

As Built Drawings and Calculations

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SHOP NOTES

- 1. ALL BOLT HOLES STRADDLE NATURAL VESSEL CENTERLINES.
2. CLEAN ENTIRE VESSEL OF WELD SLAG AND OTHER FOREIGN MATERIAL.
3. ALL MISCELLANEOUS AND ATTACHMENT WELDS SHALL BE 1/4" FILLET WELDS UNLESS SHOWN OTHERWISE.
4. COATING SPECIFICATIONS
SURFACE PREP: - EXTERNAL: SSPC-SP6
- INTERNAL: NONE
PRIMING: - EXTERNAL: ONE (1) COAT OF DEVCO BAR RUST 236 EPOXY COAT TO DFT OF 4-8mils
- INTERNAL: NONE
FINISH: - EXTERNAL: TWO (2) COATS OF DEVCO DEVTHANE 379 URETHANE TO A DFT OF 2-3mils (WARM GREY)
- INTERNAL: NONE
7. BLEND ALL INTERNAL ROOT AND FILLET WELDS. RADIUS ALL INTERNAL EDGES.
8. DIMENSIONS IN [] ARE IN MM.
9. ALL VESSELS MATERIALS COMING IN CONTACT WITH THE PROCESS FLUID SHALL COMPLY WITH THE LATEST EDITION OF NACE MR0175, AND HAVE A CARBON EQUIVALENCE LESS THAN OR EQUAL TO 0.45%.
10. FULL RT EXAMINATION OF ALL BUTT WELDS PER UW-11.
11. FULL MP, LP OR UT OF ALL PLATE EDGES PRIOR TO WELDING.
12. 100% UT EXAMINATION ON ALL CATEGORY 'D' WELDS. THIS IS TO BE DONE BEFORE REINFORCING PADS ARE WELDED TO THE NOZZLES.
13. DELETED
14. FULL MP OR LP EXAMINATION OF LIFTING LUGS.
15. HYDROTEST SHALL BE HELD FOR A MINIMUM OF ONE (1) HOUR.
16. THE HYDROTEST WATER SHALL BE AT LEAST 59°F (15°C) THROUGHOUT THE TESTING CYCLE.
17. A MINIMUM OF TWO (2) PRESSURE GAUGES WILL BE USED FOR THE HYDROTEST, ONE (1) AT THE PUMP AND ONE (1) AT THE SYSTEM HIGH POINT.
18. GASKETS USED FOR THE HYDROTEST SHALL BE OF THE SAME MATERIAL AND DESIGN AS THE GASKETS TO BE FURNISHED WITH THE VESSEL.
19. THE USE OF SHELLAC, GLUE, COMPOUND, LEAD, ETC., ON HYDROTEST GASKETS IS NOT PERMITTED.
20. ONLY NEW, UNUSED, STUDS, NUTS AND GASKETS SHALL BE FURNISHED WITH THE VESSEL.
21. NO VESSEL OR ITS COMPONENT SHALL BE GIVEN A HYDROSTATIC TEST UNLESS APPROVAL IS OBTAINED IN WRITING FROM ENCANA TOOL OIL SANDS LTD. OR ITS REPRESENTATIVE.
22. ALL WEEP HOLES ARE TO BE PNEUMATICALLY TESTED WITH 103 kPaq AIR PRIOR TO THERMAL STRESS RELIEF AND/OR HYDROSTATIC TEST. WEEP HOLES SHALL NOT BE PLUGGED DURING THE FINAL HYDROSTATIC TEST OF THE VESSEL AFTER HYDROTEST. WEEP HOLES SHALL BE PLUGGED WITH GREASE. WHERE THE WEEP HOLES IS COVERED BY INSULATION, A NIPPLE SHALL BE FITTED TO EXTEND THE HOLE OUTSIDE THE INSULATION CLADDING.
23. REGISTER VESSEL IN ALBERTA.
24. HEAT #s STAMPED ON ALL MATERIAL.
25. HARDNESS TEST REQ'D AFTER PWHT PER SPEC-225 BHN MAX.
26. VESSEL TO BE BLOWN DRY AFTER HYDROTEST.
27. NO FCW ON WELDS.
28. AFTER WELDING OR AFTER FINAL POST WELD HEAT TREATMENT, HARDNESS IN THE BASE MATERIAL OR HEAT AFFECTED ZONE (HAZ) SHALL NOT EXCEED 225 BHN FOR LOW CARBON STEEL MATERIALS.

