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| **PIPE, MACHINERY AND PRESSURE VESSEL WELD RECORD**  QA FORM 20C (WORK PLANNING TO FILL IN BLOCKS/EVALUATE BLOCK OPTIONSIDENTIFIED BY A ♦ PRIOR TO RELEASE) | | | | | | | | | | | | | | | | | | | | | | | | | | | | Page | 1 | | of | | | **\_\_\_\_** |
| **♦**1. SHIP **♦**HULL NO. | | | | | | | | **♦**2. JCN | | | | | | | | | | | | | | | | | | **♦**3. LWC/SHOP | **♦**4. CWP/REC SER NO. | | | | | | | |
| **♦**5. SYSTEM/COMPONENT | | | | | | | | **♦**6. FABRICATION STD:  278 250-1500-1 | | | | | | **♦**7. WELD CLASS | | | | **♦**8. JT DESIGN | | | | | | **♦**9. SSMAP/JT ID DWG & REV | | | **♦**10. JOINT NO.  MARK JNT | | | | |  | | |
| 11. PART  NO. 1 | | **♦**DESCRIPTION | | | | | | **♦**SIZE (NPS) | | | | **♦**SCHED/CLASS | | | | | | | | PART  NO. 2 | | | | **♦**DESCRIPTION | | | **♦**SIZE (NPS) | | | **♦**SCHED/CL. | | | | |
| **♦**DWG NO. & REV. | | | | | | | | **♦**PC. NO. | | | | **♦**MATL. | | | | | | | | **♦**DWG NO. & REV. | | | | | | | **♦**PC. NO. | | | **♦**MATL. | | | | |
| INSTALLATION | 12. PART NO. 1  NEW | | | | EXISTING EXST MATL MKS GEN MATL TEST  MATERIAL MRKS/TEST RESULT: | | | | | | | | | | | | | | | PART NO. 2  NEW | | | | | EXISTING EXST MATL MKS GEN MATL TEST  MATERIAL MRKS/TEST RESULT: | | | | | | | | | |
| **NEW MATERIAL** (INCLUDING CONSUMABLE INSERTS, BACKING MATERIAL, ETC.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. PART  NO. | | | | 14. DESCRIPTION | | | | | 15. LEVEL I NO./OTHER TRACEABILITY NUMBER/  MATERIAL/SPECIFICATION MARKINGS | | | | | | | | | | | | | | | 16. FITTER/INSPECTOR (Signature, Badge, Date) | | | | | | | | | |
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| 17. PART | | | | WALL THICKNESS: | | | | | | **♦**20. FITUP | | | | | | | | | | | | | | 21. VERIFICATION | | | | | | | | | |
| **♦**18. REQD | | | | 19. ACTUAL | | PREWELD  NDT  COMP | | JOINT DESIGN  INSTALLED | | | | | | FITUP:  SAT | | | **FITUP AFTER TACK**  **SAT**  **♦ NA** | | | FITTER (Signature, Badge, Date) | | | | | | | | | |
| NO. 1 | | | | **♦**Nom:  **♦** Min: | | | | Min: | |
|
| NO. 2 | | | | **♦**Nom:  **♦** Min: | | | | Min: | | **♦**NA | |  | | | INSPECTOR (250-1500-1 welds) (Signature, Badge, Date) | | | | | | | | | |
| WELDING | 22. WELD PROC/REV/CH & TECH DATA SHEET | | | | | | | | | | | | 23. POSITION  HFP VFP OOP | | | | | | 24. MIN PREHEAT  TEMP:  MAX INTERBEAD/INTERPASS TEMP: | | | | | | 25. FABRICATION LOCATION: SHOP/BLDG \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **SHIPBOARD**  COMPT: FRAME LEVEL P C S | | | | | | | | | |
| 26. LAYER(S)  (T/R/I/F) | | | | 27. FILLER  TYPE | | | | 28. FILLER SERIAL NO.  (e. g., Level I No.) | | | | | | | | | | 29. WELDER (Signature, Badge, Date) | | | | | | | | | |
