

FORM U-1A MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS (Alternate Form for Single Chamber, Completely Shop-Fabricated Vessels Only)

99157

as required by the provisions of the ASME Code rules, Section VIII, Division 1

1. Manufactured and certified by ALABAMA HEAT EXCHANGERS, INC., 5751 LARUE STEINER ROAD, THEODORE, AL 36582
(name and address of manufacturer)
2. Manufactured for HULS AMERICA INC., P.O. BOX 889, THEODORE, ALABAMA 36590
(name and address of purchaser)
3. Location of installation HULS AMERICA INC., P.O. BOX 889, THEODORE INDUSTRIAL PARK, THEODORE, AL 36590
4. Type: HORIZONTAL/TANK AHE-388 N/A 3356F951 144 1996
(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 Code, Section VIII, Division 1: 1992
A94 N/A NONE
(addenda (date)) (Code Case no.) (year)
6. Shell: SA-240-316L .250 .06 3'-0" O.D. 4'-6" T.L./T.L.
(mat'l. spec. no., grade) (nom. thickness (in.)) (corr. allow. (in.)) (dia. ID (ft. & in.)) (length (overall) (ft. & in.))
7. Seams: TYPE 1 SPOT 85% ----- ----- ----- ONE
(long (welded, dbr., ang.), lap, butt) (RT (spot or full)) (left (ft.)) (HT temp. (°F)) (time (hr.)) (depth (welded, dbr., ang.), lap, butt) (RT (spot, partial, or full)) (no. of courses)
8. Heads: (a) SA-240-316L, TYPE 1, SPOT, 100% (b) N/A
(mat'l. spec. no., grade) (mat'l. 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)	ENDS	.186	.06	35.63	2.14	-----	-----	-----	-----	CONCAVE
(b)										

- If removable, bolts used (describe other fastenings): N/A
9. MAWP: 50/PV at max. temp. 491 Min design metal temp. 20 1 1/2" V 50%PV Hydro. XXXXXX test pressure 75
(ps) (°F) (°F) (in.) (V L (ps)) (ps)

10. Nozzles, inspection and safety valve openings:

Purpose (inlet, outlet, drain, etc.)	No.	Dia. or Size	Type	Mat'l.	Thickness	Reinforcement Mat'l.	How Attached	Location
INLET	1	6"	RFSO	A312 316L	.280	SA-240-316L	FIG (g)	HEAD
INSP.	1	4"	RFSO	A312 316L	.237	INTRINSIC	FIG (e)	NOZZLE
OUTLET	1	3"	RFSO	A312 316L	.216	INTRINSIC	FIG (e)	SHELL
IN/OUT	2	2"	RFSO	A312 316L	.216	INTRINSIC	FIG (e)	HEAD
IN/OUT	5	2"	RFSO	A312 316L	.154	INTRINSIC	FIG (e)	SHELL
TEMP	2	1 1/2"	RFSO	A312 316L	.145	INTRINSIC	FIG (e)	SHELL

11. Supports: Skirt NO Lugs ----- Legs ----- Other (2) SADDLES Attached SHELL/WELDED
(yes or no) (no) (no) (describe) (where & how)
12. Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: NONE
(name of part, item number, mfr's name and identifying stamp)
- NO IMPACTS PER UHA -51 (a). *SEE FORM U-4
- EQUIP. NO. V-2813

