectively. The QA Inspector observed as OIW QC Inspector Steve Barnett performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root passes at joint W2-23 referenced above. The QA Inspector intermittently observed as welder B10 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 electric resistance cords and 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 -- (W2-23: 35 volts, 565 amperes, 432mm/min travel speed ).

OIW Vancouver, WA Paint Shop

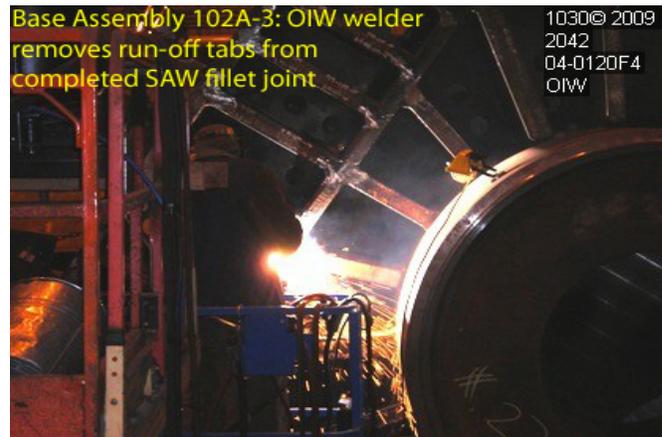
Hinge-K Pipe Beam Fuse Assembly 120A-1:

a124-6 fuse to a124-7 fuse

No 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 3 OIW production personnel and 2 Quality Control Inspectors present on this date during swing shift.

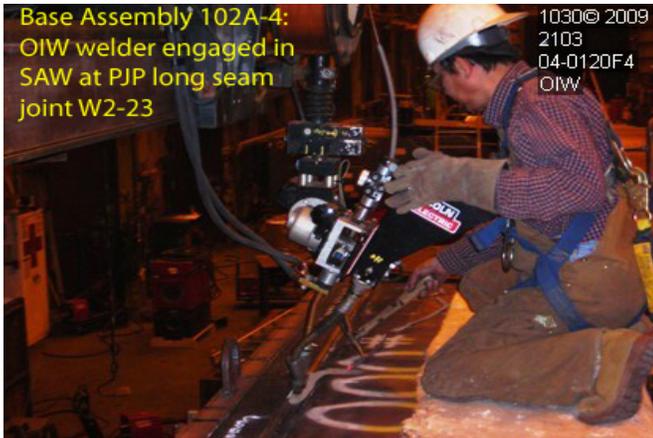


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# WELDING INSPECTION REPORT

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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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