

E-7106 98663

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

1. Manufactured and certified by OHMSTEDE, INC., ST. GABRIEL PLANT, 4250 HWY 30, ST. GABRIEL, LA 70776
(Name and address of Manufacturer)
2. Manufactured for MELAMINE CHEMICALS, DONALDSONVILLE, LOUISIANA
(Name and address of Purchaser)
3. Location of installation MELAMINE CHEMICALS, DONALDSONVILLE, LOUISIANA
(Name and address)
4. Type: HORIZONTAL HEAT EXCHANGER 530195
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Mfg's serial No.)
- 530195 839 1995
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year Built)
5. ASME Code, Section VIII, Division 1 1992 EDIT., 1993 ADD NONE NONE
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.

6. Shell (a) No. of course(s): 3 (b) Overall length (ft & in.): 13'8 7/8" *

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
2	29 1/4" ID	6'5 5/16"	SA516-70		.375	.062	1	SPOT	.85	1	FULL	1.0	--	--
1	29 1/4" ID	0'10 1/4"	SA516-70		.375	.062	5	NONE	1.0	1	FULL	1.0	1150	45 MIN

7. Heads: (a) -- (b) --
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp. (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp.

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

If removable, bolts used (describe other fastening) --
(Mat'l Spec. No., Grade, size, No.)

8. Type of jacket -- Jacket closure --
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions -- If bolted, describe or sketch.

9. MAWP 250 -- psi at max. temp. 401 -- °F. Min. design metal temp. 10 °F at 250 psi.
(internal) (external) (internal) (external)

10. Impact test NO PER UCS-66(a) & UHA 51
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. 375 Proof test --

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA240-316L 29 1/4" 1 9/16" .0625 WELDED
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
- SA240-316L 34 1/8" 1 9/16" .0625 WELDED
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: SA249-316L 3/4" 16 BWG. 686 STRAIGHT
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): -- (b) Overall length (ft & in.): --

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time

15. Heads: (a) -- (b) --
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp. (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp.

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

If removable, bolts used (describe other fastening) --
(Mat'l Spec. No., Grade, size, No.)

FORM U-1 (Back)

16. MAWP 15 (internal) (external) psi at max. temp. 400 (internal) (external) °F. Min. design metal temp. 10 °F at 15 psi.

17. Impact test

NO PER UCS-66(a) & UHA 51

(Indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press. --

Proof test --

19. Nozzles, inspection, and safety valve openings:

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	
INLET	1	6"	LWN	--	SA105	1.06	.062	INHERENT	--	FPW	SHELL
OUTLET	1	3"	LWN	--	SA105	.810	.062	INHERENT	--	FPW	SHELL
VENT	1	1/2"	CPLG	SA105	--	6000#	.062	INHERENT	--	FPW	SHELL
DRAIN	1	3/4"	CPLG	SA105	--	6000#	.062	INHERENT	--	FPW	SHELL
PRESSURE	1	1/2"	CPLG	SA105	--	6000#	.062	INHERENT	--	FPW	SHELL
(SEE REMARKS)											

20. Supports: Skirt NO (Yes or no) Lugs 2 (No.) Legs -- (No.) Others -- (Describe) Attached SHELL, WELDED (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)

SHELL 530195-1,2 OHMSTEDE, INC., LAKE CHARLES PLANT, SULPHUR, LOUISIANA,1739722. Remarks: ITEM #6 CONT: *29 1/4" I.D. FLUE X 41 1/4 I.D. FLANGE X 3/8" THICK EXPANSION JOINTITEM#19 CONT: NO RADIOGRAPHY EFFICIENCY 85%ITEM NO. E-7106 P.O. NO.: 78576

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. 10562 Expires 7-14, 19 97Date 3-1-95 Name OHMSTEDE, INC., ST. GABRIEL PLANT (Manufacturer) Signed Anthony J. Behnd (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of LA and employed by H.S.B.I. & I. CO. of HARTFORD, CT have inspected the pressure vessel described in this Manufacturer's Data Report on 3-2, 19 95, 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 3-2-95 Signed Charles B. Efferson (Authorized Inspector) Commissions NB9849A LA922 (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 _____ Name _____ (Assembler) Signed _____ (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of _____ and employed by _____ of _____ have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of _____ psi. 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 _____ (Authorized Inspector) Commissions _____ (Nat'l Board incl. endorsement, State, Province and No.)

