

**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-010454**Date Inspected:** 24-Nov-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Mike Gregson, Jose Salazar**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 Pipe Beams**Summary of Items Observed:**

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

Hinge-K Pipe Beam Assembly 102A-3: 11/24/09

a111-3 Forging to a110-3 Base Plate

QA Inspector noticed that the partial joint penetration and fillet welds were previously completed, on the HPS 485W stiffeners and OIW production personell were in-process of performing weld clean-up, on the above mentioned stiffeners. QA Inspector spoke with QC Inspector Jose Salazar and Mr. Salazar explained that OIW welders # O6, Mr. Tim O'Brian and #T23, Mr. John Tellone were blending the weld start/stops, removing weld spatter and grinding all areas, which were previously marked by OIW QC Inspectors. Mr. Salazar also explained that the completed fillet and PJP welds on above mentioned stiffeners, which were found to be visually acceptable per AWS D1.5 and contract requirements, will then be 100% magnetic particle tested by qualified OIW QC Inspectors. QA Inspector noted that the in-process visual testing by OIW QC Inspector Jose Salazar, appeared to be in compliance with AWS D1.5 and contract requirements. See attached picture below.

Hinge-K Pipe Beam Fuse Assembly 120A-4: 11/24/09

a124-13 Half Fuse to a124-4 Half Fuse

QA Inspector arrived at OIW Vancouver, WA. to perform a paint inspection, on the interior of this fuse assembly 120A-4. See applicable TL6034, completed on this date, for details.

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## AG Machining

Hinge-K Pipe Beam Fuse Assembly 120A-1: 11/24/09

a124-6 Half Fuse to a124-7 Half Fuse

QA Inspector arrived at AG Machine Shop at approximately 1100 hrs, on this date and noted that AG was currently in process of final machining on the exterior overlay, for this fuse assembly 120A-1. QA Inspector spoke with AG Machinist and AG explained that the second cut pass was set to a depth of approximately .150" (4mm) and this second cut pass was approximately 25% complete. AG Machinist explained that approximately 8-10 visible surface indications were present on the exterior overlay, at this time. AG explained that no visible indications were present after the 1st cut pass and that these indications were starting to show up during this second cut pass. AG explained that they were going to continue machining during the day and notify OIW PM Bill Pender, of these results. OIW will then decide whether to do the in-process TIG repairs at AG, as done previously, or continue to machine out the indications and possibly add another ESW layer. AG explained that a third cut pass will be required, to meet a final outside diameter tolerance of 1920mm (+/- 1mm). See attached picture below.

Note: QA Inspector noted that these visible surface indications were similar in length/depths as the previous indications that were discovered at AG, during the final machining of fuse assembly 120A-2. The indications on 120A-2, previously appeared during the second machining cut pass (as in this case) and OIW performed the TIG weld repairs at AG. OIW had previously instructed AG to continue machining out the indications, past the final tolerance of 1920mm (+/- 1mm) and the assembly was eventually transferred back to OIW.

## Material, Equipment, and Labor Tracking

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project.

The QA Inspector observed at Oregon Iron Works: 2 OIW production personnel and 2 QC Inspectors.

The QA Inspector observed at AG Machine shop: 1 machinist and 1 supervisor.

The QA Inspector observed at OIW Vancouver paint shop: 2 OIW QC Inspectors and 1 OIW painting supervisor.



## Summary of Conversations:

As noted above.

## 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>	Vance,Sean	Quality Assurance Inspector
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<b>Reviewed By:</b>	Adame,Joe	QA Reviewer
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