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| **♦**30. STRESS RELIEF REQD  YES NO | | | | | | | | 31. PROCEDURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  TEMPERATURE: DURATION HR MIN | | | | | | | | | | | | | | | | 32. HEAT TREATER (Signature, Badge, Date) | | | | | | | | | |
| 33. WELDING COMPLETE, SURFACE IS PREPPED AND READY FOR FINAL NDT, AND JOINT NUMBER IS PERMANENTLY MARKED NEAR JT IF “MARK JT” BOX IN BLOCK 10 IS CHECKED. | | | | | | | | | | | | | | | | WELDER or FITTER (Signature, Badge, Date) | | | | | | | | | | | | | | | | | |
| **WELD INSPECTIONS**: (I) = INTERMEDIATE, (F) = FINAL # = PREWELD INSPECTION (EXCAVATION, END-PREP, ETC.) ## = NUCLEAR ONLY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **♦**34. **ACCEPTANCE STANDARD**: | | | | | | | | | | | | | | | **♦**CLASS | | | | | | | | | | | | | | | | | | | |
| **♦**35. INSP | | | | **♦**36. INSPECTION TYPE | | | | | | | | | | | 37. PROCEDURE USED | | | | | | | | | | 38. INSPECTOR (Signature, Badge, Date) | | | | | | | | | |
| **♦**\_\_\_\_\_\_\_#  NA | | | | **♦**5X RT  PT TYPE II-C MT EQPT NO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**TACK ##  NA | | | | **♦**VT 5X  PT TYPE II-C MT EQPT NO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**ROOT  NA | | | | **♦**VT 5X  PT TYPE II-C MT EQPT NO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**BKGOUGE  NA | | | | **♦**5X  PT TYPE II-C MT EQPT NO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**PT/MT (I)  NA | | | | **♦**PT TYPE II-C MT EQPT NO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**VT (F)  NA | | | | **♦**OUTSIDE (ALL VTs) INSIDE INACCESSIBLE  INSIDE PARTIAL INSIDE INSP | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**PT/MT (F)  NA | | | | **♦**24 HR. MT  PT TYPE II-C MT EQPT NO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**PT/MT-ID  NA (F) | | | | **♦**PT TYPE II-C MT EQPT NO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  INACCESSIBLE PARTIAL INSP DONE | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| **♦**RT (F)  NA | | | | **♦**8 HR.  60 360 100% | | | | | | | | | | |  | | | | | | | | | | SAT  REJ | | | | | | | | | |
| 39. **REMARKS (SHOP REMARKS ALSO)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **FINAL**  **DISPOSITION** | | | | | | 40. SUPERVISOR (Signature, Badge, Date) | | | | | | | | | | | | | | | | | 41. LOCAL GOVERNMENT INSP./QAS (Signature, Badge, Date) | | | | | | | | | | | |
| **PIPE, MACHINERY AND PRESSURE VESSEL WELD RECORD - CONTINUATION SHEET**  QA FORM 20C-1  SHIP: DWG/JCN: JOINT NO.: PAGE OF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WELD HISTORY (CONTINUATION SHEET) T = TACK R= ROOT I = INTERMEDIATE LAYER F = FINAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42. LAYER  T/R/I/F | | | 43. FILLER  TYPE | | | | 44. FILLER SERIAL NO. (MIC NO.) | | | | | | | | | 45. WELD TEMPS DEG F  PREHEAT INTERPASS | | | | | | | | | 46. WELDER (SIGNATURE/DATE) | | | | | | | |
