CALIFORNIA DEPARTMENT OF TRANSPORTATION

OFFICE OF STRUCTURAL MATERIALS /MATERIALS ENGINEERING AND TESTING SERVICES

(OSM/METS)

FOUNDATION BOX E14E QC/QA DOCUMENT REVIEW AND COMPARISON WITH E9E AND E4W

For the Pile Head Connection Plate (PHCP) Installation and Inspection Process

July 21, 2005

Special Provisions, Contract 04-012024
Standard Specifications and Standard Plans, July 1999

EXECUTIVE SUMMARY

California Department of Transportation (Caltrans) has performed a review of the Quality Control (QC) and Quality Assurance (QA) documentation produced during the welding of Pile Head Connection Plates (PHCP) in Pier E14E, as requested by Federal Highway Administration (FHWA). This review is similar to a review performed for Piers E9E and E4W and reported June 10, 2005. Data from the previous report is included herein for the convenience of the reader.

The purpose of this review was to analyze PHCP inspection records to determine the consistency of inspections at Pier E14E in comparison with the other locations reviewed, confirm weld quality through inspection documentation, and to confirm the QC and QA inspection process is in compliance with contract documents. The data reviewed for the production of this report indicates that there is consistency in inspection, testing, and production resulting in consistent weld quality that meets the contract documents.

The following report, tables and figures detail the review process as well as the findings and conclusions. In brief, the following findings were determined from the review and analysis of the data presented.

1. The Welding Procedure Specifications (WPSs) were qualified and documented with procedure qualification records as required.
2. The welders were certified to weld with the process, positions and procedures utilized for the three piers.
3. The QC and QA inspectors were properly certified for their respective work responsibilities.
4. The Contractor's written practice for non-destructive testing (NDT) and NDT procedures were reviewed and approved for use.
5. QC and QA inspectors were in place and provided the expected and required inspection coverage.
6. QC performed the required inspections for confirmation of welding parameters.
7. QC and QA documented inspection findings, including repair work.
8. QC performed all of the required visual inspections and non-destructive testing.
9. QA performed independent verification testing, which includes visual inspections and NDT.
10. QC and QA documented repair work, including critical weld repairs (CWR).

Based on the analysis documented in the attached report, it is concluded that the QC and QA inspections at Piers E14E are in compliance with the contract requirements and show similar results to the previous report for E9E and E4W. Additionally the ultrasonic testing at both the top and bottom ends of the weld and the acoustic emission testing conducted at Pier E14E demonstrate QA's due diligence and expertise in responding to and resolving issues associated with cracking at the weld ends that was observed during the early stages of the project.

The attached report and tables provide a summary and analysis of the work performed by QC and QA. A noted point is that, all welders, QC and QA inspectors maintained the contract required certifications/qualifications and were approved by the Engineer. The analysis shows that welding inspection and testing was consistently performed for PHCP field welding. Consistent weld inspection and testing affect weld quality by locating and tracking the repair of weld defects. Accordingly, independent findings determined for PHCP samples from Pier E4W can be extended to Piers E9E and E14E. It is concluded that the PHCP welds for all piers have consistent and comparable quality that meet or exceed the contract requirements.

REPORT OF QC/QA DOCUMENT REVIEW OF PIERS E14E, E9E AND E4W

PURPOSE

California Department of Transportation (Caltrans) performed a review of the Quality Control (QC) and Quality Assurance (QA) documentation produced during the welding of Pile Head Connection Plates (PHCP) in Pier E14E, in reference to similar work performed E9E and E4W, as requested by Federal Highway Administration (FHWA). The data from the previous report is included for the convenience of the reader. The purpose of this review is to analyze inspection records to determine the consistency of inspections at this location in comparison with the other locations reviewed, confirm weld quality through inspections data, and to confirm the QC and QA inspection process is compliance with contract documents. The data reviewed for the production of this report indicates that there is consistency in inspection, testing and production resulting in a consistent weld quality that meet the contract documents.

SCOPE OF REVIEW

Caltrans performed the following scope of work with FHWA guidance in the preparation of this report:

- Review of the Contractor's field implementation of Welding Quality Control Plan (WQCP):
  - Verify the welding procedures were properly qualified and documented.
  - Verify welders were certified to weld with the process, positions, and procedures to be utilized.
  - Verify the QC and QA inspectors were certified by the American Welding Society (AWS) as Certified Welding Inspectors (CWI).
  - Verify the Nondestructive Testing (NDT) personnel (QA & QC) were certified as Level II in the required NDT method.
  - Review the contractor's Written Practice for NDT.
  - Review and verify several additional elements that were included in the submitted WQCP document.
- Verify QC and QA were in place and provided adequate coverage.
- Verify QC was performing the required inspections for confirmation of welding parameters.
- Verify QA was performing independent confirmation of welding parameters.
- Verify QC and QA were documenting inspection findings.
- Verify QC's performance of the required inspection and testing.
- Verify QA performed independent verification testing.
- Review QA Acoustic Emission Testing
- Verify documentation of repair work
- Determine if any of the repairs were Critical Weld Repairs (CWR) and, if so, that these repairs were appropriately documented and verified.

The review included the QC records submitted to the Caltrans' Resident Engineer (RE) in the Certificate of Compliance Package for Pier E14E and E9E. Due to the fact that Pier E4W was not complete at the time welding was stopped and a Certificate of Compliance package was not produced, the review consisted of Weekly Welding Report Submittals encompassing reports from 2/17/05 through 4/1/05

BACKGROUND

A plan view of the foundation boxes for Piers E14E, E9E and E4W is shown in Figure 1. Each of these piers has 6 piles driven through pile sleeves in the box. The piles are connected to the pile sleeves by 8 pile head connection plates (PHCP) utilizing partial joint penetration (PJP) welds. There are two PJP welds on the pile side and two PJP welds on the sleeve side. The plates are designated A to H in a clockwise order at each pile. The welds are numbered 1 and 2 on the sleeve side starting from the right hand weld when facing the plate and numbered 3 and 4 on the pile side in similar fashion. Thus, weld designation 4H2 refers to weld #2 on the sleeve side of plate H in Pile 4.

The American Welding Society (AWS) Bridge Welding Code (D1.5-1996), Section 2.5, does not allow the use of PJP welds for structural members that are subjected to tension normal to the throat of the weld. This is because the joint configuration of a PJP weld leaves a portion of the joint un-welded, creating the equivalent of a notch or a crack-like anomaly below the root of the weld. The PHCP welds meet the code criteria for PJP welds as they are subjected primarily to shear forces. Figure 2 shows a schematic sketch of the PHCP weld with the required joint and weld dimensions. The visual acceptance criteria for the welds included verification of the depth of bevel preparation, root gap, size of reinforcing fillet and geometry of the top and bottom terminations of the welds as shown in Figure 3. Figures 4A and 4B provide a schematic representation of the limits of acceptable anomalies by visual (VT) and magnetic particle testing (MT) inspections in the PJP weld per the AWS D1.5 code.

The period of construction for PHCP for Pier E14E was July-August 2003. It was the third pier completed with welding of pile head connection plates beginning the week of July 21, 2003. (Pier E9E was the 8th pier constructed from November-December 2003. The Pier E4W was 26th pier constructed in March-April 2005). The inspection approach utilized on pier E14E by Caltrans QA and Structures Construction personnel included additional testing and inspection methods that were utilized only on this pier including Acoustic Emission Testing (AE). In addition to ensuring that the Contractor's production and inspection methods and procedures followed the contract documents, there was additional effort on solving the cracking problem associated with the weld terminations and confirming that the contractor was implementing the recommendations that were provided to resolve the cracking issue. These modifications include the following:

- The use of improved preheating techniques with higher temperatures that heat the plates throughout its thickness.
- Better distribution of heat by placing the heating pads closer to the welds with an additional pad placed at the bottoms of the pile head plates.
- Addition of MT to evaluate top and bottom weld tab areas after their removal
- Better termination techniques in the slot radius areas.
- Changes in the sequence of welding the plates.

For Pier E14E, QA personnel focused on confirming that the QC provided CWI coverage for monitoring welding parameters, visually inspected critical areas of the weld, and utilized correct MT techniques. In addition, QA performed independent nondestructive testing utilizing methods and procedures other than those used by QC. These methods included UT of the base metal at the top and bottom of the weld, AE with MT to evaluate isolated areas.

SUMMARY OF ACOUSTIC EMISSION TESTING:

AE was utilized on footing box E14E to aid in the investigation of the source of audible sounds reported by the workers. These audible sounds were believed to be potentially associated with the propagation of cracks similar to those previously found in footing boxes E15E and E16E. The AE sensors were placed on all six pile sleeves on the outer diameter in order to capture audible signal data in an attempt to locate

their origin. The primary purpose of utilizing this specialized technology was to provide a means of focusing inspection efforts on potential suspect areas and to verify the effectiveness of the modifications the Contractor made in the production methods and procedures.

AE commenced August 1 and continued through August 22, 2003. During this time frame, four audible sound events were recorded and their origins were located by the AE monitoring equipment. The AE monitoring effort was successful in isolating the sources of audible sounds and identifying potential locations where inaudible emissions were occurring. Follow up visual and non-destructive examinations were able to correlate relatively minor indications in these weld areas or cracks in the tack welds of run off tabs. The following is a summary of these audible events and the findings associated with them:

1. An audible event occurred on 8/5/03 at approximately 23:30 hours which was correlated by the data collected to Plate 3A. An investigation of the plate revealed a cracked tack weld on the run off tab and an indication in the root pass, which was repaired.
2. An audible event occurred on 8/6/03 at approximately 00:10 hours which was correlated by the data collected to Plate 3D. A root crack indication was discovered after the removal of the weld tabs in the top radius of the joint. This defect was isolated and repaired.
3. An audible event occurred on 8/7/03 at 10:07 hours which was correlated by the data collected to Plate 2H. Small indications were discovered using magnetic particle testing (MT), which were removed by grinding and repaired.
4. The AE equipment on 8/8/03 at 22:55 hours recorded a strong energy signal; however no report of an audible noise exists. This signal was located at Plate 3D and root crack indications were discovered on both the top and bottom radii of the plate joint when the run off tabs were removed. Removal of this indication was confirmed on 8/16/03.
5. An audible event occurred on 8/13/03 at approximately 12:30 hours, which was not recorded by the AE equipment due to a power failure that had occurred in the hours preceding the event. Observers reported that the sound appeared to come from the general direction of pile 2. MT discovered a few minor indications on plates 3B, 2G and 2H which may have been associated with this audible event.

AE monitoring continued through August 22, with the last event noted on August 13, confirming that full implementation of the contractors procedural changes had the desired effect.

FINDINGS

The following findings were made for each of the items in the scope of work:

Review of the Contractor's Welding Quality Control Plan (WQCP):

Table 1 documents the welding procedures used during the welding of the PHCPs in Pier E14E, E9E and E4W. This data was gathered from QA inspection documentation. A total of three WPSs were used in Pier E14E, a total of seven WPSs were used in Pier E9E, and a total of four WPSs were used in Pier E4W at the time of termination of work. The WPSs were qualified and documented with procedure qualification records as required. The WPSs had the verbal or written approval of the RE prior to their use. Pier E14E was constructed early in the project; therefore fewer WPSs had been developed and approved. With further refinement of processes, more approved WPSs were available for E9E.

Tables 2A, 2B and 2C summarize the list of welders and the process that they were qualified to weld with for each of the respective piers. The list of welders was gathered from the QC inspection records, specifically the daily visual inspection records by each inspector. The tables show that all the welders were qualified by testing to the Flux Core (FCAW) and/or the Shielded Metal Arc Welding (SMAW) process. A review of the qualification records indicated that all welders were qualified in the 3G position.

Generally, the welders were welding within WPS limits. In instances they welded outside WPS limits, the QC documented and issued NCRs. These NCRs were then resolved in accordance with contract documents with engineering analysis as required. As approved and accepted by the Engineer, some of the welds were removed while others received additional inspection including visual or NDT evaluation as approved and accepted by the Engineer. Table 2D, is a summary of welders that worked on each pier. There were a total of 38 welders identified for both completed piers E14E and E9E, among which 27 welders (71%) worked on both the piers. This results in a level of uniformity and consistency in quality of welds between the two piers.

Tables 3A and 3B provide respectively the list of all QA and QC inspectors that worked on any of the three piers. The tables illustrate that all but two of the QC inspectors were AWS CWIs. These two QC inspectors (Richard Morales (RM) and Joe Lockwood (JL)) are MT Level II technicians who performed MT only after QC CWI inspectors performed visual inspections. Examples of their certifications are included at the end of this report. There was one QC CWI inspector (Gerry Menezes (GM)) who only performed VT, but not MT, as he was certified only as a CWI. All QA inspectors had appropriate NDT and CWI certifications. Table 3B, the list of QC inspectors, indicates that seven inspectors worked on both piers E14E and E9E and four QC inspectors including one onsite QCM worked on all the three piers. This assures maintenance of consistency in inspection and testing for all three piers.

ISI (Inspection Services, Inc.) is the sub-contractor chosen by the Contractor to perform the required NDT on the PHCP welds. ISI's Written Practice for NDT was submitted as a part of the Contractor's WQCP. This written practice was reviewed in late 2002 and approved by the RE on December 6, 2002. ISI's MT procedure was also reviewed and approved during this time. Caltrans also reviewed a Distortion Control Plan submitted by the Contractor on March 28, 2003 as part of the WQCP.

Were QC and QA in Place and Did They Provide Adequate Coverage?:

Observations: Tables 4, 5 and 6 are a compilation of QC and QA data showing inspection records for critical elements of the inspection process, for Pier E14E, E9E and E4W respectively. Each table has rows representing data for each PHCP weld in the pier. There are a total of 192 (4 joints x 8 plates x 6 piles) welds in each pier. Each row has columns representing inspection points such as fit up of the joint, check of welding parameters during root, fill and cap welding, MT of the root and cap, and observations of repairs, including critical weld repairs (CWRs). QC and QA performed visual inspections of the weld at a minimum each time they checked welding parameters, repair inspections, and prior to MT.

For example, for weld 1C3, Table 5 shows that it was welded by welders identified as C7, E16, L17 and R22. Fit up was inspected on 11/17/03 by QC inspector identified as KS, visual inspections and root pass parameters were checked by QC inspector identified as TI on 12/5, fill passes were checked several times by DR (12/5), TI (12/8), DR (12/8), DR (12/8). QC inspector TI conducted visual inspection of cover passes on 12/8. NDT of root and cover pass was conducted by QC inspectors DR (12/05) and JL (12/19) respectively. In addition, DR (12/8) and TI (12/19) noted repairs at this joint, (CWR 180), which TI cleared by VT and MT on 12/19/03. QA inspector BM performed VT/UT for this weld on 12/19/03. The last column in the row shows available corroborating evidence in the QA documentation. In this instance, QA inspector identified as AP (12/8) and BM (12/8) corroborates visual inspections, WPS parameters, welder and process. The individual inspectors represented by their initials can be determined from Table 3A and 3B. The welders represented by their initials can be determined from Tables 2A, 2B or 2C.

QC and QA inspection records show that they were monitoring, inspecting and documenting their activities during every shift of the PHCP welding operation. Each Table 4, 5 and 6 demonstrates the extent of the inspection activity for each weld joint. All tables indicate that QC inspected 100% of the joints for fit up tolerances, performed MT for acceptance of the root pass and cap passes for 100% of the joints, regularly monitored welding parameters, routinely performed visual inspection of weld passes, and

documented weld defects. These meet the requirements for inspection by QC, described in special provision, attached here in appendix 1.

QA documentation shows that 100% of the welds received final visual inspection. During initial stage (pier E14E), inspection was focused towards assuring QC's method of inspection. QA additionally provided independent inspection, which focused on areas identified by AE as described earlier. In addition, QA records were used to corroborate a significant number of QC records, as shown in the last column in all three tables.

Finding: QC and QA were in place and provided coverage as per contract documents and exceeded industry standards for the PHCP welding in the form of the documented visual inspections, verifications of welding parameters, repair verifications and NDT.

Was QC Performing Inspections for Confirmation of Welding Parameters?:

Observations: Table 7 summarizes the QC data contained in Tables 4, 5 and 6 based upon the percentage of welds receiving at least one visual inspection with recorded welding parameters. For E14E an average of 79% of the root pass locations, an average of 96% of the fill pass locations and an average of 45% of the cover pass locations were inspected with parameters documented. Similarly the Pier E9E percentages were 67% for root passes, 95% for fill passes and 59% for cover pass locations. The corresponding numbers for Pier E4W were 70% for root passes, 88% for fill passes and 45% for cover passes.

Finding: QC was performing visual inspections and documenting confirmation of welding parameters in compliance with contract document. The documentation of these parameters exceeds industry standards.

Was QA performing Independent Confirmation of Welding Parameters?:

Observations: Tables 8, 9 and 10 detail the various observations and corroborations recorded by QA personnel on Piers E14E, E9E and E4W respectively. QA records indicate that welding parameters were routinely monitored by witnessing QC measure and record the parameters. Tables 8, 9 and 10 show that QA independently confirmed and recorded welding parameters as a part of the inspection process.

Finding: QA performed independent confirmation of welding parameters.

Did QC perform the Required Inspection and Testing?:

Observations: Tables 4, 5 and 6 summarizes the various components of inspection and testing performed by QC on Piers E14E, E9E and E4W respectively. Each table describes that QC performed inspection of joint fit up, visual inspections of the weld passes, verification of welding parameters from root to cap passes, and MT of the root and cap passes, as required in the contract documents. In addition, tables illustrate that QC documented weld defects based on VT or MT, monitored corrections and performed MT to verify defect removal prior to weld repairs. Tables 11, 12 and 13 detail specific inspection observations and rejection comments by QC for each weld.

Finding: QC performed the required inspection and testing in accordance with the contract documents.

Did QA perform independent verification testing?:

Observations: The QA records indicate that inspections were performed before, during and after the welding process was completed. In addition to VT, non-destructive verification testing in the form of MT and UT were performed. The established QA protocol focuses on documenting problems and non-conforming items rather than reporting compliance and acceptance of the in process workmanship.

Although, QA personnel did not record every instance of independent verification testing that was performed, the records indicate that QA performed significant verification testing. As mentioned before, the last column in Tables 4, 5 and 6 detail corroborations of QC and QA inspection records for Pier E14E, E9E and E4W. Tables 8, 9 and 10 provide further detail of the kind of verification testing that was performed and documented in the QA records. This includes WPS parameters, welders, locations, processes, rejects, repairs and CWRs or some combination of these items for various welds.

For Pier E14E, at least one verification test was documented by QA for 100% of the piles. Further, 100% of the cap passes and terminations were visually inspected to acceptance criteria shown in Figure 3, base metal adjacent to 100% of the terminations was ultrasonically tested. Specifically for pier E14E the areas identified by AE as potential areas of interest received MT.

For Pier E9E, at least one verification test was documented by QA for 100% of the piles. Further, 100% of the cap passes and terminations were visually inspected to acceptance criteria shown in Figure 3, base metal adjacent to 100% of the terminations were UT tested, and approximately 10% of the weld caps were MT tested after welding was completed.

For Pier E4W, at least one verification test was documented by QA for 75% of the plates in the 6 piles (36 plates). However, it should be noted that welding in Pier E4W was approximately 70% complete at the cut-off date for the inspection records for this pier. Therefore, final visual inspections, UT and MT of the completed welds had not yet commenced for Pier E4W.

Finding: QA performed independent verification testing during welding of the PHCP. This level of QA verification testing complies with contract document and meets or exceeds industry standards.

Was Repair Work Documented?:

Observations: Table 7 shows the number of weld defects, repairs and CWRs documented by QC for all three piers. For Pier E14E total of 68 observations relating to weld, fitup or other defects and 9 observations relating to CWRs were recorded by QC. Similarly, a total of 89 observations relating to weld, fitup or other defects and 19 observations relating to CWRs were recorded by QC on Pier E9E. For Pier E4W, the number of observations total 25 and 3, respectively. It should be noted that Pier E4W was approximately 70% complete at the cut-off date for the inspection reports. Tables 8, 9 and 10 show several instances of QA corroborations with QC documentation of the repair work.

Finding: The repairs initiated by QC and QA were documented.

Did any of the repairs require CWR documentation, and if so, were these repairs properly Documented and Verified?

Observations: For Pier E14E, there were 9 repairs requiring CWR documentation, as shown in Table 4. There were 19 repairs requiring CWR documentation for Pier E9E, as shown in Table 7. Table 12 indicates that 18 CWRs were documented in the QC records. QA records show that CWR #155 (on 2G1) was performed properly; however the QC inspection documentation was missing. All the CWRs for Pier E9E were documented, submitted and approved in writing by the RE. There were 3 repairs requiring CWR documentation for Pier E4W before the cut-off date for the inspection records as indicated in Tables 6 and 7. CWR 316 was verbally approved by the RE and documented by QC and QA. The other CWR was documented, submitted and approved in writing by the RE.

Finding: There were several repairs requiring CWR documentation and with two exceptions, all repairs were properly documented and approved in writing by the RE. One CWR repair (#155) is missing from the QC records that were reviewed; however, QA records indicate that the repair was performed properly.

The other CWR repair (#316) was not yet submitted in writing; it was approved verbally and performed properly as verified by QC and QA inspections.

CONCLUSIONS

Based on the analysis documented in the attached report, Caltrans concludes that the QC and QA inspections at Piers E14E are in compliance with the contract requirements with similar results to the previous report for E9E and E4W. Additionally the ultrasonic testing of weld terminations and acoustic emission testing conducted for Pier E14E show QA's due diligence and expertise in responding to and resolving welding issues.

The attached report and tables also summarize the analysis of workmanship consistency. This is demonstrated by the documented inspections and testing performed by QC and QA and supported by several welders and QC/QA inspectors working on either two or all three piers. Additionally, all welders, QC and QA inspectors maintained the contract required certifications/qualifications and were approved by the Engineer demonstrating a continuity and reliability in quality of workmanship. Consistent weld inspection and testing affect weld quality by locating and tracking the repair of weld defects as is demonstrated in the QC and QA data reviewed for the development of this report. Subsequently, the quality of the welds in Pier E14E should be comparable to the quality of the welds in Piers E9E and E4W.

Based upon the visual inspection, NDT, and destructive testing, an independent laboratory (Mayes Testing Engineers, Inc.) concluded, *"The field and laboratory work performed . . . shows excellent workmanship in the pile connection plates welds in pier footing structure E4W. There was no evidence of gross flaws. In fact, there was no evidence of any unacceptable flaws in any of the samples tested. The cross-section significantly exceeds the minimum requirements. The weld average cross-section depth (weld effective throat) is 25 percent greater than design requirements and the weld cross-section also shows a very regular pattern of weld bead deposition indicating a consistent and controlled welding process."* As a result of the consistency outlined in this analysis, the independent findings determined for PHCP samples from Pier E4W can be extended to Piers E9E and E14E. It is concluded that the PHCP welds for all piers have consistent and comparable quality that meet or exceed the contract requirements

Appendix 1

The requirements for inspection for QC can be identified and quoted from different sections of special provisions for the project.

Section 8-3.01: Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing prior to welding, during welding, and after welding as specified in this section and additionally as necessary to ensure that materials and workmanship conform to the requirements of the contract documents.

The QC Inspector shall be the duly designated person who acts for and on behalf of the Contractor for inspection, testing, and quality related matters for all welding.

The QC Inspector shall inspect and document each joint preparation, joint fit-up, and assembly practice. The QC Inspector shall verify, inspect and document each welder performance (including tack welders) for conformance with the approved WPS. The QC Inspector shall examine the work to make certain that it meets the requirements of Sections 3 and 9.21. The size and contour of welds shall be measured using suitable gages. Visual inspection for cracks in welds and base metal, and for other discontinuities shall be aided by strong light magnifiers, or such other devices as may be helpful. Acceptance criteria different from that specified in this code (AWS D 1.5) may be used when approved by the Engineer.

A sufficient number of QC Inspectors shall be provided to ensure continuous inspection when any welding is being performed for each welding operation and at each welding location.

Inspection and approval of the joint preparation, assembly practice, welding techniques, and performance of each welder, welding operator, and tack welder shall be documented by the QC Inspector on a daily basis for each day that welding is performed.

Section 10-1.44 (Field Welding NDT for PHCP)

The Contractor shall develop a UT procedure to verify the depth of penetration of the partial joint penetration (PJP) connection plate welds to the pile and sleeve.

MT shall be used for 100% of all partial joint penetration (PJP) and fillet welds. The acceptance criteria shall conform to the requirements of AWS D1.5 for connections subject to tensile stress. UT and MT shall be performed, after the weld has cooled to ambient temperature, in accordance with a written procedure that shall be approved by the Engineer before use.

CCO 50 (Contract Change Order #50):

The depth of ~~p~~preparation of the weld for the pile head connection plates shall be changed from a minimum 31 mm to a minimum 35 mm. The root weld will be inspected visually and Magnetic particle testing will also be performed on the root of each weld. Ultrasonic testing, as described in the Special Provisions Section 10-1.44 Steel Structures will not be required for the pile head connection plate weld.

