

1.E. Ord. No.

94-012

Cust. Item No.

#104344

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

E-1211-4

Manufactured and certified by Southern Heat Exchanger Corporation 6100 Old Montgomery Hwy.,

(Name and address of Manufacturer) Tuscaloosa, AL 35405

Manufactured for GLITZ Technology Corp. PARSIPPANY, NJ

(Name and address of Purchaser)

Location of installation CAPE INDUSTRIES WASHINGTON, NC

(Name and address)

Type: Horiz. Heat Exchanger 94-012 - SB-1625-2 7735 1994

(Horiz., vert., or other) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Natl. Bd. No.) (Year built)

ASME Code, Section VIII, Div. 1 1992, A92

Edition and Addenda (date) Code Case No. Special Service per UG-120(d)

Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 3'-9.625"

OD Course(s) No.	Course(s)		Material		Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time	
1	6.625"	3'-9.625"	SA-312-316L	.280"	.125"	1	NONE	85%	-					

Heads: (a) SA-403 WP 316L (4.50" OD) (b) (Marl Spec. No., Grade or Type) H.T. - Time & Temp

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
(a) WP DOME	.237"	.125"	-	WELD CAP	-					✓			
(b)													

If removable, bolts used (describe other fastening) WELDED (Marl Spec. No., Grade, size, No.)

3. Type of jacket NONE Jacket closure (Describe as ogee & weld, bar, etc.)

9. MAWP 150 psi at max. temp. 400 °F Min. design metal temp. 20 °F at 150 psi

10. Impact test NO UHA-SI(2) (Indicate yes or no and the component(s) impact tested)

11. Hydro. test press. 225 Proof test -

12. Tubesheet: SA-240-316L Stationary (Marl Spec. No.) Dia., in. (subject to press.) 6.625" Nom. thk., in. 1.125" Corr. Allow., in. .125" Attachment (welded or bolted) WELDED

13. Tubes: SA-249-317L Floating (Marl Spec. No.) Dia., in. .750" Nom. thk., in. 14 Corr. Allow., in. 16 Attachment STRAIGHT

14. Shell (a) No. of course(s): 2 (b) Overall length (ft & in.): 1'-5"

OD Course(s) No.	Course(s)		Material		Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time	
2	6.625"	0'-8.50"	SA-106 B	.280"	.0625"	J	NONE	85%	-					

15. Heads: (a) SA-105 (b) (Marl Spec. No., Grade or Type) H.T. - Time & Temp

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
ENDS	.9375"	.0625"						11"					

If removable, bolts used (describe other fastening) SA-193-B7 (B) EA. 3/4"-10. (Marl Spec. No., Grade, Size, No.)

16. MAWP 150 psi at max. temp. 400 °F Min. design metal temp. 20 °F at 150 psi.  
 (internal) (external) (internal) (external)

17. Impact test NO UG-20(f)  
 (Indicate yes or no and the component(s) impact tested)

18. Hydro. test press. 225 Proof test —

19. Nozzles, Inspection, and safety valve openings: UW-16.1

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
IN *	1	2"	150 #	SA-312-316	SA-105	.218"	.125"	UNREINFT	E	L.J.	
OUT-VENT-DRAIN	1-1	1"	"	SA-182F316	"	.250"	"	"	"	RFW	
VENT	1	3/4"	"	"	"	.218"	"	"	"	"	
IN-OUT DRAIN	1-1	2"	"	SA-106B	SA-105	.344"	.0625"	"	"	"	
VENT	1	3/4"	6000 #	SA-105	—	—	"	"	bb	NOGT CPLT	

\* LOCATED IN HEAD DESCRIBED IN LINE 7(2)

20. Supports: Skirt NO Lugs — Legs 2 Others — Attached SHELL WELDED.  
 (Yes or No) (No.) (No.) (Describe) (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:  
 (List the name of part, item number, mfg's. name and identifying number).