FORM R-2 REPORT OF ALTERATION

in accordance with provisions of the National Board Inspection Code

RETUBE
98663

1. Work performed by OHMSTEDE, INC., ST. GABRIEL PLANT
(name of alteration organization)
4250 HIGHWAY 30, ST. GABRIEL, LOUISIANA 70776
(address)
031112
(Form R No.)
(P.O. No. Job No. etc.)

2. Owner BORDEN CHEMICAL
(name)
DONALDSONVILLE, LA
(address)

3. Location of installation BORDEN CHEMICAL
(name)
DONALDSONVILLE, LA
(address)

4. Unit identification EXCHANGER Name of original manufacturer UNKNOWN
(boiler, pressure vessel)

5. Identifying nos.: UNKNOWN
(mfg serial no.) (National Board No.) (jurisdiction no.) (other) (year built)

6. NBIC Edition/Addenda: 1998 ED 1999AD
(edition) (addenda)
Original Code of Construction for Item: ASME/VIII/DIV I UNKNOWN
(name / section / division) (edition / addenda)
Construction Code Used for Alteration Performed ASME/VIII/DIV I 1998 ED / 1998 AD
(name / section / division) (edition / addenda)

7. Description of work: RETUBED BUNDLE WITH (684) 3/4" OD 16 GA. 14'-0" LG SA789S31803 TUBES AND NEW 1 11/16" THK. SA240S31803
(use supplemental sheet, Form R-4, if necessary)
TUBESHEETS. PT EXAMINED TUBESHEET WELD PREPS, ATTACHMENT WELDS AND TUBE SEAL WELDS. HYDROTESTED SHELLSIDE AT
* PSI.

NOTE: ORIGINAL TUBESHEET MATERIAL WAS SA240-316L AND TUBE MATERIAL SA249-316L.

Hydrostatic Pressure Test, if applied *375 psi

8. Replacement Parts. Attached are Manufacturer's Partial Data Reports or Form R-3s properly completed for the following items of this report:

9. Remarks: ITEM NO. : E-7106
(name of part, item number, data report type, mfr's. name and identifying stamp)
P.O. NO. : 130109

DESIGN CERTIFICATION

I, ANTHONY J. BABIN, certify that to the best of my knowledge and belief the statements in this report are correct and that the Design Change described in this report conforms to the National Board Inspection Code.

National Board "R" Certificate of Authorization No.

2817

expires on

7/14

, 2003

Date 11-7-00OHMSTEDE, INC., ST. GABRIEL PLANTSigned *Anthony J. Babin*

(authorized representative)

(name of design organization)

CERTIFICATE OF DESIGN CHANGE REVIEW

I, Don Jones, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of LA and employed by

HSBI&I CO.

of

HARTFORD, CT.

have

reviewed the design change as described in this report and state that to the best of my knowledge and belief such change complies with the applicable requirements of the National Board Inspection Code.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date 10/4/00Signed *Don Jones*

(inspector)

Commissions NC7114, LAG78

(National Board (incl endorsements), and jurisdiction, and no.)

CONSTRUCTION CERTIFICATION

I, ANTHONY J. BABIN, certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Alteration conforms to the National Board Inspection Code.

National Board "R" Certificate of Authorization No.

2817

expires on

7/14

, 2003

Date 11-7-00OHMSTEDE, INC., ST. GABRIEL PLANTSigned *Anthony J. Babin*

(authorized representative)

(name of alteration organization)

CERTIFICATE OF INSPECTION

I, Don Jones, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of LA and employed by

HSBI&I CO.

of

HARTFORD, CT.

have

inspected the work described in this report on 10/28, 2000 and state that to the best of my knowledge and belief this work complies with the applicable requirements of the National Board Inspection Code.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date 11/8/00Signed *Don Jones*

(inspector)

Commissions NC7114, LAG78

(National Board (incl endorsements), and jurisdiction, and no.)

