DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 82.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017318
Date Inspected: 05-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Westmont Industries

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Santa Fe Springs, CA.

CWI Name:	R. Rodriguez, R. Dominguez	**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: Travelers

Summary of Items Observed:

The Quality Assurance Inspector Sean Vance arrived on site at Westmont Industries (WMI) in Santa Fe Springs, CA, to randomly observe the in process welding of the Travelers. The QA Inspector arrived on site to randomly observe the WMI Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

Traveler Test Rack

On this date, the QA Inspector observed Westmont Industries (WMI), production welder Jose Rodriguez (WID # 3031) continuing to perform Flux Core Arc Welding (FCAW) activities, for the Traveler Test Rack. The QA Inspector observed that Mr. Rodriguez was utilizing a Miller brand machine and wire feeder, to perform the FCAW and that Ultracore 71A85 (.045”) diameter wire was being utilized, for the filler metal. The QA Inspector observed that the above mentioned FCAW was being performed on the vertical column base assembly Tube Steel (TS), Wide Flange Beam (WFB) and Plate material.

On this date, the QA Inspector observed production welder Larry Swanson and a helper perform fitting and tacking activities for the Trolley Test Stand. The QA Inspector observed that the activities were being performed on the piece mark identified as Rail X, Assembly 1-A3, per the shop drawings. The QA Inspector observed that this Rail X assembly consisted of a top and bottom flange and a web plate. The QA Inspector observed that Mr. Swanson was utilizing the overhead bay crane, chain and hook to lift the bottom flange and place flat on a piece of Wide Flange Beam (WFB) material, which is utilized for the fabrication of the Trolley Test Rack. Once the bottom flange was place, the QA Inspector observed that Mr. Swanson then lifted three sections of web plate material, utilizing the crane and then placed the material on the bottom flange. The QA Inspector observed that

the pieces of web plate material had been previously prepared, which appeared to a Complete Joint Penetration (CJP), 45 degree double bevel. Once the web plates were placed, the QA Inspector observed that the top Flange splice was then placed. The QA Inspector observed that temporary pieces of flat bar and angle iron were being utilized to fit and tack weld the Rail X flanges and web plates. Mr. Swanson explained that this material will be removed once the proper fit up and tacking activities are complete.

See attached picture below.

Trolley Test Stand

On this date, the QA Inspector observed Westmont Industries (WMI), production welder Jose Rodriguez (WID # 3031) performing Gas Metal Arc Welding (GMAW) activities, for the Trolley Test Stand. The QA Inspector observed that Mr. Rodriguez was utilizing a Miller brand machine/wire feeder, to perform the GMAW and that Hobart® Fabcore 86R (.045") diameter wire was being utilized, for the filler metal. The QA Inspector observed that Mr. Rodriguez was performing the GMAW in the 1G (flat) position and the fit up preparation appeared to be a Complete Joint Penetration (CJP), 45 degree double bevel. The QA Inspector observed that the GMAW was being performed on the piece mark identified as Rail Y flange splice, per the shop drawing # WMI-TTC-4. At approximately 1000 hrs, the QA Inspector observed that Mr. Rodriguez had finished the GMAW on the flange splices and Mr. Rodriguez explained that he had notified Smith Emery QC Inspector Ruben Dominguez, that the welds were ready for Ultrasonic Testing (UT). The QA Inspector then observed Mr. Dominguez arrive to perform the UT on these two flange splices and observed Mr. Dominguez test the temperature of the weld and heat affected zone areas. Mr. Dominguez explained that the temperature exceeded ambient and will need to cool further, prior to performing the testing. After the welds had cooled to ambient temperature, the QA Inspector then observed Mr. Dominguez performing Ultrasonic Testing (UT), on the above mentioned Y flange splices. The QA Inspector observed QC Inspector Dominguez initially perform a Lamination scan, utilizing a 0 degree transducer (straight beam) on the completed weld joints, to verify that laminar reflectors were not present in the weld joint testing area. After observing QC Inspector Dominguez performing the Lamination scan, Mr. Dominguez explained that no rejectable indications were found and the inspection was being performed in accordance to approved procedure SE-UT-CT-D1.1-104 Rev. # 2. The QA Inspector then observed Mr. Dominguez utilizing a 70 degree Lucite wedge, attached to a 2.25 MHz transducer, to perform Shear Wave testing, on the above mentioned weld joints. The QA Inspector observed Mr. Dominguez utilizing a Krautkramer USN 52L testing instrument and during the testing, the scanning pattern appeared to be in compliance with AWS Fig. 6.24. After the above mentioned testing was complete, Mr. Dominguez explained that no rejectable indications were found and an applicable testing report will be completed, per the contract requirements.

SAS-EB Traveler

Elevated Truss Section

On this date, the QA Inspector observed Westmont Industries (WMI), production welder Raymundo Anaya and production fitter, Cesar Canales continuing to perform activities for the fabrication of the Travelers. The QA Inspector observed Mr. Anaya and Mr. Canales continue to fit up and FCAW tack weld the frame assemblies identified as A235, B235, A214 and A216. During the fit up and tack welding, the QA Inspector observed Mr. Anaya and Mr. Canales occasionally reference the shop drawings nearby the fabrication area to verify dimensions, prior to tacking. The QA Inspector observed that temporary pieces of angle iron were being tack welding in various locations to support the frame assemblies, during the fit up process. The QA Inspector observed that by the end of shift, Wide Flange Beam (WFB) material had been fit-up and tack welded in a perpendicular fashion to

the Frame assemblies identified as A214 and A216.

See attached picture below.

On this date, the QA Inspector observed Westmont Industries (WMI), production welder Eutimo Lopez (WID # 3035), continuing to perform Flux Core Arc Welding (FCAW) activities for the E2/E3-EB Traveler frames. The QA Inspector observed Mr. Lopez performing the FCAW on previously fit and tack welded Tube Steel (TS) on the Frame Assembly, identified as B237, per the shop drawings. The QA Inspector observed that Mr. Lopez was utilizing a Miller brand machine and wire feeder, to perform the FCAW and that Ultracore 71A85 (.045") diameter wire was being utilized, for the filler metal.

The QA Inspector observed that the above mentioned welders appeared to utilize spray cans of "Anti Spatter", prior to commencing the welding activities and this appeared to reduce the amount of weld spatter on or near the weld joints, after completion. The QA Inspector observed that Smith-Emery QC Inspector Ruben Dominguez was present, during the above mentioned welding and tacking activities and QC Inspector Dominguez explained that approved Welding Procedure Specifications (WPS's) were being utilized. The QA Inspector randomly observed that the applicable WPS's and copies of the shop drawings, were located near each work station, where the above mentioned FCAW and fitting activities were being performed. QC Inspector Dominguez explained that the in-process welding parameters were randomly verified including voltage, amperage, pre-heat and travel speed and explained that the parameters appeared to be in compliance to the applicable WPS.

Summary of Conversations:

Comment: Please note completed TL6031, dated 10/4/10, E2/E3-EB Traveler, should have read SAS-EB Traveler. This was a typographical error.

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 Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Vance,Sean Quality Assurance Inspector

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Reviewed By: Edmondson,Fred QA Reviewer