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22. Remarks: UG-46(a)

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CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1,

U Certificate of Authorization No. 7037 Expires 11/29, 1996

Date 6-25-94 Name Southern Heat Exchanger Corporation Signed Daniel H. Noland  
 (Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of NY and employed by Commercial Union Insurance Company of Boston, MA have inspected the pressure vessel described in this Manufacturer's Data Report on 6-25, 1994, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 6-25-94 Signed B.M. Brooks Commissions NB 5446A NY 2182  
 (Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1,

U Certificate of Authorization No. \_\_\_\_\_ Expires \_\_\_\_\_, 19 \_\_\_\_\_

Date \_\_\_\_\_ VPF No. : 38057WN \_\_\_\_\_ Signed \_\_\_\_\_  
 Equipment No. : E-1211-4 \_\_\_\_\_ (Representative)

Assembly Inspection  
 Boiler and Pressure Vessel Inspectors and the State or Province of \_\_\_\_\_  
 of \_\_\_\_\_  
 described pressure vessel and state that parts referred to as data items in the Manufacturer's Data Report, have been inspected by me and to the best of my knowledge and belief, the vessel was constructed in accordance with ASME Code, Section VIII, Division 1. The described vessel conforms to the requirements of ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date \_\_\_\_\_ Signed \_\_\_\_\_ Commissions \_\_\_\_\_  
 (Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

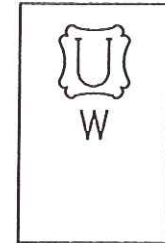
# 104344

	NATIONAL BOARD NO.	7735
	CERTIFIED BY	
	<b>SOUTHERN HEAT EXCHANGER CORP.</b>	
TUSCALOOSA, ALABAMA		
SHELL SIDE		
MAWP	150 / 7EV	PSI AT 200 °F.
MDMT	20	°F. AT 150 / 7EV PSI
TUBE SIDE		
MAWP	150	PSI AT 200 °F.
MDMT	20	°F. AT 150 PSI
SHECO SER. NO.	94-012	YEAR 1994
CUST. ORDER	21697	
CUST. ITEM	45-121-4	

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VPF No. : 38057WN  
 Equipment No. : E-1211-4  
 Project No. : 27-0188  
 P.O. No. : 32532  
 Approved by : P. Johnson  
 Sheet No. : 2  
 Account No. : 4009  
 Date : 4/5/95

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NATIONAL BOARD NO. LATER  
 CERTIFIED BY  
**SOUTHERN HEAT EXCHANGER CORP.**  
 TUSCALOOSA, ALABAMA

SHELL SIDE  
 MAWP 150/F.V. PSI AT 400 °F.  
 MDMT 20 °F AT 150/F.V. PSI  
 TUBE SIDE  
 MAWP 150 PSI AT 400 °F.  
 MDMT 20 °F AT 150 PSI

SHECO SER. NO. 94-012 YEAR 1994  
 CUST. ORDER 21697  
 CUST. ITEM E-1211-4

ASME CODE REQUIREMENTS		
	SHELL SIDE	TUBE SIDE
DESIGN PRESSURE	PSIG 150/F.V.	150
DESIGN TEMPERATURE (MAX/MIN)	°F 400/20	400/20
HYDRO. TEST PRESSURE (2 HOLD HOURS)	PSIG 225	225
CORROSION ALLOWANCE (EXCEPT TUBES)	1/8"	1/16"
POSTWELD HEAT TREATMENT	NONE	NONE
RADIOGRAPHIC EXAMINATION	NONE (6)	NONE (6)
METAL TEMP. (TEMA 7th ED.)	°F 280/70/200	280/85/105
ASME CODE STAMP / NAT'L BD. REG IS REQUIRED.		
CUSTOMER INSPECTION IS REQUIRED		
SPECIFICATIONS: 1992 ASME CODE SECT. VIII DIV. 1 ADDENDA-A92		
SPECIAL SERVICE: NONE CODE CASE: NONE PARTIAL DATA REPORTS: NONE		
TEMA (B) UG-20(f) UHA-51(a)		
TUBES: SA-249 317L (13) (14) WALL: AVG.		
NO. 16 O.D. 3/4" BWG. 14 LENGTH: 4'-0"		
TUBESHEETS: SA-240 316L		

