FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

| Manufactured and certified by | | | | | | | | | | | | |
|--|--|---|---|---------------------------|--|---|--|---|--------------------------------|--|---------------------------------------|--|
| | SCHOELLER-BLECKMAN | 10001 W | ER AF | PARAT | ETECHNIK GMB | | | SSE 2, A-26 | 30 TER | NITZ / AL | STRTA | |
| 2. Manufactured for | TRIAD CHEMICAL, DO | DVALDSC | M.T.LU | | JISIANA 7034 | 6, U S | | | | · · | | |
| 3. Location of installation | TRITAD CHEMICAL, DO | OVALDSC | WILL | | JISIANA 7034 | | Α | | - 1 | G1 1 | 181 | |
| 4. Type: VERTICAL | Type: VERTICAL HEAT EXCHANGER | | | | | | | | 8182 | | | |
| . (Horiz., vert., or sphe | (8) | | (Tank, sep | arator, jkt. | ressel, heat exh., etc.) | | | | (Mfg's | serial No.) | | |
| ; | T-AN | 10555 | - 01 | | | 70 |) | | $\sigma^{/2}$ | 1997 | | |
| (CRN) | J., | (Drawing No | 0.) | | | (Nat'l. B | d. No.) | | | (Year built) | | |
| 5. ASME Code, Section VIII, Div. 1 | Edition 1995 | Addenc | la | | 2038-3 | | NA Special Service per UG-120(d) | | | | | |
| Items 6-11 incl. to be completed for | single wall vessels, jacke | ets of jack | | | 2 | ngers, or c 33,86" | hamber (| | × | | * * * * * * * * * * * * * * * * * * * | |
| 6. Shell (a) No. of course(s): _ | 6 | (b) | Overal | length (| ft & in.): | 00,00 | | | | | | |
| Course(s) | Material | Thick | 0053 | | Long. Joint (Cat. A) | | Ci | rcum. Joint (Cat. A, B, | & C) Heat T | | freatment | |
| No. Diameter, in. Length (ft & in.) | Spec./Grade or Type | Nom. | Corr. | Туре | Full, Spot, None | Eff. | Туре | Full, Spot, None | . · · Eff. | Temp. | Time | |
| 1+2 67.72 158.15" | SA 516 / 70 | . 0.98 | 0.12 | 5 1 | FULL | 1.0 | 1 | EULL | 1.0 | | | |
| 3 67.72 14.49" | SA 240 / 321 | 0.47 | 0 | 1 | FULL | 1.0 | 1 | FULL : | 1:0 | | | |
| 4-6 67.72/81.10 61.22 | SA 516 / 70 | 1.38 | 0.12 | 5 1 | FULL | 1.0 | 1 | FULL | 1.0 | | | |
| 7. Heads: (a) | N A | | | | (b) | | | N A | en e 1 ** | | | |
| | YI Spec. No., Grade or Type) H.T | - Time & Ten | np. | | | | (Mat'l Sp | ec. No., Grade or Type | H.T Time | e & Temp. | | |
| Location (Top, | Radius | Elliptical | | onical | Hemispherical | Flat | s | ide to Pressure | (a) 12 | Category A | 12 | |
| Bottom, Ends) Min. Corr. | Crown Knuckle | Ratio | | x Angle | Radius | Diameter | Conv | ex - Concave | Type · | Full, Spot, None | Eff. | |
| (a) | | | | | | | | | | | | |
| (b) | | | | | | | | | | 3 | 3.0 | |
| | | | | | | NA | 1 | | | | | |
| If removable, bolts used (describe of | ner fastening) | | | | (Mat' | I Spec. No., G | rade, size, f | lo.) | | | | |
| 100 E 20 E | N A | | | | | | | NA | 100 | | 5 QX | |
| 8. Type of jacket | IN A | | | | Jacket clo | sure _ | | (Describe as | ogee & weld. | bar, etc.) | | |
| 250 | . N. A | | | | | | | | | | Ť e | |
| If bar, give dimensions | N A | 400 | | | | | - | | _ If bo | Ited, describe | or sketc | |
| 9. MAWP 389 | psi at max, temp. | 482 | | | | in. design | metal ter | np. <u>4 32</u> | °F a | at | p: | |
| (internal) (externa | | (intern | | (externa | | | | | | | ei gr | |