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| WELD INSPECTIONS (CONTINUATION SHEET) I = INTERMEDIATE F= FINAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47. INSPECTION | | | 48. INSPECTION TYPE | | | | | | | | | | | | | 49. PROCEDURE USED | | | | | | | | | 50. INSPECTOR (SIGNATURE/DATE) | | | | | | | |
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| 51. REMARKS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| **PIPE, MACHINERY AND PRESSURE VESSEL WELD RECORD – WELD DEFECT REPAIR SHEET**  QA FORM 20C-2  SHIP: DWG/JCN: JOINT NO.: PAGE OF | | | | | | | | | | | | | |
| 52. DEFECT DESCRIPTION | | | | | | | | | | | | | |
| CRACK | | | INCOMP INSERT FUSION | | | INCOMPLETE FUSION | | | ARC STRIKE | | | ROUNDED | |
| SLAG | | | CRATER PIT | | | BURN THRU | | | WELD SPLATTER | | | OTHER: (ENTER BELOW) | |
| POROSITY | | | INTERNAL CONCAVITY | | | MELT THRU | | | ROOT EDGE FUSION COND | | |  | |
| UNDERCUT | | | INTERNAL CONVEXITY | | | TUNGSTEN | | | LINEAR | | |  | |
| OXIDATION | | | CENTERLINE CREASE | | | INCOMPLETE PENETRATION | | | LINEAR DISPOSED | | |  | |
| 53. DEFECT LOCATION(S) AND EXTENT  SEE SKETCH IN REMARKS | | | | | | | | | 54. INSPECTOR (SIGNATURE/DATE) | | | | |
| **DEFECT REPAIR** | | | | | | | | | | | | | |
| 55. TYPE OF REPAIR  GRIND ONLY  GRIND AND WELD  WELD ONLY  OTHER (SEE REMARKS) | | | | 56. REPAIR LOCATION(S) AND EXTENT  SEE SKETCH IN REMARKS | | | 57. WELD PROC AND REV/CH  NA  SAME AS ORIGINAL | | | | 58. EXCAV NDT REQUIRED  Y (MARK REQD INSP  BLK 65/66)  N | | 59. ROOT PASS INSP REQUIRED  Y (MARK REQD INSP  BLK 65/66)  N |
| 60. LAYER  T/R/I/F | 61. FILLER  TYPE | | | | 62. FILLER SERIAL NO. (MIC NO.) | | | 63. PREHEAT/  INTERPASS TEMP | | | 64. WELDER (SIGNATURE/DATE) | | |
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| **REPAIR INSPECTIONS** | | | | | | | | | | | | | |
| REPAIR WELD REQUIRES THE SAME INSPECTIONS AS THE ORIGINAL WELD. CARRY OVER ALL REJECTED OR VOIDED INSPECTIONS FROM PAGE 1. | | | | | | | | | | | | | |
| 65. INSPECTION | | 66. INSPECTION TYPE | | | | | | 67. PROCEDURE USED | | 68. INSPECTOR (SIGNATURE/DATE) | | | |
| EXCAV  NA | | 5X PT TYPE IIC  MT/EQUIP NO.: | | | | | |  | | SAT  REJ | | | |
| ROOT  NA | | VT 5X PT TYPE IIC  MT/EQUIP NO.: | | | | | |  | | SAT  REJ | | | |
| BACKGOUGE  NA | | 5X PT TYPE IIC  MT/EQUIP NO.: | | | | | |  | | SAT  REJ | | | |
| PT/MT ( I )  NA | | PT TYPE IIC  MT/EQUIP NO.: | | | | | |  | | SAT  REJ | | | |
| VT (F)  NA | | OUTSIDE (ALL VTs) INSIDE INACCESSIBLE  INSIDE PARTIAL INSIDE INSP | | | | | |  | | SAT  REJ | | | |
| PT/MT(F)  NA | | PT TYPE IIC  24 HOUR MT/EQUIP NO.: | | | | | |  | | SAT  REJ | | | |
| PT/MT – ID(F)  NA | | PT TYPE IIC MT/EQUIP NO.:  INACCESSIBLE PARTIAL INSP DONE | | | | | |  | | SAT  REJ | | | |
| RT (F)  NA | | 8 HOUR  60 360 100% | | | | | |  | | SAT  REJ | | | |
| 69. REMARKS | | | | | | | | | | | | | |