PART	SHELL SIDE	TUBE SIDE
VESSEL	SA-312 316L	SA-106 GR. B
COVERS		SA-105
FORMED HEADS	SA-403 WP 316L	
BODY FLANGES		SA-105
NOZZLE FLANGES	SA-105/SA-182 F 316L	SA-105
NOZZLE PIPE	SA-312 316L	SA-106 GR. B
STUDS/NUTS	SA-193-B7/SA-194-2H	SA-193-B7/SA-194-2H
GASKETS	FLEXITALLIC CGI WITH TFE FILLER	KLINGER C4401 SEE SHEET 5 FOR DETAIL
INSULATION (BY OTHERS)	1 1/2"	NONE

REVISIONS	
Δ	03/17/94 REVISED NAME PLATE LOCATION.
Δ	03/02/94 GENERAL REVISIONS.
CERTIFIED	ENG. <span style="border: 1px solid black; padding: 2px;">JWA 3/18/94</span>
CUSTOMER	GLITSCH TECHNOLOGY CORP.
CUSTOMER P.O. NO.	21697
ITEM NO.	E-1211-4
PLANT	WILMINGTON, NC
TEMA SIZE AND TYPE	
(1) 6-48 NEN DEHYDRATOR JET CONDENSER	

SOUTHERN HEAT EXCHANGER CORP.  
 P.O. BOX 030008 TUSCALOOSA, AL. 35403

DATE 02/09/94	ORDER NO. 94-012	DWG. NO. SB-1625-2
BY T.E.M.		SHEET 1 OF 5

**CAUTION**

THE PRESSURE AND TEMPERATURES SHOWN ON THE S.H.E. NAMEPLATE RELATE ONLY TO THE PRESSURE RETENTION CAPABILITY OF THIS HEAT EXCHANGER. COMPONENTS OF THIS HEAT EXCHANGER HAVE BEEN DESIGNED FOR SPECIFIC OPERATING CONDITIONS. A CHANGE IN SERVICE OR DEVIATION FROM THE SPECIFIED OPERATING CONDITIONS REQUIRES THAT A MECHANICAL DESIGN CHECK BE MADE IN ORDER TO AVOID POSSIBLE DAMAGE TO THE HEAT EXCHANGER.

**NOTES**

1. EST. WT. EMPTY: 303# FULL: 365# BDL: -
2. ALL BOLT HOLES STRADDLE NORMAL CENTERLINES.
3. PLYWOOD COVERS ON ALL OPEN NOZZLES WITH FULL FACE RED RUBBER GASKETS BOLTED IN PLACE WITH A FULL COMPLIMENT OF BLACK IRON BOLTS.
4.  MAIN GASKET SURFACES.
5. PAINT: SANDBLAST O.S. PER SP-6. C.ST'L ONLY: APPLY (1) PRIME COAT OF CARBOLINE CARBOZINC 11HS, 3-5 MILS D.F.T. APPLY (1) INTERMEDIATE COAT OF CARBOLINE 890, 4-7 MILS D.F.T. APPLY (1) FINISH COAT OF CARBOLINE 134HS, 2-3 MILS D.F.T. TOTAL D.F.T. OF 9 TO 15 MILS. PER SPEC. 11CS-696. S.ST'L ONLY: APPLY (1) PRIME COAT OF GLIDDEN GLID GUARD SILICONE HI-TEMP 5548. APPLY A SECOND COAT OF THE SAME FOR TOTAL MINIMUM OF 1.5 MILS D.F.T. PER SPEC. 11CS-674.
6. SPOT RADIOGRAPHY WAS SPECIFIED; HOWEVER, THERE IS NOT A PLACE TO TAKE A SPOT.
7. MATERIAL OF FOREIGN ORIGIN SHALL BE IDENTIFIED TO BUYER BEFORE USE AND AGREED TO BY BUYER.
8. COAT ALL EXPOSED GASKET SURFACES WITH RUST VETO HEAVY.
9. PAINT P.O. NUMBER AND EQUIPMENT NUMBER ON THE SHELL IN 3" HIGH LETTERS WITH HIGHLY VISIBLE PAINT.
10. SPARE GASKETS TO BE BOXED AND LABELED WITH PURCHASE ORDER NUMBER & EQUIPMENT NUMBER IN 3" HIGH LETTERS.
11. INSIDE OF UNIT SHALL BE CLEAN, DRY AND FREE OF FOREIGN MATERIAL AND LOOSE SCALE.
12. MARKING INKS, CRAYONS, OR PAINTS THAT CONTAIN CHLORINE, CARBON, OR HARMFUL METALS OR METAL SALTS SUCH AS ZINC, LEAD, OR COPPER WHICH MAY CAUSE CORROSIVE ATTACK WHEN THE PART IS HEATED SHALL NOT BE USED. WAX CRAYON OR VEGETABLE DYE MARKERS ARE ACCEPTABLE.
13. TUBES ARE TO BE COLD DRAWN WITH 15% MINIMUM WALL REDUCTION.
14. ALL 317L MATERIAL MUST MEET THE CHEMICAL AND PHYSICAL PROPERTIES OF SA-240 317L.