FORM U-1A MA **FACTURER'S DATA REPORT FOR PRESSURE VESSELS**
(Alternative Form 1) **Single Chamber, Completely Shop-Fabricated**
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

PO 129778

1. Manufactured and certified by HIGHLAND FABRICATORS, INC., 469 WEST 19TH STREET RESERVE, LOUISIANA 70084
(Name and address of manufacturer)
2. Manufactured for Borden Chemical, Inc., Melamine Crystal Division, PO Box 748, Donaldsonville, LA 70346
(Name and address of purchaser)
3. Location of installation Borden Chemical, Inc., Melamine Crystal Division, 39041 River Rd, HWY. 18 West, Donaldsonville, LA 70346
(Name and address)

4. Type: 90° reducing mitered elbow 02027 - 02027 81 2000
(Horiz. or vert. tank) (Mfr's serial No.) (CRN) (Drawing no.) (Nat'l Bd. No.) (Year built)
5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1998
Year

to 1999
Addenda (Date) Code Case Nos. Special Service per UG 120(d)
6. Shell: SA-240 Ty 316L .375 .125 13 1/4" x 29 1/4" 34 1/8" x 24 9/16"
Matl. (Spec No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)
7. Seams: Type 1 Spot .85 - - Type 1 Spot 5
Long. (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp (F) Time (hr) Girth (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Matl. - (b) Matl. -
(Spec No., Grade) (Spec No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	-									
(b)	-									

If removable, bolts used (describe other fastenings) -

(Matl., Spec. No., Gr., Size, No.)

9. MAWP 15 psi at max. temp. 400 °F
Min. design metal temp. 20 °F at 15 psi. Hydro., ~~power~~, or ~~steam~~ test pressure 20 psi.

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location

11. Supports: Skirt No Lugs - Legs - Other - Attached -
(Yes or no) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: -

(Name of part, item number, Mfr's name and identifying stamp)

Hydrotested in the vertical position. Owner to provide pressure relief protection per UG-125(a). 14" 150# SA-105 Lap Joint Flange and 30" machined Lap Joint Flange SA-516-70, (28) 7/8" diameter holes on a 32 1/2" bolt circle located at ends of reducing elbow. Impact exempt per UCS-66(a), UCS-66(b), UCS-66(c), UHA-51(d)(1)(a)