Figure 1
Box Weld Nomenclature

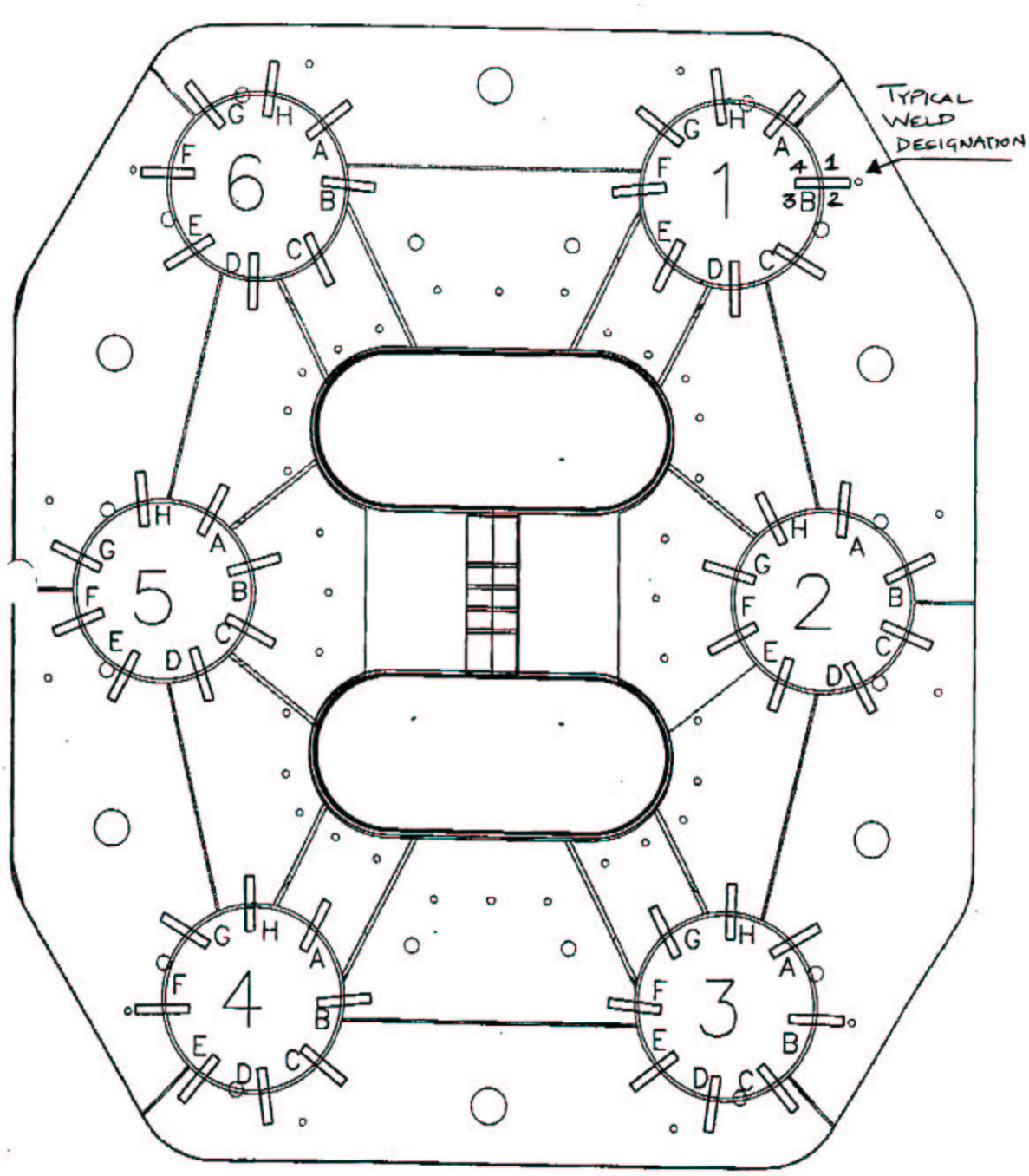
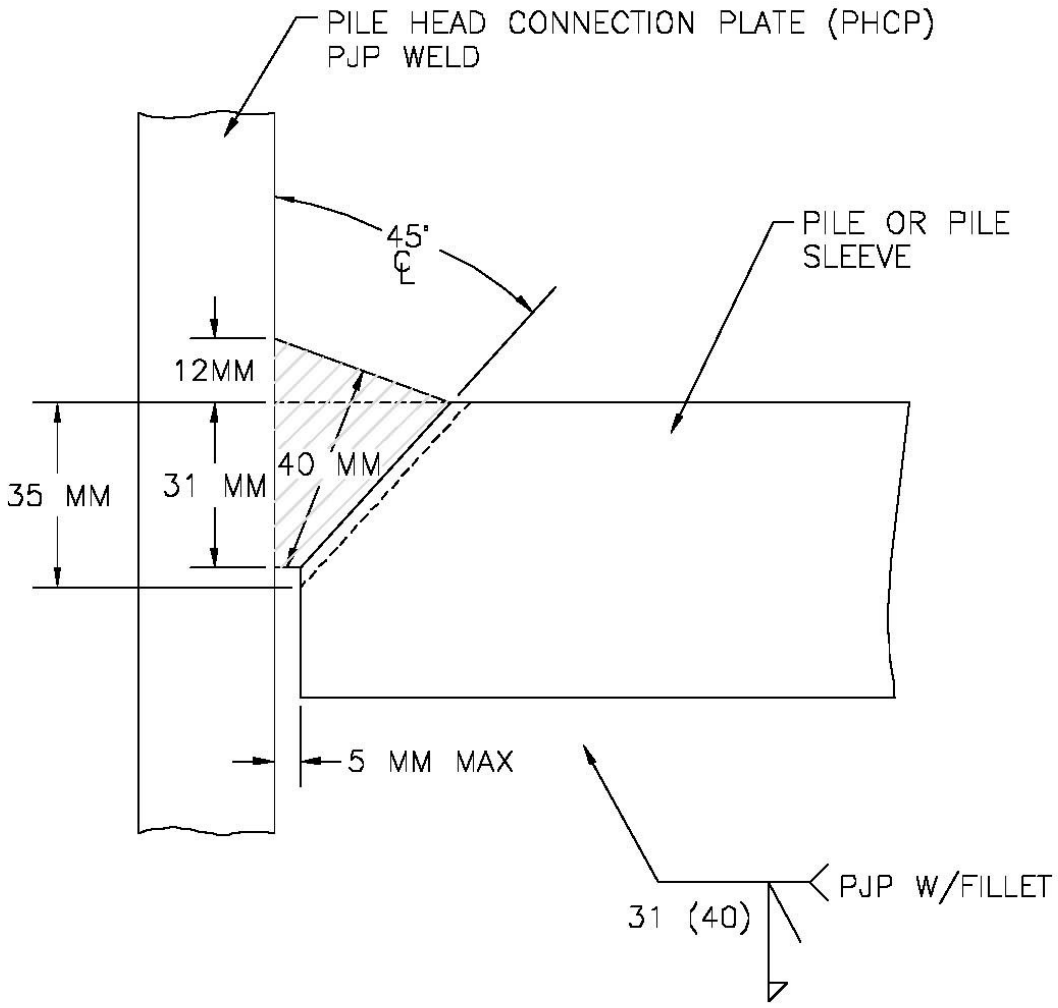


Figure 2
PHCP Cross Section Drawing

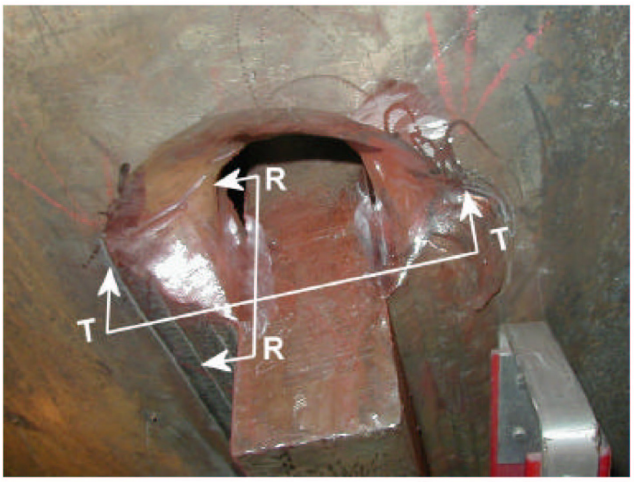


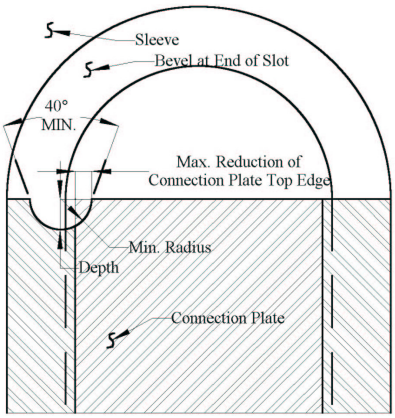
PER DESIGN: DEPTH OF PREP 31 IS MM
PER CCO 50: DEPTH OF PREP IS 35 MM

Figure 3
PHCP Weld Acceptance Criteria

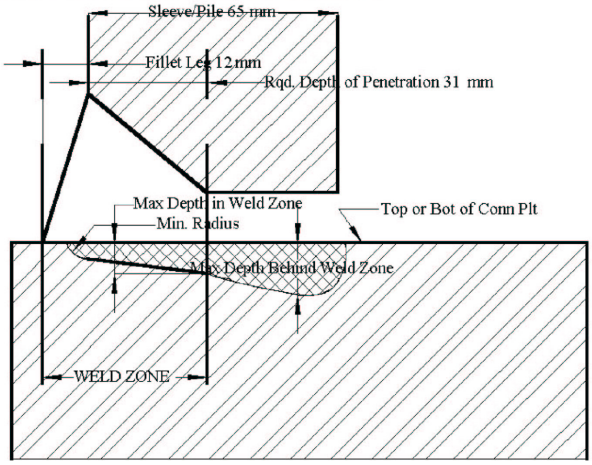
Acceptance Criteria for Connection Plate Welds at Top & Bot.

(Weld repair is required if geometry exceeds specified criteria.)





SECTION T-T
TANGENTIAL CRITERIA



SECTION R-R
RADIAL CRITERIA

CONNECTION PLATE LOCATION	WELD ZONE LOCATION	MIN. RADIAL RADIUS	MIN. TANGENTIAL RADIUS	MAX. DEPTH	MAX. REDUCT. OF CONN. PLT. TOP EDGE
PILE: BOT.	INSIDE	6	6	6	10
	BEHIND	3	3	20	10
PILE: TOP SLEEVE: TOP & BOT.	INSIDE	6	6	12	10
	BEHIND	3	3	20	10

6/10/03

Figure 4A
Limits of Acceptable Imperfections in PJP Welds

AWS D1.5 Bridge Welding Code 1996

Acceptance Criteria per Section 9.21 (excluding 9.21.2.1) for the 40 mm Partial Joint Penetration (PJP) groove weld with reinforcing fillets for the Pile Head Connection Plates (PHCP):

Visual Inspection:

1. No cracks.
2. Thorough fusion between adjacent layers and between weld and base metal.
3. All craters filled to full cross section of the weld.
4. Undercut shall not exceed 1/32" (1 mm)
5. Piping Porosity shall not exceed one in 4-inches (100 mm) or 6 in 4 feet (1.2 M) and the diameter shall not exceed 3/32" (2.4 mm). D1.5 Code only addresses piping porosity for visual inspections.
6. The fillet weld may under run the nominal size by 2mm without correction, provided the undersize portion of the weld does not exceed 10% of the length of the weld.

Magnetic Particle Testing (MT):

7. No cracks.
8. Figure 9.5 is to be used to determine the maximum size discontinuity and spacing permitted for the given weld size.
9. Porosity or fusion type discontinuities 1/8" (3 mm) or larger are relevant per Figure 9.5.
10. The maximum size discontinuity permitted for a single discontinuity for a 1-1/2" (38 mm) weld size or larger is ¾" (19 mm) (PHCP weld size is 40 mm)
11. Discontinuities 1/8" (3 mm) to 3/4" (19 mm) inclusive must be separated by the space (value) listed in "C" of Figure 9.5. This spacing criteria also applies to the distance between a discontinuity and the edge of the weld. The larger of the adjacent discontinuities governs the spacing "C".
12. Discontinuities less than 1/16" (1.6 mm) shall not exceed 3/8" (10 mm) in any linear inch (25mm) of weld.

Section 2.3.4: The effective weld size of a combination PJP groove weld and a fillet weld shall be the shortest distance from the joint root to the weld face of the diagrammatic weld minus 1/8" (3 mm) when the weld requires a deduction. See 2.3.1.3 for welds requiring the reduction and welds that do not.

Figure 4B
Limits of Acceptable Imperfections in PJP Welds

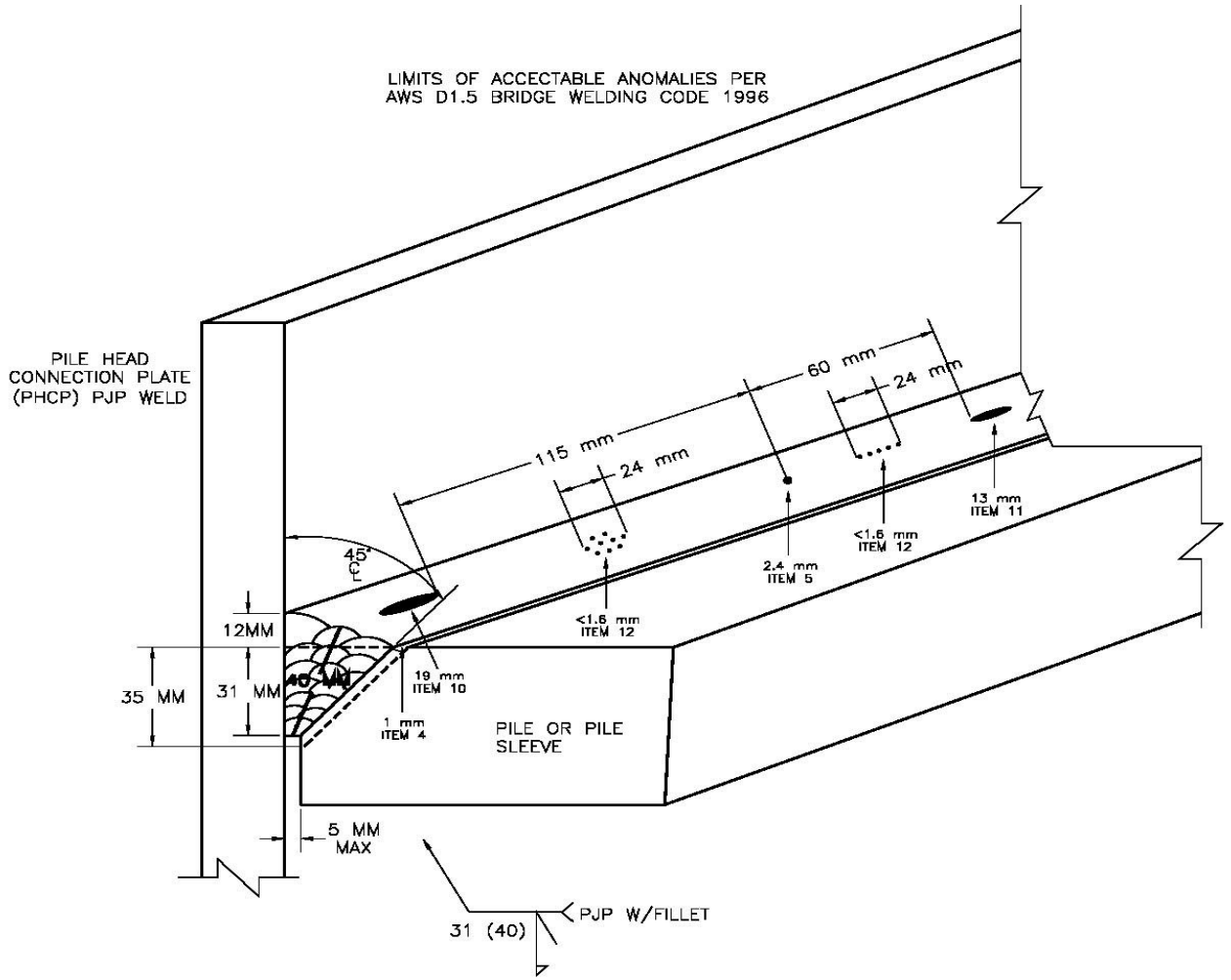


Table 1 List of Welding Procedure Specifications

WPS Number	Location Used		
	E14E	E9E	E4W
FCV-002	X	X	
FCV-002 Rev1			X
FCV-005 Rev2	X		
FCV-006		X	
FCV-007		X	X
FCV-008		X	
FCV-015			X
FCV-019			X
SMAW-7018-003	X	X	
SMAW-7018-005		X	
SMAW-7018-006		X	

Table 2A Welder Certification for Pier E14E

WELDER ID	WELDER NAME	FCAW	SMAW
A2	GARCIA, TONY A.	1/11/2003	1/9/2003
A3	NUNES, WAYNE	1/30/2003	1/18/2003
A8	SMITH, JOEL	4/4/2003	3/28/2003
A9	WATERS, CHAKETHA	N/A	2/18/2002
B3	TORRES, MARCO A.	1/23/2003	1/18/2003
B9	RICO, RIGOBERTO	4/11/2003	4/4/2003
C11	LEWIS, BRIAN	5/30/2003	6/6/2003
C4	UPSHAW, JIMMY	2/20/2003	2/21/2003
C7	KIM, HYON-JUN	1/9/2003	1/8/2003
D11	RICH, SEAN	4/10/2003	4/10/2003
D5	McMELLEN, DAVID	2/20/2003	2/8/2003
E12	GRANADOS, ART	4/10/2003	4/3/2003
E6	PEELER, TIM	3/25/2003	3/14/2003
F13	LINK, GUSTAVE W.	5/22/2003	4/10/2003
F6	ALBARRAN, JUSTO	1/9/2003	1/8/2003
G15	BJELOGLAVIC, ADMIR	5/22/2003	5/30/2003
G8	WAFER, WILLIAM	3/28/2003	3/13/2003
I13, Z38	THOMPSON, DANIEL	1/18/2003	1/18/2003
I17	BUDIC, IBRAHIM	6/5/2003	5/30/2003
J15	BOWSER, DAVID	3/13/2003	N/A
K18	CUEVAS, JERRY	4/11/2003	3/29/2003
L13	KRUDWING, JAMES O.	1/18/2003	1/8/2003
L17	REYES, JOHN S.	4/3/2003	3/14/2003
M19	CISNEROS, LORENZO	4/4/2003	3/28/2003
N14	JONES, MICHAEL	1/9/2003	1/31/2003
N16	LEON, ANGEL	1/31/2003	2/6/2003
N20	SOTO, MIGUEL	3/28/2003	3/14/2003
N22	ROUNDTREE, DAVID	6/5/2003	5/30/2003
O15	AGUIRRE, FRANCISCO	1/20/2003	N/A
O21	SOUSA, MICHAEL	4/4/2003	3/28/2003
P16	WAYNE, RANDOLPH	1/31/2003	12/9/2002
Q17	DOWELL, GENE	1/20/2003	1/20/2003
Q21	SAEED, TARIK	1/23/2003	1/8/2003
R19	STUMPF, HERB	1/21/2003	N/A
R20	GAYTAN, LUPE	2/6/2003	1/31/2003
R22	CAVAZOS, ROEL	1/25/2003	1/23/2003
U21	STEVENS, CHRIS	12/20/2002	N/A
X28	DOLAN, RANDOLPH	4/4/2003	3/20/2003

Table 2B Welder Certification for Pier E9E

WELDER ID	WELDER NAME	FCAW	SMAW
A2	GARCIA, TONY	1/11/2003	1/9/2003
A3	NUNES, WAYNE	1/30/2003	1/18/2003
B3	TORRES, MARCO	1/23/2003	1/18/2003
B9	RICO, RIGOBERTO	4/11/2003	4/4/2003
C12	JADALI, ANNOSHRIVAN	6/13/2003	6/6/2003
C7	KIM, HYON-JUN	1/9/2003	1/8/2003
D11	RICH, SEAN	4/10/2003	4/10/2003
E12	GRANADOS, ART	4/10/2003	4/3/2003
E16	ARMANI, MARIO	9/26/2003	10/3/2003
E6	PEELER, TIM	3/25/2003	3/14/2003
F6	ALBARRAN, JUSTO	1/9/2003	1/8/2003
G15	BJELOGLAVIC, ADMIR	5/22/2003	5/30/2003
I13	THOMPSON, DANIEL	1/18/2003	1/8/2003
I17	BUDIC, IBRAHIM	6/5/2003	5/30/2003
J12	GAYTAN, LUPE	2/6/2003	1/31/2003
J15	BOWSER, DAVID	3/13/2003	2/27/2004
J19	SALKANOVIC, SADMIR	6/20/2003	2/26/2003
JS	SMITH, JOEL	4/4/2003	3/28/2003
K18	CUEVAS, JERRY	4/11/2003	3/29/2003
K19	McDONALD, STANLEY	6/5/2003	5/30/2003
L13	KRUDWIG, JAMES	1/18/2003	1/8/2003
L17	REYES, JOHN	4/3/2003	3/14/2003
M14	GOMEZ, MARIO	5/29/2003	N/A
M19	CISNEROS, LORENZO	4/4/2003	3/28/2003
M21	KURPIESKI, ALAN	6/5/2003	5/30/2003
N14	JONES, MICHAEL	1/9/2003	1/31/2003
N16	LEON, ANGEL	1/31/2003	2/6/2003
N20	SOTO, MIGUEL	3/28/2003	3/14/2003
N22	ROUNDTREE, DAVID	6/5/2003	5/30/2003
O15	AGUIRRE, FRANCISCO	1/20/2003	N/A
O21	SOUSA, MICHAEL	4/4/2003	3/28/2003
P23	MOYA, GILBERT	5/22/2003	5/30/2003
Q17	DOWELL, GENE	1/20/2003	1/20/2003
Q21	SAEED, TARIK	1/23/2003	1/8/2003
R20	GAYTAN, LUPE	2/6/2003	1/31/2003
R22	CANAZOS, ROEL	1/25/2003	1/23/2003
TT	TURNNER, TIM	12/20/2002	3/14/2003
X28	DOLAN, RANDOLPH	4/4/2003	3/20/2003

Table 2C Welder Certification for Pier E4W

WELDER ID	WELDER NAME	FCAW	SMAW
A9	ALBORNOZ, JOSE	8/27/2004	2/18/2002
B16	CASANOVA, ANDRE	11/5/2004	10/22/2004
B2	OCHOA, VENTURA	1/9/2003	1/31/2003
B3	TORRES MARCO	1/23/2003	1/18/2003
B9	RICO, RIGOBERTO	4/11/2003	4/4/2003
C7	KIM, HYON-JUN	1/9/2003	1/8/2003
D11	RICH, SEAN	4/10/2003	4/10/2003
E12	GRANADOS, ART	4/10/2003	4/3/2003
E16	ARMANI, MARIO	9/26/2003	10/3/2003
E17	ARNETT, DANIEL	12/19/2003	12/5/2003
E6	PEELER, TIM	3/25/2003	3/14/2003
E7	BIETE, RANDES	N/A	5/13/2005
F6	ALBARRAN, JUSTO	1/9/2003	1/8/2003
G15	BJELOGLAVIC, ADMIR	5/22/2003	5/30/2003
G18	HALLSTROM, CHRIS	12/9/2002	N/A
G8	WAFER, WILLIAM	3/28/2003	3/13/2003
I17	BUDIC, IBRAHIM	6/5/2003	5/30/2003
J19	SALKANOVIC, SADMIR	6/20/2003	2/26/2003
L12	RIVERA, FERNANDO	1/9/2003	1/10/2003
L26	BROWN, BOBBY	8/22/2003	12/3/2004
M19	CISNEROS, LORENZO	4/4/2003	3/28/2003
M21	KURPIESKI, ALAN	6/5/2003	5/30/2003
M23	MASSEY, SEAN	12/17/2004	10/1/2004
N20	SOTO, MIGUEL	3/28/2003	3/14/2003
O15	AGUIRRE, FRANCISCO	1/20/2003	3/14/2003
O21	SOUSA, MICHAEL	4/4/2003	3/28/2003
P23	MOYA, GILBERT	5/22/2003	5/30/2003
P29	TLAPA-MATINEZ, HUGO	10/8/2004	9/24/2004
S31	AGUIRRE, MIGUELA	4/30/2004	9/10/2004
U25	CLEGG, BENNETT	1/25/2003	1/25/2003
V22	ROSENBLUM, KEVIN	1/9/2003	1/9/2003
Z39	AGUIRRE, FRANCISCO	10/22/2004	10/8/2004

Table 2D Summary of Welders

Summary	Numbers
Total Welders on E9E	38
Total Welders on E14E	38
Welders worked on both E9E and E14E	27 (71%)
Welders worked on all three piers	14 (34%)

Table 3A List of Quality Assurance Personnel

METS QA STAFF SFOBB SKYWAY BOXES E9E, E14E OR E4W PERSONNEL						
Initials	**Last Name**	**First Name**	**TITLE**	**MT**	**UT**	**CWI**
HB	Boyles	Hugh	QA Inspector - Performing Inspections at Jobsite	II	II	92100981
SB	Brannon	Sherri	QA Inspector - Performing Inspections at Jobsite	II		4070251
KC	Carpenter	Kevin	QA Inspector - Performing Inspections at Jobsite	II	II	98120531
KC	Churchill	Kevin	QA Inspector - Performing Inspections at Jobsite	II	II	99110661
GG	Goulet	George	QA Inspector - Performing Inspections at Jobsite	II		02110401
CH	Hager	Craig	QA Inspector - Performing Inspections at Jobsite	II	III	94040141
JL	Lanz	Joe	QA Inspector - Performing Inspections at Jobsite	II	II	93020011
BL	Levell	Bill	QA Inspector - Performing Inspections at Jobsite	II	II	82050693
BM	Madison	Bert	QA Inspector - Performing Inspections at Jobsite	II	II	02020461
FM	Medberry	Frank	QA Inspector - Performing Inspections at Jobsite	II	II	99040093
AP	Peterson	Art	QA Inspector - Performing Inspections at Jobsite	II	II	92050151
HP	Porter	Hank	QA Inspector - Performing Inspections at Jobsite	II	II	96010611
RV	Vatcher	Robert	QA Inspector - Performing Inspections at Jobsite	II	II	95080161

Table 3B List of Quality Control Personnel

QC INSPECTORS AT SFOBB SKYWAY BOXES E9E, E14E OR E4W							
PERSONNEL					PIER INSPECTED		
INITIALS	Last Name	First Name	MT	CWI	E14E	E9E	E4W
DA	Aultman	David	II	02071061		YES	YES
RB	Bell	Ramsay	II	98041701		YES	
RB	Bettencourt	Richard	II	04090251			YES
AC	Calija	Augustine	II	79110361			YES
KC	Carpenter	Kevin	II	98120531			YES
AC	Coffman	Andrew	II	02040971			YES
KE	Ecker	Keith	II	00041801	YES		YES
AF	Falk	Andrew	II	01060901		YES	
TG	Gaut	Tobin	II	00110521	YES		
DH	Hastings	Daniel	II	00110541	YES	YES	
TH	Hipes	Terry	II	02020691	YES	YES	YES
TI	Ilo	Theodore	II	00040724	YES	YES	
JL	Lockwood	Joe	II	N/A		YES	
JL	Lizardo	Joselito	II	00110581	YES	YES	YES
SM	Marquez	Stefan	II	00020421	YES		
CM	Melgoza	Cezar	II	03040131		YES	
GM	Menezes	Gerry		00020441	YES	YES	
RM	Morales	Robert	II	N/A		YES	
DR	Reeder	David	II	01060561		YES	
DR	Riggs	David	II	01090571	YES	YES	YES
JR	Robinet	Jackie		00010291		YES	YES
KS	Scrivner	Kevin	II	02071031		YES	
HV	Vester	Heath	II	02020631		YES	
DW	Winter	Dennis		98040461	YES	YES	YES

Table 3C Summary of QC Personnel

Analysis	Personnel Nos.	Analysis	Personnel Nos.
Total QC Inspector on E14E	10	QC Inspector worked on E14E and E9E	7
Total QC Inspector on E9E	17	QC Inspector worked on E14E and E4W	5
Total QC Inspector on E4W	11	QC Inspector worked on all three piers	4

Table 4 Inspection Records for Box E14E [Pile1]

		QC									QA	
Weld ID	Welder ID	Fit Up	Welding Parameters			Rejects/ Repairs	CWRs		NDT (MT)		VT/NDT	Corroborations
			Root	Fill	Cap		No.	MT	Root	Cap		
1A1	K18, N14	DH (7/9)	TH (7/23), DR (7/23)	DR (7/23), GM (7/24)					DR (7/23)	TI (8/18)	HB VT/UT (8/18)	KC (7/23), KC (7/24), GG (7/24)
1A2	G8, K18, N14	DH (7/9)	KE (6/24), TH (7/23), DR (7/23)	GM (7/24)	DR (7/24)				DR (7/23)	TI (8/18)	HB VT/UT (8/18)	
1A3	C4, C7, I17	DH (7/9)	GM (8/5)	GM (8/6), GM (8/7)					TI (8/6)	DR (8/19)	KC VT/UT (8/19)	GG (8/7)
1A4	C4	DH (7/9)			DR (8/7)				TI (8/6)	DR (8/19)	KC VT/UT (8/19)	RV (8/6)
1B1	G8, I17, L17, N14, R22	DH (7/9)	KE (6/24), DR (7/30), GM (7/31)	GM (8/1), DR (8/1), GM (8/4)	TH (8/4), DR (8/4)	TI (7/31), GM (7/31)	66	DR (7/31)	DR (7/31)	DR (8/4), TI (8/18), DR (8/18)	HB VT/UT (8/18)	GG (7/31), KC (7/31), GG (8/1), KC (8/1), GG (8/4)
1B2	G8, L17, N14, R22	DH (7/9)		TH (7/31), GM (8/1), DR (8/1)		TI (7/31), GM (7/31)	66	DR (7/31)	DR (7/31)	DR (8/4), TI (8/18), DR (8/18)	HB VT/UT (8/18)	KC (7/31), KC (8/1)
1B3	C4, C7, O21	DH (7/9)		GM (8/9), GM (8/11), GM (8/11), GM (8/12)	TH (8/11)				DH (8/10)	TI (8/12), DR (8/19)	KC VT/UT (8/19)	RV (8/9), KC (8/11), KC (8/12)
1B4	C4	DH (7/9)	DR (8/9)	DR (8/10), DR (8/11)	DR (8/11)				DH (8/10)	TI (8/12), DR (8/19)	KC VT/UT (8/19)	GG (8/11), KC (8/11)
1C1	C4, N14	DH (7/9)	GM (7/18)	GM (7/18), DR (7/18), DR (7/18)	TI (7/21)				TI (7/18)	TI (7/22), DR (8/18)	HB VT/UT (8/18)	
1C2	G8, N14, R22	DH (7/9)	KE (6/24)	TH (7/21), TH (7/21), DR (7/21), DR (7/21)	TI (7/21), DR (7/21)				TI (7/18)	TI (7/22), DR (8/18)	HB VT/UT (8/18)	
1C3	C4, C7	DH (7/9)		DR (7/30), GM (7/31)					TI (7/30)	TI (7/31), DR (8/19)	KC VT/UT (8/19)	
1C4	C4, C7	DH (7/9)		DR (7/30), GM (7/31)					TI (7/30)	TI (7/31), DR (8/19)	KC VT/UT (8/19)	GG (7/31)
1D1	D5, G8, R22	DH (7/9)	KE (6/24), DR (7/24)		DR (7/30), DR (7/31)				DR (7/25)	DR (7/31), DR (8/18)	HB VT/UT (8/18)	
1D2	A8, D5, G8, N20, R22	DH (7/9)	KE (6/24), GM (7/25)	DR (7/28), DR (7/29), DR (7/29)					DR (7/25)	TI (7/31), DR (8/18)	HB VT/UT (8/18)	KC (7/28), KC (7/29)
1D3	C4	DH (7/9)		DR (8/7), DR (8/8)	DR (8/8)				JL (8/6)	DR (8/8), DR (8/19)	KC VT/UT (8/19)	
1D4	C7	DH (7/9)	GM (8/6)	GM (8/8), GM (8/8)					JL (8/6)	DR (8/8), DR (8/19)	KC VT/UT (8/19)	GG (8/6), GG (8/8)
1E1	A8, C4, G8, Q17	DH (7/9)	KE (6/23), TI (7/15), TH (7/15)	TI (7/16)	DR (7/17)				DR (7/15)	DR (7/17), DR (8/18)	HB VT/UT (8/18)	KC (7/15), GG (7/17). KC (7/17), KC (7/17), KC (7/18), KC (7/18)
1E2	A8, G8	DH (7/9)	KE (6/23), TI (7/15)	DH (7/16), TI (7/16)					DR (7/15)	DR (7/17), DR (8/18)	HB VT/UT (8/18)	
1E3	C4, C7	DH (7/9)	DR (7/23), DR (7/23)	DR (7/23), GM (7/24), GM (7/24), TI (7/24)	DR (7/24)		74	TI (8/20)	DR (7/23)	DR (7/24), DR (8/19)	KC VT/UT (8/19)	
1E4	C4, C7	DH (7/9)	DR (7/23)	TI (7/24)	DR (7/24)		74	TI (8/20)	DR (7/23)	DR (7/24), DR (8/19)	KC VT/UT (8/19)	GG (7/24)
1F1	A8, G8, O21, R22	DH (7/9)	KE (6/23), TI (7/21), TI (7/21)	DR (7/22), TI (7/23), TH (7/23), DR (7/23), DR (7/23)	TI (7/24)	GM (7/18)			TI (7/21)	TI (7/24), TI (8/18)	HB VT/UT (8/18)	KC (7/23), KC (7/24), GG (7/24)
1F2	A8, G8, O21, R22	DH (7/9)	KE (6/23), TI (7/21), TI (7/21)	DR (7/22), TI (7/23)	TI (7/24)	GM (7/18)			TI (7/21)	TI (7/24), TI (8/18)	HB VT/UT (8/18)	GG (7/23), GG (7/24)
1F3	C4, C7	DH (7/9)	GM (8/4)	GM (8/4)	DR (8/4)				DH (8/1)	DR (8/4), DR (8/19)	KC VT/UT (8/19)	GG (8/4)
1F4	C4, C7	DH (7/9)	GM (8/1)	GM (8/1), DR (8/1), DR (8/1)					DH (8/1)	DR (8/4). DR (8/19)	KC VT/UT (8/19)	KC (8/1)
1G1	G8, C4, K18, N14, R22	DH (7/9)	KE (6/24), KE (6/25), DR (7/25)	DR (7/17), GM (7/29)	DR (7/29)				TI (7/28)	DR (7/29), TI (8/18)	HB VT/UT (8/18)	KC (7/25). KC (7/29), KC (7/29)
1G2	C4, N14, R22	DH (7/9)	GM (7/28)	DR (7/16), DR (7/16), DR (7/16), GM (7/28), DR (7/28)	DR (7/17)	TH (7/25)			TI (7/28)	DR (7/29), TI (8/18)	HB VT/UT (8/18)	KC (7/16), KC (7/28)
1G3	C4, C7	DH (7/9)	DR (8/9)	GM (8/9), GM (8/9), GM (8/10), GM (8/10)		GM (8/10)			DR (8/9)	DR (8/10), DR (8/19)	KC VT/UT (8/19)	RV (8/9)
1G4	C4, C7	DH (7/9)	GM (8/9), GM (8/9)		DR (8/10)	GM (8/9)			DR (8/9)	DR (8/10), DR (8/19)	KC VT/UT (8/19)	
1H1	C4, G8, N14, R22	DH (7/9)	KE (6/24), TI (7/15), TH (7/15)	TI (7/16), TI (7/24)	TI (7/17), DR (7/17)				DR (7/15)	DR (7/17), TI (8/18)	HB VT/UT (8/18)	KC (7/15)
1H2	K18, N14	DH (7/9)	TI (7/15)	DH (7/16), TI (7/16), TI (7/24), DR (7/30)	TI (7/17)				DR (7/15)	TI (7/17), TI (8/18)	HB VT/UT (8/18)	GG (7/17)
1H3	C4, C7	DH (7/9)		GM (7/28), DR (7/28), DR (7/28), GM (7/29)					TI (7/28)	DR (7/29), DR (8/19)	KC VT/UT (8/19)	GG (7/28)
1H4	C4, C7	DH (7/9)	GM (7/28)	DR (7/28), GM (8/7)	DR (7/29)				TI (7/28)	DR (7/29), DR (8/19)	KC VT/UT (8/19)	KC (7/29), KC (7/29)