**NON-PRESSURE PARTS**

SUPPORTS	SA-36
BAFFLES / SUPPORTS	316L S.ST'L
TIE RODS / SPACERS	316L S.ST'L
GUSSETS	SA-240 316L
IMPINGEMENT PLATE	SA-240 316L
PASS PARTITION	SA-240 316L
NAME PLATE BRACKET	SA-240 316L

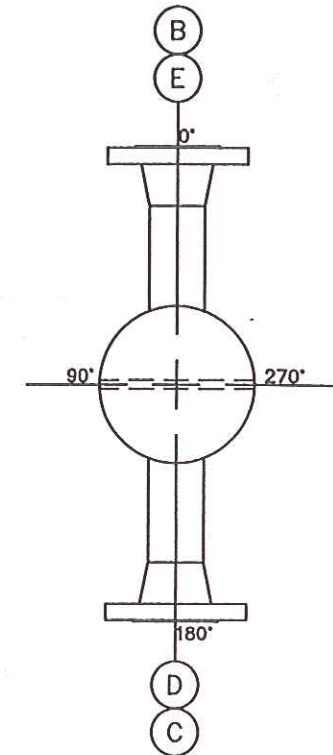
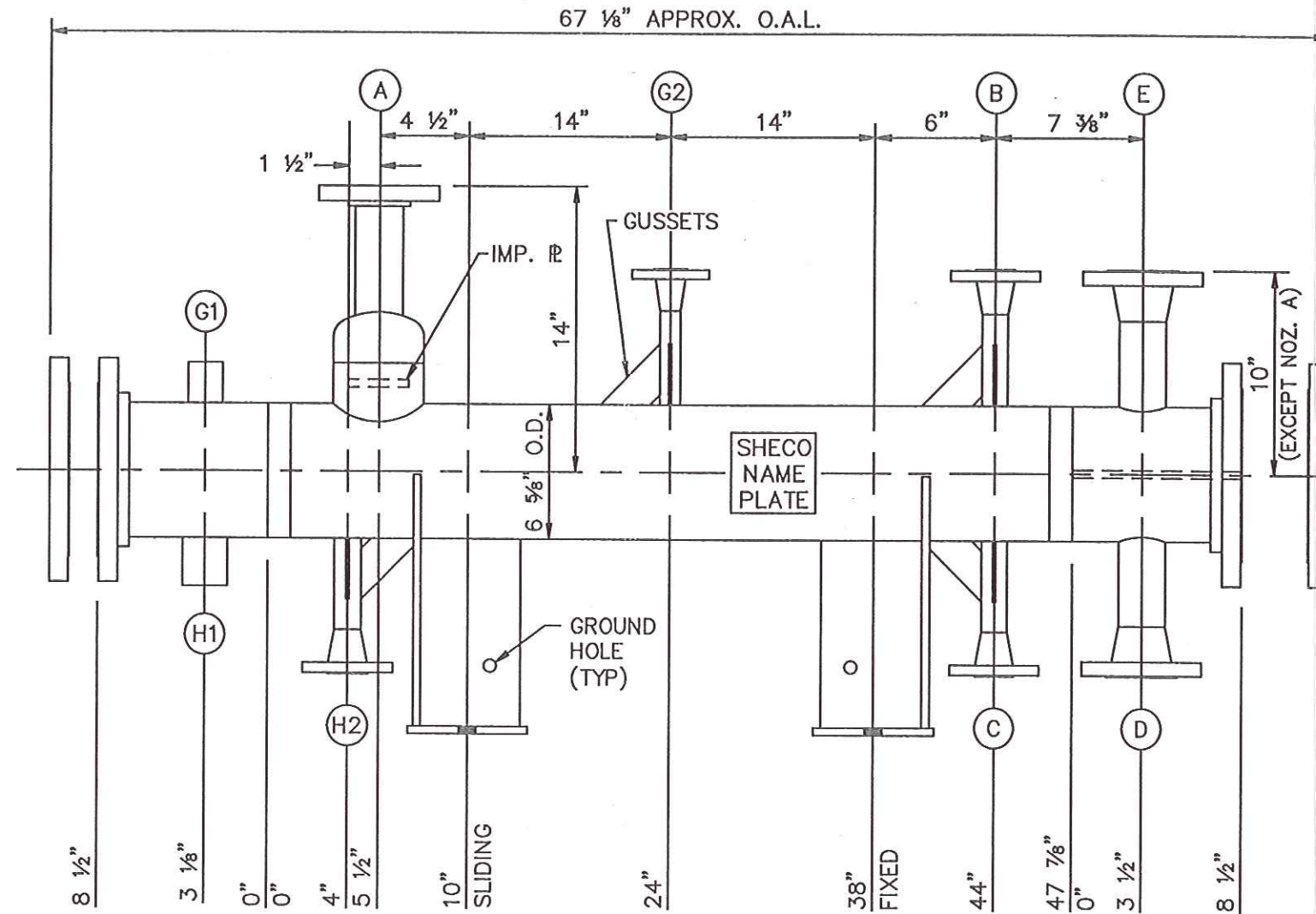
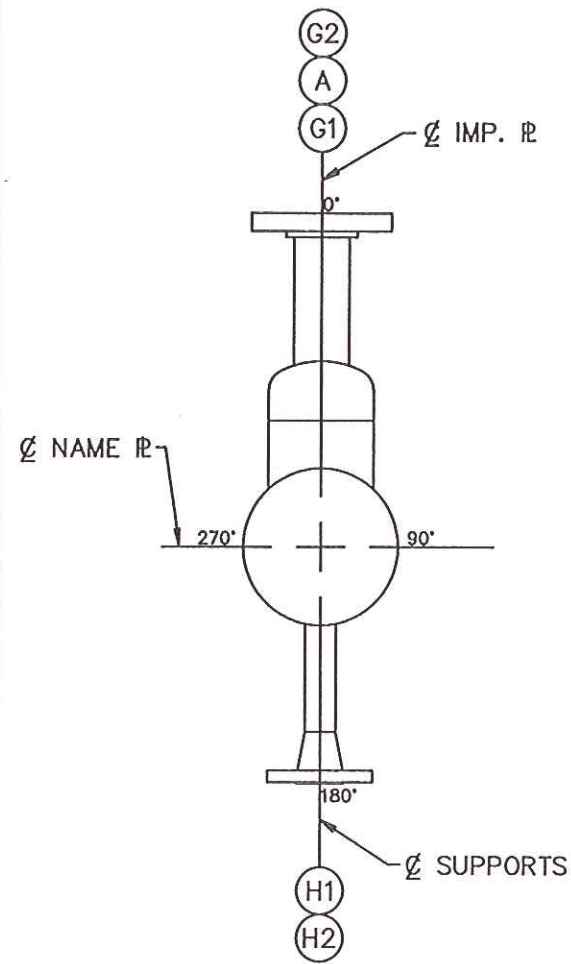
**ANSI NOZZLE SCHEDULE**