| 10. Impact test Yes, support | material SA 516/ | 70 at 3 | | | s are exempt | | | S-66 and UH | A-51 | | | |
| | | ** | [Inc | ficate yes o | | | di | | | | | |
| | E00 E | | | | no and the componentis | i) anpact tests | 55) | | | | | |
| 11. Hydro., you easy prysomby test pre | $_{\rm ss.}$ $583,5$ ps | 1 | Pr | oof test | | ay anpact teste | | | | | | |
| 11. Hydro., xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | | 1 | Pr | oof test | no and the component(s | , anpact teste | | | * | | | |
| Items 12 and 13 to be completed for | r tube sections. | 2.44 | Pr | oof test | no and the component(s | y anipact teste | 0.1 | 25 | WE | LDED. | | |
| Items 12 and 13 to be completed for | r tube sections. | ì. | ** | | N A | | 0.1 | 25 Altow., in. | ****** | LDED. | bolted) | |
| Items 12 and 13 to be completed for SA 266 - | r tube sections. | 2.44 | ** | | N A 15.94 | | 0.1 | | ****** | | bolted) | |
| Items 12 and 13 to be completed for SA 266- Stationary (Mar | r tube sections. | 2.44 | ** | 5.) | N A 15.94 | in | 0.1 | | Attac | | bolted) | |
| Items 12 and 13 to be completed for SA 266- Stationary (Mar) Floating (Mar) Spec. No.) SA 213 LNS S310 | r tube sections. / 2 | 2.44 | ect to pres | 5.) | N A 15.94 Nom. thx., | in. | 0.1 Con. | | Attac | hment (walded or | bolted) | |
| Items 12 and 13 to be completed for SA 266- Stationary (Mat) | r tube sections. / 2 | i 2.44 Dia., in. (subje | ** | 5.) | 15.94 Nom. thk., in. | in. | 0.1 Corr. | Allow., in. | Attac | hment (welded or —— Attachment | | |
| Items 12 and 13 to be completed for SA 266- Tubesheet: Stationary (Mat) NA Floating (Mat) Spec. No.) 13. Tubes: SA 213 UNS S310 Mat Spec. No. | r tube sections. / 2 | i 2.44 Dia., in. (subje | 1,22 0.D., in. | s.) | no and the components N A 15.94 Nom. thk., in. O.1 | in. Corr 2 k., in. or gauge | 0.1 Corr. | 1400 | Attac | chment (welded or Attachment STRAIGHT | | |
| Items 12 and 13 to be completed for SA 266- Stationary IMat NA Floating (Mat'l Spec. No.) 13. Tubes: SA 213 UNS S310 Mat'l Spec. No., Items 14-18 incl. to be completed for | r tube sections. / 2 | i '2.44 Dia., in. (subje | 1.22 O.D., in. | s.) No | N A 15.94 Nom. thk., in. O.1 Nom. th | in. Corr. 2 k., in. or gauge | 0.1 Corr. | 1400 | Attac | chment (welded or Attachment STRAIGHT | | |
| Items 12 and 13 to be completed for SA 266- Tubesheet: NA Floating (Mat'l Spec. No.) 13. Tubes: SA 213 UNS S310 Mat'l Spec. No. | r tube sections. / 2 | i '2.44 Dia., in. (subje | 1.22 O.D., in. | s.) No | N A 15.94 Nom. thk., in. O.1 Nom. th | in. Corr 2 k., in. or gauge | 0.1 Corr. | 1400 | Attac | chment (welded or Attachment STRAIGHT | | |
| Items 12 and 13 to be completed for SA 266- Stationary IMat NA Floating (Mat'l Spec. No.) 13. Tubes: SA 213 UNS S310 Mat'l Spec. No. Items 14–18 incl. to be completed for 14. Shell (a) No. of course(s) | r tube sections. / 2 7 Il Spec. No.1 7 Dia., in. 50, CC 2038-3 Grada or Type or inner chambers of jacket | 2.44 Dia., in. (subjected vess) | 1.22 O.D., in. | s.) No | N A 15.94 Nom. thk., in. O.1 Nom. th (ft & in.): | in. Corr. 2 k., in. or gauge | 0.1 Corr. | Allow., in. 1400 Number | Attac | Attachment (welded or Attachment STRATCHT Type (Streight o | r U) | |