Table 4 Inspection Records for Box E14E [Pile2]

		QC									QA	
Weld ID	Welder ID	Fit Up	Welding Parameters			Rejects/ Repairs	CWRs		NDT (MT)		VT/NDT	Corroborations
			Root	Fill	Cap		No.	MT	Root	Cap		
2A1	G8, G15, L13, X28	DH (6/26)	KE (6/9), KE (6/10), GM (8/10), SM (8/10)	TH (8/11), TH (8/11), GM (8/12)	TH (8/12)	JL (8/20)			DR (8/10)	DR (8/12), JL (8/20)	KC VT/UT (8/22)	GG (8/11), KC (8/11), GG (8/12), KC (8/12), KC (8/12)
2A2	G15, L13	DH (6/26)	GM (8/10)	SM (8/10), GM (8/11)		JL (8/20)			DR (8/10)	DR (8/12), JL (8/20)	KC VT/UT (8/22)	
2A3	B9, I13	DH (6/26)		TH (8/16), DR (8/16), TI (8/17), TI (8/17)	DR (8/17)	TI (8/17)			JL (8/16)	DR (8/17), TI (8/22)	KC VT/UT (8/25)	
2A4	B9, M19	DH (6/26)	TH (8/15)	TI (8/17), TI (8/17)		TI (8/17)			JL (8/16)	DR (8/17), TI (8/22)	KC VT/UT (8/25)	
2B1	A3, C12, G8, G15	DH (6/26)	KE (6/9)	GM (8/14), TH (8/14), TH (8/14), TI (8/15)		GM (8/13)			DR (8/13)	JL (8/15)	KC VT/UT (8/22)	KC (8/13)
2B2	A3, G8, G15, N16, N22	DH (6/26)	KE (6/9)	GM (8/13), TH (8/13), GM (8/14), TI (8/15)		GM (8/13)			DR (8/13)	JL (8/15)	KC VT/UT (8/22)	KC (8/13)
2B3	M19, N22	DH (6/26)	TI (8/17)	TH (8/18)					DR (8/17)	JL (8/19), TI (8/22)	KC VT/UT (8/25)	KC (8/18), KC (8/19)
2B4	A2, M19, N22	DH (6/26)	TI (8/17)	TH (8/18), GM (8/19)					DR (8/17)	JL (8/19), TI (8/22)	KC VT/UT (8/25)	
2C1	G8, L13, N22, X28	DH (6/26)	KE (6/9), GM (8/7), GM (8/7), TH (8/8), GM (8/14)	TH (8/7), GM (8/9)		JL (8/20)			DR (8/7)	DR (8/9), JL (8/20)	KC VT/UT (8/22)	RV (8/8)
2C2	G8, G15, L13	DH (6/26)	KE (6/9)	GM (8/8), TH (8/8), GM (8/9)		JL (8/20)	75	JL (8/20)	DR (8/7)	DR (8/9), JL (8/20)	KC VT/UT (8/22)	
2C3	J19, M19, N20	DH (6/26)		TH (8/14), TI (8/15), TH (8/15)					DR (8/14)	JL (8/16), TI (8/22)	KC VT/UT (8/25)	KC (8/14), KC (8/15)
2C4	J19, M19, N22	DH (6/26)		GM (8/14), TH (8/14), TI (8/15)					DR (8/14)	JL (8/16), TI (8/22)	KC VT/UT (8/25)	KC (8/14), KC (8/14)
2D1	F13, G15	DH (6/26)		TH (8/11), GM (8/13), GM (8/13)	TH (8/13)				JL (8/11)	DR (8/13), DR (8/19)	KC VT/UT (8/22)	
2D2	D11, F13	DH (6/26)		TH (8/12), TH (8/12)					JL (8/11)	DR (8/13), DR (8/19)	KC VT/UT (8/22)	GG (8/12)
2D3	G15, I13, M19, N20	DH (6/26)	TH (8/16)	DR (8/17), TH (8/18), GM (8/19)	TH (8/18)				DR (8/17)	JL (8/19), TG (8/21)	KC VT/UT (8/25)	KC (8/18), GG (8/18), KC (8/19)
2D4	M19	DH (6/26)	TH (8/16), DR (8/16)						DR (8/17)	JL (8/19), TG (8/21)	KC VT/UT (8/25)	
2E1	G15, R20	DH (6/26)	TH (8/4)	GM (8/6)					DR (8/4)	JL (8/6), DR (8/19)	KC VT/UT (8/22)	GG (8/6)
2E2	G15, R20	DH (6/26)	TH (8/4)	GM (8/5), TH (8/5)					DR (8/4)	JL (8/6), DR (8/19)	KC VT/UT (8/22)	
2E3	R20	DH (6/26)		SM (8/10)	TH (8/12), TH (8/12)				JL (8/10)	JL (8/13), DR (8/20)	KC VT/UT (8/25)	GG (8/12)
2E4	B9, N22, R20	DH (6/26)	GM (8/10)	SM (8/10), GM (8/11)	TH (8/11)				JL (8/10)	JL (8/13), DR (8/20)	KC VT/UT (8/25)	CH (8/10), GG (8/11), KC (8/11)
2F1	B9, N20, N22, X28	DH (6/26)	GM (8/8)	TH (8/8), GM (8/9), GM (8/10), GM (8/10)		JL (8/20)			DR (8/8)	JL (8/10), JL (8/20)	KC VT/UT (8/22)	
2F2	G8, N20, X28	DH (6/26)	KE (6/10)	TH (8/8), GM (8/9), TH (8/9)	TH (8/9)	JL (8/20)			DR (8/8)	JL (8/10), JL (8/20)	KC VT/UT (8/22)	
2F3	A2, A9	DH (6/26)	TI (8/15)	TI (8/17)					JL (8/15)	DR (8/17), TG (8/22)	KC VT/UT (8/25)	
2F4	A2, A9, M19, N16	DH (6/26)	TI (8/15)	TH (8/16), DR (8/16), TI (8/17)	DR (8/17)				JL (8/15)	DR (8/17), TG (8/22)	KC VT/UT (8/25)	
2G1	G8, I17, D11, Q21	DH (6/26)	KE (6/10), TH (8/12)	GM (8/9), GM (8/14), GM (8/14), TI (8/15), TI (8/15)					DR (8/12)	DR (8/15), TI (8/21)	KC VT/UT (8/22)	KC (8/15)
2G2	D11, L13, Q21	DH (6/26)	TH (8/12)	TH (8/13), TH (8/14), TH (8/14), TI (8/15), TI (8/15)	TH (8/15)				DR (8/12)	DR (8/15), TI (8/21)	KC VT/UT (8/22)	GG (8/14), KC (8/14), KC (8/15), KC (8/15)
2G3	G15, M19	DH (6/26)		GM (8/19), TH (8/19)					JL (8/18)	JL (8/20), TG (8/21)	KC VT/UT (8/25)	
2G4	G15, M19	DH (6/26)		GM (8/19), TH (8/19)	TH (8/19)				JL (8/18)	JL (8/20), TG (8/21)	KC VT/UT (8/25)	GG (8/19)
2H1	G8, G15, R20	DH (6/26)	KE (6/10), TH (8/6)	TH (8/7), GM (8/8)					DR (8/6)	JL (8/8), TI (8/21)	KC VT/UT (8/22)	GG (8/7), CH (8/8)
2H2	B9, G8, G15, R20	DH (6/26)	KE (6/10), TH (8/6)	GM (8/6), GM (8/7), GM (8/7), TH (8/7)	GM (8/8)				DR (8/6)	JL (8/8), TI (8/21)	KC VT/UT (8/22)	RV (8/6), CH (8/8)
2H3	A2, A3, M19, N20	DH (6/26)		TH (8/13), GM (8/14)					JL (8/12)	JL (8/14), TI (8/22)	KC VT/UT (8/25)	GG (8/13), KC (8/13)
2H4	A3, M19, N20, N22, Q21	DH (6/26)	GM (8/12)	GM (8/13), TH (8/13), GM (8/14)					JL (8/12)	JL (8/14), TI (8/22)	KC VT/UT (8/25)	KC (8/13)

Table 4 Inspection Records for Box E14E [Pile3]

		QC									QA	
Weld ID	Welder ID	Fit Up	Welding Parameters			Rejects/ Repairs	CWRs		NDT (MT)		VT/NDT	Corroborations
			Root	Fill	Cap		No.	MT	Root	Cap		
3A1	A2, B9, I17, N20, N22	DH (6/26)	GM (7/29)	DR (7/30), TH (7/31), GM (8/1), GM (8/20), GM (8/20)	TH (7/31)	GM (7/29), JL (8/16)			DR (7/29)	DH (8/1), JL (8/16)	KC VT/UT (8/18)	KC (7/29), KC (7/29)
3A2	B9, E6, N20, R20	DH (6/26)	DH (6/12), TH (7/28)	DR (7/30), DR (7/31), TH (7/31)		JL (8/16)			DR (7/29)	DH (8/1), JL (8/16)	KC VT/UT (8/18)	
3A3	A2, I13, R20	DH (6/26)	TH (8/8)	GM (8/10), GM (8/11)	SM (8/10)				DR (8/9)	JL (8/11). DR (8/17)	KC VT/UT (8/18)	CH (8/10)
3A4	A2, I13, R20	DH (6/26)	TH (8/8)	GM (8/10), SM (8/10)					DR (8/9)	JL (8/11). DR (8/17)	KC VT/UT (8/18)	
3B1	L13, U21	DH (6/26)	TH (7/16)	TH (7/17), TH (7/17)	TI (7/17)	JL (8/16)			TI (7/17)	TI (7/22), JL (8/16)	KC VT/UT (8/18)	KC (7/17), KC (7/18)
3B2	L13, U21	DH (6/26)	TH (7/15), TH (7/16)	GM (7/18), GM (7/18), DH (7/18)	TI (7/17), TH (7/22)	JL (8/16)			TI (7/17)	DR (7/22), JL (8/16)	KC VT/UT (8/18)	KC (7/17), KC (7/18), KC (7/22), GG (7/22)
3B3	I13, P16, N22	DH (6/26)	GM (7/29)	TH (7/29), GM (7/30), DR (7/30)	TH (7/31)	GM (7/28)			DR (7/29)	DR (7/31). DR (8/17)	KC VT/UT (8/18)	KC (7/29) , KC (7/29)
3B4	I13, P16, N22	DH (6/26)	GM (7/28)	TH (7/29), GM (7/30), DR (7/30), GM (7/31)		GM (7/28)			DR (7/29)	DR (7/31). DR (8/17)	KC VT/UT (8/18)	KC (7/29), KC (7/29)
3C1	B3, B9, F13, L13, N22	DH (6/26)	DH (6/13), TH (7/23)	TH (7/24), GM (7/25), TH (7/25), GM (7/28), GM (8/19)		JL (8/16), JL (8/19), GM (8/19)	71	JL (8/19), GM (8/19)	DR (7/24)	TI (7/28), JL (8/16), JL (8/19)	KC VT/UT (8/21)	CH (8/19), KC (7/23), KC (7/24), KC (7/25), GG (7/28), KC (7/28)
3C2	B3, B9, F13, L13	DH (6/26)	DH (6/13), TH (7/23)	TH (7/24), GM (7/25), TH (7/25)	GM (7/28)	JL (8/19)			DR (7/24)	TI (7/28), JL (8/19)	KC VT/UT (8/21)	KC (7/23), KC (7/24), KC (7/25), GG (7/28), KC (7/28)
3C3	A2, B9, I13	DH (6/26)	GM (8/6)	TH (8/6), TH (8/7), GM (8/8)					JL (8/6)	JL (8/8). DR (8/17)	KC VT/UT (8/18)	GG (8/7)
3C4	A2, B9, I13	DH (6/26)		GM (7/28), GM (8/7)	TH (8/7)				JL (8/6)	JL (8/8). DR (8/17)	KC VT/UT (8/18)	RV (8/7)
3D1	B3, B9, L13	DH (6/26)	DH (6/13), TH (7/31)	DR (8/1), TH (8/4), GM (8/5)		JL (8/16)	71	JL (8/18)	DH (8/1)	TI (8/5)	CH VT/UT (8/18), KC VT/UT (8/21)	KC (8/1)
3D2	B9, L13	DH (6/26)	TH (7/31)	DR (8/1), GM (8/4), TH (8/4)		JL (8/16)	71	JL (8/19)	DH (8/1)	TI (8/5)	CH VT/UT (8/18), KC VT/UT (8/21)	KC (8/1), GG (8/4)
3D3	B9, I13	DH (6/26)	TH (8/11)	GM (8/12), GM (8/13)					DR (8/17)	JL (8/13). DR (8/17)	KC VT/UT (8/18)	GG (8/11)
3D4	B9, I13	DH (6/26)	TH (8/11)	GM (8/12), TH (8/12)		GM (8/13)			DR (8/17)	JL (8/13). DR (8/17)	KC VT/UT (8/18)	GG (8/12)
3E1	B3, D11, G15, K18, N20	DH (6/26)	DH (6/12), TI (7/17), TH (7/17), TH (7/18)	TH (7/18), TH (7/21)		JL (8/16)			DH (7/18)	DR (7/22), JL (8/16)	KC VT/UT (8/18)	KC (7/17), KC (7/18), KC (7/22)
3E2	B3, D11, G15, N20, N22	DH (6/26)	DH (6/12), TI (7/17)	TH (7/18), TH (7/21), GM (8/19)		JL (8/16)	71	JL (8/18), JL (8/19)	DH (7/18)	DR (7/22), JL (8/16)	KC VT/UT (8/18)	FM (7/21)
3E3	A2	DH (6/26)	GM (8/1)	GM (8/4)		GM (8/1)			DH (8/1)	JL (8/5). DR (8/17)	KC VT/UT (8/18)	GG (8/4)
3E4	A2, G15, I13	DH (6/26)		GM (8/1), DR (8/1) TH (8/4), DR (8/4), GM (8/5)					DH (8/1)	JL (8/5). DR (8/17)	KC VT/UT (8/18)	
3F1	B9, D11, L13	DH (6/26)	TH (7/24)	TH (7/29), TH (7/29), GM (7/30)		JL (8/18)			TI (7/25)	TI (7/31), DR (8/18)	KC VT/UT (8/21)	KC (7/28), KC (7/29)
3F2	B9, E6, L13	DH (6/26)	KE (6/10)	TH (7/28), GM (7/29), GM (7/30), DR (7/30)		JL (8/18)			TI (7/25)	TI (7/31), DR (8/18)	KC VT/UT (8/21)	KC (7/28), GG (7/29), KC (7/29)
3F3	A2, B9, I13	DH (6/26)	GM (8/7)	DR (8/1), TH (8/8), GM (8/9)					JL (8/8)	DR (8/9). DR (8/17)	KC VT/UT (8/18)	GG (8/7)
3F4	A2, I13	DH (6/26)		GM (8/8), TH (8/8), GM (8/9)	TH (8/9)				JL (8/8)	DR (8/9). DR (8/17)	KC VT/UT (8/18)	
3G1	E6, I13, R19	DH (6/26)	KE (6/10), TI (7/15)	DH (7/16), TH (7/16), TH (7/17)	TI (7/17)	JL (8/19)			DR (7/15)	DR (7/17), JL (8/19)	KC VT/UT (8/21)	KC (7/17), KC (7/18)
3G2	E6, I13, R19	DH (6/26)	KE (6/10), TI (7/15), TH (7/15)	DH (7/16), TH (7/16), TH (7/16)	TI (7/17)	JL (8/19)			DR (7/15)	DR (7/17), JL (8/19)	KC VT/UT (8/21)	KC (7/15), KC (7/16)
3G3	I13, U21	DH (6/26)	TH (7/23)	GM (7/24), JL (7/24), GM (7/25), GM (7/25)		TH (7/23)			JL (7/24)	DR (7/25). DR (8/17)	KC VT/UT (8/18)	KC (7/23), KC (7/24), GG (7/25)
3G4	I13	DH (6/26)	TH (7/23)	TH (7/24)	TH (7/24)				JL (7/24)	DR (7/25). DR (8/17)	KC VT/UT (8/18)	KC (7/23), KC (7/24)
3H1	A2, E6, I13	DH (6/26)	KE (6/10), TH (7/21)		TI (7/23)	JL (8/18)			DR (7/21)	JL (7/23), JL (8/18)	KC VT/UT (8/21)	GG (7/23)
3H2	A2, B9, E6, I13	DH (6/26)	KE (6/10), TI (7/21), TH (7/21)	TH (7/22), TH (7/22)	TI (7/23)	JL (8/18)			DR (7/21)	JL (7/23), JL (8/18)	KC VT/UT (8/21)	FM (7/21)
3H3	A2, I13	DH (6/26)	GM (8/5)	TH (8/5), GM (8/6), GM (8/6)	TH (8/6)				JL (8/5)	DR (8/6). DR (8/17)	KC VT/UT (8/18)	
3H4	I13	DH (6/26)		TH (8/5)	TH (8/6)				JL (8/5)	DR (8/6). DR (8/17)	KC VT/UT (8/18)	RV (8/6)

Table 4 Inspection Records for Box E14E [Pile4]

		QC									QA	
Weld ID	Welder ID	Fit Up	Welding Parameters			Rejects/ Repairs	CWRs		NDT (MT)		VT/NDT	Corroborations
			Root	Fill	Cap		No.	MT	Root	Cap		
4A1	N16, N20, O21	KE (6/26)	TI (7/15)	TH (7/16), TH (7/17)	TI (7/17), TH (7/17)				DR (7/15)	DH (7/18)	CH VT/UT (8/18)	KC (7/15), KC (7/16), GG (7/17)
4A2	N20, O21	KE (6/26)	TI (7/15), TH (7/15)	DH (7/16), TH (7/16), TH (7/16)	TI (7/17)				DR (7/15)	DH (7/18)	CH VT/UT (8/18)	
4A3	D11, Q21	KE (6/26)	DR (7/22), TH (7/22), TH (7/22), TH (7/22)	TH (7/23), TH (7/23), JL (7/24)					JL (7/23)	DR (7/24)	CH VT/UT (8/18)	KC (7/23), GG (7/24)
4A4	D11, Q21	KE (6/26)	DR (7/22)	GM (7/24), JL (7/24)	TH (7/24)				JL (7/23)	DR (7/24)	CH VT/UT (8/18)	GG (7/23), KC (7/24)
4B1	G15, N20	KE (6/26)		TI (7/23), TH (7/23)	TH (7/23)				TI (7/22)	JL (7/24)	CH VT/UT (8/18)	KC (7/23), KC (7/24)
4B2	B3, G15, I13, U21	KE (6/26)	DH (6/12), TH (7/21)	DR (7/22), TI (7/23), JL (7/24)					TI (7/22)	JL (7/24)	CH VT/UT (8/18)	GG (7/23), GG (7/24)
4B3	D11, Q21	KE (6/26)	TH (7/31)	GM (8/1)					TI (8/1)	DR (8/4)	CH VT/UT (8/18)	KC (8/1)
4B4	D11, Q21	KE (6/26)	TH (7/31)	GM (8/4)					TI (8/1)	DR (8/4)	CH VT/UT (8/18)	KC (8/1)
4C1	G15, N22, N20	KE (6/26)	GM (7/25)	TH (7/25), TH (7/25), GM (7/28), GM (7/29)	TH (7/29)				TI (7/25)	DR (7/29), JL (8/15)	CH VT/UT (8/18)	GG (7/28)
4C2	B3, I13, N22	KE (6/26)	DH (6/12), GM (7/25)	TH (7/28)	TH (7/28)				TI (7/25)	DR (7/29), JL (8/15)	CH VT/UT (8/18)	KC (7/25)
4C3	B3, D11, N22	KE (6/26)		GM (8/7), TH (8/8), GM (8/9), GM (8/9)					JL (8/8)	DR (8/9)	CH VT/UT (8/18)	GG (8/7)
4C4	D11, N22	KE (6/26)		DR (8/1), DR (8/1), GM (8/8), TH (8/8), TH (8/9)	TH (8/9)				JL (8/8)	DR (8/9)	CH VT/UT (8/18)	
4D1	C11, L17, P16	KE (6/26)	TH (7/15), TH (7/16)	GM (7/18), TH (7/21)	TH (7/21)				DR (7/17), TI (7/18)	DR (7/21)	CH VT/UT (8/18)	
4D2	C11, L13	KE (6/26)	TH (7/16)	TH (7/18)		GM (7/31)			DR (7/17)	DR (7/21)	CH VT/UT (8/18)	
4D3	D11	KE (6/26)		TH (7/25)	TH (7/28)				TI (7/25)	DR (7/28)	CH VT/UT (8/18)	KC (7/25), KC (7/28), KC (7/28)
4D4	A2, D11, Q21	KE (6/26)	GM (7/25)	TH (7/25), GM (7/28), GM (7/28)	TH (7/28)				TI (7/25)	DR (7/28)	CH VT/UT (8/18)	GG (7/25), KC (7/25), KC (7/28), KC (7/28)
4E1	A2, L13, N22	KE (6/26)	TI (7/23)	TH (7/23), TH (7/23), GM (7/24), GM (7/24), JL (7/24)					JL (7/23)	JL (7/25)	CH VT/UT (8/18)	GG (7/23), KC (7/23), GG (7/24)
4E2	A2, L13, N22, P16	KE (6/26)	TI (7/23)	DH (7/18), JL (7/24), TH (7/24)	TH (7/24)				JL (7/23)	JL (7/25)	CH VT/UT (8/18)	GG (7/23), KC (7/24)
4E3	Q21	KE (6/26)		GM (8/6), GM (8/6), GM (8/7)					TI (8/5)	JL (8/7)	CH VT/UT (8/18)	GG (8/6)
4E4	D11, N22, P16	KE (6/26)	GM (8/5)	GM (8/5), TH (8/5), TH (8/5)					TI (8/5)	JL (8/7)	CH VT/UT (8/18)	
4F1	N22, G15, R20	KE (6/26)		GM (7/29), TH (7/29), DR (7/29), GM (7/31)	TH (7/31)				DR (7/29)	DR (7/31), JL (8/15)	CH VT/UT (8/18)	GG (7/31)
4F2	B3, G15, R20	KE (6/26)	KE (6/10), DR (7/29)	TH (7/29), GM (7/30), DR (7/30), GM (7/31)					DR (7/29)	DR (7/31), JL (8/15)	CH VT/UT (8/18)	KC (7/29), KC (7/29)
4F3	B3, D11, N22, O21, X28	KE (6/26)	GM (8/9)	GM (8/10), GM (8/11), GM (8/11)	TH (8/11)				DR (8/9)	DR (8/11)	CH VT/UT (8/18)	KC (8/11)
4F4	B3, D11	KE (6/26)	TH (8/9)	GM (8/10), SM (8/10)	SM (8/10)				DR (8/9)	DR (8/11)	CH VT/UT (8/18)	
4G1	I13, K18, Q21, N22	KE (6/26)	TH (7/16), TI (7/17), TH (7/17), GM (7/18)	TH (7/18), TH (7/21), DR (7/21), DR (7/21)					TI (7/18)	TI (7/22)	CH VT/UT (8/18)	FM (7/21)
4G2	B3, I13, K18, Q21	KE (6/26)	KE (6/10), TI (7/17), TH (7/17)	TH (7/18)					DR (7/17)	TI (7/22)	CH VT/UT (8/18)	GG (7/21)
4G3	D11	KE (6/26)	TH (7/29)						DR (7/29)	TI (7/31)	CH VT/UT (8/18)	
4G4	D11, Q21	KE (6/26)	TH (7/29)	TH (7/29), GM (7/30), GM (7/30), DR (7/30)	DR (7/30)				DR (7/29)	TI (7/31)	CH VT/UT (8/18)	
4H1	B3, G15, N22, N20	KE (6/26)	KE (6/10), JL (7/24), TH (7/24)	GM (7/25), TH (7/25), TH (7/25), GM (7/28)	DR (7/28)				DR (7/24)	DR (7/28), JL (8/13)	CH VT/UT (8/18)	KC (7/25)
4H2	N22	KE (6/26)	GM (7/24), GM (7/25)	GM (7/28)					JL (7/24), DR (7/24)	DR (7/28), JL (8/13)	CH VT/UT (8/18)	
4H3	D11, N22	KE (6/26)	GM (8/6)	TH (8/6), TH (8/6)	DR (8/7), DR (8/7)				TI (8/6)	JL (8/8)	CH VT/UT (8/18)	GG (8/6), RV (8/6)
4H4	N22, Q21	KE (6/26)	GM (8/6)	GM (8/7), GM (8/8)					TI (8/6)	JL (8/8)	CH VT/UT (8/18)	RV (8/6), GG (8/7)

Table 4 Inspection Records for Box E14E [Pile5]