	SIZE	RATE	FACE	NOZZLE NECK	SERVICE
				TUBE SIDE	<del>STOCK</del>
D	2"	150#	RFWN	SCH. 160	COOLING WATER SUPPLY
E	2"	150#	RFWN	SCH. 160	COOLING WATER RETURN
G1	3/4"	6000#	THD.	VOGT. CPLT. PLUGGED	VENT
H1	1"	6000#	THD.	VOGT. CPLT. PLUGGED	DRAIN
				SHELL SIDE	125-250
A	2"	150#	L.J.	SCH. 80	JET EFFLUENT
B	1"	150#	RFWN	SCH. 160	VENT
C	1"	150#	RFWN	SCH. 160	JET CONDENSATE
★ G2	3/4"	150#	RFWN	SCH. 160	VENT
★ H2	1"	150#	RFWN	SCH. 160	DRAIN

- ★ PROVIDE WITH BLIND, BOLTING, AND FLEXITALIC STYLE CGI 316 S.ST'L SPIRAL WOUND GASKET WITH TFE FILLER.
- FURNISH WITH A 4" SCH. 40 WELD-CAP EXTENDED WITH 4" SCH. 40 PIPE.

WPS P1-P1	W-42(SMAW) W-72(FCAW) W-89(SAW)
WPS P1-P8	W-2(SMAW) W-112(FCAW) W-100(SAW)
WPS P8-P8	W-3(SMAW) W-81(FCAW) W-90(SAW) W-97(GTAW)

