

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-012235**Date Inspected:** 18-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**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:**

AG Machining (Boring, OR)

On this date, the QA Inspectors Sean Vance and Joe Adame, arrived at AG Machine shop to observe OIW perform the final Penetrant Testing (PT), on the Fuse 120A-3. The QA Inspectors arrived at approximately 1000 and met with OIW QC Inspector Jose Salazar, Mark Craig (OIW WID #C34), an OIW Machinist and an AG Machinist. The AG Machinist explained that he had previously arrived at approximately 0600 to apply heat to the Fuse 120A-3, utilizing 2 propane heaters, prior to the penetrant testing to be performed by QC Inspector Salazar. QC Inspector Salazar explained to the QA Inspectors that he had previously arrived at AG at approximately 0800, to verify surface temperature of the Fuse, prior to the penetrant testing. QC Inspector Salazar also explained that WID #C34 had performed 2 spot weld repairs to the overlay, utilizing the Gas Tungsten Arc Welding (GTAW) process. QC Inspector Salazar explained that Mr. Craig was currently qualified to perform these repairs and had performed the GTAW per welding procedure specification (WPS 8022). QC Inspector Salazar explained that prior to welding, pre-heat was applied, utilizing a torch and then a temperature of approximately 150 degrees Fahrenheit, was verified. The QA Inspector noted that 125 degrees Fahrenheit minimum was required, per WPS 8022. QC Inspector Salazar explained that the AG Machinist had rotated the Fuse, to access the weld repair areas in the flat position. QC Inspector Salazar explained that he had recorded the in-process welding parameters of 121 amps and 16.5 volts. The QC Inspector then explained that after completion of these weld repair areas, the OIW Machinist then performed the grinding with a buffer wheel on the completed weld repair to "flush" with the finished overlay surface. QC Inspector Salazar explained to the QA Inspectors that the final PT testing is being performed, utilizing OIW's procedure QC-114, sect. 8.0, Water Washable Visible Die Penetrant. QC Inspector Salazar explained that he had previously cleaned the entire Fuse 120A-3 with acetone, to remove all surface irregularities, which would otherwise mask the indications of unacceptable indications. The QA Inspectors then witnessed Mr. Salazar

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performing pre-heat checks, utilizing a digital thermometer and noted that the surface temperature was approximately 74 degrees Fahrenheit (23 C). QA Inspectors witnessed Mr. Salazar then applying DP50 penetrant, utilizing a hand pump sprayer, to approximately one-half of the entire surface finish. QA Inspectors noted that the penetrant was applied evenly and Mr. Salazar explained that the DP 50 will sit for approximately 25-30 minutes (dwell time). QA Inspectors then verified the dwell time to be approximately 25 minutes and noted that Mr. Salazar had started to wipe the penetrant off with lint free rags. The QA Inspectors then witnessed Mr. Salazar applying water, with a hand sprayer, to remove the excess DP50. QA Inspectors then witness Mr. Salazar applying D-100 spray can type developer, over the entire one-half surface, in a thin uniform coating. QA Inspectors noted that during the application of the D-100, that no relevant indications were present at the time. After approximately 20 minutes dwell time, QA Inspectors witnessed Mr. Salazar performing visual testing on the tested area. Mr. Salazar then explained to QA Inspectors that no relevant indications were present and was acceptable. QA Inspectors then witnessed Mr. Salazar cleaning off the applied developer with a water hose. The QA Inspector noted that Mr. Salazar performed the final PT testing, on the remaining one-half surface, in the same manner as mentioned above. The QA Inspector noted that QC Inspector Salazar had found one relevant indication during the Final PT on the overlay. QC Inspector Salazar explained that this indication will require a excavation and a weld repair. The QA Inspector then witnessed the OIW Machinist begin excavating on the indication with a mechanical grinder. The QA Inspector noted that after the excavation, QC Inspector performed 100 % PT on the excavated area, in the same manner as mentioned above. QC Inspector Salazar explained that no rejectable indications were found. The QA Inspector then measured the excavation to be approximately 60 mm L x 1 mm W x 2 MM D. QC Inspector Salazar explained that he and WID # C34 were then instructed to arrive at AG in the morning, to perform the GTAW and final PT on the area. The QA Inspector noted that Mr. Salazar appeared to be in compliance with AWS D1.5 visual acceptance criteria and QC-114. See attached pictures below.

Material, Equipment, and Labor Tracking (MELT)

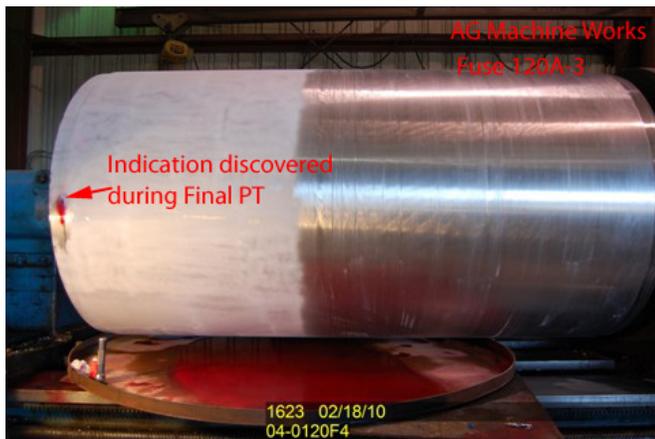
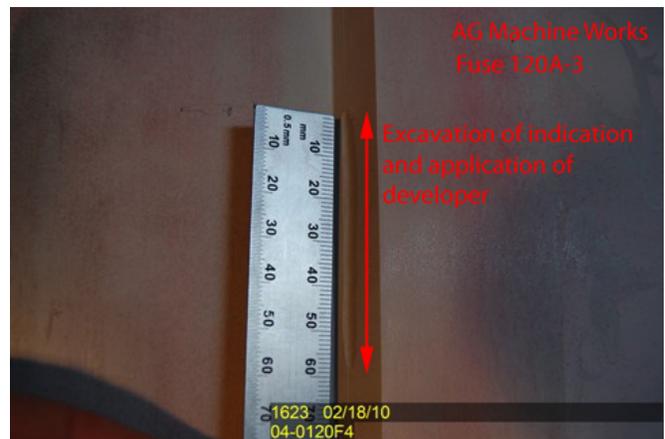
QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project. The QA Inspector observed at Oregon Iron Works: 2 OIW production personnel and 2 QC Inspectors.

The QA Inspector observed at AG Machine Works: 1 AG Machinist, 1 OIW Machinist, 1 OIW welder and 1 OIW QC



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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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Inspected By:	Vance,Sean	Quality Assurance Inspector
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Reviewed By:	Adame,Joe	QA Reviewer
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