CERTIFICATE OF SHOP COMPLIANCE

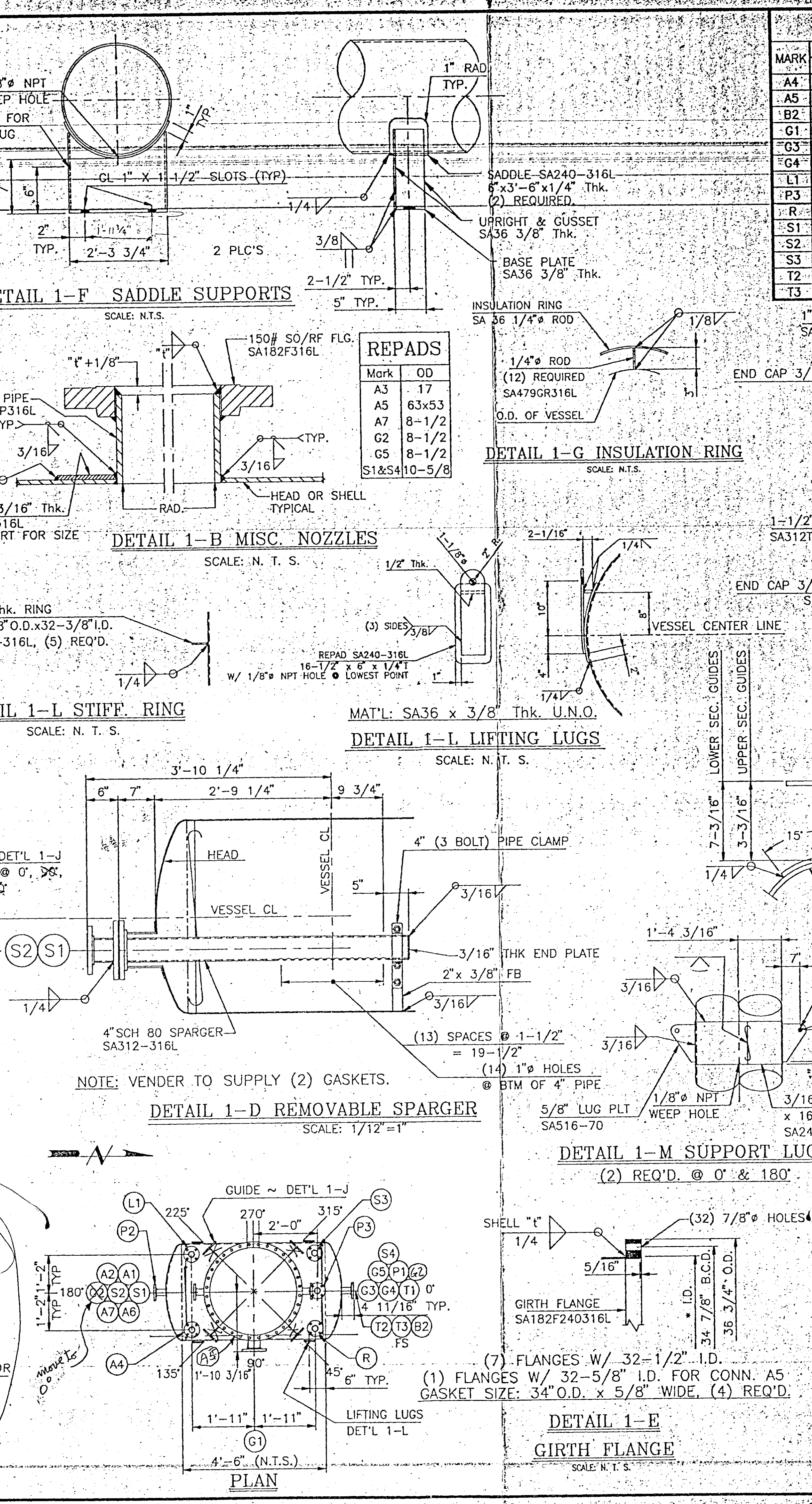
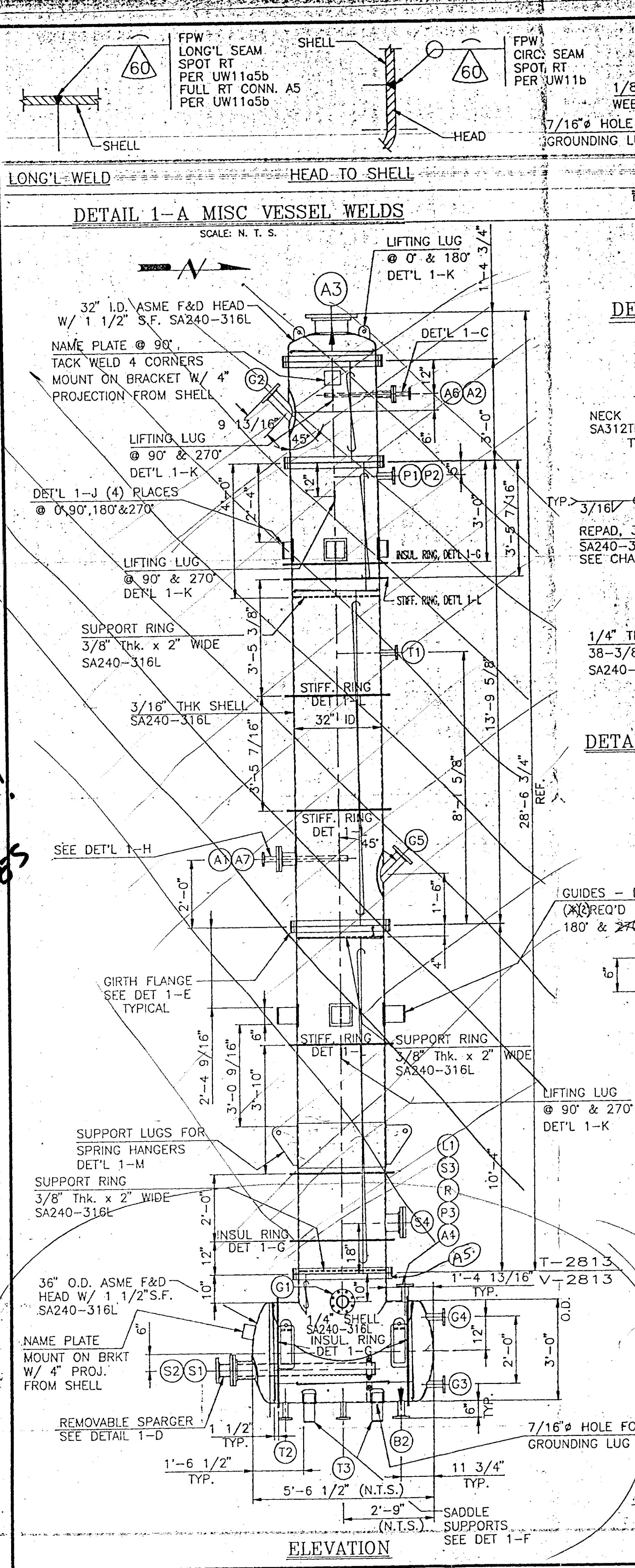
We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization no 21913 expires 5/22, 19 99
Date 11-13-96 Name ALABAMA HEAT EXCHANGERS, INC. Signed John C. Lightcap
(manufacturer) (representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by ALABAMA HEAT EXCHANGERS, INC. at 5751 LARUE STEINER ROAD, THEODORE, AL
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the state or province of Florida and employed by COMMERCIAL UNION INSURANCE COMPANY
of BOSTON, MA have inspected the component described in this Manufacturers' Data Report on 4/29, 1996 and state that, to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with the 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 the Manufacturers' 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 11/15, 1996 Signed M. A. Shadix Commissions NB 9240A, FL 148
(Authorized Inspector) (Nat'l. Bd. (incl. endorsements) state, prov. and no.)

