

# Welding and Brazing Final Visual Inspection

(See [ES&H Manual Welding and Brazing Program Supplement](#) for more information.)

## FINAL VISUAL INSPECTION – INFORMATION

|   |  |  |  |                          |
|---|--|--|--|--------------------------|
| Group: SNS PPU  |  | Component: Helium Vessel – FPC End Head Weldments        |  | Date: 9/25/20            |
| Drawing #: 1042211700-M8U-8200-A023   |  | Rev#:  | PQR #: On File   | WPS/BPS #: On File       |
| Welder/Brazer #: Vendors Welder (On File)                                   |  | Process: GTAW  |  | B31.3 Fluid Service: N/A |
| ACCEPTANCE CRITERIA   | <input type="checkbox"/> ASME B31.3 Chapter VI [Table 341.3.2] | <input type="checkbox"/> AWS D1.1 Chapter VI [Table 6.1] | <input checked="" type="checkbox"/> Other Code(s): ASME Section VIII- Div. 1 |                          |
| # of Welds or Brazes Examined: All welds on the Header - SN: AB, AC, AD, AE |  | # of Mechanical Joints Examined: N/A                     |  |                          |

## FINAL VISUAL INSPECTION – CHECKLIST

|  | Accept                              | Reject                   | N/A                                 |
|--|-------------------------------------|--------------------------|-------------------------------------|
| 1. Mechanical joints have been properly assembled  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Mechanical joints have been properly erected including alignment supports and cold spring             | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Welds/Brazes were sufficiently cleaned as not to impair visual inspection and are uniquely identified | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 4. Geometry or profile conforms to WPS/BPS, drawing details or Code requirements                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 5. Weld joint was properly identified to welder/brazer   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 6. All flux/slag removed   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| <b>WELDING ONLY:</b>   |                                     |                          |                                     |
| 7. Weld has no visible cracks  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 8. Thorough fusion (weld and base metals) and complete penetration if required exist                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 9. Surface porosity or exposed slag inclusion  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 10. Surface finish   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 11. Concave root surface (suck up) or lack of weld joint break down                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 12. Internal and external reinforcement within allowable limits  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 13. Any fillet weld undersize (AWS only) within limits and undercutting depths                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