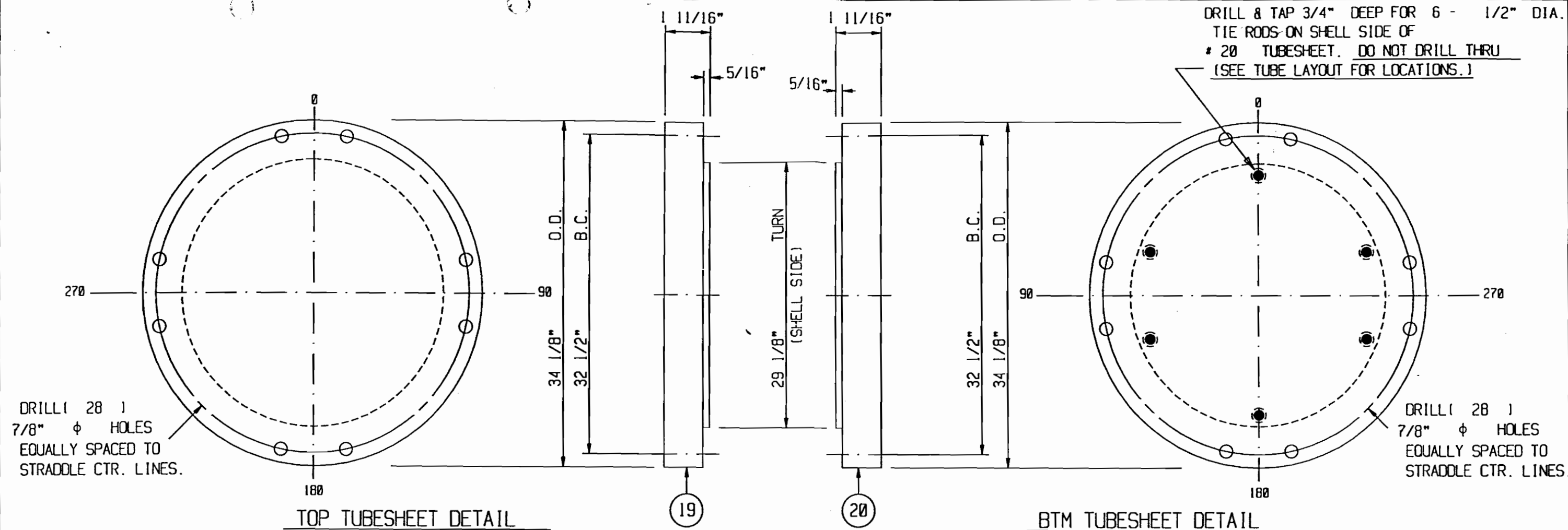
CERTIFICATE OF SHOP COMPLIANCE

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. 26,163 expires 2/11, 2001
Date 9/7/2000 Co. Name HIGHLAND FABRICATORS, INC. Signed Andrew Lippert
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

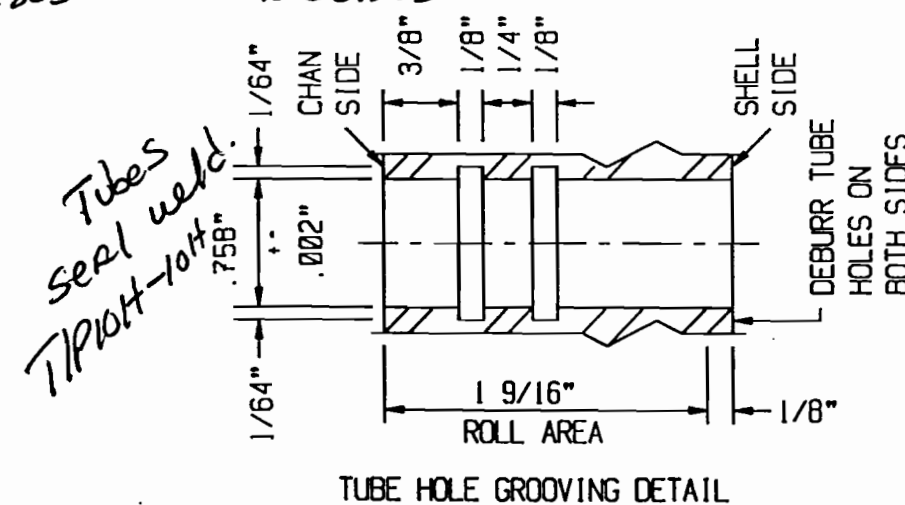
Vessel constructed by Highland Fabricators, Inc. at Reserve, LA
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Louisiana and employed by Commercial Union Insurance Company have inspected the component described in this Manufacturer's Data Report on 9/7, 2000, 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 9/7/2000 Signed Frank E. B. Lippert Commissions NB 12114A LA 1383
(Authorized Inspector) (Nat'l Board. (incl. endorsements) State, Prov. and No.)

98663



5A240-531803

5A240-531803



CUSTOMER: MELAMINE CHEMICAL
JOB NO.: 031112
P.O. NO.: 78576
ITEM NO.: E-7106
SHIP TO : DONALDSONVILLE, LA.