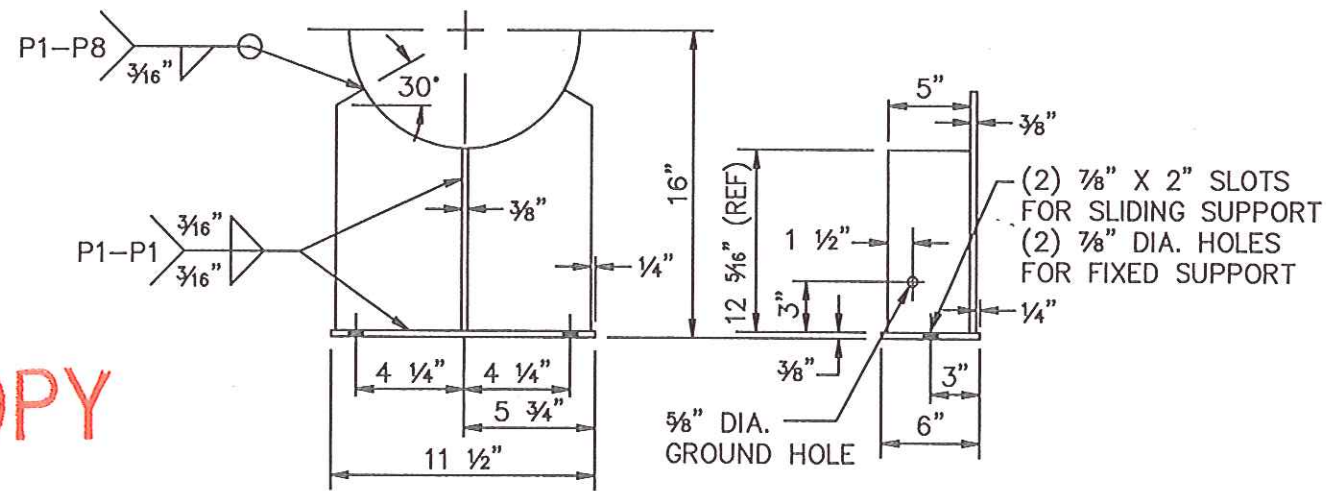
# 104344



ORIENTATION

ELEVATION

ORIENTATION



SUPPORT DETAIL

-  C.ST'L
-  316L S.ST'L
-  317L S.ST'L

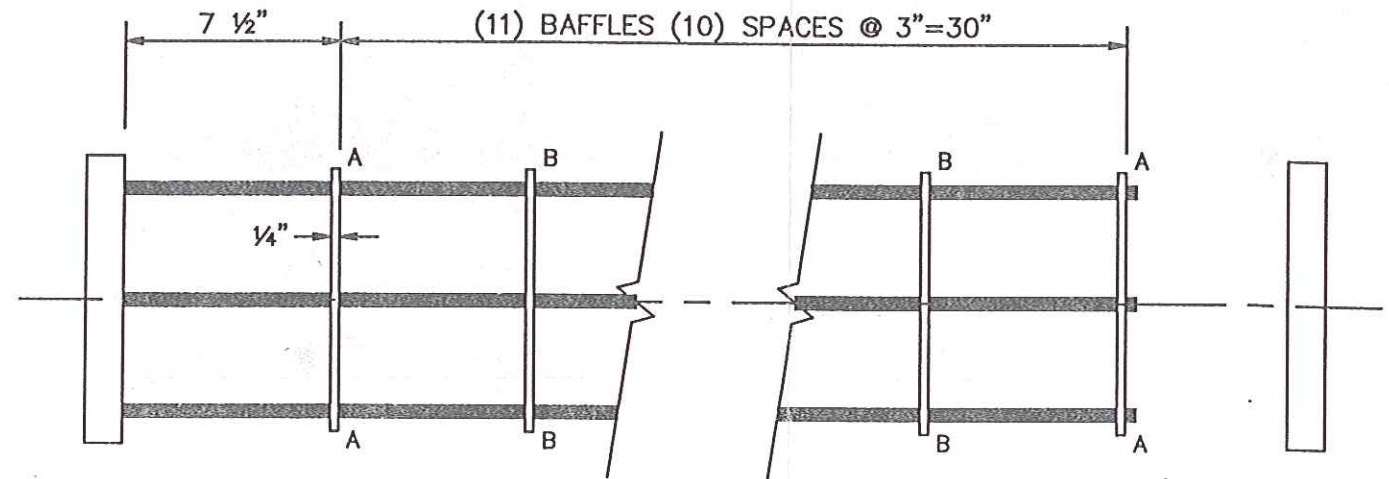
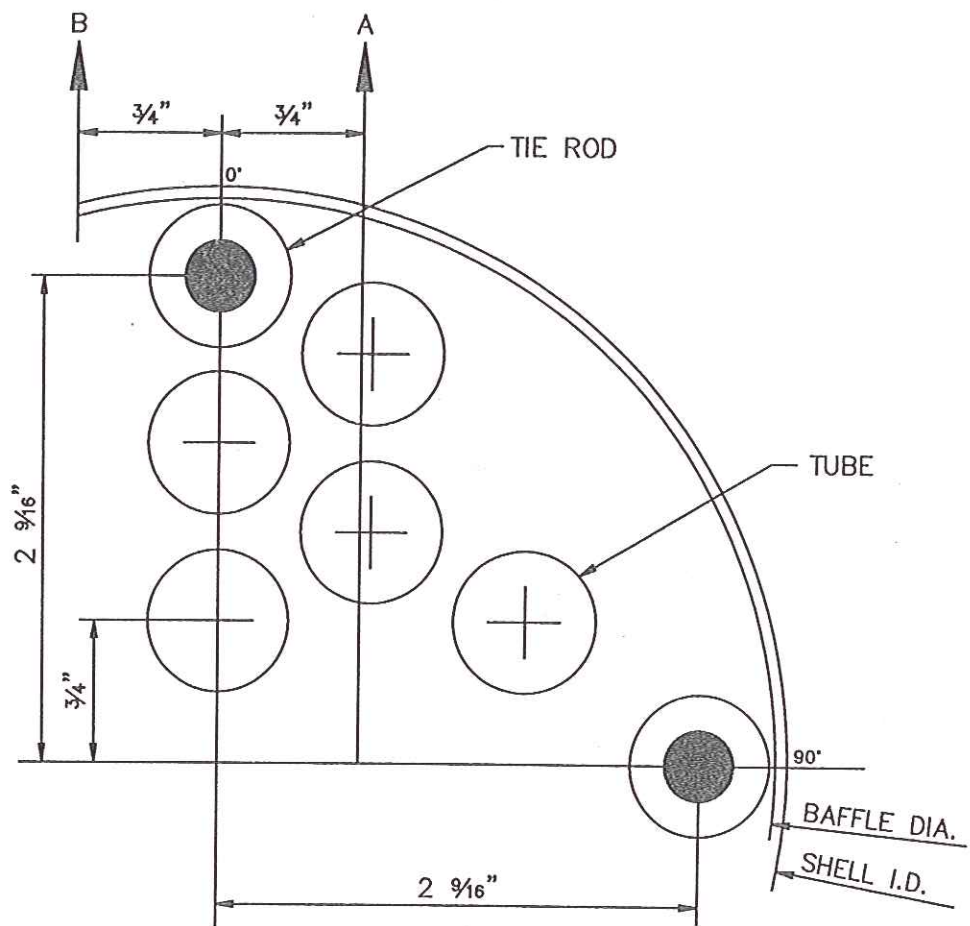
CERTIFIED	ENG. <i>80A 3/18/94</i>	
CUSTOMER GLITSCH TECHNOLOGY CORP.		
CUSTOMER P.O. NO. 21697		
ITEM NO. E-1211-4	PROJ. NO. 6K-1512	
PLANT WILMINGTON, NC		
TEMA SIZE AND TYPE (1) 6-48 NEN DEHYDRATOR JET CONDENSER		
SOUTHERN HEAT EXCHANGER CORP. P.O. BOX 030008 TUSCALOOSA, AL. 35403		
DATE 02/09/94	ORDER NO.	DWG. NO. SB-1625-2
BY T.E.M.	94-012	SHEET 2 OF 5