| Items 12 and 13 to be completed for SA 266- Stationary IMat NA Floating (Mat'l Spec. No.) 13. Tubes: SA 213 UNS S310 Mat'l Spec. No., Items 14-18 incl. to be completed for 14. Shell (a) No. of course(s) | r tube sections. /-2 7 Il Spec. No.1 50, CC 2038-3 Grada or Typa or inner chambers of jackets 2 | 2 .44 Dia., in. (subje | 1.22 O.D., in. | nannels (| m. thk., in. O.1 Nom. thk. of heat exchanger (ft & in.): | Corr. 12 k., in. or gauge | O.1 | Allow., in. 1400 Number | Attac | Attachment welded or Attachment STRATCHT Type (Streight of | r U) | |
| Items 12 and 13 to be completed for SA 266- Stationary IMat's NA Floating IMat's Spec. No.] 13. Tubes: SA 213 UNS S310 Mat's Spec. No., Items 14-18 incl. to be completed for 14. Shell (a) No. of course(s) Course(s) No. IDiameter, in. Length (fit & in.) | r tube sections. / 2 | eted vesse (b) Thick | 1.22 O.D., in. els or cl | nannels o | m. thk., in. O.1 Nom. thk., in. O.1 Nom. th If & in.): Long. Joint (Cat. A) Full, Spot. None | in. Corr. 2 k., in. or gauge | O.1 Corr. ABow., in. | Allow., in. 1400 Number roum. Joint (Cat. A. B. Full, Spot, None | Attac | Attachment welded or Attachment STRATCHT Type (Streight of Heat Tro | r U) atment Time | |
| Tubesheet: SA 266- Stationary (Mat NA Floating (Mat'l Spec. No.) | r tube sections. / 2 | eted vesse (b Thick Nom. 5.71 | 1.22 O.D., in. els or cl) Overa | nannels (| m. thk., in. O.1 Nom. thk. of heat exchanger (ft & in.): | Corr. 12 k., in. or gauge | O.1 Corr. ABow., in. | Allow., in. 1400 Number reum. Joint (Cat. A. B. Full, Spot, None FULL | & C) Eff. 1.0 | Attachment welded or Attachment STRATCHT Type (Streight of Heat Tro Temp. | atment Time | |
| Items 12 and 13 to be completed for SA 266- Stationary (Mat') NA Floating (Mat') Spec. No.) 13. Tubes: SA 213 UNS S310 Mat'l Spec. No., Mat'l Spec. No., Items 14-18 incl. to be completed for the complete f | r tube sections. / 2 | eted vesse (b) Thick | 1.22 O.D., in. els or cl | nannels o | m. thk., in. O.1 Nom. thk., in. O.1 Nom. th If & in.): Long. Joint (Cat. A) Full, Spot. None | Corr. 12 k., in. or gauge | O.1 Corr. ABow., in. | Allow., in. 1400 Number roum. Joint (Cat. A. B. Full, Spot, None | Attac | Attachment welded or Attachment STRATCHT Type (Streight of Heat Tro | r U) atment Time | |
| Tubesheet: SA 266- Stationary (Mat') | r tube sections. / 2 | 2.44 Dia., in. (subjected vesses (b) Thick: Nom. 5.71 5.71 | 1.22 O.D., in. els or cl) Overa | nannels o | m. thk., in. O.1 Nom. thk., in. O.1 Nom. th Soft heat exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None | Corr | Corr. | Allow., in. 1400 Number reum. Joint (Cat. A. 8. Full, Spot, None FULL FULL | & C) Eff. 1.0 | Attachment STRATCHT Type (Streight of Temp. 1100°F 1100°F | atment Time | |