AS BUILT

TUBESHEET DETAILS

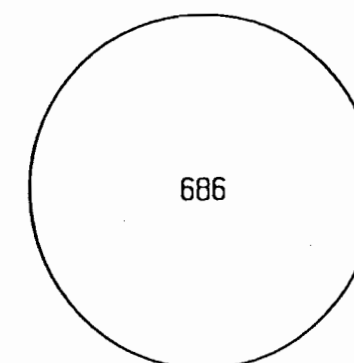
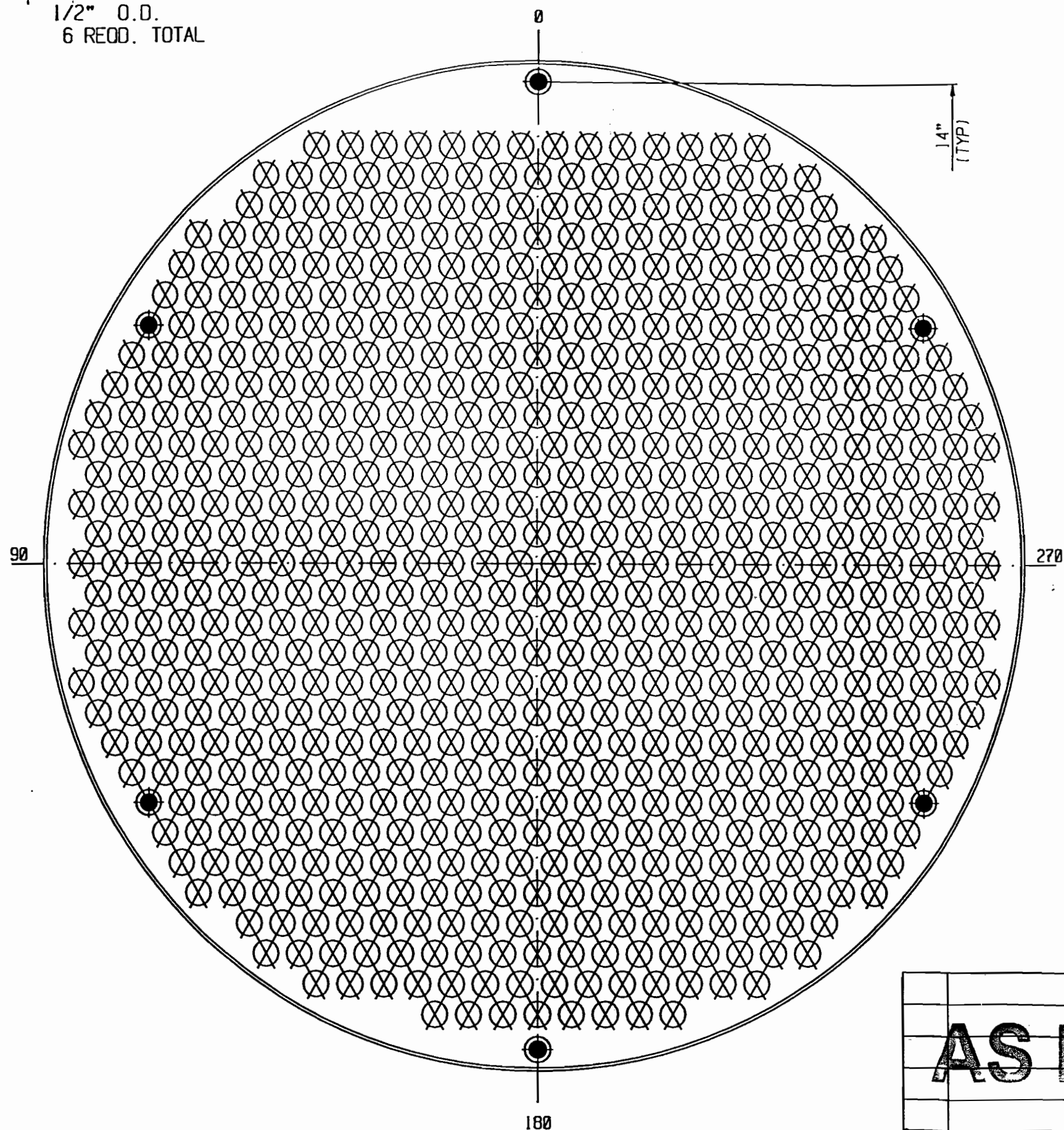
OHMSTEDE

0 RELEASE FOR FAB.

BK GK 2-27-95

DRAWING NO.

