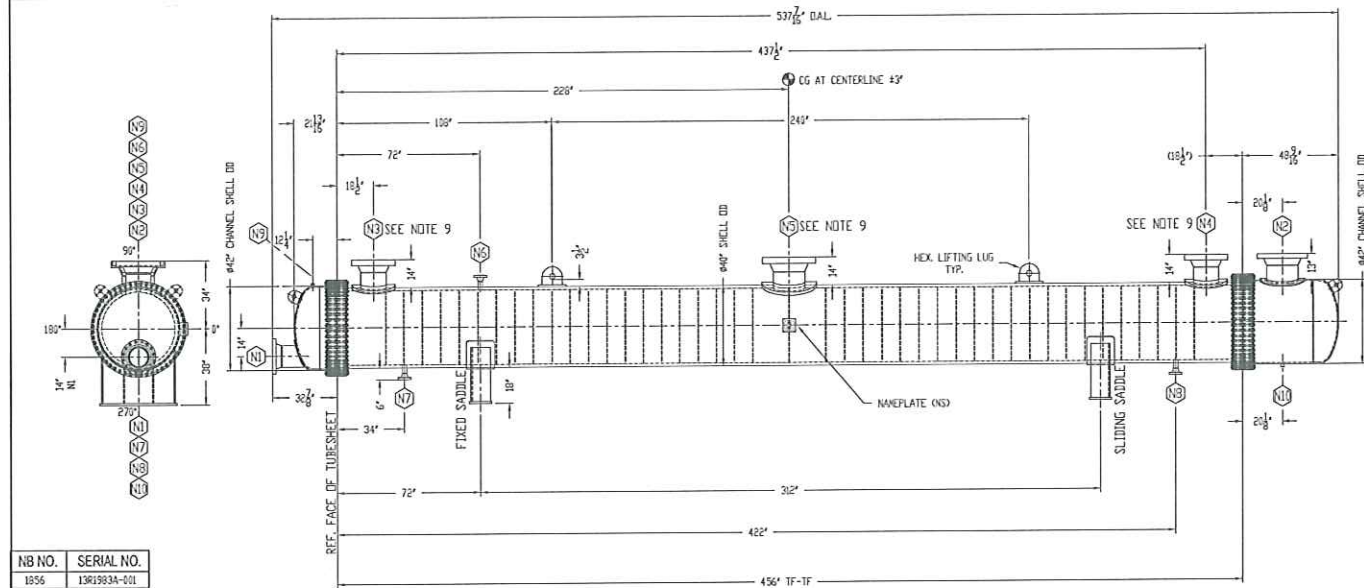
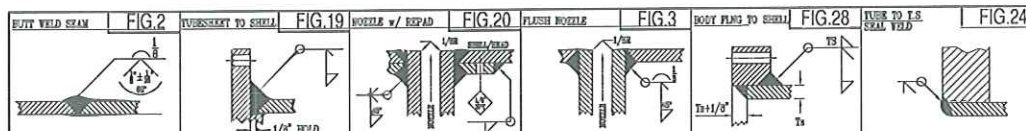


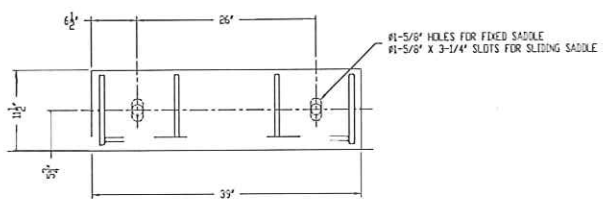
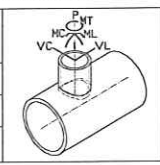


| NB NO. | SERIAL NO.   |
|--------|--------------|
| 1856   | 13R1983A-001 |
| 1864   | 13R1983A-002 |
| 1888   | 13R1983A-003 |
| 1903   | 13R1983A-004 |
| 1916   | 13R1983A-005 |
| 1917   | 13R1983A-006 |
| 1926   | 13R1983A-007 |
| 1969   | 13R1983A-008 |
| 1980   | 13R1983A-009 |
| 1981   | 13R1983A-010 |
| 2002   | 13R1983A-011 |
| 2019   | 13R1983A-012 |

ALLOWABLE EXTERNAL NOZZLE LOADS (REFER TO TEMA RGP-RCB-10.6 FOR INDUSTRY PRACTICE)

| NOZZLE ID. | NOM SIZE (INCH) RATING | P (LB) | VC (LB) | VL (LB) | MT (FT-LB) | MR (FT-LB) (SEE NOTE) |
|------------|------------------------|--------|---------|---------|------------|-----------------------|
| N3, N4     | 12\"                   | 2520   | 1200    | 2160    | 4320       | 9600                  |
| N5         | 16\"                   | 2400   | 3840    | 1440    | 5400       | 5400                  |

NOTE: <sup>MR</sup> REPRESENTS THE NET BENDING MOMENT, BASED ON <sup>VC</sup> AND <sup>VL</sup> COMPONENTS



BASE PLATE DETAIL  
10\"

| THERMAL SPECIFICATIONS (US)      |           |
|----------------------------------|-----------|
| THEATRAL CAPACITY (Btu/hr)       | 13935591  |
| SHELL SIDE TUBE SIDE             |           |
| MED./M                           | CRUDE OIL |
| FLOW                             | 1584 GPM  |
| TEMP (F)                         | 118       |
| TOU/M (F)                        | 84        |
| MECH. DESIGN SPECIFICATIONS (US) |           |
| CODE/STD                         | ASME VIII |
| DESIGN                           | 2010/11   |
| TEMP                             | NONE      |
| OTHER                            | NONE      |
| MECH. DESIGN DATA                |           |
| PRESSURE (psi)                   | FV/1440   |
| TEMPERATURE (F)                  | -14/158   |
| CORR. ALLOWANCE (in)             | 1/16      |
| STRESS RELIEF                    | NONE      |
| NOT                              | NOTE 12   |
| IMPACT TEST                      | NOTE 6    |
| TEST PRESSURE (psi)              | 2160      |
| TEST FLUID                       | WATER     |
| SURFACE FINISH                   | SSPC-SP10 |
| PANT                             | NOTE 11   |
| ESTIMATED EMPTY WEIGHT (lb)      | 67500     |