| Tubesheet: SA 266- Tubesheet: SA 266- Tubesheet: SA 266- Stationary (Mat') NA | r tube sections. / 2 | eted vesse (b Thick Nom. 5.71 | 1.22 O.D., in. els or ci) Overa | nannels o | m. thk., in. O.1 Nom. thk., in. O.1 Nom. th Soft heat exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None | Corr. 12 k., in. or gauge | 0.1 Corr. ABow., in. Type 1 1 1 | Allow., in. 1400 Number reum. Joint (Cat. A. B. Full, Spot, None FULL FULL | & C) Eff. 1.0 1.00 | Attachment welded or Attachment STRAIGHT Type (Streight of Heat Tre Temp. 1100°F | atment Time | |
| Tubesheet: SA 266- | r tube sections. / 2 | 2.44 Dia., in. (subjected vesse) Thick Nom. 5.71 5.71 | 1,22 O.D., in. els or cl) Overa | nannels of Type | M A 15.94 Nom. thk., in. O.1 Nom. th O.1 Nom. th If the at exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None | Corr | 0.1 Corr. ABow., in. Type 1 1 1 | Allow., in. 1400 Number reum. Joint (Cat. A. 8. Full, Spot, None FULL FULL | & C) Eff. 1.0 1.00 | Attachment welded or Attachment STRAIGHT Type (Streight of Heat Tre Temp. 1100°F | atment Time | |
| Tubesheet: SA 266- | r tube sections. / 2 | 2.44 Dia., in. (subjected vesses (b) Thick: Nom. 5.71 5.71 100°F — Time & Te | 1.22 O.D., in. els or cl) Overa | nannels (| m. thk., in. O.1 Nom. thk., in. O.1 Nom. th Soft heat exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None —— (b) | Corr 22 x., in. or gauge s 66 . 97" Eff SA 266/ | 0.1 Corr. ABow., in. Type 1 1 (Mar'l Sp | Allow., in. 1400 Number reum. Joint (Cat. A. B. Full, Spot, None FULL FULL | & C) Eff. 1.0 1.00 | Attachment welded or Attachment STRAIGHT Type (Streight of Heat Tre Temp. 1100°F | atment Time | |
| Tubesheet: SA 266- | tube sections. / 2 7 Tispec. No.) — Dia., in. 50, CC 2038–3 Grade or Type or inner chambers of jacket 2 Meterial Spec./Grade or Type SA 266 / 2 SA 266 / 2 / 150 min / 1 Iat'l Spec. No., Grade or Type) H.T. Redfus | 2.44 Dia., in. (subjected vesse) Thick Nom. 5.71 5.71 | 1.22 O.D., in. els or cl) Overa | nannels of Type | M A 15.94 Nom. thk., in. O.1 Nom. th O.1 Nom. th If the at exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None | Corr | 0.1 Corr. ABow., in. Type 1 1 (Mar'l Sp | Allow., in. 1400 Number reum. Joint (Cat. A. 8. Full. Spot, None FULL FULL 150 min / ec. No., Gradii or Type | & C) Eff. 1.0 1.00 | Attachment welded or Attachment STRATCHT Type (Streight of Temp. 1100°F 1100°F | atment Time | |
| Tubesheet: SA 266- Stationary (Mat NA Floating (Mat Spec. No.) 13. Tubes: SA 213 UNS S310 Mat Spec. No. 14. Shell (a) No. of course(s) 15. Heads: (a) SA 266/2 15. Heads: (a) SA 266/2 Location (Top, Bottom, Ends) Min. Corr | r tube sections. / 2 | eted vesse (b Thick Nom. 5.71 5.71 100°F - Time & Te | 1.22 O.D., in. els or cl) Overa | nannels of Illength Type | m. thk., in. O.1 Nom. thk., in. O.1 Nom. th of heat exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None ——————————————————————————————————— | Corr. 22 k., in. or gauge S 97!! Eff. — — — — SA 266/ | Corr. ABow., in. Citype 1 1 1 1 Conv. Conv | Allow., in. 1400 Number reum. Joint (Cat. A. 8. Full. Spot. None FULL FULL 150 min / ec. No., Gredii or Type idd to Pressure | & C) Eff. 1.0 1.0 1100 H.T Tim | Attachment welded or Attachment STRATCHT Type (Streight of Temp. 1100°F 1100°F 1100°F 0 Category A | atment Time 150min | |