		QC									QA	
Weld ID	Welder ID	Fit Up	Welding Parameters			Rejects/ Repairs	CWRs		NDT (MT)		VT/NDT	Corroborations
			Root	Fill	Cap		No.	MT	Root	Cap		
5A1	G8, K18, I17	KE (6/23)	DH (6/12)	DR (8/6), GM (8/7)	DR (8/7), TH (8/7)				DR (8/5)	DR (8/19)	KC UT/VT (8/22)	
5A2	G8, K18, I17	KE (6/23)	DH (6/12), DR (8/5)	DR (8/5), DR (8/6), DR (8/6), GM (8/7)		GM (8/5), JL (8/5)			DR (8/5)	DR (8/19)	KC UT/VT (8/22)	GG (8/5), GG (8/7)
5A3	I17, R22	KE (6/23)		GM (8/12), DR (8/12), DR (8/12)					DR (8/11)	TI (8/14), TG (8/23)	KC UT/VT (8/25)	GG (8/12)
5A4	A8, I17, L17	KE (6/23)	GM (8/11), DR (8/11)	GM (8/12)					DR (8/11)	TI (8/14), TG (8/23)	KC UT/VT (8/25)	
5B1	G8, J15, N14	KE (6/23)	DH (6/12), GM (8/8)	DR (8/9), DR (8/9), GM (8/10), GM (8/10)	DR (8/10), DR (8/10)				DR (8/8)	DR (8/10), TI (8/23)	KC UT/VT (8/22)	
5B2	G8, N14	KE (6/23)	DH (6/12), GM (8/8)	GM (8/9), GM (8/9)					DR (8/8)	DR (8/10), TI (8/23)	KC UT/VT (8/22)	GG (8/8), RV (8/9)
5B3	I17, O21	KE (6/23)	TI (8/15)	TI (8/16), TI (8/17)		TI (8/16)			DR (8/15)	DR (8/17), TG (8/23)	KC UT/VT (8/25)	KC (8/15)
5B4	C4, I17, O21	KE (6/23)	TI (8/15)	TI (8/16), DR (8/16), TI (8/17)	DR (8/17)	TI (8/16)			DR (8/15)	DR (8/17), TG (8/23)	KC UT/VT (8/25)	KC (8/15)
5C1	F6, K18	KE (6/23)		GM (8/11), GM (8/13), DR (8/13), DR (8/13), GM (8/14)		GM (8/11)			TI (8/12)	TI (8/14), TI (8/23)	KC UT/VT (8/22)	GG (8/13), KC (8/13)
5C2	F6, G8, O21	KE (6/23)	DH (6/13), GM (8/12)	GM (8/13)		GM (8/11)			TI (8/12)	TI (8/14), TI (8/23)	KC UT/VT (8/22)	
5C3	C4, I17, O21, R22	KE (6/23)	DR (8/17)	GM (8/19), TH (8/19), GM (8/20)					DR (8/19)	TG (8/23)	KC UT/VT (8/25)	
5C4	O21, R22	KE (6/23)		GM (8/19), TH (8/19)	TH (8/19)				DR (8/19)	TG (8/23)	KC UT/VT (8/25)	GG (8/19)
5D1	N14, R22	KE (6/23)	DR (8/5)	GM (8/6), DR (8/6)	TH (8/8)	TI (8/8)			TI (8/6)	DR (8/8), TI (8/23)	KC UT/VT (8/22)	GG (8/5), GG (8/6)
5D2	G8, N14, R22	KE (6/23)	DH (6/13), DR (8/5)	DR (8/6), GM (8/7), GM (8/7), DR (8/7)		TI (8/8)			TI (8/6)	DR (8/8), TI (8/23)	KC UT/VT (8/22)	GG (8/7)
5D3	I17, R22	KE (6/23)		DR (8/13), GM (8/14)	DR (8/14)				TI (8/13)	DR (8/14), TG (8/23)	KC UT/VT (8/25)	KC (8/13), KC (8/14), KC (8/14)
5D4	I17, R22	KE (6/23)		DR (8/13), GM (8/14), DR (8/14)					TI (8/13)	DR (8/14), TG (8/23)	KC UT/VT (8/25)	GG (8/13), KC (8/13), KC (8/14), KC (8/14)
5E1	G8, J15, N14, O15	KE (6/23)	DH (6/13), GM (8/10)	DR (8/11), DR (8/11), GM (8/12), GM (8/12)					DR (8/11)	TI (8/13), TI (8/23)	KC UT/VT (8/22)	GG (8/11)
5E2	E6, G8, J15, O15	KE (6/23)	DH (6/13), DR (8/9), GM (8/10)	DR (8/12), DR (8/12), DR (8/12), GM (8/13)					DR (8/11)	TI (8/13), TI (8/23)	KC UT/VT (8/22)	GG (8/12)
5E3	B3, E12	KE (6/23)		TI (8/17), DR (8/17)					TI (8/16)	DR (8/19), TG (8/23)	KC UT/VT (8/25)	
5E4	B3, Q17, R22	KE (6/23)	DR (8/15)	TI (8/17), TH (8/18)	TH (8/18)				TI (8/16)	DR (8/19), TG (8/23)	KC UT/VT (8/25)	KC (8/18). GG (8/18), KC (8/19)
5F1	B3, J15, N14, O21	KE (6/23)	DH (6/16)	GM (8/13), DR (8/14), TI (8/15), TI (8/16)		GM (8/13)			DR (8/14)	TI (8/16)	KC UT/VT (8/22)	KC (8/14), KC (8/14)
5F2	B3, K18, N14, Q17	KE (6/23)	DH (6/16), DR (8/14)	TI (8/15), DR (8/15), DR (8/15), TI (8/16)		DR (8/13), GM (8/13)			DR (8/14)	TI (8/16), TI (8/23)	KC UT/VT (8/22)	KC (8/14), KC (8/14)
5F3	C7, I17, J15, M19	KE (6/23)		DR (8/14), GM (8/20), TH (8/20)	TI (8/21)				TI (8/19)	TG (8/23), TI (8/23)	KC UT/VT (8/25)	GG (8/20)
5F4	C7, O21	KE (6/23)	GM (8/19)		TI (8/21)				TI (8/19)	TG (8/23)	KC UT/VT (8/25)	
5G1	I17, K18	KE (6/23)	GM (8/8)	DR (8/8), DR (8/8), GM (8/9), GM (8/10), GM (8/10)					DR (8/8)	DH (8/10), TI (8/23)	KC UT/VT (8/22)	GG (8/8)
5G2	G8, I17, K18	KE (6/23)	DH (6/18)	GM (8/8), DR (8/8)					DR (8/8)	DH (8/10), TI (8/23)	KC UT/VT (8/22)	CH (8/8), GG (8/8), RV (8/9)
5G3	I17, Q17, R22	KE (6/23)	DR (8/14)	TI (8/15), DR (8/15)					TI (8/15)	TI (8/16), TG (8/23)	KC UT/VT (8/25)	
5G4	I17, R22	KE (6/23)		TI (8/15), DR (8/15)					TI (8/15)	TI (8/16), TG (8/23)	KC UT/VT (8/25)	
5H1	B3, K18, O21	KE (6/23)	DH (6/16), GM (8/11)	DR (8/11), DR (8/12), DR (8/12)		GM (8/11)			JL (8/11)	DR (8/12), TI (8/23)	KC UT/VT (8/22)	GG (8/11), GG (8/12)
5H2	B3, F6, K18, O21	KE (6/23)	DH (6/16)	GM (8/11), DR (8/11), GM (8/12), GM (8/12)		GM (8/11)			JL (8/11)	DR (8/12), TI (8/23)	KC UT/VT (8/22)	CH (8/11)
5H3	I17, O21	KE (6/23)	TI (8/17)	GM (8/19)					TI (8/17)	TG (8/23)	KC UT/VT (8/25)	
5H4	C4, D11, E12, I17, O21	KE (6/23)	TI (8/17)	TH (8/18), GM (8/19), TH (8/19)	TH (8/19), TH (8/20)	TH (8/20)			TI (8/17)	TG (8/23)	KC UT/VT (8/25)	KC (8/18), KC (8/19)

Table 4 Inspection Records for Box E14E [Pile6]

		QC									QA	
Weld ID	Welder ID	Fit Up	Welding Parameters			Rejects/ Repairs	CWRs		NDT (MT)		VT/NDT	Corroborations
			Root	Fill	Cap		No.	MT	Root	Cap		
6A1	C7, G8, Q17, R19	DH (7/9)	DH (6/19), DR (7/17)	GM (7/18), GM (7/18), TH (7/18), TH (7/21)	TI (7/21), TH (7/21), DR (7/21)				DR (7/17)	DR (7/21), DR (8/17)	KC VT/UT (8/18)	
6A2	G8, Q17, R19	DH (7/9)	DH (6/19), DR (7/17)	DR (7/18), DR (7/18)	TI (7/21), DR (7/21)				DR (7/17)	DR (7/21), DR (8/17)	KC VT/UT (8/18)	FM (7/21), GG (7/21)
6A3	F6, Q17	DH (7/9)		DR (7/29), GM (8/7)	DR (7/30)	GM (7/23)			DR (7/28)	TI (7/31), DR (8/16)	KC VT/UT (8/18)	KC (7/28), KC (7/28), KC (7/29)
6A4	Q17	DH (7/9)	DR (7/28)	TH (7/28), DR (7/30)					DR (7/28)	TI (7/31), DR (8/16)	KC VT/UT (8/18)	KC (7/28), KC (7/28), KC (7/29)
6B1	F6, G8, L17	DH (7/9)	DH (6/19), DR (7/24)	GM (7/28)					DR (7/24)	TI (7/28), DR (8/15)	KC VT/UT (8/18)	GG (7/25)
6B2	G8, L17	DH (7/9)	DH (6/19), DR (7/24)	DR (7/25)					DR (7/24)	TI (7/28), DR (8/15)	KC VT/UT (8/18)	KC (7/25)
6B3	J15, L17	DH (7/9)		DR (7/25), DR (8/6)					TI (8/5)	TI (8/7), DR (8/16)	KC VT/UT (8/18)	
6B4	F6, J15, O21	DH (7/9)	GM (8/5)	GM (8/6), GM (8/6), GM (8/7)					TI (8/5)	TI (8/7), DR (8/16)	KC VT/UT (8/18)	GG (8/7)
6C1	F6, R22	DH (7/9)	TI (7/15), TH (7/15)	TI (7/16), DR (7/16)					DR (7/15)	TI (7/17)	KC VT/UT (8/18)	KC (7/15)
6C2	F6, G8, R22	DH (7/9)	DH (6/19), TI (7/15)	TI (7/16), DR (7/16), DR (7/16), DR (7/16)					DR (7/15)	TI (7/17)	KC VT/UT (8/18)	GG (7/15), KC (7/16), GG (7/17)
6C3	O21, Q17	DH (7/9)	TH (7/21)	DR (7/22), DR (7/22), TI (7/23), DR (7/23), DR (7/23)					DR (7/22)	DR (7/23), DR (8/16)	KC VT/UT (8/18)	GG (7/22)
6C4	O21, Q17	DH (7/9)		DR (7/22), TI (7/23)					DR (7/22)	DR (7/23), DR (8/16)	KC VT/UT (8/18)	GG (7/23)
6D1	F6, Q17	DH (7/9)	DR (7/17)	GM (7/18), DR (7/18)	TI (7/21)				DR (7/17)	DR (7/21), DR (8/15)	KC VT/UT (8/18)	GG (7/21), KC (8/15)
6D2	F6, Q17	DH (7/9)	DR (7/17)	GM (7/18)	TI (7/21)				DR (7/17)	DR (7/21), DR (8/15)	KC VT/UT (8/18)	KC (8/15)
6D3	F6, J15	DH (7/9)		GM (7/31), DR (7/31), GM (8/1), GM (8/1)	DR (8/1)				DR (7/31)	DR (8/1), DR (8/16)	KC VT/UT (8/18)	KC (8/1)
6D4	J15	DH (7/9)		DR (7/31)					DR (7/31)	DR (8/1), DR (8/16)	KC VT/UT (8/18)	KC (8/1)
6E1	F6, G8, L17	DH (7/9)	DH (6/18), DR (7/28)	DR (7/29)					DR (7/28)	TI (7/30), DR (8/13)	KC VT/UT (8/18)	
6E2	L17	DH (7/9)		DR (7/28), DR (7/29), DR (7/29)					DR (7/28)	TI (7/30), DR (8/13)	KC VT/UT (8/18)	
6E3	F6, O21, Q17	DH (7/9)	GM (8/7), GM (8/8)		DR (8/8)				TI (8/7)	DR (8/8), DR (8/16)	KC VT/UT (8/18)	GG (8/7), GG (8/8)
6E4	O21, Q17	DH (7/9)	GM (8/7)	DR (8/7), DR (8/7)	DR (8/8)				TI (8/7)	DR (8/8), DR (8/16)	KC VT/UT (8/18)	
6F1	C7, G8, Q17	DH (7/9)	DH (6/18), TI (7/15)	DH (7/16), TI (7/16)	DR (7/16)				DR (7/15)	TI (7/17)	KC VT/UT (8/18)	GG (7/15), GG (7/17)
6F2	C7, G8, Q17	DH (7/9)	DH (6/18), TI (7/15)	TI (7/16), DR (7/16), DR (7/16)					DR (7/15)	TI (7/17)	KC VT/UT (8/18)	KC (7/16)
6F3	F6, Q17, R22	DH (7/9)	DR (7/24)	DR (7/24), TH (7/25), GM (8/8)	DR (7/25)				DR (7/24)	DR (7/25), DR (8/16)	KC VT/UT (8/18)	KC (7/25), KC (7/25)
6F4	O21, Q17	DH (7/9)	GM (7/24), DR (7/24)	DR (7/24)					DR (7/24)	TI (7/30), DR (8/16)	KC VT/UT (8/18)	GG (7/25)
6G1	F6, L17	DH (7/9)	DR (7/22)	TI (7/23), DR (7/23), DR (7/23), GM (7/24)	TI (7/24)				DR (7/22)	JL (7/24), DR (8/17)	KC VT/UT (8/18)	GG (7/24)
6G2	F6, L17	DH (7/9)	DR (7/22)	TI (7/23), TH (7/23)	DR (7/23), TI (7/24)				DR (7/22)	JL (7/24), DR (8/17)	KC VT/UT (8/18)	GG (7/23), KC (7/23), KC (7/24)
6G3	F6, J15, Q17	DH (7/9)	GM (8/4)	DR (8/4), DR (8/5)	DR (8/5)	GM (8/5)			DR (8/4)	TI (8/6), DR (8/16)	KC VT/UT (8/18)	FM (8/4), GG (8/4), GG (8/5)
6G4	F6, Q17	DH (7/9)		DR (8/4), GM (8/5)	GM (8/5)				DR (8/4)	TI (8/6), DR (8/16)	KC VT/UT (8/18)	
6H1	G8, K18, O21	DH (7/9)	DH (6/20)	DR (7/30), GM (7/31), GM (8/1)	DR (7/31)				TI (7/30)	DH (8/1), DR (8/17)	KC VT/UT (8/18)	
6H2	K18, O21	DH (7/9)	GM (7/31)	GM (7/31), TH (7/31)					TI (7/30)	DH (8/1), DR (8/17)	KC VT/UT (8/18)	GG (7/31)
6H3	F6, O21	DH (7/9)	GM (8/8)	GM (8/9), GM (8/10)					TI (8/9)	DH (8/10), DR (8/16)	KC VT/UT (8/18)	GG (8/8)
6H4	D5, Q17	DH (7/9)	DR (8/8)	DR (8/9)	DR (8/9)				TI (8/9)	DH (8/10), DR (8/16)	KC VT/UT (8/18)	

Table 5 Inspection Records for Box E9E [Pile1]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects /Repairs	CWRs		NDT (MT)		VT/NDT	Corraborations
			Root	Fill	Cap		Number	MT	Root	Cap		
1A1	E12, E16, K19, L17, O21	KS (11/17)	DR (12/3), TI (12/4)	DR (12/5), DR (12/5), DR (12/8), DR (12/8)	DR (12/8)	DR (12/8), TI (12/18)	176	TI (12/18)	TI (12/04)	TI (12/17)	FM VT/MT (12/18)	AP (12/8)
1A2	M21, O21	KS (11/17)	TI (12/4), TI (12/4)	TI (12/8), TI (12/8)	DR (12/10)				TI (12/04)	TI (12/17)	FM VT/MT (12/18)	BM (12/8)
1A3	Q17, C7	KS (11/17)	DR (12/10)	DR (12/10)					DR (12/10)	JL (12/19)	BM VT/UT (12/19)	AP (12/10)
1A4	C7	KS (11/17)	TH (12/10)	TH (12/11)	TH (12/11)				DR (12/10)	JL (12/19)	BM VT/UT (12/19)	BM (12/11)
1B1	M21, L17, O21	KS (11/17)	TH (12/11)	TH (12/15), DR (12/15)	TH (12/15)				JL (12/11)	DH (12/18)	AP VT/UT (12/18)	BM (12/11)
1B2	M21, I13, L17, O21	KS (11/17)		TI (12/12), DR (12/12), DR (12/12)	TH (12/15)	GM (12/17)			JL (12/11)	DH (12/18)	AP VT/UT (12/18)	BM (12/11), AP (12/12), BM (12/15)
1B3	R22, Q17	KS (11/17)		DR (12/16), DR (12/16)					TI (12/16)	JL (12/19)	BM VT/UT (12/19)	
1B4	R22, E16, Q17	KS (11/17)	TI (12/16)	DR (12/16), TI (12/17)					TI (12/16)	JL (12/19)	BM VT/UT (12/19)	GG (12/16)
1C1	M21, J15	KS (11/17)	TI (12/2)	DR (12/2), DR (12/2)	DR (12/3)				TI (12/02)	TI (12/17)	FM VT/UT/MT (12/18)	GG (12/2), CH (12/17)
1C2	M21	KS (11/17)	TI (12/2)	TI (12/3), TI (12/3)					TI (12/02)	TI (12/17)	FM VT/UT/MT (12/18)	CH (12/17)
1C3	C7, E16, L17, R22	KS (11/17)	TI (12/5)	DR (12/5), DR (12/5), DR (12/5), TI (12/8)	DR (12/8)	TI (12/19)	180	TI (12/19)	DR (12/05)	JL (12/19)	BM VT/UT (12/19)	AP (12/8), BM (12/8), BM (12/19)
1C4	C7, E16, L17, R22	KS (11/17)	TI (12/5)	DR (12/5), TI (12/8), DR (12/8), DR (12/8)	TI (12/8)	DR (12/8), TI (12/19)	180	TI (12/19)	DR (12/05)	JL (12/19)	BM VT/UT (12/19)	AP (12/8), BM (12/8)
1D1	E12, M21, O21, R22	KS (11/17)		TI (12/9), DR (12/9), TH (12/10), DR (12/10)	DR (12/10), DR (12/10)				DR (12/09)	TI (12/17)	FM VT/UT/MT (12/18)	
1D2	M21, O21, R22	KS (11/17)	TI (12/9)	DR (12/9), TH (12/10), TH (12/10)					DR (12/09)	TI (12/17)	FM VT/UT/MT (12/18)	AP (12/10)
1D3	E16	KS (11/17)		TI (12/12), TI (12/12)					DR (12/11)	JL (12/19)	BM VT/UT (12/19)	GG (12/12)
1D4	E16, R22, Q17	KS (11/17)	DR (12/11)	DR (12/11)	TI (12-12), DR (12-12)				DR (12/11)	JL (12/19)	BM VT/UT (12/19)	AP (12/12)
1E1	C7, E12	KS (11/17)		GM (12/1), GM (12/1)	DR (12/1), DR (12/1)				TI (11/26)	TI (12/17)	FM VT/UT/MT (12/18)	CP (11/26), AP (12/9)
1E2	C7, K18	KS (11/17)	TI (11/26)	DR (11/26), DR (11/26)					TI (11/26)	TI (12/17)	FM VT/UT/MT (12/18)	CH (11/26), AP (11/26), JL (12/1)
1E3	C7, R22	KS (11/17)		DR (12/2), DR (12/2)	TI (12/3)	TI (12/02)			TI (12/02)	JL (12/19)	BM VT/UT (12/19)	
1E4	R22	KS (11/17)			DR (12/2)				TI (12/02)	JL (12/19)	BM VT/UT (12/19)	
1F1	K19, M21, O21, J15	KS (11/17)	TI (12/2)	DR (12/3), DR (12/3), DR (12/4), DR (12/4)	TI (12/5), DR (12/5)				TI (12/02)	TI (12/17)	AP VT/UT (12/18)	
1F2	J15, K19, M21	KS (11/17)		DR (12/3), TI (12/4), TI (12/4)	DR (12/4), TI (12/5)				TI (12/02)	TI (12/17)	AP VT/UT (12/18)	
1F3	C7, L17	KS (11/17)		TI (12/9), TI (12/9), DR (12/9)	DR (12/9), DR (12/9)				TI (12/09)	JL (12/19)	BM VT/UT (12/19)	AP (12/9)
1F4	C7	KS (11/17)	TI (12/9)	TH (12/10)	TH (12/10)				TI (12/09)	JL (12/19)	BM VT/UT (12/19)	
1G1	M21, L17	KS (11/17)	DR (12/10)	TH (12/11), DR (12/11)	DR (12/11)				JL (12/11)	TI (12/17)	FM VT/UT/MT (12/18)	AP (12/11), BM (12/11)
1G2	O21, M21, L17	KS (11/17)	TH (12/11)	TH (12/11), DR (12/11)	TI (12/12), TI (12/12)				JL (12/11)	TI (12/17)	FM VT/UT/MT (12/18)	GG (12/12), BM (12/12)
1G3	M14, R22	KS (11/17)	TH (12/15)	TH (12/15), TH (12/15)	DR (12/15)				JL (12/15)	JL (12/19)	BM VT/UT (12/19)	
1G4	M14	KS (11/17)	TH (12/15)						JL (12/15)	JL (12/19)	BM VT/UT (12/19)	
1H1	Q17, M21	KS (11/17)		DR (11/26), TH (12/1), GM (12/1)		HV (12/18)			TI (11/26)	DR (12/01)	AP VT/UT (12/18)	JL (12/1), GG (12/1)
1H2	K19, Q17	KS (11/17)		DR (11/26), DR (12/1), DR (12/1)		DR (11/26)			TI (11/26)	HV (12/18)	AP VT/UT (12/18)	AP (11/26)
1H3	C7, R22	KS (11/17)		DR (12/3), DR (12/3)	DR (12/4)				DR (12/03)	JL (12/19)	BM VT/UT (12/19)	
1H4	C7, R22	KS (11/17)		DR (12/3), TI (12/4), DR (12/4)	DR (12/4)				DR (12/03)	JL (12/19)	BM VT/UT (12/19)	

Table 5 Inspection Records for Box E9E [Pile 2]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects /Repairs	CWRs		NDT (MT)		VT/NDT	Corraborations
			Root	Fill	Cap		Number	MT	Root	Cap		
2A1	E16, K18, O21	KS (11/17)	TI (12/5)	DR (12/5), TI (12/8), TI (12/9)					TI (12/05)	RM (12-17)	FM VT/UT (12/19)	CH (12/8), BM (12/8)
2A2	E16, J15, O21	KS (11/17)	TI (12/5)	TI (12/8), TI (12/8), DR (12/8)	DR (12/8)	DR (12/8)			TI (12/05)	RM (12-17),TAI (12-18)	FM VT/UT (12/19)	CH (12/8), BM (12/8)
2A3	F6, K19	KS (11/17)	TH (12/10)	TH (12/10), DR (12/10)	DR (12/10), DR (12/10)				JL (12/10)	AF (12-18)	FM VT/UT (12/19)	CH (12/3), AP (12/10)
2A4	F6	KS (11/17)	TH (12/10)	TH (12/10), TH (12/11)	TH (12/11)				JL (12-10)	AF (12-18)	FM VT/UT (12/19)	BM (12/11)
2B1	N14, E12, K18	KS (11/17)	DR (12/12), DR (12/12)	TH (12/15), TH (12/15), DR (12/15)	TH (12/15)	DR (12/12)			DR (12-12)	RM (12-17)	FM VT/UT (12/19)	GG (12/12), BM (12/15)
2B2	E12, N14	KS (11/17)	TI (12/12)	DR (12/15), DR (12/15)					DR (12-12)	RM (12-17), TAI (12-18)	FM VT/UT (12/19)	
2B3	K19, F6	KS (11/17)		DR (12/16), TI (12/17)					TAI (12-16)	AF (12-18)	FM VT/UT (12/19)	
2B4	K19, F6	KS (11/17)	TH (12/16)	TH (12/16), TH (12/16), DR (12/16)					TAI (12-16)	AF (12-18)	FM VT/UT (12/19)	GG (12/12)
2C1	K19, N14	KS (11/17)	DR (12/2)	DR (12/2)	TI (12/3)				DR (12-02)	DH (12-18)	FM VT/UT (12/19)	
2C2	K19, N14	KS (11/17)		TI (12/3), TI (12/3), DR (12/3)					DR (12-02)	DH (12-18)	FM VT/UT (12/19)	
2C3	F6	KS (11/17)	DR (12/5)	TI (12/8)	TI (12/8)	DR (12/5)			DR (12-05)	AF (12-18)	FM VT/UT (12/19)	BM (12/8)
2C4	E12, F6	KS (11/17)		DR (12/5), DR (12/5), DR (12/5)	DR (12/5)				DR (12-05)	AF (12-18)	FM VT/UT (12/19)	BM (12/8)
2D1	J15, N14, O21	KS (11/17)	TI (12/9)	TI (12/9), DR (12/9), DR (12/9), TH (12/10)	TH (12/10)				TAI (12-09)	DH (12-18)	FM VT/UT (12/19)	CH (12/9)
2D2	J15, O21	KS (11/17)	TI (12/9)	DR (12/9)					TAI (12-09)	DH (12-18)	FM VT/UT (12/19)	CH (12/9)
2D3	F6, K19	KS (11/17)	TH (12/11)	DR (12/11), DR (12/11), TI (12/12)					DR (12-11)	DH (12-18)	FM VT/UT (12/19)	AP (12/11)
2D4	E16, F6, K19	KS (11/17)		DR (12/11), TI (12/12)		TI (12/19)	179	TI (12/19)	DR (12-11)	AF (12-18)	FM VT/UT (12/19)	GG (12/12)
2E1	R22, N14	KS (11/17)		DR (11/26), TI (12/4)	TI (12/1), DR (12/1)				TAI (11-26)	RM (12-17)	FM VT/UT (12/19)	JL (12/1)
2E2	C12, N14, R22	KS (11/17)	GM (11/26), TI (11/26)	DR (11/26), GM (12/4)	TI (12/2)				TAI (11-26)	RM (12-17)	FM VT/UT (12/19)	AP (11/26)
2E3	F6	KS (11/17)	TI (12/2)	TI (12/3)					TAI (12-02)	JL (12-03)	FM VT/UT (12/19)	
2E4	E12, F6	KS (11/17)	TI (12/2)	DR (12/2)	TI (12/3)				TAI (12-02)	JL (12-03)	FM VT/UT (12/19)	
2F1	F6, L17, M14, N14, O21	KS (11/17)	TI (12/3)		TI (12/5), HV (12/18)	HV (12/18), DR (12/18), DR (12/18)	177	DR (12/18)	JL (12-02)	DR (12-18)	FM VT/UT (12/19)	CH (12/18)
2F2	K18, N14, O21	KS (11/17)	TI (12/3)	DR (12/5)	DR (12/5)				JL (12-02)	DR (12-18)	FM VT/UT (12/19)	CH (12/3)
2F3	K19	KS (11/17)	DR (12/8)	DR (12/8), DR (12/9), DR (12/9)					DR (12-12)	AF (12-18)	FM VT/UT (12/19)	AP (12/9)
2F4	F6	KS (11/17)	TI (12/9)	TI (12/9)					DR (12-12)	AF (12-18)	FM VT/UT (12/19)	
2G1	E12, E16, N14	KS (11/17)	DR (12/9)	DR (12/10), TH (12/11)	TH (12/11)	TI (12/18), DR (12/18)	155, 178	DR (12/18), TI (12/18)	DR (12-10)	HV (12-08)	FM VT/UT (12/19)	CH (11/12), CH (11/13), BM (12/11), CH (12/18)
2G2	E12, N14	KS (11/17)	TI (12/2), DR (12/10)	DR (12/10), DR (12/11), DR (12/11)	DR (12/11)				DR (12-10)	HV (12-08)	FM VT/UT (12/19)	AP (12/10), AP (12/11), BM (12/11), CH (12/18)
2G3	K19	KS (11/17)		DR (12/12), DR (12/15), DR (12/15)					DR (12-12)	AF (12-18)	FM VT/UT (12/19)	AP (12/12)
2G4	K19, F6	KS (11/17)	DR (12/12)	TH (12/15), TH (12/15), TH (12/16)	TH (12/15)				DR (12-12)	AF (12-18)	FM VT/UT (12/19)	BM (12/16)
2H1	F6, K19	KS (11/17)	GM (11/26)	GM (11/26), DR (11/26)	TH (12/1)				TAI (11-26)	DH (12-18)	FM VT/UT (12/19)	CH (11/26)
2H2	F6, J15	KS (11/17)	TI (11/26)	GM (12/1)	DR (12/1)				TAI (11-26)	DH (12-18)	FM VT/UT (12/19)	JL (12/1)
2H3	E12, F6	KS (11/17)	DR (12/3)		TI (12/4), TI (12/5)				DR (12-03)	AF (12-18)	FM VT/UT (12/19)	
2H4	E12, F6	KS (11/17)		TI (12/4), DR (12/4)	DR (12/4), DR (12/4), TI (12/5)				DR (12-03)	AF (12-18)	FM VT/UT (12/19)	