- CONSTRUCTION NOTES:
- INSIDE OF VESSEL TO BE FREE OF SLAG, SCALE AND RUST.
  - ALL SHARP EDGES TO BE GRIND SMOOTH, UNLESS SPECIFIED OTHERWISE.
  - TUBE-TO-TUBESHEET JOINTS EXPANDED IN DOUBLE GROOVES AND SEAL WELD.
  - HEAVY FOR NON-LETHAL, NON-CORROSIVE SERVICE.
  - PRESSURE RELIEF DEVICES BY OTHERS.
  - EXEMPT FROM MATERIAL IMPACT TEST PER UCS-66(a)(1)-(2). TUBESHEETS ONLY TO BE IMPACT TESTED AT -14°F.
  - RE-PASS TO BE MECHANICALLY TESTED PER UG-37(a).
  - SHELLSIDE NOZZLE FLANGES CALCULATED PER APPENDIX 2 FOR ACTUAL DESIGN CONDITIONS.
  - MIN. HOLDING TIME FOR TEST PRESSURE SHALL BE 4 HRS.
  - 100% UT ON ALL BUTT-JOINTS, INCLUDING CATEGORY 'C' JOINTS ON NPS12\"
  - 100% UT ON ALL CATEGORY 'D' JOINTS
  - 100% MT ON ALL PRESSURE BOUNDARY FILLET WELDS

| MATERIALS OF CONSTRUCTION   |               |                             |
|-----------------------------|---------------|-----------------------------|
| COMPONENT                   | TYPE          | MATERIAL SPECIFICATION      |
| HEX. SHELL                  | ROL'D FL.     | SA-516 70                   |
| SHELLSIDE NOZZLE NECKS      | SHLS PIPE     | SA-105 C                    |
| SHELLSIDE NOZZLE FLANGES    | B16.5         | SA-105N                     |
| SHELLSIDE NOZZLE REINF. PAD | PLATE         | SA-516 70N                  |
| SHELLSIDE STD COUPLINGS     | B16.11        | SA-105N                     |
| CHANNEL SHELL               | ROL'D FL.     | SA-516 70                   |
| CHANNEL HEAD                | FL. 21        | SA-516 70N                  |
| CHANNEL BODY FLANGE         | TP11 INTEGRAL | SA-105N                     |
| TUBESIDE NOZZLE NECKS       | SHLS PIPE     | SA-105                      |
| TUBESIDE NOZZLE REINF. PAD  | PLATE         | SA-516 70                   |
| TUBESIDE STD COUPLINGS      | B16.11        | SA-105                      |
| TUBESHEET                   | FIXED         | SA-286 GR. 2 (W/CVN @-14°F) |
| TUBES                       | WLD TUBE      | SA-214                      |
| TIE RODS                    | ROUND BAR     | SA-36                       |
| BAFFLES                     | DOUB. SEQUIT. | SA-36                       |
| SUPPORTS                    | SADDLE        | SA-36                       |
| SADDLE WEAR PLATE           | ROL'D PLATE   | SA-516 70N                  |
| LIFTING LUG                 | PLATE         | SA-516 70                   |
| LIFTING LUG WEAR PLATE      | PLATE         | SA-516 70N                  |
| BODY FLANGE GASKET          | CORROD METAL  | SS-316 GRAPHITE COATED      |
| BOLTS (104) 1\"             | STUDS         | SA-193-B7 (ZINC PLATED)     |
| NUTS (208) 1\"              | H. HEXAGON    | SA-193-B7 (ZINC PLATED)     |
| NAMEPLATE/RACKET            | PLATE         | SS-304                      |

| SCHEDULE OF CONNECTIONS |                       |     |       |      |                |
|-------------------------|-----------------------|-----|-------|------|----------------|
| ID.                     | PURPOSE               | QTY | SIZE  | TYPE | NECK FLANGE    |
| N1                      | AMMONIA INLET         | 1   | 12\"  | FLNG | SCH80 304 RFVN |
| N2                      | AMMONIA OUTLET        | 1   | 12\"  | FLNG | SCH80 304 RFVN |
| N3,N4                   | CRUDE OIL INLET       | 2   | 12\"  | FLNG | SCH80 600 RFVN |
| N5                      | CRUDE OIL OUTLET      | 1   | 12\"  | FLNG | SCH80 600 RFVN |
| N6                      | SHELLSIDE RELIEF/VENT | 1   | 2\"   | FLNG | SCH80 600 RFVN |
| N7,N8                   | SHELLSIDE DRAIN       | 2   | 2\"   | FLNG | SCH80 600 RFVN |
| N9                      | TUBESIDE RELIEF/VENT  | 1   | 3/4\" | FPT  | 60004          |
| N10                     | TUBESIDE DRAIN        | 1   | 3/4\" | FPT  | 60004          |

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| C (AS BUILT) |          | B (REVISED NDC, ADDED CLARIFICATION NOTES) |    | A (FOR FABRICATION) |    |
|--------------|----------|--------------------------------------------|----|---------------------|----|
| NO           | REVISION | DATE                                       | BY | DATE                | BY |
|              |          | 04/01/13                                   |    |                     |    |