| Tubesheet: SA 266- | r tube sections. / 2 | eted vesse (b Thick Nom. 5.71 5.71 100°F - Time & Te | 1.22 O.D., in. els or cl) Overa | nannels of Illength Type | m. thk., in. O.1 Nom. thk., in. O.1 Nom. th of heat exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None ——————————————————————————————————— | Corr 22 k., in. or gauge s. 66.97" Eff. — — — — — SA 266/ Flat Diameter DO 55.5/ | 0.1 Corr. ABow., in. CC Type 1 1 1 Conv. | Allow., in. 1400 Number roum. Joint (Cat. A. B. Full, Spot, None FULL FULL 150 min / ec. No., Grada or Type ide to Pressure ex Concave — | & C) Eff. 1.0 1.0 1100 H.T Tim | Attachment welded or Attachment STRATCHT Type (Streight of Temp. 1100°F 1100°F 1100°F 0 Category A | atment Time 150min | |
| Tubesheet: SA 266- Tubesheet: SA 266- SA 266- Stationary (Mar') NA | r tube sections. / 2 | eted vesse (b Thick Nom. 5.71 5.71 100°F - Time & Te | 1.22 O.D., in. els or cl) Overa Corr. O Apa | nannels of Illength Type | m. thk., in. O.1 Nom. thk., in. O.1 Nom. th O.1 Nom. th O.1 Nom. th O.1 Nom. th Heat exchanger (ft & in.): Long. Joint (Cat. A) Full, Spot. None —— (b) Hemispherical Radius — (| Corr. 22 k., in. or gauge S 97!! Eff. — — — — SA 266/ | 0.1 Corr. ABow., in. Ci Type 1 1 1 Conv. Corv. Type 1 1 1 1 | Allow., in. 1400 Number roum. Joint (Cat. A. B. Full, Spot, None FULL FULL 150 min / ec. No., Grada or Type ide to Pressure ex Concave | & C) Eff. 1.0 1.0 1100 H.T Tim | Attachment welded or Attachment STRATCHT Type (Streight of Temp. 1100°F 1100°F 1100°F 0 Category A | atment Time 150min | |

FORM U-1 (Back)

| . MAWP | 21 - | (external) | si at max. to | inp | 82 | (external) | | n. design metal temp | | _ °F at | <u>80</u> p |
|---------------------------------------|------------------|--|---------------------------|------------------------|---|------------------------|---------------------|--------------------------------------|--|---|----------------------------|
| . Impact test Y | es, me | terials S | 1 266/2 a | and SA 51. | | 32°F, ot | | exempted as principles impact tested | oer UCS-66 | and UHA- | 51 |
| 3. Hydro., жүгүү хүү | gomb. te | st press | 3481.5 | psi | Proo | f test | NA | | | | |
| . Nozzles, inspectio | n, and s | afety valve ope | nings: | | | | | | ř., | - | |
| Purpose (Inlet, Diameter | | Diameter | Flange | Meterial | | Nozzie Thickness | | Reinforcement | How Attached | | Location |
| Outlet, Drain, etc.) | No. | or Size | Type | Nozzle | Flange | Nom. | Corr. | Material | Nozzie | Flange | , (Insp. Open.) |
| | | | | | | | | | | | |
| | | | | | | - " | | | | | |
| | - | | "see | attache | d U-4 | form" | | | | | |
| *** | - | - | | | | - | | | - | | |
| | + | | | | | | | | | | |
| | | | | | | | | | | | |
| . Supports: Skirt | No. | x no) | (No.) | Legs _ | (No.) | | BRACKET | ribe) | | | and how) |
| (List the name of N A | | | | | | ssioned Insp | ectors have | been furnished for th | e following iter | ns of the rep | ort: |