Table 5 Inspection Records for Box E9E [Pile 3]

Weld ID	Welder ID	QC								QA	
		Fit Up	Welding Parameters			Rejects /Repairs	CWRs		NDT (MT)		VT/NDT	Corraborations
			Root	Fill	Cap		Number	MT	Root	Cap		
3A1	J15, B9	KS (11-18)		GM (12/10), JL (12/11)	JL (12/11)				JL (12-10)	RM (12-17)	FM VT/UT/MT (12/18)	
3A2	B9, J15	KS (11-18)	JL (12/10)	GM (12/10), GM (12/10)					JL (12-10)	RM (12-17)	FM VT/UT/MT (12/18)	
3A3	JS, A2, D11	KS (11-18)	JL (12/12)	GM (12/12), GM (12/12)	JL(12/15)				DA (12-12)	RM (12-18)	CH VT/UT (12/19)	
3A4	A2	KS (11-18)		JL (12/15)	JL (12/15)	JL (12/12)			DA (12-12)	RM (12-18)	CH VT/UT (12/19)	GG (12/15)
3B1	A2, M19	KS (11-18)	TH (11/26)	JL (12/1)	JL (12/2)				RM (11-26)	RM (12-17)	HP VT/UT (12/18)	
3B2	M19, L13	KS (11-18)	TH (11/26)	DA (12/1), DA (12/1)		GM (11/26), GM (11/26)			RM (11-26)	RM (12-17)	HP VT/UT (12/18)	
3B3	A2, D11	KS (11-18)		HV (12/4), GM (12/4)	JL (12/5)				HV (12-04)	RM (12-18)	CH VT/UT (12/19)	
3B4	D11	KS (11-18)		GM (12/4), GM (12/4)					HV (12-04)	RM (12-18)	CH VT/UT (12/19)	
3C1	B9, L13	KS (11-18)	JL (12/5), GM (12/5)	GM (12/5), HV (12/5), JL (12/8)					HV (12-05)	TAI (12-17)	FM VT/UT/MT (12/18)	CH (12/4), BM (12/8)
3C2	B9, L13	KS (11-18)	JL (12/5)	GM (12/5), JL (12/8)	JL (12/8)				HV (12-05)	TAI (12-17)	FM VT/UT/MT (12/18)	CH (12/4), BM (12/8)
3C3	A2	KS (11-18)	JL (12/10)	JL (12/10), JL (12/11)					JL (12-10)	JL (12-18)	CH VT/UT (12/19)	
3C4	D11	KS (11-18)		GM (12/10)	GM (12/10)				JL (12-10)	JL (12-18)	CH VT/UT (12/19)	
3D1	J12, M19, B9	KS (11-18)	JL (12/12)	GM (12/12), GM (12/12), JL (12/12), JL (12/15)		GM (12/11), GM (12/11)			JL (12-12)	AF (12-18)	FM VT/UT/MT (12/18)	GG (12/12)
3D2	J12, M19, B9	KS (11-18)	JL (12/12)	GM (12/12)	JL (12/15)	GM (12/11), GM (12/11)			JL (12-12)	AF (12-18)	FM VT/UT/MT (12/18)	GG (12/15)
3D3	L13, D11, A2	KS (11-18)	DR (12/15)	JL (12/16), JL (12/16), JL (12/16)					RM (12-15)	JL (12-18)	CH VT/UT (12/19)	BM (12/16)
3D4	L13, D11, A2	KS (11-18)				DR (12/16)			RM (12-15)	JL (12-18)	CH VT/UT (12/19)	
3E1	B9, X28	KS (11-18)	TH (12/1)	JL (12/2), DA (12/2), JL (12/3)	JL (12/3)				JL (12-02)	RM (12-16)	FM VT/UT/MT (12/18)	CH (12/3)
3E2	L13	KS (11-18)		DA (12/2), DA (12/2)					JL (12-02)	RM (12-16)	FM VT/UT/MT (12/18)	
3E3	A2, D11	KS (11-18)	JL (12/5)	GM (12/5), GM (12/5), HV (12/5), HV (12/5)					JL (12-05)	RM (12-18)	CH VT/UT (12/19)	BM (12/8)
3E4	A2, D11	KS (11-18)	JL (12/5)	GM (12/5), JL (12/8)	JL (12/8)				JL (12-05)	RM (12-18)	CH VT/UT (12/19)	BM (12/8)
3F1	B9, N22	KS (11-18)	JL (12/8)	JL (12/9), JL (12/9)	JL (12/9)				RM (12-08)	RM (12-16)	AP VT/UT (12/18)	BM (12/8), CH (12/9)
3F2	B9, N22, R20	KS (11-18)	JL (12/8)	DA (12/9), DA (12/9)	DA (12/9), JL (12/10)				RM (12-08)	RM (12-16)	AP VT/UT (12/18)	CH (12/9)
3F3	D11	KS (11-18)		GM (12/11)	GM (12/11)				JL (12-11)	JL (12-18)	CH VT/UT (12/19)	
3F4	A2, D11	KS (11-18)	JL (12/11)	GM (12/11), JL (12/12)	JL (12/12)				JL (12-11)	JL (12-18)	CH VT/UT (12/19)	GG (12/11)
3G1	D11	KS (11-18)	DR (11/25)	TH (11/26)					HV (11-26)	JL (12-17)	FM VT/UT/MT (12/18)	
3G2	B9	KS (11-18)	HV (11/26), GM (11/26)	TH (12/1), JL(12/1)	TH (12/1)				HV (11-26)	JL (12-17)	FM VT/UT/MT (12/18)	
3G3	A2, B9, D11	KS (11-18)	GM (11/26)	DA (12/2), JL (12/3)					RM (12-03)	JL (12-18)	CH VT/UT (12/19)	
3G4	A2, D11	KS (11-18)		DA (12/2), JL (12/3), JL (12/3)	GM (12/3)				RM (12-03)	JL (12-18)	CH VT/UT (12/19)	
3H1	L13	KS (11-18)	GM (12/3)	GM (12/4)	GM (12/4)	GM (12/4)			RM (12-03)	JL (12-17)	HP VT/UT (12/18)	
3H2	B9, L13	KS (11-18)		GM (12/3), HV (12/4)					RM (12-03)	JL (12-17)	HP VT/UT (12/18)	
3H3	D11	KS (11-18)		DA (12/9), DA (12/9)					RM (12-08)	JL (12-18)	CH VT/UT (12/19)	
3H4	A2, D11	KS (11-18)	GM (12/8)	JL (12/9), JL (12/9), DA (12/9)					RM (12-08)	JL (12-18)	CH VT/UT (12/19)	

Table 5 Inspection Records for Box E9E [Pile 4]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects /Repairs	CWRs		NDT (MT)		VT/NDT	Corraborations
			Root	Fill	Cap		Number	MT	Root	Cap		
4A1	Q21	KS (11/19)	HV (11/26), GM (11/26)	TH (12/1), JL (12/3), JL (12/3)	JL (12/3)	DA (12/2), RM (12/4), JL (12/18)			RM (11/26)	JL (12/18)	BM VT/UT (12/19)	
4A2	Q21, M19	KS (11/19)		TH (12/1), DA (12/1), DA (12/1)		JL (12/18)			RM (11/26)	JL (12/18)	HP VT/UT (12/19)	
4A3	G15, M19	KS (11/19)	GM (12/4)	GM (12/4), JL (12/5)	JL (12/5), HV (12/5)				RM (12/4)	DH (12/19)	BM VT/UT (12/19)	
4A4	G15, M19	KS (11/19)		JL (12/5)	GM (12/5)				RM (12/4)	DH (12/19)	HP VT/UT (12/19)	
4B1	L13, Q21	KS (11/19)		JL (12/5), JL (12/5), JL (12/8)	JL (12/5), GM (12/8), JL (12/9)	GM (12/3), JL (12/8)			RM (12/4)	JL (12/18)	BM VT/UT (12/19)	CH (12/8), BM (12/8)
4B2	J12, Q21	KS (11/19)		GM (12/4), GM (12/5), GM (12/5), GM (12/5), HV (12/5), JL (12/8), JL (12/8)	JL (12/9)	GM (12/3)			RM (12/4)	JL (12/18)	HP VT/UT (12/19)	CH (12/8), BM (12/8)
4B3	G15, M19	KS (11/19)		DA (12/9), DA (12/9), DA (12/9)	JL (12/10)				JL (12/9)	JL (12/18)	BM VT/UT (12/19)	FM (12/8)
4B4	G15, J12	KS (11/19)	GM (12/4), JL (12/9)	JL (12/9), JL (12/9)	JL (12/10)				JL (12/9)	JL (12/18)	HP VT/UT (12/19)	
4C1	J12, C12, N22, N16	KS (11/19)	JL (12/12)	GM (12/12), GM (12/12), DR (12/15), DR (12/15), DR (12/15), JL (12/16)	JL (12/16)	GM (12/10), GM (12/11), JL (12/12)			DA (12/12)	JL (12/18)	BM VT/UT (12/19)	GG (12/12)
4C2	C12, N16, N22	KS (11/19)	JL (12/12)		DR (12/15), DR (12/15)	GM (12/11)			DA (12/12)	JL (12/18)	HP VT/UT (12/19)	
4C3	M19, G15	KS (11/19)	DR (12/15)	JL (12/16), JL (12/16), JL (12/16)					RM (12/15)	DH (12/19)	BM VT/UT (12/19)	
4C4	M19	KS (11/19)							RM (12/15)	DH (12/19)	HP VT/UT (12/19)	
4D1	L13, G15, M19	KS (11/19)	GM (12/3)	TH (11/26), DR (12/16), JL (12/1)	DA (12/1)				HV (11/26)	RM (12/18)	BM VT/UT (12/19)	
4D2	G15, M19	KS (11/19)	HV (11/26), GM (12/3)	TH (12/1), TH (12/1), GM (12/1)		GM (12/1), DA (12/18)			HV (11/26)	RM (12/18)	HP VT/UT (12/19)	
4D3	G15, M19	KS (11/19)	JL (12/3)	GM (12/3)					RM (12/4)	JL (12/18)	BM VT/UT (12/19)	CH (12/4)
4D4	G15	KS (11/19)	JL (12/3)		HV(12/4)				RM (12/4)	JL (12/18)	HP VT/UT (12/19)	CH (12/4)
4E1	N22, Q21, L13, X28	KS (11/19)	JL (12/5)	JL (12/9), JL (12/10), JL (12/10)	GM (12/10), JL (12/11)	GM (12/10), JL (12/11)			JL (12/5)	TI (12/18)	BM VT/UT (12/19)	CH (12/9)
4E2	L13, N22, Q21, X28	KS (11/19)	JL (12/5)	JL (12/9), DA (12/9), DA (12/9), JL (12/10)	GM (12/10), JL (12/11)	GM (12/10), JL (12/11)			JL (12/5)	TI (12/18)	HP VT/UT (12/19)	CH (12/9)
4E3	G15	KS (11/19)	JL (12/10)	JL (12/11), JL (12/11)					JL (12/10)	DH (12/19)	BM VT/UT (12/19)	GG(12/11)
4E4	N22, M19	KS (11/19)		GM (12/10), GM (12/10)		GM (12/10), DH (12/19)	181	DH (12/19)	JL (12/10)	DH (12/19)	HP VT/UT (12/19)	BM (12/16), BM (12/19)
4F1	A3, X28	KS (11/19)	JL (12/12)		JL (12/10)	JL (12/12)			RM (12/15)	TI (12/18)	BM VT/UT (12/19)	
4F2	D11, C12	KS (11/19)	DR (12/15), DR (12/15), DR (12/15)	JL (12/16), DR (12/16), DR (12/16)	DR (12/16)	JL (12/15)			RM (12/15)	TI (12/18)	HP VT/UT (12/19)	
4F3	G15, N22, M19	KS (11/19)	JL (12/16)	JL (12/10), JL (12/10), DR (12/16)					JL (12/16)	HV (12/18)	BM VT/UT (12/19)	
4F4	G15, N22, M19	KS (11/19)	JL (12/16), DR (12/16)	JL (12/10)					JL (12/16)	HV (12/18)	HP VT/UT (12/19)	
4G1	G15, N22, R20	KS (11/19)	TH (12/1)	JL (12/1), JL (12/2), DA (12/2)		JL (12/1)			RM (12/4)	TI (12/18)	BM VT/UT (12/19)	CH (12/2)
4G2	N22, R20	KS (11/19)	TH (12/1)		DA (12/2)				RM (12/4)	TI (12/18)	HP VT/UT (12/19)	
4G3	M19	KS (11/19)		GM (12/5), HV (12/5)	GM (12/8)				HV (12/5)	TI (12/18)	BM VT/UT (12/19)	
4G4	G15, M19	KS (11/19)	GM (12/5)	JL (12/8), JL (12/8)					HV (12/5)	TI (12/18)	HP VT/UT (12/19)	BM (12/8)
4H1	L13, Q21	KS (11/19)		GM (12/10), JL (12/11), GM (12/11)	JL (12/12), JL (12/12)	GM (12/11), JL (12/17)			RM (11/26), JL (12/10)	JL (12/17)	BM VT/UT (12/19)	GG (12/1)
4H2	L13, Q21	KS (11/19)	DR (12/15)	JL (12/11)	GM (12/11)	GM (12/11), GM (12/11), JL (12/17)			RM (11/26), JL (12/10)	JL (12/17)	HP VT/UT (12/19)	GG (12/11)
4H3	D11, M19, C7	KS (11/19)		GM (12/8), JL (12/15)	JI (12/15)	GM (12/11), JL (12/15)			DA (12/12)	JL (12/18)	BM VT/UT (12/19)	GG (12/15)
4H4	M19, A2, C7, C12	KS (11/19)	JL (12/12)	GM (12/12), JL (12/15), DR (12/15)	DR (12/15)	GM (12/11)			DA (12/12)	JL (12/18)	HP VT/UT (12/19)	CH (12/9)

Table 5 Inspection Records for Box E9E [Pile 5]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects /Repairs	CWRs		NDT (MT)		VT/NDT	Corraborations
			Root	Fill	Cap		Number	MT	Root	Cap		
5A1	M19, A3	KS (11/19)	DR (11/25)	GM (11/26), JL (12/1)					RM (11/25)	JL (12/18)	AP VT/UT (12/19)	GG (12/1)
5A2	A3, N20	KS (11/19)		HV (11/26), GM (11/26), TH (11/26)					RM (11/25)	JL (12/18)	AP VT/UT (12/19)	AP (11/26)
5A3	N20, P23	KS (11/19)	DA (12/2)	JL (12/3), GM (12/3), GM (12/3), GM (12/3)		DA (12/2), JL (12/3), JL (12/19)			JL (12/03)	JL (12/19)	HP VT/UT (12/19)	
5A4	N20, P23	KS (11/19)	DA (12/2)	JL (12/3), HV (12/4)		DA (12/2), JL (12/3)			JL (12/03)	JL (12/19)	HP VT/UT (12/19)	CH (12/3)
5B1	A3, C12	KS (11/19)	JL (12/3)	GM (12/3)					JL (12/03)	JL (12/18)	AP VT/UT (12/19)	CH (12/3)
5B2	A3	KS (11/19)		JL (12/3), JL (12/3)					JL (12/03)	JL (12/18)	AP VT/UT (12/19)	CH (12/3)
5B3	D11, N20, P23	KS (11/19)	TH (12/9)	DA (12/9), DA (12/9), DA (12/9), GM (12/10)		GM (12/10), GM (12/10), JL (12/19), CM (12/19)	182	CM (12/19)	JL (12/9)	JL (12/19)	HP VT/UT (12/19)	
5B4	D11, N20, P23	KS (11/19)	TH (12/9)	JL (12/10)	JL (12/10)	GM (12/10), GM (12/10), CM (12/19)	182	CM (12/19)	JL (12/9)	JL (12/19)	HP VT/UT (12/19)	
5C1	A3, C12	KS (11/19)	TH (12/9)	DA (12/9)					JL (12/9)	TI (12/18)	AP VT/UT (12/19)	
5C2	C12, A3	KS (11/19)	TH (12/9)	TH (12/9), TH (12/9)	GM (12/10), GM (12/10), JL (12/11)	DA (12/9), GM (12/10)			JL (12/9)	TI (12/18)	AP VT/UT (12/19)	
5C3	N20, P23	KS (11/19)		TH (12/16)	TH (12/16)				RM (12/15)	JL (12/19)	HP VT/UT (12/19)	BM (12/16)
5C4	N20, P23	KS (11/19)	DR (12/15)	TH (12/16), DR (12/16)	DR (12/16)				RM (12/15)	JL (12/19)	HP VT/UT (12/19)	BM (12/16)
5D1	M19, R20, P23	KS (11/19)	TH (11/26)	TH (11/26), DA (12/1), TH (12/2), JL (12/2)	TH (12/2)	GM (11/18)			RM (11/26)	JL (12/17)	AP VT/UT (12/19)	CH (12/3)
5D2	P23, M19, R20	KS (11/19)	HV (11/26), TH (11/26)	JL (12/1), DA (12/1)	JL (12/2)	DA (12/1)			RM (11/26)	JL (12/17)	AP VT/UT (12/19)	CH (12/3)
5D3	N20, P23	KS (11/19)		GM (12/4), JL (12/5)	JL (12/5)				RM (12/04)	JL (12/19)	HP VT/UT (12/19)	
5D4	N20	KS (11/19)		GM (12/4), GM (12/5)	GM (12/5), HV (12/5), HV (12/5)				RM (12/04)	JL (12/19)	HP VT/UT (12/19)	
5E1	A3, C12	KS (11/19)	HV (12/4)	GM (12/4)	JL (12/5)	JL (12/18)			HV (12/04)	JL (12/18)	AP VT/UT (12/19)	CH (12/4)
5E2	C12	KS (11/19)		GM (12/4)		JL (12/18)			HV (12/04)	JL (12/18)	AP VT/UT (12/19)	
5E3	P23, N20	KS (11/19)	JL (12/11)	GM (12/11)	GM (12/11), GM (12/11)				JL (12/11)	JL (12/19)	HP VT/UT (12/19)	GG (12/11), GG (12/12)
5E4	P23	KS (11/19)		JL (12/11)	TH (12/12)				JL (12/11)	JL (12/19)	HP VT/UT (12/19)	GG (12/12)
5F1	J12, A3	KS (11/19)	JL (12/11)	TH (12/12), TH (12/12)	TH (12/12), TH (12/16)	GM (12/10)			JL (12/11)	TI (12/18)	AP VT/UT (12/19)	GG (12/11), GG (12/12), GG (12/15)
5F2	J12, C12, A3, L13	KS (11/19)		GM (12/11), GM (12/12), DR (12/15), DR (12/15), DR (12/15)	JL (12/15), JL (12/15), JL (12/15)	GM (12/10), JL (12/15)			JL (12/11)	TI (12/18)	AP VT/UT (12/19)	
5F3	D11, N20	KS (11/19)		GM (12/17)		CM (12/19)			DR (12/16)	JL (12/19)	BM VT/UT (12/18)	FM (12/8), AP (12/16)
5F4	P23, N20	KS (11/19)	DR (12/16)	JL (12/17), JL (12/17)		JL (12/17)			DR (12/16)	JL (12/19)	BM VT/UT (12/18)	FM (12/8), AP (12/16)
5G1	A3, N22	KS (11/19)	GM (11/26)	TH (12/2)		JL (12/18)			HV (11/26)	JL (12/18)	AP VT/UT (12/19)	
5G2	A3, D11, N22, N20	KS (11/19)	HV (11/26), GM (11/26)	DA (12/1), DA (12/1), JL (12/2)	TH (12/2)	JL (12/18), DA (12/19)	183	DA (12/19)	HV (11/26)	JL (12/18)	AP VT/UT (12/19)	AP (12/19)
5G3	P23, N20	KS (11/19)		JL (12/8), GM (12/8), GM (12/8), GM (12/8),TH (12/9)					JL (12/08)	JL (12/19)	HP VT/UT (12/19)	BM (12/8)
5G4	P23	KS (11/19)	JL (12/8)	JL (12/8)					JL (12/08)	JL (12/19)	HP VT/UT (12/19)	BM (12/8)
5H1	A3, C12	KS (11/19)	GM (12/5)	GM (12/5), JL (12/8), JL (12/8)					HV (12/05)	RM (12/18)	AP VT/UT (12/19)	FM (12/8), BM (12/8)
5H2	A3, C12	KS (11/19)		GM (12/5), JL (12/8)					HV (12/05)	RM (12/18)	AP VT/UT (12/19)	FM (12/8), BM (12/8)
5H3	N20, N22, P23, G15	KS (11/19)	JL (12/11)	GM (12/12), TH (12/12), JL (12/15), JL (12/15)	DR (12/15)				JL (12/12)	JL (12/19)	HP VT/UT (12/19)	
5H4	N20	KS (11/19)		GM (12/12), GM (12/12)					JL (12/12)	JL (12/19)	HP VT/UT (12/19)	GG (12/11)

Table 5 Inspection Records for Box E9E [Pile 6]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects /Repairs	CWRs		NDT (MT)		VT/NDT	Corraborations
			Root	Fill	Cap		Number	MT	Root	Cap		
6A1	E16, E12, K18	KS (11/17)	TI (11/26)	TI (11/26), DR (11/26)	DR (12/1)				TI (11/26)	RM (12/16)	HP VT/UT (12/18)	CH (11/26), AP (11/26)
6A2	E12, E16, O21, K18	KS (11/17)	DR (11/25)	GM (12/1), GM (12/1), DR (12/1)		TI (12/18)	170	TI (12/18)	TI (11/26)	RM (12/16)	HP VT/UT (12/18)	CH (11/26), AP (12/17)
6A3	I13, I17	KS (11/17)		DR (12/3), TI (12/4)	TI (12/4)				DR (12/3)	DH (12/17)	HP VT/UT (12/18)	
6A4	I13	KS (11/17)		DR (12/3)					DR (12/3)	DH (12/17)	HP VT/UT (12/18)	
6B1	E16, L17, K18	KS (11/17)	DR (12/5)	TI (12/8), TI (12/8), TI (12/8), DR (12/8)					DR (12/5)	RM (12/16)	HP VT/UT (12/18)	AP (12/8), BM (12/8)
6B2	K18, L17, M14	KS (11/17)	DR (12/5)	DR (12/8), DR (12/8)	TH (12/9)				DR (12/5)	RM (12/16)	HP VT/UT (12/18)	AP (12/8)
6B3	I13, I17	KS (11/17)	DR (12/9)	TH (12/10)	TH (12/10)				DR (12/9)	DH (12/17)	HP VT/UT (12/18)	
6B4	I13, I17	KS (11/17)		TH (12/10), DR (12/10), DR (12/10), TH (12/11)					DR (12/9)	DH (12/17)	HP VT/UT (12/18)	
6C1	E16, TT, B3	KS (11/17)	KS (11/14)	KS (11/14)	GM (11/19)	RB (11/20), TI (12/17), RM (12/17)	171	TI (12/17), RM(12/17)	KS (11/14)	JL (12/17)	HP VT/UT (12/18)	BM (11/18)
6C2	E16, TT, B3	KS (11/17)	KS (11/17)	KS (11/17)	KS (11/19)	RB (11/20), TI (12/17), RM (12/17)	171	TI (12/17), RM(12/17)	KS (11/14)	JL (12/17)	HP VT/UT (12/18)	
6C3	E16, I13, I17	KS (11/17)	DR (11/25)	TH (12/1)		TI (12/18)	173	TI (12/18)	HV (11/26)	DH (12/17)	HP VT/UT (12/18)	JL (12/1), GG (12/1)
6C4	I13, I17	KS (11/17)	DR (11/25)	TI (11/26), DR (11/26)	TI (12/1), DR (12/1)				HV (11/26)	DH (12/17)	HP VT/UT (12/18)	
6D1	K18, M14	KS (11/17)	TH (12/2)	DR (12/2), DR (12/2)					JL (12/2)	RM (12/16)	HP VT/UT (12/18)	
6D2	E16, K18, M14	KS (11/17)	TH (12/2)	TH (12/2), DR (12/2)	TI (12/3)				JL (12/2)	RM (12/16)	HP VT/UT (12/18)	CH (12/2), CH (12/3)
6D3	E16, I13, I17	KS (11/17)		DR (12/4), TI (12/5)	DR (12/5), DR (12/5)	GM (12/17), TI (12/18)	174	TI (12/18)	DR (12/4)	DH (12/17)	HP VT/UT (12/18)	
6D4	E16, I13, I17	KS (11/17)	DR (12/4)	TI (12/5), DR (12/5)		DR (12/5), TI (12/18)	174	TI (12/18)	DR (12/4)	DH (12/17)	HP VT/UT (12/18)	
6E1	K18, M14	KS (11/17)	TH (12/9)	DR (12/9)	TH (12/10)				TI (12/9)	RM (12/16)	HP VT/UT (12/18)	AP (12/9)
6E2	K18, M14, I13	KS (11/17)	TH (12/9)	DR (12/9), DR (12/9), TH (12/10), DR (12/11)	TH (12/10)				TI (12/9)	RM (12/16)	HP VT/UT (12/18)	AP (12/9)
6E3	I17, I13	KS (11/17)	TH (12/11)	DR (12/11), DR (12/11), TH (12/12)	TH (12/12)	DR (12/11)			DR (12/11)	DH (12/17)	HP VT/UT (12/18)	BM (12/11), GG (12/12)
6E4	I17, I13	KS (11/17)		DR (12/11), TH (12/12)					DR (12/11)	DH (12/17)	HP VT/UT (12/18)	BM (12/11)
6F1	J19	KS (11/17)	KS (11/14)	KS (11/14)		RB (11/20)			KS (11/14)	JL (12/17)	HP VT/UT (12/18)	CH (11/17), CH (11/18)
6F2	J19	KS (11/17)	KS (11/14)	KS (11/17)		RB (11/20)	156	TI (11/21)	KS (11/14)	JL (12/17)	HP VT/UT (12/18)	CH (11/17), CH (11/18), CH (11/20)
6F3	I13, I17	KS (11/17)	DR (12/1)	TH (12/2), TH (12/2), DR (12/2)					DR (12/1)	DH (12/17)	HP VT/UT (12/18)	GG (12/2)
6F4	I13, I17	KS (11/17)		TH (12/2), DR (12/2)	DR (12/2)				DR (12/1)	DH (12/17)	HP VT/UT (12/18)	
6G1	E16, K18, L17	KS (11/17)		DR (12/3), DR (12/4), TI (12/4)	DR (12/4)				DR (12/3)	TI (12/16)	HP VT/UT (12/18)	
6G2	K18, L17	KS (11/17)	DR (12/3)	DR (12/4)		DR (12/4), DR (12/5)			DR (12/3)	TI (12/16)	HP VT/UT (12/18)	
6G3	E16, I13, I17	KS (11/17)		DR (12/8), DR (12/8)	TH (12/9), DR (12/9)	TI (12/18)	172	TI (12/18)	DR (12/8)	DH (12/17)	HP VT/UT (12/18)	
6G4	I17	KS (11/17)	TI (12/8)	TH (12/9)	TH (12/9)				DR (12/8)	DH (12/17)	HP VT/UT (12/18)	
6H1	K18, M14	KS (11/17)	DR (12/10)	TH (12/11), TH (12/11)					DR (12/10)	RM (12/16)	HP VT/UT (12/18)	AP (12/10)
6H2	M14, K18	KS (11/17)	DR (12/10)	DR (12/10), TH (12/11), DR (12/11)	DR (12/11)				DR (12/10)	RM (12/16)	HP VT/UT (12/18)	AP (12/11)
6H3	I17	KS (11/17)		TH (12/15), TH (12/15)	TH (12/15)	DR (12/12)			DR (12/12)	DH (12/17)	HP VT/UT (12/18)	BM (12/15)
6H4	I13	KS (11/17)		DR (12/12), DR (12/15), DR (12/15)	DR (12/15)				DR (12/12)	DH (12/17)	HP VT/UT (12/18)	