SHIPPING NOTES

- 1. ALL FLANGE SURFACES TO BE PROTECTED WITH AN ASPHALTIC RUST PREVENTIVE, TYPE B SUCH AS RUST VETO 344 OR TECTYL 891
2. EQUIPMENT SHALL BE ADEQUATELY PREPARED TO PROVIDE AGAINST ENTRY OF DIRT OR WATER DURING SHIPMENT
3. ALL OPEN FLANGES TO BE COVERED WITH 12.5mm PLYWOOD COVERS SECURELY FASTENED WITH BOLTS OR CLAMPS.
4. ALL DRAINS, VENTS AND SMALL PIPING CONNECTIONS SHALL BE APPED OR PLUGGED.
5. BEFORE SHIPMENT, MARK ON, OR SECURELY ATTACH TO THE EQUIPMENT, OR IN THE SHIPPING CONTAINER, A LIST OF THE SPECIFIC RUST PREVENTIVES USED TO PROTECT THE EQUIPMENT. THIS LIST SHALL INCLUDE INTERNAL AS WELL AS EXTERNAL RUST PREVENTIVE, GIVING MANUFACTURER AND TYPE NUMBER, AND THE LOCATIONS WHERE EACH HAS BEEN APPLIED
6. INCLUDE WITH THE ABOVE LIST ANY SPECIAL INSTRUCTIONS NECESSARY FOR THE REMOVAL OR REPLACEMENT OF ANY RUST PREVENTIVE TOGETHER WITH ANY SPECIAL PRECAUTIONS TO BE TAKEN IN THE CARE OF THE EQUIPMENT DURING THE PERIOD OF JOBSITE STORAGE.
7. A COPY OF THIS INFORMATION SHALL BE SUPPLIED, UNDER SEPARATE COVER, TO THE BUYER AT THE JOBSITE

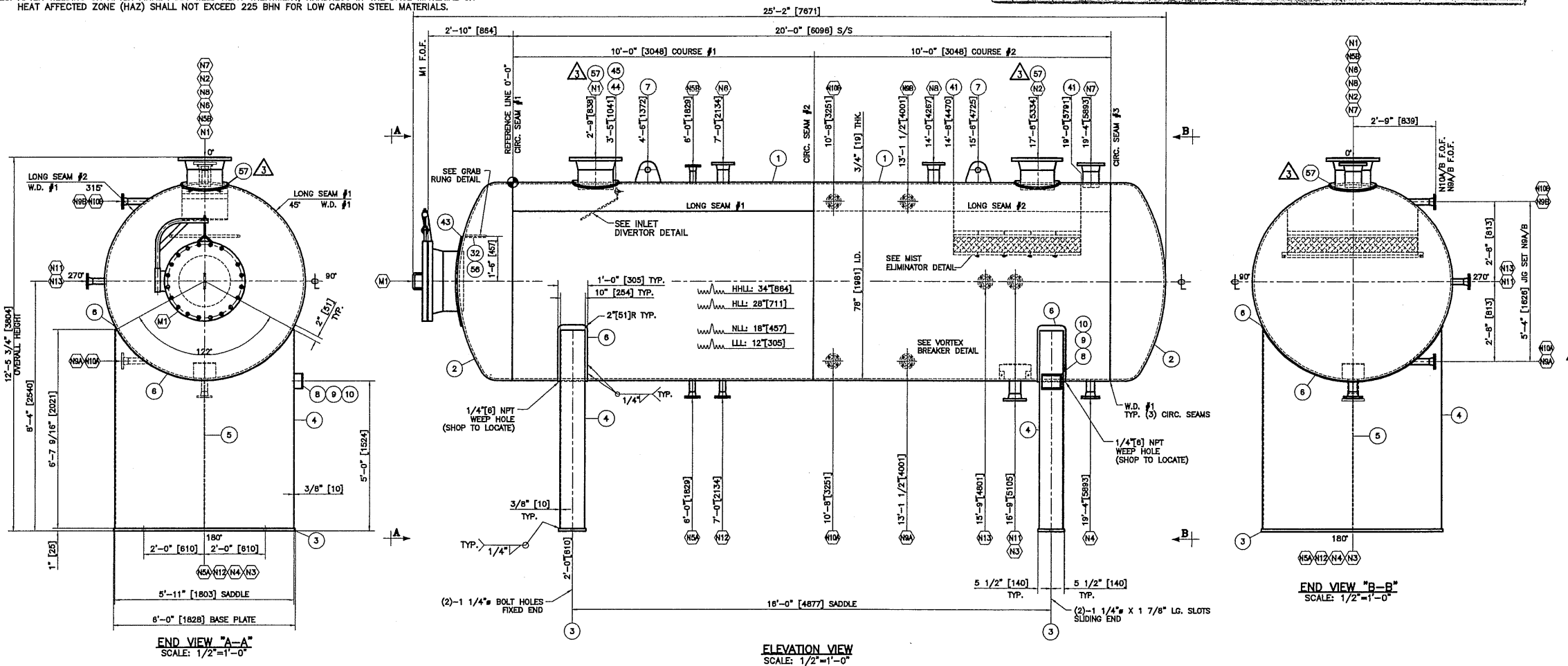
NOZZLE SCHEDULE

Table with columns: MARK, NO. REV'D, SERVICE, SIZE, RTG., TYPE, NOZZLE O.D., NOZZLE BORE, WELD DETAIL, WELD SIZE, PROJECTION, ITEM, REMARKS. Lists nozzle specifications for various services like INLET, VAPOUR OUTLET, LIQUID OUTLET, etc.

BILL OF MATERIALS

Table with columns: ITEM, QTY, DESCRIPTION, MATERIAL. Lists materials and quantities for the vessel, including shell, baseplate, flanges, gaskets, and various pipes.

REVISED DRAWING
ISSUED FOR CONSTRUCTION
DESTROY PREVIOUS ISSUE
DATE JAN 07 2009



DESIGN DATA table containing construction specifications, design pressures, temperatures, and other technical parameters.

REFERENCE DRAWINGS and REVISIONS table. Includes drawing numbers, descriptions, and a list of revisions with dates.

PYRAMID PROCESS FABRICATORS logo and contact information, including address and phone number.