TIE RODS.
1/2" O.D.
6 REQD. TOTAL



TUBE DISTRIBUTION

NOTES:

- 1) DRILL AND REAM TUBE HOLES IN TUBESHEETS TO .758" \pm .002" DIA. FOR 686 - 3/4" O.D. TUBES.
- 2) TUBE PITCH = 1" TRIANGLE.
- 3) NUMBER OF PASSES = 1
- 4) SEE DRAWING 530195-SHT# 4 FOR TUBE HOLE GROOVING DETAILS.
- 5) BAFFLE O.D. = 29 1/16"
- 6) O.T.L. = 28 3/4"

CUSTOMER: MELAMINE CHEMICAL
JOB NO.: ~~000000~~ 031112
P.O. NO.: 78576
ITEM NO.: E-7106
SHIP TO : DONALDSONVILLE, LA.

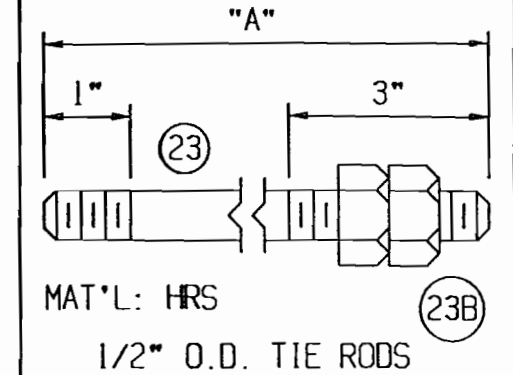
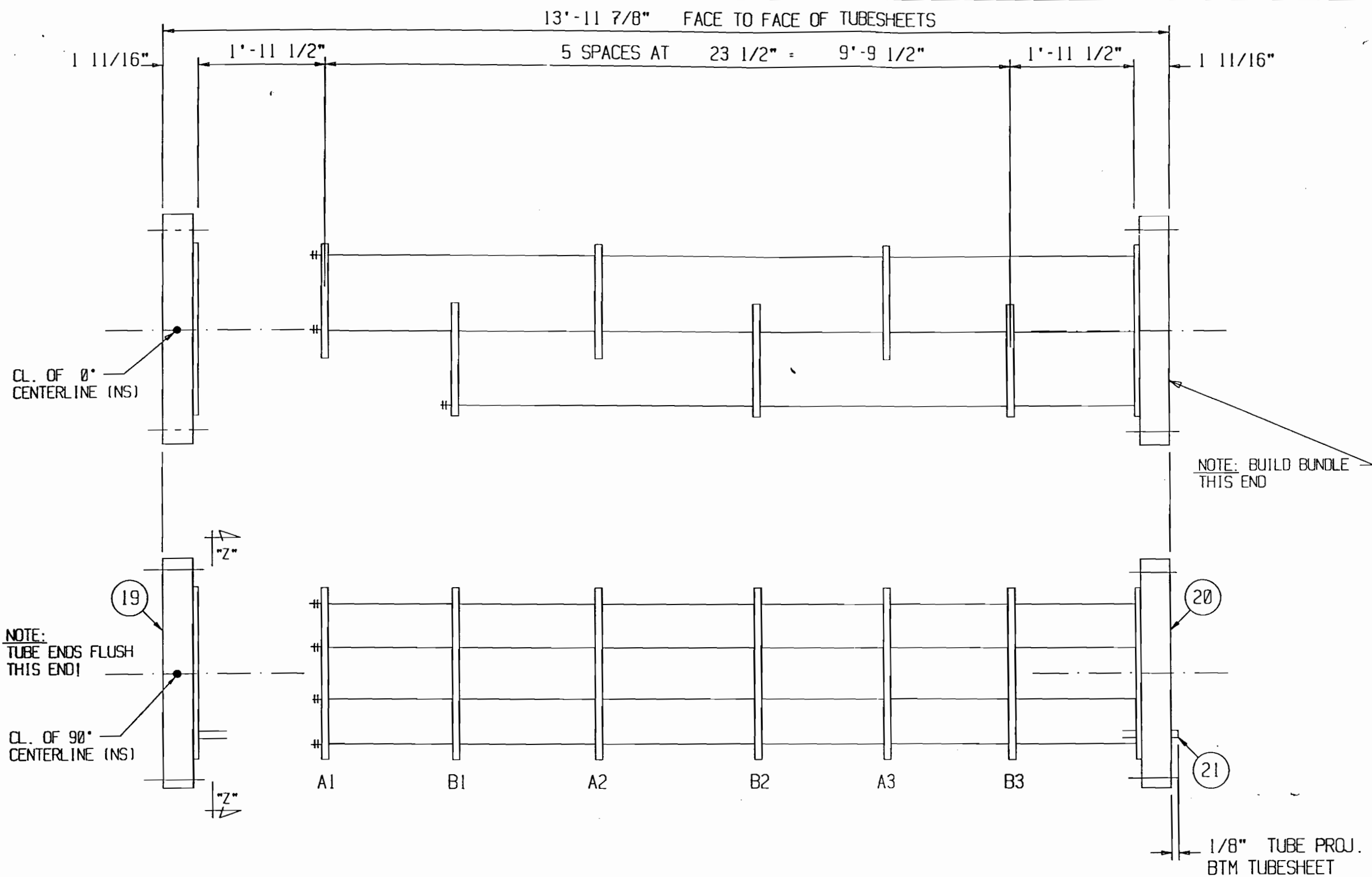
AS BUILT