Table 6 Inspection Records for Box E4W [Pile 1]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects / Repairs	CWRs		NDT (MT)		Final Verification /NDT	Corraborations
			Root	Fill	Cap		No.	MT	Root	Cap		
1A1	B16, I17	TH (3/14)	DR (3/28)	DR (3/29)	DR (3/31)				DR (3/28)		N/A	CH (3/28)
1A2	B16, I17	TH (3/14)	DR (3/28)	DR (3/29), DR (3/30)					DR (3/38)		N/A	BL (3/28)
1A3	B16	TH (3/14)	DR (4/1)						DR (4/01)		N/A	BL (4/1)
1A4		TH (3/14)							DR (4/01)		N/A	
1B1		TH (3/14)									N/A	
1B2		TH (3/14)									N/A	
1B3		TH (3/14)									N/A	
1B4		TH (3/14)									N/A	
1C1	B16, I17	TH (3/14)	DR (3/21), DR (3/22)	DR (3/23), DR (3/24), DR (3/24), DR (3/24)					DR (3/22)		N/A	CH (3/22), SB (3/22), SB (3/23)
1C2	B16, I17	TH (3/14)	DR (3/21), DR (3/22)	DR (3/23), DR (3/23)					DR (3/22)		N/A	CH (3/22), SB (3/22)
1C3	E12, P29	TH (3/14)		DR (3/28), DR (3/29), DR (3/29)	DR (3/30)				DR (3/28)		N/A	BL (3/28), BL (3/30)
1C4	E12, P29	TH (3/14)	DR (3/28)	DR (3/29), DR (3/29), DR (3/30)					DR (3/38)		N/A	BL (3/28), BL (3/29), BL (3/30)
1D1	B16, I17	TH (3/14)	DR (3/30), DR (3/30)	DR (3/31), DR (4/1)					DR (3/30)		N/A	BL (3/31), SB (3/31)
1D2	I17	TH (3/14)		DR (4/1), DR (4/1)					DR (3/30)		N/A	
1D3		TH (3/14)									N/A	
1D4		TH (3/14)									N/A	
1E1	B2, I17	TH (3/14)	AC (3/14)	AC (3/15), DR (3/21), DR (3/21)	DR (3/22)				AC (3/15)		N/A	SB (3/14)
1E2	B2	TH (3/14)		AC (3/15), AC (3/15), AC (3/15), AC (3/16), AC (3/16), AC (3/16)					AC (3/15)		N/A	SB (3/15), AE (3/16), (SB (3/21)
1E3		TH (3/14)							DR (3/22)		N/A	
1E4	E12	TH (3/14)	DR (3/21)	DR (3/22), DR (3/22)	DR (3/23), DR (3/23), DR (3/23)				DR (3/22)		N/A	CH (3/22)
1F1	B16, I17	TH (3/14)	DR (3/24)	DR (3/28)					DR (3/22)		N/A	BL (3/28)
1F2	B16, I17	TH (3/14)	DR (3/24)	DR (3/25), DR (3/28)					DR (3/22)		N/A	
1F3	P29	TH (3/14)	DR (3/31)	DR (3/31)		DR (3/31)			DR (3/31)		N/A	
1F4	P29	TH (3/14)	DR (3/31)	DR (4/1), DR (4/1)	DR (4/1)	DR (3/31)			DR (3/31)		N/A	BL (4/1)
1G1		TH (3/14)									N/A	
1G2		TH (3/14)									N/A	
1G3		TH (3/14)									N/A	
1G4		TH (3/14)									N/A	
1H1	Z39	TH (3/14)		AC (3/15), AC (3/15), AC (3/15), AC (3/16), AC (3/16)					AC (3/15)		N/A	SB (3/15)
1H2	E12, Z39	TH (3/14)	AC (3/14)	AC (3/15), AC (3/15), DR (3/21)					AC (3/14)		N/A	
1H3	E12, P29	TH (3/14)	DR (3/22)	DR (3/24), DR (3/25)					DR (3/22)		N/A	
1H4	E12	TH (3/14)		DR (3/24), DR (3/25)					DR (3/22)		N/A	

Table 6 Inspection Records for Box E4W [Pile 2]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects / Repairs	CWRs		NDT (MT)		Final Verification /NDT	Corraborations
			Root	Fill	Cap		No.	MT	Root	Cap		
2A1	F6	TH (3/14)		DR (3/28)					DR (3/24)		N/A	SB (3/28)
2A2	F6, O21	TH (3/14)	DR (3/24)	AC (3/25), DR (3/28), DR (3/29)	DR (3/29)				DR (3/24)		N/A	BL (3/28)
2A3	M21, O21	TH (3/14)	DR (3/30)	DR (3/31), DR (4/1), DR (4/1)	DR (4/1)				DR (3/30)		N/A	BL (3/30), BL (4/1)
2A4	M21, O21	TH (3/14)	DR (3/29)	DR (3/31)					DR (3/30)		N/A	
2B1	O21, Z39	TH (3/14)	DR (3/30)						DR (3/30)		N/A	
2B2	O21, Z39	TH (3/14)	DR (3/30)						DR (3/30)		N/A	
2B3		TH (3/14)									N/A	
2B4		TH (3/14)									N/A	
2C1	P29	TH (3/14)	DR (3/24)	DR (3/23), DR (3/23), DR (3/24), DR (3/24)	DR (3/25)	DR (3/24)			RB (3/22)		N/A	
2C2	O21, P29	TH (3/14)	DR (3/21)	DR (3/24)					RB (3/22)		N/A	
2C3	O21	TH (3/14)	DR (3/24)	DR (3/25)					DR (3/25)		N/A	BL (3/24)
2C4	E16	TH (3/14)		DR (3/28), DR (3/28), DR (3/28)					DR (3/25)		N/A	
2D1	F6	TH (3/14)		DR (3/29), DR (3/30)					DR (3/28)		N/A	SB (3/31)
2D2	F6	TH (3/14)		DR (3/30), DR (3/31)	DR (3/31)				DR (3/28)		N/A	BL (3/30)
2D3	O21	TH (3/14)	DR (3/31)								N/A	
2D4		TH (3/14)									N/A	
2E1	J19, O15	TH (3/14)	AC (3/15)	AC (3/15), AC (3/15), AC (3/16), AC (3/16), AC (3/16)					AC (3/15)		N/A	SB (3/15), AE (3/16)
2E2	J19	TH (3/14)	AC (3/15)	AC (3/15), AC (3/15)					AC (3/15)		N/A	SB (3/15)
2E3	M21	TH (3/14)	DR (3/21)	DR (3/21)	DR (3/23)				DR (3/21)		N/A	SB (3/21)
2E4	M21	TH (3/14)		DR (3/22), DR (3/22)					DR (3/21)		N/A	SB (3/22)
2F1	F6, O21	TH (3/14)	DR (3/23)	DR (3/24)					DR (3/23)		N/A	
2F2	F6	TH (3/14)		DR (3/23), DR (3/24), DR (3/24), DR (3/25)	DR (3/25)				DR (3/23)		N/A	
2F3	O21, M21	TH (3/14)	DR (3/28)	DR (3/29)					DR (3/28)		N/A	BL (3/28), BL (3/29)
2F4	M21	TH (3/14)		DR (3/29), DR (3/29), DR (3/30), DR (3/30)					DR (3/28)		N/A	BL (3/30)
2G1	F6	TH (3/14)		DR (3/31)					DR (3/29)		N/A	BL (3/31)
2G2	F6, O21	TH (3/14)	DR (3/29)	DR (4/1), DR (4/1)	DR (4/1)				DR (3/29)		N/A	
2G3		TH (3/14)									N/A	
2G4		TH (3/14)									N/A	
2H1	F6, G8	TH (3/14)	AC (3/16)	DR (3/21), DR (3/22), DR (3/22)	DR (3/23)				AC (3/16), DR (3/21)		N/A	SB (3/22)CH (3/22)
2H2	F6, L26, O21	TH (3/14)	DR (3/21)	DR (3/23), JL (4/1)					DR (3/21)		N/A	SB (3/21)SB (3/23)
2H3	E16, O21	TH (3/14)	DR (3/22)	DR (3/24), DR (3/24)		DR (3/24)			DR (3/23)		N/A	BL (3/24)
2H4	E16	TH (3/14)	DR (3/23)	DR (3/24)					DR (3/23)		N/A	BL (3/24)

Table 6 Inspection Records for Box E4W [Pile 3]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects / Repairs	CWRs		NDT (MT)		Final Verification /NDT	Corraborations
			Root	Fill	Cap		No.	MT	Root	Cap		
3A1		TH (3/14)									N/A	
3A2		TH (3/14)									N/A	
3A3		TH (3/14)									N/A	
3A4		TH (3/14)									N/A	
3B1	D11, B3, O15	TH (3/14)	DA (3/15)	DA (3/15), DA (3/15), JL (3/22)					DA (3/15)		N/A	SB (3/15)
3B2	D11, E16, O15	TH (3/14)	AC (3/15)	DA (3/16), DA (3/16), JL (3/21), JL (3/21), JL (3/21), JL (3/22)		JL (3/21)			AC (3/15)		N/A	SB (3/22)
3B3	U25	TH (3/14)		JL (3/24)	AC (3/25)				JL (3/22)		N/A	
3B4	U25	TH (3/14)	JL (3/21), JL (3/22)	JL (3/24), AC (3/25)	AC (3/25)				JL (3/22)		N/A	
3C1	J19	TH (3/14)		JL (3/30), JL (3/31)					JL (3/30)		N/A	SB (3/31), BL (3/31)
3C2	J19	TH (3/14)	JL (3/30)	JL (3/30), JL (3/30), JL (3/31)	JL (3/31)				JL (3/30)		N/A	BL (3/30)
3C3		TH (3/14)							JL (4/01)		N/A	
3C4	E16	TH (3/14)	JL (4/1)	JL (4/1), JL (4/1)					JL (4/01)		N/A	
3D1		TH (3/14)									N/A	
3D2		TH (3/14)									N/A	
3D3		TH (3/14)									N/A	
3D4		TH (3/14)									N/A	
3E1	J19	TH (3/14)	JL (3/23)	JL (3/23), JL (3/24)					JL (3/23)		N/A	SB (3/15)
3E2	J19	TH (3/14)	JL (3/23)	JL (3/24), JL (3/24)					JL (3/23)		N/A	SB (3/15)
3E3	D11, E16, U25	TH (3/14)	JL (3/24)	JL (3/28), JL (3/28), JL (3/29), JL (3/29), JL (3/29)					AC (3/25)		N/A	BL (3/28)
3E4	D11, E16, U25	TH (3/14)	JL (3/24)	JL (3/28), JL (3/28)	JL (3/29)				AC (3/25)		N/A	BL (3/28), BL (3/29)
3F1	J19	TH (3/14)	JL (4/1)	JL (4/1), JL (4/1)					JL (4/01)		N/A	
3F2	J19	TH (3/14)	JL (4/1)						JL (4/01)		N/A	
3F3		TH (3/14)									N/A	
3F4		TH (3/14)				TH (3/14)					N/A	
3G1	E6, J19	TH (3/14)	DA (3/15)	DA (3/15), DA (3/15), DA (3/15), JL (3/21), JL (3/21), JL (3/22)			316	DA (2/28)	DA (3/15)		N/A	SB (3/22)
3G2	E6	TH (3/14)	AC (3/15)	DA (3/16), JL (3/22)	JL (3/22)				AC (3/15)		N/A	AE (3/16)
3G3	U25	TH (3/14)	JL (3/22)	JL (3/23), JL (3/23)					JL (3/22)		N/A	SB (3/22)
3G4	U25	TH (3/14)	JL (3/21), JL (3/22)	JL (3/24)	JL (3/24)	TH (3/14)			JL (3/22)		N/A	
3H1	J19	TH (3/14)		JL (3/28), JL (3/28), JL (3/28)					AC (3/25)		N/A	CH (3/28), SB (3/28)
3H2	J19	TH (3/14)	AC (3/25), AC (3/25)	AC (3/25), JL (3/29)	JL (3/29)				AC (3/25)		N/A	BL (3/29), SB (3/29)
3H3	E16	TH (3/14)		JL (3/30), JL (3/30), JL (3/31)	JL (4/1)				JL (3/30)		N/A	
3H4	E16	TH (3/14)	JL (3/30)	JL (3/31), JL (3/31)	JL (3/31)				JL (3/30)		N/A	BL (3/30), BL (3/31)

Table 6 Inspection Records for Box E4W [Pile 4]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects / Repairs	CWRs		NDT (MT)		Final Verification /NDT	Corraborations
			Root	Fill	Cap		No.	MT	Root	Cap		
4A1	S31	TH (3/14)	DA (3/9)	DA (3/10), DA (3/14), DA (3/14)	DA (3/14)				DA (3/9)		N/A	BL (3/10), SB (3/14)
4A2	S31	TH (3/14)	DA (3/10)	DA (3/10), DA (3/11), DA (3/11)	DA (3/11)				DA (3/10)		N/A	SB (3/10), BL (3/10), SB (3/11), BL 9(3/11)
4A3	B9	TH (3/14)	JL (3/21)	JL (3/22)	JL (3/22)				JL (3/21)		N/A	BL (3/21), CH (3/22)
4A4	B9	TH (3/14)	JL (3/21), JL (3/21)	JL (3/21), JL (3/22)	JL (3/23)	JL (3/21)			JL (3/21)		N/A	BL (3/21), SB (3/22), CH (3/22), SB (3/23)
4B1	N20	TH (3/14)		JL (3/24), AC(3/25)	AC (3/25)				JL (3/24)		N/A	
4B2	N20	TH (3/14)	JL (3/24)	JL (3/24), JL (3/24), JL (3/28). JL (3/28)	JL (3/28)				JL (3/24)		N/A	BL (3/28), CH (3/28)
4B3	B9	TH (3/14)	JL (3/30)	JL (3/30), JL (3/31)	JL (3/31)				JL (3/30)		N/A	BL (3/30)
4B4	B9	TH (3/14)	JL (3/29)	JL (3/30), JL (3/30)					JL (3/30)		N/A	
4C1	M23	TH (3/14)	JL (4/1)						JL (4/01)		N/A	
4C2	M23	TH (3/14)	JL (4/1)						JL (4/01)		N/A	
4C3		TH (3/14)									N/A	
4C4		TH (3/14)									N/A	
4D1	L12	TH (3/14)	DA (3/10)	DA (3/11), DA (3/11)	DA (3/11)				DA (3/10)		N/A	SB (3/10), BL (3/10), BL (3/11)
4D2	L12	TH (3/14)	DA (3/9)	DA (3/10), DA (3/14)	DA (3/14)				DA (3/10)		N/A	SB (3/9), BL (3/10)
4D3	B9, M23	TH (3/14)	JL (3/22), JL (3/22), JL (3/24), JL (3/24). JL (3/24)	JL (3/23)					JL (3/23)		N/A	SB (3/22), SB (3/23), BL (3/24)
4D4	B9, M23	TH (3/14)	JL (3/23), JL (3/24)	JL (3/23)	AC (3/25)				JL (3/23)		N/A	CH (3/23), BL (3/24)
4E1	E17, N20	TH (3/14)	JL (3/29)	JL (3/29), JL (3/30), JL (3/30)					JL (3/29)		N/A	
4E2	E17, N20	TH (3/14)	JL (3/29)	JL (3/29), JL (3/30), JL (3/30)	JL (3/31), JL (3/31)	JL (3/31)			JL (3/29)		N/A	BL (3/29), BL (3/30), BL (3/31)
4E3	B9	TH (3/14)	JL (4/1)	JL (4/1), JL (4/1)					JL (4/01)		N/A	BL (3/29), BL (4/1)
4E4	B9	TH (3/14)	JL (3/31)	JL (4/1)					JL (4/01)		N/A	BL (3/29), BL (4/1)
4F1		TH (3/14)									N/A	
4F2		TH (3/14)									N/A	
4F3		TH (3/14)									N/A	
4F4		TH (3/14)									N/A	
4G1	N20	TH (3/14)	JL (3/21)	JL (3/21), JL (3/22), JL (3/23)	JL (3/23)	JL (3/22)			JL (3/21)		N/A	BL (3/21), SB (3/22), CH (3/23)
4G2	B2, N20	TH (3/14)		JL (3/22), JL (3/22)		DA (2/28)	316	DA (2/280	JL (3/21)		N/A	
4G3	B9	TH (3/14)		JL (3/28), JL (3/28), JL (3/28)	JL (3/29)				RB (3/25)		N/A	BL (3/28), BL (3/29)
4G4	B9, M23	TH (3/14)	AC (3/25), AC (3/25)	JL (3/28)	JL (3/29)	TH (3/14)			RB (3/25)		N/A	BL (3/28), BL (3/29)
4H1	N20	TH (3/14)	JL (4/1)	JL (4/1), JL (4/1)		JL (3/31)			AC (4/01)		N/A	
4H2	G18, N20	TH (3/14)		JL (4/1)		JL (4/1)			AC (4/01)		N/A	
4H3		TH (3/14)									N/A	
4H4		TH (3/14)									N/A	

Table 6 Inspection Records for Box E4W [Pile 5]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects / Repairs	CWRs		NDT (MT)		Final Verification /NDT	Corraborations
			Root	Fill	Cap		No.	MT	Root	Cap		
5A1	C7, E7, L12	TH (3/14)		DA (3/15), RB (3/21), RB (3/21), RB (3/21)	RB (3/22), RB (3/22), RB (3/22)				DA (3/15)*		N/A	BL (3/21), SB (3/21), CH (3/22)
5A2	L12, P23	TH (3/14)	RB (3/21)	DA (3/15), AC (3/15), DA (3/16)	DA (3/16)				DA (3/15)		N/A	CH (3/15), SB (3/15), AE (3/16)
5A3	P23	TH (3/14)		RB (3/21)	RB (3/23)				RB (3/21)		N/A	BL (3/21)
5A4	P23	TH (3/14)		RB (3/22), RB (3/22)	RB (3/22)				RB (3/21)		N/A	
5B1	C7, V22	TH (3/14)	RB (3/23)	RB (3/25), RB (3/28)					RB (3/23)		N/A	SB (3/28)
5B2	C7, E17, V22	TH (3/14)	RB (3/23)	RB (3/25), RB (3/28), RB (3/28)	RB (3/29)				RB (3/23)		N/A	CH (3/28)
5B3		TH (3/14)		RB (3/30)					RB (3/29)		N/A	
5B4	P23	TH (3/14)	RB (3/29)	RB (3/29), RB (3/30)					RB (3/29)		N/A	BL (3/29), BL (3/30)
5C1		TH (3/14)				RB (3/17)			AC (4/01)		N/A	
5C2	C7	TH (3/14)		AC (4/1), AC (4/1), AC (4/1)					AC (4/01)		N/A	
5C3		TH (3/14)									N/A	
5C4		TH (3/14)									N/A	
5D1	S31, U25	TH (3/14)	DA (3/15)	DA (3/15), DA (3/16)		RB (3/17)			DA (3/15)		N/A	SB (3/15)
5D2	E17, S31, U25	TH (3/14)	DA (3/15)	DA (3/15), AC (3/15), DA (3/16), DA (3/16), RB (3/25)	RB (3/25), RB (3/28)	RB (3/17), RB (3/28)			DA (3/15)*		N/A	SB (3/15), CH (3/28)
5D3	P23, V22	TH (3/14)	RB (3/22)	RB (3/23), RB (3/24)	RB (3/24)				RB (3/23)		N/A	SB (3/24)
5D4	P23, V22	TH (3/14)	RB (3/22)	RB (3/23), RB (3/24)					RB (3/23)		N/A	SB (3/23)
5E1	C7	TH (3/14)		RB (3/30)	RB (3/31), RB (3/31)				RB (3/29)		N/A	SB (3/31)
5E2	C7, M23, P29	TH (3/14)	RB (3/25), RB (3/29)	RB (3/29), RB (3/29), RB (3/30)	RB (3/30)				RB (3/29)		N/A	
5E3	P23	TH (3/14)	RB (3/31)	RB (3/31), AC (4/1), AC (4/1)					RB (3/31)		N/A	
5E4	P23	TH (3/14)			AC (4/1)				RB (3/31)		N/A	BL (4/1)
5F1		TH (3/14)									N/A	
5F2		TH (3/14)									N/A	
5F3		TH (3/14)									N/A	
5F4		TH (3/14)									N/A	
5G1	C7	TH (3/14)	RB (3/23)	RB (3/24)					RB (3/23)		N/A	BL (3/24), SB (3/24)
5G2	C7	TH (3/14)		RB (3/24)	RB (3/24)				RB (3/23)		N/A	BL (3/24)
5G3	P23, P29	TH (3/14)		RB (3/25), RB (3/25), RB (3/28)	RB (3/28), RB (3/28)				RB (3/25)		N/A	BL (3/28)
5G4	P23	TH (3/14)		RB (3/25)					RB (3/25)		N/A	
5H1	M23	TH (3/14)	RB (3/29)	RB (3/30), RB (3/30), RB (3/31)	RB (3/31)				RB (3/30)		N/A	BL (3/31)
5H2	M23	TH (3/14)		RB (3/30), RB (3/31)	AC (4/1)				RB (3/30)		N/A	
5H3		TH (3/14)									N/A	
5H4		TH (3/14)									N/A	

Table 6 Inspection Records for Box E4W [Pile 6]

Weld ID	Welder ID	QC									QA	
		Fit Up	Welding Parameters			Rejects / Repairs	CWRs		NDT (MT)		Final Verification /NDT	Corraborations
			Root	Fill	Cap		No.	MT	Root	Cap		
6A1	G15	TH (3/08)			RB (3/24)				RB (3/22)		N/A	
6A2	G15	TH (3/08)	RB (3/22)	RB (3/23), RB (3/23)	RB (3/23)				RB (3/22)		N/A	
6A3	M19	TH (3/08)	RB (3/25)	RB (3/25), RB (3/25)	RB (3/28), RB (3/28)	TH (3/8)			RB (3/25)		N/A	BL (3/28)
6A4	M19	TH (3/08)		RB (3/28)		TH (3/8)			RB (3/25)		N/A	
6B1	B16, G15	TH (3/08)	RB (3/29), RB (3/29)	RB (3/31)	AC (4/1), AC (4/1)				RB (3/29)		N/A	BL (3/29)
6B2	B16, G15	TH (3/08)	RB (3/29)	RB (3/31)	AC (4/1)				RB (3/29)		N/A	BL (3/29), BL (3/31), SB (3/31)
6B3		TH (3/08)									N/A	
6B4		TH (3/08)									N/A	
6C1	A9, G15, Z39	TH (3/08)	AC (3/14)	AC (3/14), RB (3/21)	RB (3/21), RB (3/22)	AC (3/2)	317	AC (3/03)	AC (3/14)		N/A	SB (3/14)
6C2	A9, D11	TH (3/08)	AC (3/15)	AC (3/15), AC (3/15), AC (3/15), AC (3/15), AC (3/16), AC (3/16)	AC(3/16)				AC (3/15)		N/A	SB (3/15)
6C3	M19	TH (3/08)	RB (3/22)	RB (3/22), RB (3/22), R(3/23)					JL (3/22)		N/A	SB (3/22), SB (3/23)
6C4	M19	TH (3/08)			RB (3/23)	TH (3/8)			JL (3/22)		N/A	
6D1	B16, G15	TH (3/08)	RB (3/23)	RB (3/25)					RB (3/24)		N/A	
6D2	B16, G15	TH (3/08)	RB (3/23)	RB (3/24), RB (3/25)	RB (3/25), RB (3/28)				RB (3/24)		N/A	BL (3/24)
6D3	M19	TH (3/08)		RB (3/29), RB (3/30), RB (3/30)					RB (3/29)		N/A	BL (3/30)
6D4	M19	TH (3/08)	RB (3/29)		RB (3/30)	RB (3/30)			RB (3/29)		N/A	BL (3/29), BL (3/30)
6E1		TH (3/08)	RB (3/31)						RB (3/31)		N/A	BL (3/31)
6E2		TH (3/08)	RB (3/31)						RB (3/31)		N/A	
6E3		TH (3/08)									N/A	
6E4		TH (3/08)									N/A	
6F1	D11	TH (3/08)	AC (3/15)	AC (3/15), AC (3/16)					AC (3/15)		N/A	CH (3/15), SB (3/15), AE (3/16)
6F2	D11	TH (3/08)	AC (3/15)	AC (3/15), AC (3/15), AC (3/16)	AC (3/16)				AC (3/15)		N/A	AE (3/16)
6F3	M19	TH (3/08)	RB (3/21), RB (3/21)	RB (3/24)					JL (3/22)		N/A	BL (3/21)
6F4	M19	TH (3/08)		RB (3/23), RB (3/24)					JL (3/22)		N/A	
6G1	B16	TH (3/08)	RB (3/25)		RB (3/29), RB (3/30)				RB (3/25)		N/A	
6G2	B16, G15	TH (3/08)	RB (3/25)	RB (3/28), RB (3/28), RB (3/29), RB (3/30)					RB (3/25)		N/A	BL (3/28), BL (3/29)
6G3	M19	TH (3/08)		RB (3/31)	AC (4/1)				RB (3/31)		N/A	
6G4	M19	TH (3/08)		RB (3/31)	AC (4/1), AC (4/1)				RB (3/31)		N/A	BL (4/1)
6H1		TH (3/08)									N/A	
6H2		TH (3/08)									N/A	
6H3		TH (3/08)									N/A	
6H4		TH (3/08)									N/A	

Table 7 Analysis of QC Inspection Data

Pier Name	Pile	Fit Up	Welding Parameters Inspected At Least Once			QC Documented NDT		QC Documented Observations		
			Root	Fill	Cap	Root	Cap	CWRs	Parameters Incl. Fitup	Weld Issues
Pier E14E	1	100%	78%	91%	69%	100%	100%	4	10	4
	2	100%	72%	97%	34%	100%	100%	1	4	7
	3	100%	88%	97%	31%	100%	100%	4	4	22
	4	100%	81%	97%	53%	100%	100%	0	0	1
	5	100%	75%	97%	31%	100%	100%	0	7	7
	6	100%	78%	97%	50%	100%	100%	0	0	2
	Average	100%	79%	96%	45%	100%	100%			
Pier E9E	1	100%	59%	94%	69%	100%	100%	3	3	6
	2	100%	78%	94%	63%	100%	100%	4	3	5
	3	100%	66%	97%	53%	100%	100%	0	5	4
	4	100%	69%	84%	66%	100%	100%	1	13	17
	5	100%	63%	100%	47%	100%	100%	3	4	20
	6	100%	69%	100%	59%	100%	100%	8	1	18
	Average	100%	67%	95%	59%	100%	100%			
Pier E4W	1	100%	68%	86%	23%	100%	N/A	0	0	2
	2	100%	73%	92%	31%	100%	N/A	0	0	2
	3	100%	77%	91%	41%	100%	N/A	1	6	1
	4	100%	83%	92%	58%	100%	N/A	1	6	1
	5	100%	50%	92%	58%	100%	N/A	0	0	1
	6	100%	71%	75%	58%	100%	N/A	1	3	3
	Average	100%	70%	88%	45%	100%				

Table 8 QA Observations for Pier E14E [Pile 1]

QA OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
1	A	1	KC	23-Jul-03	Welder, Process, And Location
1	A	1	KC	23-Jul-03	MT Corroboration Of QC
1	A	1	KC	23-Jul-03	VT Corroboration Of QC
1	A	1	GG	24-Jul-03	Process, Welder, QC, And Location
1	A	1	KC	24-Jul-03	Welder, Process, And Location
1	A	3	GG	7-Aug-03	Process, Welder, QC, And Location
1	A	4	RV	6-Aug-03	Parameters, Welder, Location, WPS
1	B	1	KC	31-Jul-03	MT Corroboration Of QC
1	B	1	GG	4-Aug-03	Process, Welder, QC, And Location
1	B	1	GG	1-Aug-03	Process, Welder, QC, And Location
1	B	1	KC	1-Aug-03	Welder, Process, And Location
1	B	1	GG	31-Jul-03	Process, Welder, QC, And Location
1	B	2	KC	31-Jul-03	MT Corroboration Of QC
1	B	2	KC	1-Aug-03	Welder, Process, And Location
1	B	3	KC	11-Aug-03	Welder, Process, And Location
1	B	3	KC	12-Aug-03	Welder, Process, And Location
1	B	3	RV	9-Aug-03	QC, Parameters, Welder, Location
1	B	4	KC	11-Aug-03	Welder, Process, And Location
1	B	4	GG	11-Aug-03	Process, Welder, QC, And Location
1	C	4	GG	31-Jul-03	Process, Welder, QC, And Location
1	D	2	KC	29-Jul-03	Welder, Process, And Location
1	D	2	KC	28-Jul-03	Welder, Process, And Location
1	D	4	GG	8-Aug-03	Process, Welder, QC, And Location
1	D	4	GG	6-Aug-03	Process, Welder, QC, And Location
1	E	1	KC	15-Jul-03	Welder, Process, And Location
1	E	1	GG	17-Jul-03	Process, Welder, QC, And Location
1	E	1	KC	17-Jul-03	Welder, Process, And Location
1	E	1	KC	17-Jul-03	Welder, Process, And Location
1	E	1	KC	18-Jul-03	Welder, Process, And Location
1	E	1	KC	18-Jul-03	Welder, Process, And Location
1	E	4	GG	24-Jul-03	Process, Welder, QC, And Location
1	F	1	KC	23-Jul-03	Welder, Process, And Location
1	F	1	GG	24-Jul-03	Process, Welder, QC, And Location
1	F	1	KC	24-Jul-03	Process, Welder, QC, And Location
1	F	2	GG	23-Jul-03	Process, Welder, QC, And Location
1	F	2	GG	24-Jul-03	Process, Welder, QC, And Location
1	F	3	GG	4-Aug-03	Process, Welder, QC, And Location
1	F	4	KC	1-Aug-03	Welder, Process, And Location
1	G	1	KC	25-Jul-03	Welder, Process, And Location
1	G	1	KC	29-Jul-03	Welder, Process, And Location
1	G	1	KC	29-Jul-03	MT Corroboration Of QC
1	G	2	KC	16-Jul-03	Welder, Process, And Location
1	G	3	RV	9-Aug-03	QC, Parameters, Welder, Location
1	H	1	KC	15-Jul-03	Welder, Process, And Location
1	H	2	GG	17-Jul-03	Process, Welder, QC, And Location
1	H	3	GG	28-Jul-03	Process, Welder, QC, And Location
1	H	4	KC	29-Jul-03	MT Corroboration Of QC
1	H	4	KC	29-Jul-03	Welder, Process, And Location