| Remarks: 1) 2) 3) | Expar | sion bello | oes, Tube ow is des | es & Inte signed in | mals o | ut of mat ance with | erial UN EJMA-Co | S S31050 (Code de.sp.r.18.7-2 | e <u>Case 2038</u> LO ⁴ N/mm,ax. | 3-3) .m.0.295" | .41 · 10 ³ cycl |
| 4) | Heads | and chan | nels are | designed | l per UCL | _ - 23 (a | 1) | | 30.00 | | |
| | 90 g | 1 | | CF | RTIFICATE | OF SHOP C | OMPLIANCE | | | | |
| We certify that th | e statem | ents made in t | his report ar | | | | | , construction, and v | workmanship o | f this vessel | conform to the |
| ASME Code for Pr | | | | | | | | | | | |
| U Certificate of A | rthorizati | on No | 15,904 | | Expires | <u>Ju.l</u> | .y 03 | | 19 98 | | <i>/</i> |
| Date March 5 | i, 1997 | Name SO | OELLER-E | BLECKMANN | Manufactu | APPARATE | TECHNIK | GYBH Signed | Kernslei | (Representative) | Porch, QH |
| | | | | C | ERTIFICATE | E OF SHOP I | NSPECTION | | se tos | | 2. |
| I, the undersigned and employed by | , holding KEM | a valid commis PER Nation | ssion issued nal Insur | by the Natio | nal Board o panies | f Boiler and | Pressure Ves | sel Inspectors and/o | r the State or Prove, Illino | nic | Illinois have inspected |
| the pressure vess | | | | | | | | | | 7-8-11 CV - AND CO 100 CO | |
| | | | | | | | | ision 1. By signing t | | | |
| | | | | | | | | Manufacturer's Data | | | |
| nor his employer | hall be li | able in any ma | nner for any | personal inju | iry or prope | erty damage | or a loss of a | any kind arising from | or connected v | vitn this inspe | ection. |
| Date March 5 | 1997 | Signed | A | MA (Authorized Ins | M_ pector) | | Commissi | ons NB No. 1 | 11328 "A" loard incl. endorseme | nt, State, Province | and No.) |
| A THE CORNEL TOWNS THE CO. | | | | CERTIFIC | CATE OF FI | ELD ASSEM | BLY COMPLI | ANCE | | | |
| We certify that th | e statem | ents on this re | port are corr | | | | | all parts of this vesse | l conforms with | h the requirer | needs of ASME |
| Code, Section VII | | | | | | | | | | | |
| U Certificate of A | uthorizati | on No | | | _ Expires | | | | 19 | | |
| | | | | | | | | _ | | | |
| Date | | Name | | | (Assembl | ior) | | Signed | - | (Representative) | |
| | | | | | *************************************** | | | | | | · |
| | y grante | 0 10 00 00 00 00 00 00 00 00 00 00 00 00 | 400 - 000 | | | IELD ASSEN | | | . sha Cs-s 5 | zavia 4 | |
| 1 202 | l, holding | a valid commi | ssion issued | by the Natio | nal Board o | of Boiler and | Pressure Ves | sel Inspectors and/o | r the State or P | rovince of | |
| and employed by | | amente in shi | Manufact | urar's Data | Range wit | th the door | rihad nraee | ure vessel and stat | te that parte | referred to | as data itams |
| nave compared | tne state | ements in thi | | | | | | , have been inspecte | | | |
| and belief, the M | enufactur | er has constru | | | | | | ASME Code, Section | | | |
| inspected and sul | | | | | | | | ite neither the Inspe | | | |
| | | | | described in | | | | ırthermore, neither th | | | |
| (5) | | | | | | | | ted with this inspecti | | | |
| Date | | Signed | | (1 | | | Commissi | ons | | | |
| | | | | | | | | | | | |