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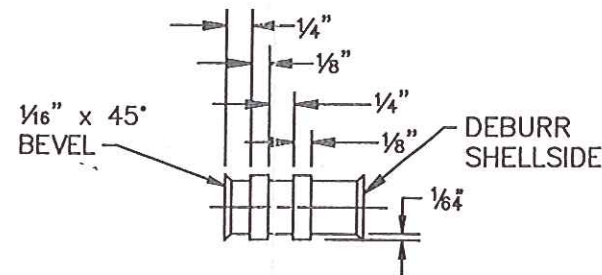
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BUNDLE DETAIL

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TUBE O.D.	3/4"
NO. OF TUBES	16
SIZE OF TUBE HOLE IN TUBESHEET	0.760"
SIZE OF TUBE HOLE IN BAFFLE	25/32"
PITCH	15/16" 30° TRI.
TIE ROD O.D.	3/8"
NO. OF TIE RODS	4
TIE ROD HOLE SIZE IN TUBESHEET	7/16" x 1/2" DP. (SEAL WELD)
TIE ROD HOLE SIZE IN BAFFLE	7/16"
SPACER O.D.	3/4"
DUMMY TUBE O.D.	-
NO. OF DUMMY TUBES	-
DUMMY TUBE HOLE SIZE IN BAFFLES	-
O.T.L.	5.4338"
BAFFLE DIA.	5.9400"
BAFFLE CUT ALTERNATES	(6) A-A, (5) B-B



TUBE HOLE DETAIL

- C.ST'L
- 316L S.ST'L
- 317L S.ST'L

CERTIFIED	ENG. <i>MA 3/18/94</i>	
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