TUBE LAYOUT

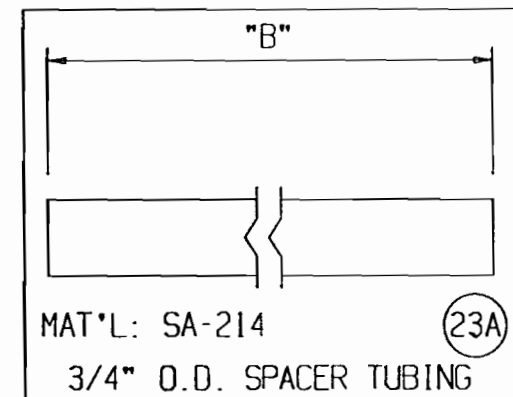
OHMSTEDE

VIEW LOOKING AT TUBE SIDE OF NO. 20 TUBESHEET

RELEASE FOR EAP LK GK 2-27-95 DRAWING NO. SHEET NO. 1 REV



REQ'D.	"A"
4	11'-11 9/16"
2	10'-0 1/16"



REQ'D.	"B"
4	1'-11 5/16"
2	3'-10 13/16"
10	1'-11 1/8"
8	3'-10 5/8"

NOTES:

1) SEE DWG. NO. 530195-SHT# 7 FOR SECTION AND VIEW DETAILS.

CUSTOMER: MELAMINE CHEMICAL
 JOB NO.: 031112
 P.O. NO.: 78576
 ITEM NO.: E-7106
 SHIP TO: DONALDSONVILLE, LA.