Table 8 QA Observations for Pier E14E [Pile 2]

QA OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
2	A	1	GG	11-Aug-03	Process, Welder, QC, And Location
2	A	1	KC	12-Aug-03	Welder, Process, And Location
2	A	1	KC	12-Aug-03	MT Corroboration Of QC
2	A	1	KC	11-Aug-03	Process, Welder, QC, And Location
2	A	1	GG	12-Aug-03	Process, Welder, QC, And Location
2	B	1	KC	13-Aug-03	MT Corroboration Of QC
2	B	2	KC	13-Aug-03	MT Corroboration Of QC
2	B	3	KC	18-Aug-03	Welder, Process, And Location
2	B	3	KC	19-Aug-03	Welder, Process, And Location
2	C	1	RV	8-Aug-03	QC, Parameters, Welder, Location
2	C	3	KC	15-Aug-03	Process, Welder, QC, And Location
2	C	3	KC	14-Aug-03	Process, Welder, QC, And Location
2	C	4	KC	14-Aug-03	Process, Welder, QC, And Location
2	D	2	GG	12-Aug-03	Process, Welder, QC, And Location
2	D	3	GG	18-Aug-03	Process, Welder, QC, And Location
2	D	3	KC	18-Aug-03	Process, Welder, QC, And Location
2	D	3	KC	19-Aug-03	Welder, Process, And Location
2	E	1	GG	6-Aug-03	Process, Welder, QC, And Location
2	E	3	GG	12-Aug-03	Process, Welder, QC, And Location
2	E	4	CH	10-Aug-03	Welder, Process, And Location
2	E	4	GG	11-Aug-03	Welder, Process, And Location
2	G	1	KC	15-Aug-03	MT Corroboration Of QC
2	G	2	KC	14-Aug-03	Process, Welder, QC, And Location
2	G	2	KC	15-Aug-03	Process, Welder, QC, And Location
2	G	2	KC	15-Aug-03	MT Corroboration Of QC
2	G	2	GG	14-Aug-03	Process, Welder, QC, And Location
2	G	4	GG	19-Aug-03	Process, Welder, QC, And Location
2	H	1	CH	8-Aug-03	Welder, Process, And Location
2	H	1	GG	7-Aug-03	Process, Welder, QC, And Location
2	H	2	CH	8-Aug-03	Welder, Process, And Location
2	H	2	RV	6-Aug-03	QC, Parameters, Welder, Location
2	H	3	GG	13-Aug-03	Process, Welder, QC, And Location
2	H	3	KC	13-Aug-03	Process, Welder, QC, And Location
2	H	4	KC	13-Aug-03	Process, Welder, QC, And Location

Table 8 QA Observations for Pier E14E [Pile 3]

QA OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
3	A	1	KC	29-Jul-03	Welder, Process, And Location
3	A	1	KC	29-Jul-03	MT Corroboration Of QC
3	A	3	CH	10-Aug-03	Welder, Process, And Location
3	B	1	KC	17-Jul-03	Welder, Process, And Location
3	B	1	KC	18-Jul-03	Welder, Process, And Location
3	B	2	KC	17-Jul-03	Welder, Process, And Location
3	B	2	KC	18-Jul-03	Welder, Process, And Location
3	B	2	FM	21-Jul-03	Location And Welder
3	B	2	KC	22-Jul-03	Welder, Process, And Location
3	B	2	GG	22-Jul-03	Process, Welder, QC, And Location
3	B	3	KC	29-Jul-03	Process, Welder, QC, And Location
3	B	3	KC	29-Jul-03	MT Corroboration Of QC
3	B	4	KC	29-Jul-03	Process, Welder, QC, And Location
3	B	4	KC	29-Jul-03	MT Corroboration Of QC
3	C	1	KC	23-Jul-03	Welder, Process, And Location
3	C	1	KC	23-Jul-03	VT Corroboration Of QC
3	C	1	KC	24-Jul-03	Welder, Process, And Location
3	C	1	KC	24-Jul-03	MT Corroboration Of QC
3	C	1	KC	25-Jul-03	Process, Welder, QC, And Location
3	C	1	GG	28-Jul-03	Welder, Process, And Location
3	C	1	CH	19-Aug-03	CWR Welding
3	C	1	KC	28-Jul-03	Welder, Process, And Location
3	C	2	KC	23-Jul-03	Welder, Process, And Location
3	C	2	KC	23-Jul-03	VT Corroboration Of QC
3	C	2	KC	24-Jul-03	Welder, Process, And Location
3	C	2	KC	24-Jul-03	MT Corroboration Of QC
3	C	2	KC	25-Jul-03	Process, Welder, QC, And Location
3	C	2	GG	28-Jul-03	Process, Welder, QC, And Location
3	C	2	KC	28-Jul-03	Welder, Process, And Location
3	C	4	GG	7-Aug-03	Process, Welder, QC, And Location
3	C	4	RV	7-Aug-03	QC, Parameters, Welder, Location
3	D	1	KC	1-Aug-03	Welder, Process, And Location
3	D	2	GG	4-Aug-03	Process, Welder, QC, And Location
3	D	2	KC	1-Aug-03	Welder, Process, And Location
3	D	3	GG	11-Aug-03	Process, Welder, QC, And Location
3	D	4	GG	12-Aug-03	Process, Welder, QC, And Location
3	E	1	KC	17-Jul-03	Welder, Process, And Location
3	E	1	KC	18-Jul-03	Welder, Process, And Location
3	E	1	KC	18-Jul-03	VT Corroboration Of QC
3	E	1	KC	22-Jul-03	Welder, Process, And Location
3	E	2	KC	18-Jul-03	VT Corroboration Of QC
3	E	2	FM	21-Jul-03	Location And Welder
3	E	3	GG	4-Aug-03	Process, Welder, QC, And Location
3	F	1	KC	29-Jul-03	Welder, Process, And Location
3	F	1	KC	28-Jul-03	Welder, Process, And Location
3	F	2	KC	29-Jul-03	Welder, Process, And Location
3	F	2	KC	28-Jul-03	Process, Welder, QC, And Location
3	F	2	GG	29-Jul-03	Welder, Process, And Location
3	F	3	GG	7-Aug-03	Process, Welder, QC, And Location
3	G	1	KC	17-Jul-03	Welder, Process, And Location
3	G	1	KC	18-Jul-03	Welder, Process, And Location

3	G	2	KC	15-Jul-03	Welder, Process, And Location
3	G	2	KC	16-Jul-03	Welder, Process, And Location
3	G	3	KC	23-Jul-03	Welder, Process, And Location
3	G	3	KC	23-Jul-03	VT Corroboration Of QC
3	G	3	KC	24-Jul-03	Welder, Process, And Location
3	G	3	GG	25-Jul-03	Process, Welder, QC, And Location
3	G	4	KC	23-Jul-03	Welder, Process, And Location
3	G	4	KC	23-Jul-03	VT Corroboration Of QC
3	G	4	KC	24-Jul-03	Process, Welder, QC, And Location
3	H	1	GG	23-Jul-03	Process, Welder, QC, And Location
3	H	2	FM	21-Jul-03	Location And Welder
3	H	4	RV	6-Aug-03	QC, Parameters, Welder, Location

Table 8 QA Observations for Pier E14E [Pile 4]

QA OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
4	A	1	KC	15-Jul-03	Welder, Process, And Location
4	A	1	KC	15-Jul-03	VT Corroboration Of QC
4	A	1	KC	16-Jul-03	Welder, Process, And Location
4	A	1	GG	17-Jul-03	Process, Welder, QC, And Location
4	A	2	KC	15-Jul-03	VT Corroboration Of QC
4	A	3	KC	23-Jul-03	Welder, Process, And Location
4	A	3	GG	24-Jul-03	Process, Welder, QC, And Location
4	A	4	GG	23-Jul-03	Process, Welder, QC, And Location
4	A	4	KC	24-Jul-03	Welder, Process, And Location
4	A	4	KC	24-Jul-03	MT Corroboration Of QC
4	B	1	KC	23-Jul-03	Welder, Process, And Location
4	B	1	KC	24-Jul-03	Welder, Process, And Location
4	B	2	GG	23-Jul-03	Process, Welder, QC, And Location
4	B	2	GG	24-Jul-03	Process, Welder, QC, And Location
4	B	3	KC	1-Aug-03	Welder, Process, And Location
4	B	4	KC	1-Aug-03	Welder, Process, And Location
4	C	1	GG	28-Jul-03	Process, Welder, QC, And Location
4	C	2	KC	25-Jul-03	Welder, Process, And Location
4	C	3	GG	7-Aug-03	Process, Welder, QC, And Location
4	D	1	KC	17-Jul-03	VT Corroboration Of QC
4	D	3	KC	25-Jul-03	Process, Welder, QC, And Location
4	D	3	KC	28-Jul-03	Process, Welder, QC, And Location
4	D	3	KC	28-Jul-03	MT Corroboration Of QC
4	D	4	GG	25-Jul-03	Process, Welder, QC, And Location
4	D	4	KC	25-Jul-03	Process, Welder, QC, And Location
4	D	4	KC	28-Jul-03	Process, Welder, QC, And Location
4	D	4	KC	28-Jul-03	MT Corroboration Of QC
4	E	1	GG	23-Jul-03	Process, Welder, QC, And Location
4	E	1	KC	23-Jul-03	Welder, Process, And Location
4	E	1	GG	24-Jul-03	Process, Welder, QC, And Location
4	E	2	GG	23-Jul-03	Process, Welder, QC, And Location
4	E	2	KC	24-Jul-03	Process, Welder, QC, And Location
4	E	3	GG	6-Aug-03	Process, Welder, QC, And Location
4	F	1	GG	31-Jul-03	Process, Welder, QC, And Location
4	F	2	KC	29-Jul-03	Process, Welder, QC, And Location
4	F	2	KC	29-Jul-03	MT Corroboration Of QC
4	F	3	KC	11-Aug-03	Welder, Process, And Location
4	G	1	FM	21-Jul-03	Location And Welder
4	G	2	GG	21-Jul-03	Process, Welder, QC, And Location
4	H	1	KC	25-Jul-03	Process, Welder, QC, And Location
4	H	3	GG	6-Aug-03	Process, Welder, QC, And Location
4	H	3	RV	6-Aug-03	MT Corroboration Of QC
4	H	4	GG	7-Aug-03	Process, Welder, QC, And Location
4	H	4	RV	6-Aug-03	MT Corroboration Of QC

Table 8 QA Observations for Pier E14E [Pile 5]

QA OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
5	A	2	GG	7-Aug-03	Process, Welder, QC, And Location
5	A	2	GG	5-Aug-03	Process, Welder, QC, And Location
5	A	3	GG	12-Aug-03	Process, Welder, QC, And Location
5	B	2	GG	8-Aug-03	Process, Welder, QC, And Location
5	B	2	RV	9-Aug-03	QC, Parameters, Welder, Location
5	B	3	KC	15-Aug-03	MT Corroboration Of QC
5	B	4	KC	15-Aug-03	MT Corroboration Of QC
5	C	1	GG	13-Aug-03	Process, Welder, QC, And Location
5	C	1	KC	13-Aug-03	Process, Welder, QC, And Location
5	C	4	GG	19-Aug-03	Process, Welder, QC, And Location
5	D	1	GG	6-Aug-03	Process, Welder, QC, And Location
5	D	1	GG	5-Aug-03	Process, Welder, QC, And Location
5	D	2	GG	7-Aug-03	Process, Welder, QC, And Location
5	D	3	KC	13-Aug-03	Process, Welder, QC, And Location
5	D	3	KC	14-Aug-03	Process, Welder, QC, And Location
5	D	3	KC	14-Aug-03	MT Corroboration Of QC
5	D	4	GG	13-Aug-03	Process, Welder, QC, And Location
5	D	4	KC	13-Aug-03	Process, Welder, QC, And Location
5	D	4	KC	14-Aug-03	Process, Welder, QC, And Location
5	D	4	KC	14-Aug-03	MT Corroboration Of QC
5	E	1	GG	11-Aug-03	Process, Welder, QC, And Location
5	E	2	GG	12-Aug-03	Process, Welder, QC, And Location
5	E	4	GG	18-Aug-03	Process, Welder, QC, And Location
5	E	4	KC	18-Aug-03	Process, Welder, QC, And Location
5	E	4	KC	19-Aug-03	Welder, Process, And Location
5	E	4	KC	19-Aug-03	MT Corroboration Of QC
5	F	1	KC	14-Aug-03	Welder, Process, And Location
5	F	1	KC	14-Aug-03	MT Corroboration Of QC
5	F	2	KC	14-Aug-03	Welder, Process, And Location
5	F	2	KC	14-Aug-03	MT Corroboration Of QC
5	F	3	GG	20-Aug-03	Process, Welder, QC, And Location
5	G	1	GG	8-Aug-03	Process, Welder, QC, And Location
5	G	2	GG	8-Aug-03	Process, Welder, QC, And Location
5	G	2	CH	8-Aug-03	Welder, Process, And Location
5	G	2	RV	9-Aug-03	Parameters, Welder, Location, WPS
5	H	1	GG	11-Aug-03	Process, Welder, QC, And Location
5	H	1	GG	12-Aug-03	Process, Welder, QC, And Location
5	H	2	CH	11-Aug-03	Process, Welder, QC, And Location
5	H	4	KC	18-Aug-03	Process, Welder, QC, And Location
5	H	4	KC	19-Aug-03	Process, Welder, QC, And Location

Table 8 QA Observations for Pier E14E [Pile 6]

QA OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
6	A	2	GG	21-Jul-03	Process, Welder, QC, And Location
6	A	2	FM	21-Jul-03	Location And Welder
6	A	2	GG	21-Jul-03	Welder, Process, And Location
6	A	3	KC	29-Jul-03	Welder, Process, And Location
6	A	3	KC	28-Jul-03	Welder, Process, And Location
6	A	3	KC	28-Jul-03	MT Corroboration Of QC
6	A	4	KC	29-Jul-03	Welder, Process, And Location
6	A	4	KC	28-Jul-03	Process, Welder, QC, And Location
6	A	4	KC	28-Jul-03	MT Corroboration Of QC
6	B	1	GG	25-Jul-03	Process, Welder, QC, And Location
6	B	2	KC	25-Jul-03	Welder, Process, And Location
6	B	2	KC	25-Jul-03	Welder, Process, And Location
6	B	4	GG	7-Aug-03	Process, Welder, QC, And Location
6	C	1	KC	15-Jul-03	Welder, Process, And Location
6	C	1	KC	15-Jul-03	VT Corroboration Of QC
6	C	2	GG	15-Jul-03	Process, Welder, QC, And Location
6	C	2	KC	15-Jul-03	VT Corroboration Of QC
6	C	2	KC	16-Jul-03	Welder, Process, And Location
6	C	2	GG	17-Jul-03	Process, Welder, QC, And Location
6	C	3	GG	22-Jul-03	Process, Welder, QC, And Location
6	C	4	GG	23-Jul-03	Process, Welder, QC, And Location
6	D	1	KC	15-Aug-03	MT Corroboration Of QC
6	D	2	KC	15-Aug-03	MT Corroboration Of QC
6	D	3	KC	1-Aug-03	Welder, Process, And Location
6	D	4	KC	1-Aug-03	Welder, Process, And Location
6	E	3	GG	8-Aug-03	Process, Welder, QC, And Location
6	E	3	GG	7-Aug-03	Process, Welder, QC, And Location
6	F	1	GG	15-Jul-03	Process, Welder, QC, And Location
6	F	1	KC	15-Jul-03	VT Corroboration Of QC
6	F	1	GG	17-Jul-03	Process, Welder, QC, And Location
6	F	2	KC	15-Jul-03	VT Corroboration Of QC
6	F	2	KC	16-Jul-03	Welder, Process, And Location
6	F	3	KC	25-Jul-03	Process, Welder, QC, And Location
6	F	3	KC	25-Jul-03	MT Corroboration Of QC
6	F	4	GG	25-Jul-03	Process, Welder, QC, And Location
6	G	1	GG	24-Jul-03	Process, Welder, QC, And Location
6	G	2	GG	23-Jul-03	Process, Welder, QC, And Location
6	G	2	KC	23-Jul-03	Welder, Process, And Location
6	G	2	KC	24-Jul-03	Welder, Process, And Location
6	G	3	FM	4-Aug-03	Location And Welder
6	G	3	GG	4-Aug-03	Process, Welder, QC, And Location
6	G	3	GG	5-Aug-03	Process, Welder, QC, And Location
6	H	2	GG	31-Jul-03	Welder, Process, And Location
6	H	3	GG	8-Aug-03	Process, Welder, QC, And Location

Table 9 QA Observations for Pier E9E [Pile 1]

QA OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
1	A	1	AP	8-Dec-03	Welder, WPS, Process, and CWI
1	A	2	BM	8-Dec-03	Welder, WPS, Process, and CWI
1	A	3	AP	10-Dec-03	Welder, WPS, Process, and CWI
1	A	4	BM	11-Dec-03	Welder, WPS, Process, and CWI
1	A	4	BM	11-Dec-03	Welder and Process
1	B	1	BM	11-Dec-03	Welder and Process
1	B	2	BM	15-Dec-03	Welder and Process
1	B	2	AP	12-Dec-03	Welder, WPS, Process, and CWI
1	B	2	BM	11-Dec-03	Welder and Process
1	B	4	GG	16-Dec-03	CWI, Process, and Welder
1	C	1	CH	17-Dec-03	MT Performed by QC
1	C	1	GG	2-Dec-03	Welder and Process
1	C	2	CH	17-Dec-03	MT Performed by QC
1	C	3	BM	19-Dec-03	CWR 180
1	C	3	AP	8-Dec-03	Welder, WPS, Process, and CWI
1	C	3	BM	8-Dec-03	Welder and Process
1	C	4	AP	8-Dec-03	Welder, WPS, Process, and CWI
1	C	4	BM	8-Dec-03	Welder and Process
1	D	2	AP	10-Dec-03	Welder, WPS, Process, and CWI
1	D	3	GG	12-Dec-03	CWI, Process, and Welder
1	D	4	AP	12-Dec-03	Welder, WPS, Process, and CWI
1	E	1	AP	9-Dec-03	Welder, WPS, Process, and CWI
1	E	1	CH	26-Nov-03	Welder and Process
1	E	2	JL	1-Dec-03	WPS, Welder
1	E	2	CH	26-Nov-03	Welder and Process
1	E	2	AP	26-Nov-03	Welder, WPS, Process, and CWI
1	F	3	AP	9-Dec-03	Welder, WPS, Process, and CWI
1	G	1	AP	11-Dec-03	Welder, WPS, Process, and CWI
1	G	1	BM	11-Dec-03	Welder and Process
1	G	2	GG	12-Dec-03	CWI, Process, and Welder
1	G	2	BM	11-Dec-03	Welder and Process
1	H	1	JL	1-Dec-03	CWI, Welder, and WPS Parameters
1	H	1	GG	1-Dec-03	Welder and Process
1	H	2	AP	26-Nov-03	Welder, WPS, Process, and CWI

Table 9 QA Observations for Pier E9E [Pile 2]

QA OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
2	A	1	CH	8-Dec-03	Welder and Process
2	A	1	BM	8-Dec-03	Welder, WPS, Process, and CWI
2	A	2	CH	8-Dec-03	Welder and Process
2	A	2	BM	8-Dec-03	Welder, WPS, Process, and CWI
2	A	3	AP	10-Dec-03	Welder, WPS, Process, and CWI
2	A	3	CH	3-Dec-03	Welder and Process
2	A	4	BM	11-Dec-03	Welder, WPS, and Process
2	A	4	BM	11-Dec-03	Welder, WPS, Process, and CWI
2	A	4	CH	3-Dec-03	Welder and Process
2	B	1	BM	15-Dec-03	Welder and Process
2	B	1	GG	12-Dec-03	CWI, Process, and Welder
2	B	2	GG	12-Dec-03	CWI, Process, and Welder
2	B	4	GG	16-Dec-03	CWI, Process, and Welder
2	C	3	BM	8-Dec-03	Welder and Process
2	C	4	BM	8-Dec-03	Welder and Process
2	D	1	CH	9-Dec-03	MT Performed by QC
2	D	2	CH	9-Dec-03	MT Performed by QC
2	D	3	AP	11-Dec-03	Welder, WPS, Process, and CWI
2	D	4	GG	12-Dec-03	CWI, Process, and Welder
2	E	1	JL	1-Dec-03	WPS, Welder
2	E	2	AP	26-Nov-03	Welder, WPS, Process, and CWI
2	F	1	CH	18-Dec-03	Pre Heat, CWI, and Welder
2	F	2	CH	3-Dec-03	Welder and Process
2	F	3	AP	9-Dec-03	Welder, WPS, Process, and CWI
2	G	1	CH	18-Dec-03	MT Performed by QC
2	G	1	BM	11-Dec-03	Welder, WPS, Process, and CWI
2	G	1	BM	11-Dec-03	Welder, WPS, Process, and CWI
2	G	1	CH	13-Nov-03	CWR 155
2	G	1	CH	12-Nov-03	CWR 155
2	G	2	AP	11-Dec-03	Welder, WPS, Process, and CWI
2	G	2	CH	18-Dec-03	MT Performed by QC
2	G	2	BM	11-Dec-03	Welder, WPS, Process, and CWI
2	G	2	BM	11-Dec-03	Welder, WPS, Process, and CWI
2	G	2	AP	10-Dec-03	Welder, WPS, Process, and CWI
2	G	3	AP	12-Dec-03	Welder, WPS, Process, and CWI
2	G	4	BM	16-Dec-03	Welder, WPS, Process, and CWI
2	H	1	CH	26-Nov-03	Welder and Process
2	H	2	JL	1-Dec-03	WPS, Welder

Table 9 QA Observations for Pier E9E [Pile 3]

QA OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
3	A	4	GG	15-Dec-03	CWI, Process, and Welder
3	C	1	BM	8-Dec-03	Welder and Process
3	C	1	CH	4-Dec-03	Welder and Process
3	C	2	BM	8-Dec-03	Welder and Process
3	C	2	CH	4-Dec-03	Welder and Process
3	D	1	GG	12-Dec-03	CWI, Process, and Welder
3	D	2	GG	15-Dec-03	CWI, Process, and Welder
3	D	3	BM	16-Dec-03	Welder, WPS, Process, and CWI
3	E	1	CH	3-Dec-03	Welder and Process
3	E	3	BM	8-Dec-03	Welder and Process
3	E	4	BM	8-Dec-03	Welder and Process
3	F	1	CH	9-Dec-03	CWI, Welder, and WPS Parameters
3	F	1	BM	8-Dec-03	Welder, WPS, Process, and CWI
3	F	1	BM	8-Dec-03	Welder, WPS, Process, and CWI
3	F	2	CH	9-Dec-03	CWI, Welder, and WPS Parameters
3	F	4	GG	11-Dec-03	Welder and Process

Table 9 QA Observations for Pier E9E [Pile 4]

QA OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
4	B	1	CH	8-Dec-03	Welder and Process
4	B	1	BM	8-Dec-03	Welder and Process
4	B	2	CH	8-Dec-03	Welder and Process
4	B	2	BM	8-Dec-03	Welder and Process
4	B	3	FM	8-Dec-03	CWI, Welder, Process, WPS and Parameters
4	C	1	GG	12-Dec-03	CWI, Process, and Welder
4	D	3	CH	4-Dec-03	Welder and Process
4	D	4	CH	4-Dec-03	Welder and Process
4	E	1	CH	9-Dec-03	CWI, Welder, and WPS Parameters
4	E	2	CH	9-Dec-03	CWI, Welder, and WPS Parameters
4	E	3	GG	11-Dec-03	Welder and Process
4	E	4	BM	19-Dec-03	CWR 181
4	F	4	BM	16-Dec-03	Welder, WPS, Process, and CWI
4	G	1	CH	2-Dec-03	Welder and Process
4	G	4	BM	8-Dec-03	Welder and Process
4	H	1	GG	12-Dec-03	CWI, Process, and Welder
4	H	2	GG	11-Dec-03	Welder and Process
4	H	3	GG	15-Dec-03	CWI, Process, and Welder
4	H	4	CH	9-Dec-03	CWI, Welder, and WPS Parameters

Table 9 QA Observations for Pier E9E [Pile 5]

QA OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
5	A	1	GG	1-Dec-03	Welder and Process
5	A	2	AP	26-Nov-03	Welder, WPS, Process, and CWI
5	A	4	CH	3-Dec-03	MT Performed by QC
5	A	4	CH	3-Dec-03	Welder, Process and CWI
5	B	1	CH	3-Dec-03	MT Performed by QC
5	B	2	CH	3-Dec-03	MT Performed by QC
5	C	3	BM	16-Dec-03	Welder, WPS, Process, and CWI
5	C	4	BM	16-Dec-03	Welder, WPS, Process, and CWI
5	D	1	CH	2-Dec-03	MT Performed by QC
5	D	2	CH	2-Dec-03	MT Performed by QC
5	E	1	CH	4-Dec-03	Welder and Process
5	E	3	GG	12-Dec-03	CWI, Process, and Welder
5	E	3	GG	11-Dec-03	Welder and Process
5	E	4	GG	12-Dec-03	CWI, Process, and Welder
5	F	1	GG	15-Dec-03	CWI, Process, and Welder
5	F	1	GG	12-Dec-03	CWI, Process, and Welder
5	F	1	GG	11-Dec-03	Welder and Process
5	F	3	AP	16-Dec-03	Welder, WPS, Process, and CWI
5	F	3	FM	8-Dec-03	CWI, Welder, Process, WPS and Parameters
5	F	4	AP	16-Dec-03	Welder, WPS, Process, and CWI
5	F	4	FM	8-Dec-03	CWI, Welder, Process, WPS and Parameters
5	G	2	AP	19-Dec-03	CWR 183
5	G	3	BM	8-Dec-03	Welder, WPS, Process, and CWI
5	G	4	BM	8-Dec-03	Welder, WPS, Process, and CWI
5	H	1	FM	8-Dec-03	CWI, Welder, Process, WPS and Parameters
5	H	1	BM	8-Dec-03	Welder and Process
5	H	2	FM	8-Dec-03	CWI, Welder, Process, WPS and Parameters
5	H	2	BM	8-Dec-03	Welder and Process
5	H	4	GG	11-Dec-03	Welder and Process

Table 9 QA Observations for Pier E9E [Pile 6]

QA OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
6	A	1	CH	26-Nov-03	Welder and Process
6	A	1	CH	26-Nov-03	MT Performed by QC
6	A	1	AP	26-Nov-03	Welder, WPS, Process, and CWI
6	A	2	AP	17-Dec-03	CWR 170
6	A	2	CH	26-Nov-03	Welder and Process
6	A	2	CH	26-Nov-03	MT Performed by QC
6	B	1	AP	8-Dec-03	Welder, WPS, Process, and CWI
6	B	1	BM	8-Dec-03	Welder, WPS, Process, and CWI
6	B	2	AP	8-Dec-03	Welder, WPS, Process, and CWI
6	C	1	B3	18-Nov-03	Welder and Process
6	C	3	JL	1-Dec-03	CWI, Welder, and WPS Parameters
6	C	3	GG	1-Dec-03	Welder and Process
6	D	2	CH	3-Dec-03	Welder and Process
6	D	2	CH	2-Dec-03	Welder and Process
6	E	1	AP	9-Dec-03	Welder, WPS, Process, and CWI
6	E	2	AP	9-Dec-03	Welder, WPS, Process, and CWI
6	E	3	GG	12-Dec-03	CWI, Process, and Welder
6	E	3	BM	11-Dec-03	Welder, WPS, Process, and CWI
6	E	3	BM	11-Dec-03	Welder, Process and CWI
6	E	4	BM	11-Dec-03	Welder, WPS, Process, and CWI
6	E	4	BM	11-Dec-03	Welder, Process and CWI
6	F	1	CH	18-Nov-03	Welder and Process
6	F	1	CH	17-Nov-03	CWI, Process, and Welder
6	F	2	CH	20-Nov-03	CWR 156
6	F	2	CH	18-Nov-03	Welder and Process
6	F	2	CH	17-Nov-03	CWI, Process, and Welder
6	F	3	GG	2-Dec-03	Welder and Process
6	H	1	AP	10-Dec-03	Welder, WPS, Process, and CWI
6	H	2	AP	11-Dec-03	Welder, WPS, Process, and CWI
6	H	3	BM	15-Dec-03	Welder, WPS, Process, and CWI