## REMARKS:

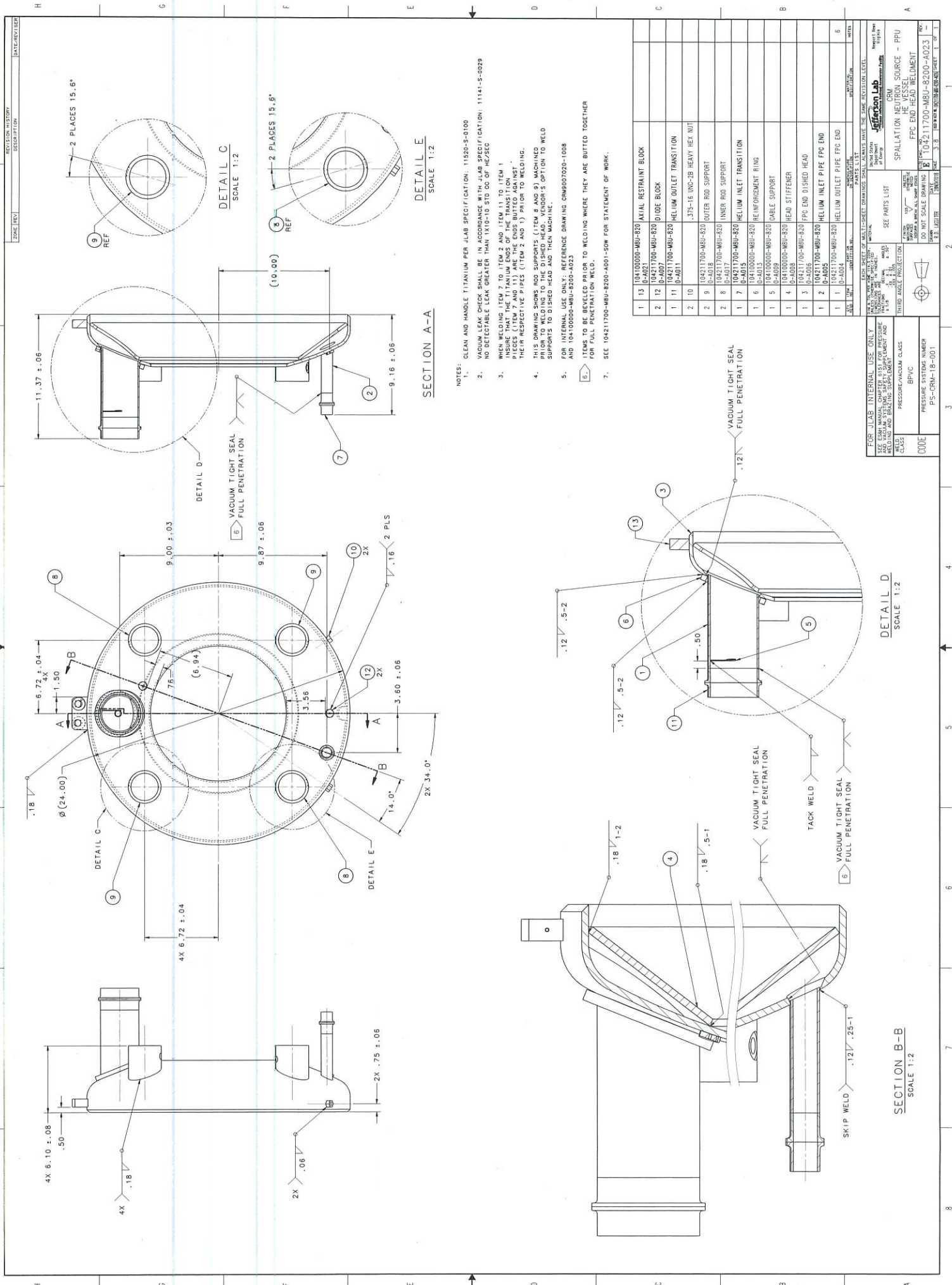
SIGNATURE

  
EXAMINER / INSPECTOR

Jenord Alston  
CWI 09111931  
QC1 EXP. 11/1/2021

DATE 9/25/20

| ISSUING AUTHORITY | TECHNICAL POINT-OF-CONTACT | APPROVAL DATE | REVIEW DATE | REV. | Page 1 of 2 |
|-------------------|----------------------------|---------------|-------------|------|-------------|
| ESH&Q Division    | Jenord Alston              | 02/06/2017    | 02/06/2022  | 1.1  |             |



SECTION A-A  
SCALE 1:2

DETAIL D  
SCALE 1:2

SECTION B-B  
SCALE 1:2

- NOTES:
1. CLEAN AND HANDLE TITANIUM PER JLAB SPECIFICATION: 11530-S-0100
  2. VACUUM LEAK CHECK SHALL BE IN ACCORDANCE WITH JLAB SPECIFICATION: 11141-S-0029 NO DETECTABLE LEAK GREATER THAN  $1 \times 10^{-10}$  STD. OF  $\text{mTorr}/\text{SEC}$
  3. WHEN WELDING ITEM 7 TO ITEM 2 AND ITEM 11 TO ITEM 1, THE WELDING SHALL BE DONE IN SUCH A MANNER AS TO AVOID THE NEED FOR WELD REPAIRS. THE WELDS SHALL BE DONE BUTT JOINTS. THEIR RESPECTIVE PIPES (ITEM 2 AND 1) PRIOR TO WELDING.
  4. THIS DRAWING SHOWS ROD SUPPORTS (ITEM 8 AND 9) MACHINED PRIOR TO WELDING TO THE DISHED HEAD. VENDOR'S OPTION TO WELD SUPPORTS TO DISHED HEAD AND THEN MACHINE.
  5. FOR INTERNAL USE ONLY: REFERENCE DRAWING C9M9037020-1008 AND 104100000-MBU-8200-A023
  6. ITEMS TO BE BEVELED PRIOR TO WELDING WHERE THEY ARE BUTTED TOGETHER FOR FULL PENETRATION WELD.
  7. SEE 104211700-MBU-8200-A001-SOW FOR STATEMENT OF WORK.

| PARTS LIST |                   |
|------------|-------------------|
| 1          | 104100000-MBU-820 |
| 2          | 104211700-MBU-820 |
| 3          | 104211700-MBU-820 |
| 4          | 104211700-MBU-820 |
| 5          | 104211700-MBU-820 |
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| FOR JLAB INTERNAL USE ONLY  |               |
|---|---------------|
| SEE JLAB MANUAL CHAPTER 8131 FOR PRESSURE WELDING AND BEVELED SURFACE FINISH AND WELDING AND BEVELED SURFACE FINISH |               |
| WELD CLASS  | BPVC          |
| PRESSURE/STRESS NUMBER  | PS-CRM-18-001 |
| CODE  |               |

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