AS BUILT

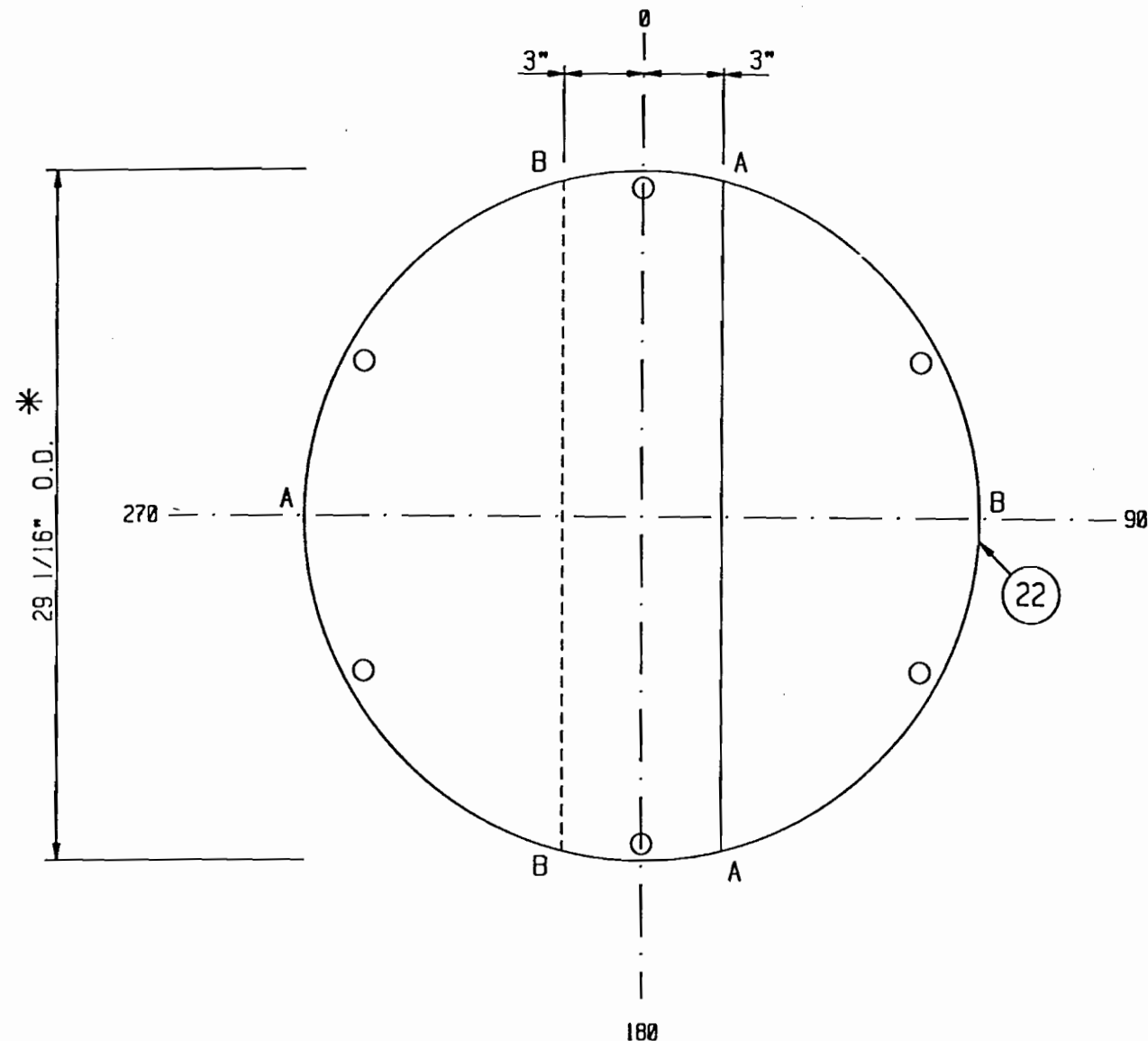
RELEASE FOR FAB. BK CK 2 21 55

BUNDLE DETAILS

OHMSTEDE

DRAWING NO.

SHEET NO. | REV.



VIEW ZZ OF BAFFLES

3/8" THK.

3 -REQ'D. CUT "AAA"

3 -REQ'D. CUT "BBB"

NOTES:

- 1) DRILL TUBE HOLES IN BAFFLES 25/32" DIA. & DEBURR.
- 2) DRILL TIE ROD HOLES 9/16" DIA.
SEE TUBE LAYOUT FOR LOCATION.
- 3) RADIUS ALL CORNERS ON BAFFLE CUTS.
- * 4) CHECK SHELL I.D. BEFORE MACHINING BAFFLE O.D.
- 5) MACHINE O.D. OF BAFFLES TO 250 RMS.

CUSTOMER: MELAMINE CHEMICAL
JOB NO.: 031112
P.O. NO.: 78576
ITEM NO.: E-7106
SHIP TO : DONALDSONVILLE, LA.

AS BUILT

BAFFLE DETAILS

OHMSTEDE