Table 10 QA Observation of Pier E4W [Pile 1]

QA OBSERVATIONS - E4W					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
1	A	1	CH	28-Mar-05	WPS Parameters, WPS, Welder, and Process
1	A	2	BL	28-Mar-05	Welder, WPS, and Process
1	A	3	BL	1-Apr-05	Welder, WPS, and Process
1	C	1	SB	23-Mar-05	WPS Parameters, WPS, Welder, and Process
1	C	1	CH	22-Mar-05	MT Performed by QC
1	C	1	SB	22-Mar-05	Welder and Process
1	C	2	CH	22-Mar-05	WPS Parameters, WPS, Welder, and Process
1	C	2	CH	22-Mar-05	MT Performed by QC
1	C	2	SB	22-Mar-05	Welder and Process
1	C	3	BL	30-Mar-05	Welder, WPS, and Process
1	C	3	BL	28-Mar-05	Welder, WPS, and Process
1	C	4	BL	30-Mar-05	Welder, WPS, and Process
1	C	4	BL	29-Mar-05	Welder, WPS, and Process
1	C	4	BL	28-Mar-05	Welder, WPS, and Process
1	D	1	BL	31-Mar-05	Welder, WPS, and Process
1	D	1	SB	31-Mar-05	WPS Parameters, WPS, Welder, and Process
1	E	1	SB	14-Mar-05	WPS Parameters, WPS, Welder, and Process
1	E	2	SB	21-Mar-05	Welder and Process
1	E	2	AE	16-Mar-05	Welder and Process
1	E	2	SB	15-Mar-05	Welder and Process
1	E	4	CH	22-Mar-05	WPS Parameters, WPS, Welder, and Process
1	F	1	BL	28-Mar-05	Welder, WPS, and Process
1	F	1	SB	28-Mar-05	WPS Parameters, WPS, Welder, and Process
1	F	4	BL	1-Apr-05	Welder, WPS, and Process
1	H	1	SB	15-Mar-05	Welder and Process

Table 10 QA Observation of Pier E4W [Pile 2]

QA OBSERVATIONS - E4W					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
2	A	1	SB	28-Mar-05	WPS Parameters, WPS, Welder, and Process
2	A	2	BL	28-Mar-05	Welder, WPS, and Process
2	A	3	BL	1-Apr-05	WPS Parameters, WPS, Welder, and Process
2	A	3	BL	30-Mar-05	Welder, WPS, and Process
2	C	3	BL	24-Mar-05	Welder, WPS, and Process
2	D	1	SB	31-Mar-05	WPS Parameters, WPS, Welder, and Process
2	D	2	BL	30-Mar-05	Welder, WPS, and Process
2	E	1	AE	16-Mar-05	Welder and Process
2	E	1	SB	15-Mar-05	Welder and Process
2	E	2	SB	15-Mar-05	Welder and Process
2	E	3	SB	21-Mar-05	Welder and Process
2	E	4	SB	22-Mar-05	WPS Parameters, WPS, Welder, and Process
2	F	3	BL	29-Mar-05	Welder, WPS, and Process
2	F	3	BL	28-Mar-05	Welder, WPS, and Process
2	F	4	BL	30-Mar-05	Welder, WPS, and Process
2	G	1	BL	31-Mar-05	Welder, WPS, and Process
2	H	1	CH	22-Mar-05	WPS Parameters, WPS, Welder, and Process
2	H	1	SB	22-Mar-05	WPS Parameters, WPS, Welder, and Process
2	H	2	SB	23-Mar-05	WPS Parameters, WPS, Welder, and Process
2	H	2	SB	21-Mar-05	WPS Parameters, WPS, Welder, and Process
2	H	3	BL	24-Mar-05	Welder, WPS, and Process
2	H	4	BL	24-Mar-05	Welder, WPS, and Process

Table 10 QA Observation of Pier E4W [Pile 3]

QA OBSERVATIONS - E4W					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
3	B	1	SB	15-Mar-05	Welder and Process
3	B	2	SB	22-Mar-05	WPS Parameters, WPS, Welder, and Process
3	C	1	BL	31-Mar-05	Welder, WPS, and Process
3	C	1	SB	31-Mar-05	WPS Parameters, WPS, Welder, and Process
3	C	2	BL	30-Mar-05	Welder, WPS, and Process
3	E	1	SB	15-Mar-05	Welder and Process
3	E	2	SB	15-Mar-05	Welder and Process
3	E	3	BL	28-Mar-05	Welder, WPS, and Process
3	E	4	BL	29-Mar-05	Welder, WPS, and Process
3	E	4	BL	28-Mar-05	Welder, WPS, and Process
3	G	1	SB	22-Mar-05	WPS Parameters, WPS, Welder, and Process
3	G	2	AE	16-Mar-05	Welder and Process
3	G	3	SB	22-Mar-05	Welder and Process
3	H	1	CH	28-Mar-05	WPS Parameters, WPS, Welder, and Process
3	H	1	SB	28-Mar-05	WPS Parameters, WPS, Welder, and Process
3	H	2	BL	29-Mar-05	Welder, WPS, and Process
3	H	2	SB	29-Mar-05	WPS Parameters, WPS, Welder, and Process
3	H	4	BL	31-Mar-05	WPS Parameters, WPS, Welder, and Process
3	H	4	BL	30-Mar-05	Welder, WPS, and Process

Table 10 QA Observation of Pier E4W [Pile 4]

QA OBSERVATIONS - E4W					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
4	A	1	SB	14-Mar-05	WPS Parameters, WPS, Welder, and Process
4	A	1	BL	10-Mar-05	Welder, WPS, and Process
4	A	2	BL	11-Mar-05	Welder, WPS, and Process
4	A	2	SB	11-Mar-05	WPS Parameters, WPS, Welder, and Process
4	A	2	BL	10-Mar-05	Welder, WPS, and Process
4	A	2	SB	10-Mar-05	WPS Parameters, WPS, Welder, and Process
4	A	3	CH	22-Mar-05	MT Performed by QC
4	A	3	BL	21-Mar-05	Welder and Process
4	A	4	SB	23-Mar-05	WPS Parameters, WPS, Welder, and Process
4	A	4	CH	22-Mar-05	MT Performed by QC
4	A	4	CH	22-Mar-05	WPS Parameters, WPS, Welder, and Process
4	A	4	SB	22-Mar-05	WPS Parameters, WPS, Welder, and Process
4	A	4	BL	21-Mar-05	Welder and Process
4	B	2	BL	28-Mar-05	Welder, WPS, and Process
4	B	2	CH	28-Mar-05	WPS Parameters, WPS, Welder, and Process
4	B	3	BL	30-Mar-05	Welder, WPS, and Process
4	D	1	BL	11-Mar-05	WPS Parameters, WPS, Welder, and Process
4	D	1	BL	10-Mar-05	Welder, WPS, and Process
4	D	1	SB	10-Mar-05	WPS Parameters, WPS, Welder, and Process
4	D	2	BL	10-Mar-05	Welder, WPS, and Process
4	D	2	SB	9-Mar-05	Welder, WPS, and WPS Parameters
4	D	3	BL	24-Mar-05	Welder, WPS, and Process
4	D	3	SB	23-Mar-05	WPS Parameters, WPS, Welder, and Process
4	D	3	SB	22-Mar-05	Welder and Process
4	D	4	BL	24-Mar-05	Welder, WPS, and Process
4	D	4	CH	23-Mar-05	WPS Parameters, WPS, Welder, and Process
4	E	2	BL	31-Mar-05	Welder, WPS, and Process
4	E	2	BL	30-Mar-05	Welder, WPS, and Process
4	E	2	BL	29-Mar-05	Welder, WPS, and Process
4	E	3	BL	1-Apr-05	MT Performed by QC
4	E	3	BL	1-Apr-05	Welder, WPS, and Process
4	E	3	BL	29-Mar-05	MT Performed by QC
4	E	4	BL	1-Apr-05	MT Performed by QC
4	E	4	BL	1-Apr-05	Welder, WPS, and Process
4	E	4	BL	29-Mar-05	MT Performed by QC
4	G	1	CH	23-Mar-05	MT Performed by QC
4	G	1	SB	22-Mar-05	WPS Parameters, WPS, Welder, and Process
4	G	1	BL	21-Mar-05	Welder and Process
4	G	3	BL	29-Mar-05	Welder, WPS, and Process
4	G	3	BL	28-Mar-05	Welder, WPS, and Process
4	G	4	BL	29-Mar-05	Welder, WPS, and Process
4	G	4	BL	28-Mar-05	Welder, WPS, and Process

Table 10 QA Observation of Pier E4W [Pile 5]

QA OBSERVATIONS - E4W					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
5	A	1	CH	22-Mar-05	WPS Parameters, WPS, Welder, and Process
5	A	1	SB	21-Mar-05	WPS Parameters, WPS, Welder, and Process
5	A	1	BL	21-Mar-05	Welder and Process
5	A	2	AE	16-Mar-05	Welder and Process
5	A	2	SB	15-Mar-05	Welder and Process
5	A	2	CH	15-Mar-05	MT Performed by QC
5	A	3	BL	21-Mar-05	Welder and Process
5	B	1	SB	28-Mar-05	WPS Parameters, WPS, Welder, and Process
5	B	2	CH	28-Mar-05	WPS Parameters, WPS, Welder, and Process
5	B	4	BL	30-Mar-05	Welder, WPS, and Process
5	B	4	BL	29-Mar-05	Welder, WPS, and Process
5	D	1	SB	15-Mar-05	Welder and Process
5	D	2	CH	28-Mar-05	WPS Parameters, WPS, Welder, and Process
5	D	2	SB	15-Mar-05	Welder and Process
5	D	3	SB	24-Mar-05	WPS Parameters, WPS, Welder, and Process
5	D	4	SB	23-Mar-05	WPS Parameters, WPS, Welder, and Process
5	E	1	SB	31-Mar-05	WPS Parameters, WPS, Welder, and Process
5	E	4	BL	1-Apr-05	Welder, WPS, and Process
5	G	1	BL	24-Mar-05	Welder, WPS, and Process
5	G	1	SB	24-Mar-05	WPS Parameters, WPS, Welder, and Process
5	G	2	BL	24-Mar-05	Welder, WPS, and Process
5	H	1	BL	31-Mar-05	Welder, WPS, and Process

Table 10 QA Observation of Pier E4W [Pile 6]

QA OBSERVATIONS - E4W					
PILE	PLATE NUMBER	WELD NUMBER	QA	DATE NOTED	CORROBORATIONS/REMARKS
6	A	3	BL	28-Mar-05	Welder, WPS, and Process
6	B	1	BL	29-Mar-05	Welder, WPS, and Process
6	B	2	BL	31-Mar-05	Welder, WPS, and Process
6	B	2	SB	31-Mar-05	WPS Parameters, WPS, Welder, and Process
6	B	2	BL	29-Mar-05	Welder, WPS, and Process
6	C	1	SB	14-Mar-05	WPS Parameters, WPS, Welder, and Process
6	C	2	SB	15-Mar-05	Welder and Process
6	C	3	SB	23-Mar-05	WPS Parameters, WPS, Welder, and Process
6	C	3	SB	22-Mar-05	Welder and Process
6	D	2	BL	24-Mar-05	Welder, WPS, and Process
6	D	3	BL	30-Mar-05	Welder, WPS, and Process
6	D	4	BL	30-Mar-05	Welder, WPS, and Process
6	D	4	BL	29-Mar-05	Welder, WPS, and Process
6	E	1	BL	31-Mar-05	Welder, WPS, and Process
6	F	1	AE	16-Mar-05	Welder and Process
6	F	1	SB	15-Mar-05	Welder and Process
6	F	1	CH	15-Mar-05	MT Performed by QC
6	F	2	AE	16-Mar-05	Welder and Process
6	F	3	BL	21-Mar-05	Welder and Process
6	G	2	BL	29-Mar-05	Welder, WPS, and Process
6	G	2	BL	28-Mar-05	Welder, WPS, and Process
6	G	4	BL	1-Apr-05	Welder, WPS, and Process

Table 11 QC Observation of Pier E14E [Pile 1-2]

QC OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
1	B	1	GM	31-Jul-03	CRACK IN BASE METAL
1	B	1	DR	31-Jul-03	CWR 66
1	B	1	TI	31-Jul-03	MT - CRACK IN BASE METAL
1	B	2	DR	31-Jul-03	CWR 66
1	B	2	GM	31-Jul-03	CRACK IN BASE METAL
1	B	2	TI	31-Jul-03	MT - CRACK IN BASE METAL
1	E	1	GM	24-Jul-03	TACK WELD BROKE
1	E	3	TI	20-Aug-03	CWR 74
1	E	4	TI	20-Aug-03	CWR 74
1	F	1	GM	18-Jul-03	PRE HEAT
1	F	2	GM	18-Jul-03	PRE HEAT
1	G	2	TH	25-Jul-03	6 MM GAP
1	G	3	GM	10-Aug-03	OUTSIDE OF WPS LIMITS
1	G	4	GM	9-Aug-03	OUTSIDE OF WPS LIMITS
QC OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
2	A	1	JL	20-Aug-03	MT - LINEAR INDICATION
2	A	2	JL	20-Aug-03	MT - LINEAR INDICATION
2	A	3	TI	17-Aug-03	VOLTS OUTSIDE WPS PARAMETERS
2	A	4	TI	17-Aug-03	VOLTS OUTSIDE WPS PARAMETERS
2	B	1	GM	13-Aug-03	EXCEESIVE ROOT GAP
2	B	2	GM	13-Aug-03	EXCEESIVE ROOT GAP
2	C	1	JL	20-Aug-03	MT - LINEAR INDICATION
2	C	2	JL	20-Aug-03	MT - LINEAR INDICATION
2	C	3	JL	20-Aug-03	CWR 75
2	F	1	JL	20-Aug-03	MT - LINEAR INDICATION
2	F	2	JL	20-Aug-03	MT - LINEAR INDICATION

Table 11 QC Observation of Pier E14E [Pile 3-4]

QC OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
3	A	1	JL	16-Aug-03	MT - LINEAR INDICATION
3	A	1	GM	29-Jul-03	UNDER CUT AND OVERLAP
3	A	2	JL	16-Aug-03	MT - LINEAR INDICATION
3	B	1	JL	16-Aug-03	MT - LINEAR INDICATION
3	B	2	JL	16-Aug-03	MT - LINEAR INDICATION
3	B	3	GM	28-Jul-03	REMOVE SHIM
3	B	4	GM	28-Jul-03	REMOVE SHIM
3	C	1	JL	16-Aug-03	MT - LINEAR INDICATION
3	C	1	JL	19-Aug-03	CWR 71
3	C	1	GM	19-Aug-03	CWR 71
3	C	2	JL	16-Aug-03	MT - LINEAR INDICATION
3	D	1	JL	18-Aug-03	CWR 71
3	D	1	JL	16-Aug-03	MT - LINEAR INDICATION
3	D	2	JL	19-Aug-03	CWR 71
3	D	2	JL	16-Aug-03	MT - LINEAR INDICATION
3	D	4	GM	13-Aug-03	WELD INCOMPLETE
3	E	1	JL	16-Aug-03	MT - LINEAR INDICATION
3	E	2	JL	16-Aug-03	MT - SLAG WITH LINEAR INDICATION
3	E	2	JL	18-Aug-03	CWR 71
3	E	2	JL	19-Aug-03	CWR 71
3	E	3	GM	1-Aug-03	EXCEESIVE ROOT GAP
3	F	1	JL	16-Aug-03	MT - LINEAR INDICATION
3	F	2	JL	16-Aug-03	MT - LINEAR INDICATION
3	G	1	JL	19-Aug-03	MT - LINEAR INDICATION
3	G	2	JL	19-Aug-03	MT - LINEAR INDICATION
3	G	3	TH	23-Jul-03	EXCESSIVE ROOT GAP
3	H	1	JL	18-Aug-03	MT - LINEAR INDICATION
3	H	2	JL	18-Aug-03	MT - LINEAR INDICATION
QC OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
4	D	2	GM	31-Jul-03	UNDERFILL

Table 11 QC Observation of Pier E14E [Pile 5-6]

QC OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
5	A	2	JL	5-Aug-03	MT - BASE METAL INDICATION
5	A	2	GM	5-Aug-03	VISUAL CRACK, MT CONFIRMATION
5	B	3	TI	16-Aug-03	VOLTS OUTSIDE WPS PARAMETERS
5	B	4	TI	16-Aug-03	VOLTS OUTSIDE WPS PARAMETERS
5	C	1	GM	11-Aug-03	SEE ISI REPORT FOR ACCEPTANCE
5	C	2	GM	11-Aug-03	SEE ISI REPORT FOR ACCEPTANCE
5	D	1	TI	8-Aug-03	PREHEAT INTERRUPTED
5	D	2	TI	8-Aug-03	PREHEAT INTERRUPTED
5	F	1	GM	13-Aug-03	UNACCEPTABLE FIT UP
5	F	2	GM	13-Aug-03	UNACCEPTABLE FIT UP
5	F	2	DR	13-Aug-03	WELD REMOVED
5	H	1	GM	11-Aug-03	TERMINATION REPAIRS
5	H	2	GM	11-Aug-03	TERMINATION REPAIRS
5	H	4	TH	20-Aug-03	UNACCEPTABLE PROFILE
QC OBSERVATIONS - E14E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
6	A	3	GM	23-Jul-03	CARBON ARC GOUGING
6	G	3	GM	5-Aug-03	POROSITY

Table 12 QC Observation of Pier E9E [Piles 1-3]

QC OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
1	A	1	DR	8-Dec-03	TRAVEL SPEED HIGH
1	A	1	TI	18-Dec-03	CWR 176
1	B	2	GM	17-Dec-03	CORRECT WORK
1	C	3	TI	19-Dec-03	CWR 180
1	C	4	DR	8-Dec-03	SLAG INCLUSION
1	C	4	TI	19-Dec-03	CWR 180
1	E	3	TI	2-Dec-03	6 INCH LINEAR INDICATION
1	H	1	HV	18-Dec-03	30 INCH LINEAR INDICATION
1	H	2	DR	26-Nov-03	TRAVEL SPEED LOW
QC OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
2	A	2	DR	8-Dec-03	TRAVEL SPEED HIGH
2	B	1	DR	12-Dec-03	EXCESSIVE ROOT GAP
2	C	3	DR	5-Dec-03	SURFACE CRACK
2	D	4	TI	19-Dec-03	CWR 179
2	F	1	DR	18-Dec-03	CWR 177
2	F	1	DR	18-Dec-03	ADDITIONAL WELD FOR PROFILE
2	F	1	HV	18-Dec-03	COVER REPAIR
2	G	1	TI	18-Dec-03	CWR 178
2	G	1	DR	18-Dec-03	CWR 178
QC OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
3	A	4	JL	12-Dec-03	POROSITY
3	B	2	GM	26-Nov-03	REJECTED TACK WELDS
3	B	2	GM	26-Nov-03	CRATER CRACK
3	D	1	GM	11-Dec-03	PRE HEAT
3	D	1	GM	11-Dec-03	REJECTED TACK WELDS
3	D	2	GM	11-Dec-03	PRE HEAT
3	D	2	GM	11-Dec-03	REJECTED TACK WELDS
3	D	4	DR	16-Dec-03	POROSITY
3	H	1	GM	4-Dec-03	POROSITY

Table 12 QC Observation of Pier E9E [Pile 4]

QC OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
4	A	1	DA	2-Dec-03	POROSITY
4	A	1	RM	4-Dec-04	REMOVAL
4	A	1	JL	18-Dec-03	LINEAR INDICATION
4	A	2	JL	18-Dec-03	LINEAR INDICATION
4	B	1	GM	3-Dec-03	REJECTED TACK WELDS
4	B	1	JL	8-Dec-03	2 FOOT REPAIR
4	B	2	GM	3-Dec-03	REJECTED TACK WELDS
4	C	1	GM	10-Dec-03	REJECTED TACK WELDS
4	C	1	GM	11-Dec-03	REJECTED TACK WELDS
4	C	1	JL	12-Dec-03	REJECTED TACK WELDS
4	C	2	GM	11-Dec-03	REJECTED TACK WELDS
4	D	2	GM	1-Dec-03	TRAVEL SPEED LOW
4	D	2	DA	18-Dec-03	INDICATIONS
4	E	1	GM	10-Dec-03	OVERLAP
4	E	1	JL	11-Dec-03	UNDERFILL
4	E	2	GM	10-Dec-03	OVERLAP
4	E	2	JL	11-Dec-03	UNDERFILL
4	E	4	GM	10-Dec-03	POROSITY
4	E	4	DH	19-Dec-03	CWR 181
4	F	1	JL	12-Dec-03	REJECTED TACK WELDS
4	F	2	JL	15-Dec-03	POROSITY
4	G	1	JL	1-Dec-03	TRAVEL SPEED QUESTIONABLE
4	H	1	GM	11-Dec-03	OVERLAP
4	H	1	JL	17-Dec-03	LINEAR INDICATION
4	H	2	GM	11-Dec-03	OVERLAP
4	H	2	GM	11-Dec-03	TRAVEL SPEED HIGH
4	H	2	JL	17-Dec-03	LINEAR INDICATION
4	H	3	GM	11-Dec-03	PRE HEAT
4	H	3	JL	15-Dec-03	TRAVEL SPEED LOW
4	H	4	GM	11-Dec-03	PRE HEAT

Table 12 QC Observation of Pier E9E [Pile 5]

QC OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
5	A	1	GM	18-Nov-03	TACK WELDS INCOMPLETE FUSION AT ROOT
5	A	3	JL	3-Dec-03	ROOT REPAIR
5	A	3	JL	19-Dec-03	LINEAR INDICATION
5	A	3	DA	2-Dec-03	REJECT
5	A	3	JL	3-Dec-03	ROOT REPAIR
5	A	4	DA	2-Dec-03	REJECT
5	A	4	JL	3-Dec-03	ROOT REPAIR
5	B	3	GM	10-Dec-03	OVERLAP
5	B	3	GM	10-Dec-03	NCR BY KFM
5	B	3	JL	19-Dec-03	LINEAR INDICATION
5	B	3	CM	19-Dec-03	CWR 182
5	B	4	GM	10-Dec-03	OVERLAP
5	B	4	GM	10-Dec-03	NCR BY KFM
5	B	4	CM	19-Dec-03	CWR 182
5	C	2	DA	9-Dec-03	POROSITY
5	C	2	GM	10-Dec-03	POROSITY
5	D	1	GM	18-Nov-03	TACK WELDS INCOMPLETE FUSION AT ROOT
5	D	2	DA	1-Dec-03	UNDERFILL
5	E	1	JL	18-Dec-03	LINEAR INDICATION
5	E	2	JL	18-Dec-03	LINEAR INDICATION
5	F	1	GM	10-Dec-03	PRE HEAT
5	F	2	GM	10-Dec-03	PRE HEAT
5	F	2	JL	15-Dec-03	POROSITY
5	F	3	CM	19-Dec-03	ADDITIONAL WELD FOR PROFILE
5	F	4	JL	17-Dec-03	TRAVEL SPEED LOW
5	G	1	JL	18-Dec-03	LINEAR INDICATION
5	G	2	JL	18-Dec-03	LINEAR INDICATION
5	G	2	DA	19-Dec-03	CWR 183

Table 12 QC Observation of Pier E9E [Pile 6]

QC OBSERVATIONS - E9E					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
6	A	2	TI	18-Dec-03	CWR 170
6	C	1	TI	17-Dec-03	CWR 171
6	C	1	RM	17-Dec-03	CWR 171
6	C	1	RB	20-Nov-03	REJECT – MT
6	C	2	RB	20-Nov-03	REJECT – MT
6	C	2	TI	17-Dec-03	CWR 171
6	C	2	RM	17-Dec-03	CWR 171
6	C	3	TI	18-Dec-03	CWR 173
6	D	3	GM	17-Dec-03	CORRECT WORK
6	D	3	TI	18-Dec-03	CWR 174
6	D	4	DR	5-Dec-03	UNKNOWN REJECTION - REQUIRED GRINDING
6	D	4	TI	18-Dec-03	CWR 174
6	D	4	TI	18-Dec-03	CWR 174
6	E	3	DR	11-Dec-03	VOLTS HIGH
6	F	1	RB	20-Nov-03	REJECT – MT
6	F	2	TI	21-Nov-03	CWR 156
6	F	2	RB	20-Nov-03	REJECT – MT
6	G	2	DR	4-Dec-03	POROSITY
6	G	2	DR	5-Dec-03	POROSITY
6	G	3	TI	18-Dec-03	CWR 172
6	H	3	DR	12-Dec-03	POROSITY

Table 13 QC Observation of Pier E4W [Piles 1-6]

QC OBSERVATIONS					
PILE	PLATE NUMBER	WELD NUMBER	QC	DATE NOTED	REMARKS
1	F	3	DR	31-Mar-05	ROOT CRACKS
1	F	4	DR	31-Mar-05	ROOT CRACKS
2	C	1	DR	24-Mar-05	POROSITY
2	H	3	DR	24-Mar-05	POROSITY
3	B	2	JL	21-Mar-05	VOLTS HIGH
3	F	4	TH	14-Mar-05	ROOT GAP TOO LARGE
3	G	4	TH	14-Mar-05	ROOT GAP TOO LARGE
4	A	4	JL	21-Mar-05	AMPS HIGH
4	E	2	JL	31-Mar-05	TRAVEL SPEED FAST
4	G	4	TH	14-Mar-05	ROOT GAP TOO LARGE
4	G	1	JL	22-Mar-05	TRAVEL SPEED LOW
4	G	2	DA	28-Feb-05	CWR 316
4	H	1	JL	31-Mar-05	ROOT GAP TOO LARGE
4	H	2	JL	1-Apr-05	TRAVEL SPEED FAST
5	D	2	RB	28-Mar-05	POROSITY
6	A	3	TH	8-Mar-05	ROOT GAP TOO LARGE
6	A	4	TH	8-Mar-05	ROOT GAP TOO LARGE
6	C	4	TH	8-Mar-05	ROOT GAP TOO LARGE
6	C		AC	2-Mar-05	CWR 317
6	C		AC	3-Mar-05	CWR 317
6	D	4	RB	30-Mar-05	POROSITY

Attachment 1

CERTIFICATION STATEMENT
FOR
INSPECTION PERSONNEL

QUALIFICATIONS:

Joseph Lockwood meets the requirements of Inspection Services' "Nondestructive Examination Written Practice No: WP-001, Rev 1" and the requirements of SNT-TC-1A (1996). He is to perform in the capacity of a Level II in Magnetic Particle Examination. This is limited to the examination of weldments, castings, forgings, bars, plate and other magnetic materials, with the wet and dry methods, color contrast and fluorescent particles using an AC or DC yoke, central conductors, prods, clamps, contact heads, and coils. He is capable of supervising Level I Inspectors. He can perform the examination, interpret and evaluate indications, and report the results.

Level III Examiner: _____ Date: October 10, 2003
David Cox
ISI Level III ISI - 052002 by examination

RECERTIFICATION:

Date of this Certification: October 10, 2003

Recertification due date: October 10, 2006

I hereby certify the above named individual to the status described. Records are on file to substantiate this certification.

Inspection Services, Inc.

by _____ Date: October 10, 2003
Ed King
Vice President

Attachment 2

PERSONNEL QUALIFICATION SUMMARY
FOR
INSPECTION PERSONNEL

QUALIFICATIONS:

Robert Morales meets the requirements of Inspection Services' "Nondestructive Examination Written Practice No: WP-001, Rev 1" and the requirements of SNT-TC-1A (1996) and is qualified to perform in the capacity of a Level II in Magnetic Particle Examination. This is limited to the examination of weldments, castings, forgings, bars, plate and other magnetic materials, with the wet and dry methods, color contrast and fluorescent particles using an AC or DC yokes, central conductors, prods, clamps, contact heads, and coils. He is capable of supervising Level I Inspectors. He can perform the examination, interpret and evaluate indications, and report the results to written, specific instructions.

Qualifying Education:

High school graduate / GED

Qualifying Nondestructive Examination Classroom Training

Total qualifying hours required: **12** Total qualifying hours compiled **12**

Qualifying Nondestructive Examination Experience

Total qualifying months required: 3 months Total qualifying hours compiled **3 months**

Written and Practicable Examination Results

	General	Specific	Practical
Actual Grade.	86	100	100

Average Composite Grade 95.3

Level III Examiner: _____ Date: August 28, 2003

David A. Cox Level III
ISI Level III by exam ISI-052002