

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-012483**Date Inspected:** 08-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** M. Gregson, J. 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:

**AG Machining (Boring, OR)**

On this date, the QA Inspector arrived at AG Machine to observe OIW perform the weld repairs, on the previously discovered indications on the finished overlay surface, on this Fuse 120A-7. The QA Inspector met with OIW QC Inspector Jose Salazar, OIW welder (WID# C34) Mark Craig and an AG Machinist. QC Inspector Salazar explained to the QA Inspector that he had previously performed visual testing (VT) on 100% of the overlay and WID #C34 is continuing to perform the GTAW weld repairs. The QA Inspector noted that the indications, currently present in the overlay, appeared after AG completed the 2nd final cut pass, for final machining and appeared to be small clusters of slag inclusions.

The QA Inspector noted that Mr. Craig was currently qualified to perform these repairs and would be utilizing welding procedure specification (WPS 8022). The QA Inspector witnessed the AG Machinist rotating the fuse assembly to access the weld repair areas in the flat position. The QA Inspector then witnessed WID #C34, performing the pre-heat required, utilizing a torch and then observed a temperature of approximately 150 degrees Fahrenheit, after the pre-heat was complete. The QA Inspector noted that 125 degrees Fahrenheit minimum was required, per WPS 8022. The QA Inspector then observed Mr. Mark Craig performing the GTAW on the previously excavated repair areas. The QA Inspector also observed QC Inspector Jose Salazar recording the in-process welding parameters of 123 amps, 16 volts and travel speed of 4 inches per minute (i.p.m.). The QA

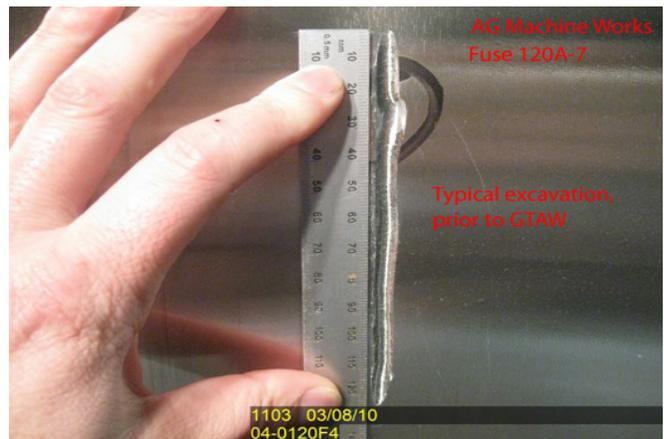
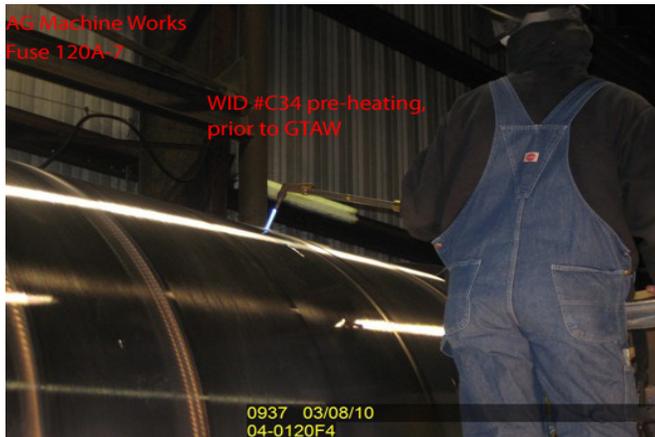
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Inspector also verified these welding parameters. The QA Inspector then observed the AG Machinist rotating the Fuse, to access several more excavations, that would need to go through the above mentioned repair procedure. At approximately 1430, QC Inspector Salazar explained that the GTAW repairs were complete and the penetrant testing (PT) on the overlay, will be performed, after AG completes the final cutting pass and finish honing. QC Inspector Salazar explained that the PT testing will either be a preliminary inspection or possibly a final, depending upon the number of surface discrepancies and indications, which are discovered and GTAW repaired, after AG completes the final machining and finish honing. On this date, the QA Inspector observed that Mr. Salazar was present the entire time in which the GTAW welding was being performed. The QA Inspector was then informed by the AG Machinist that the final cut pass will be started on 3/9/10 and finish honing will then start, after this cut pass is complete. See attached pictures below.

## Material, Equipment, and Labor Tracking (MELT)

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, 1 QC Inspector and 1 Supervisor. The QA Inspector observed at AG Machine Works: 1 AG Machinist, 1 AG Supervisor, 1 OIW Production and 1 QC Inspector.



## Summary of Conversations:

As noted above.

## Comments

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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
<b>Reviewed By:</b>	Adame,Joe	QA Reviewer

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