99157

Vessel only!
Column Does
NOT
EXIST!



NOZZLE SCHEDULE V-2813									
MARK	NOZZLE	SIZE	SCH	THK	PRES	TYPE	FACE	FIN.	SERVICE
A4	1/2"	40	154	150	SO	RF	STD	STD	PROCESS LIQUID INLET
A5	3/4"	40	154	150	SO	RF	STD	STD	CONNECTION TO T-2813
B2	3/4"	40	216	150	SO	RF	STD	STD	PROCESS LIQUID OUTLET (BOTTOMS)
G1	1"	40	237	150	SO	RF	STD	STD	SIGHT GLASS
G3	1"	40	216	150	SO	RF	STD	STD	LEVEL GLASS
G4	1"	40	128	150	SO	RF	STD	STD	LEVEL GLASS
L1	1"	40	154	150	SO	RF	STD	STD	LEVEL SWITCH
P3	1"	40	154	150	SO	RF	STD	STD	DIFFERENTIAL PRESSURE TRANSMITTER
R	1"	40	154	150	SO	RF	STD	STD	PRESSURE RELIEF
S1	1"	40	280	150	SO	RF	STD	STD	BORED FOR SPARGER (S2)
S2	1"	40	337	150	SO	RF	STD	STD	REMOVABLE SPARGER
S3	1"	40	154	150	SO	RF	STD	STD	SPARE
T2	1.5"	40	145	150	SO	RF	STD	STD	TEMPERATURE ELEMENT
T3	1.5"	40	145	150	SO	RF	STD	STD	TEMPERATURE SWITCH

NOZZLE SCHEDULE T-2813									
MARK	NOZZLE	SIZE	SCH	THK	PRES	TYPE	FACE	FIN.	SERVICE
A1	1 1/2"	40	145	150	SO	RF	STD	STD	PROCESS LIQUID INLET
A2	1 1/2"	40	145	150	SO	RF	STD	STD	PROCESS LIQUID INLET
A3	1 1/2"	40	375	150	SO	RF	STD	STD	MATING FLANGE TO X-2813-1
A5	3/2"	40	2"	---	---	---	---	---	CONNECTION TO T-2813
A6	1"	40	216	150	SO	RF	STD	STD	PROCESS LIQUID INLET FOR A2
A7	1"	40	237	150	SO	RF	STD	STD	PROCESS LIQUID INLET FOR A1
G2	1"	40	237	150	SO	RF	STD	STD	SIGHT GLASS
G5	1"	40	237	150	SO	RF	STD	STD	SIGHT GLASS
P1	1"	40	154	150	SO	RF	STD	STD	PRESSURE TRANSMITTER
P2	1"	40	154	150	SO	RF	STD	STD	DIFFERENTIAL PRESSURE TRANSMITTER
S4	1"	40	280	150	SO	RF	STD	STD	PACKING GLAND
T1	1.5"	40	145	150	SO	RF	STD	STD	TEMPERATURE ELEMENT

- NOTES:
1. VESSEL FABRICATED PER ASME SECT. VIII DIV. 1, 1992 ED.; 1994 ADDENDA.
 2. ALL BOLT HOLES SHALL STRADDLE VESSEL MAJOR CENTERLINES.
 3. ALL C/S WELDS PER AHE-100. ALL S/S WELDS PER AHE-800. ALL C/S TO S/S WELDS PER AHE-803.
 4. SHOP HYDRO COLUMN SIDE @ 75 PSI. SHOP HYDRO VESSEL SIDE @ 75 PSI.
 5. ALL DIMENSIONS ARE FROM GASKET FACES.
 6. WEIGHT EMPTY: 4,400#. WEIGHT FULL: 16,200#.
 7. NO CARBON STEEL SHALL BE WELDED DIRECTLY TO VESSEL OR COLUMN.
 8. COLUMN T-2813 SUPPORTED BY SPRING HANGER PER DETAIL 1-M.
 9. CUSTOMER INSPECTION REQUIRED.

DESIGN DATA			
DESCRIPTION	COLUMN	VESEL	
DESIGN PRESSURE	INTERNAL - PSIG 50	50	
	EXTERNAL - PSIG 15	15	
DESIGN TEMPERATURE	INTERNAL - °F 491	491	
	EXTERNAL - °F		
MAWP	491 F	50 FV	50 FV
CORR. ALLOW.	≥.06	≥.06	≥.06
HYDRO. PRESS. PSIG.	75	75	75
WELD PROCEDURE	RECEIVED	SEE NOTE 3	
RADIOGRAPHY PER CODE	MAR 29 1996	SEE WELD DET'L	
HEAT TREATMENT	NOT REQUIRED	NOT REQUIRED	

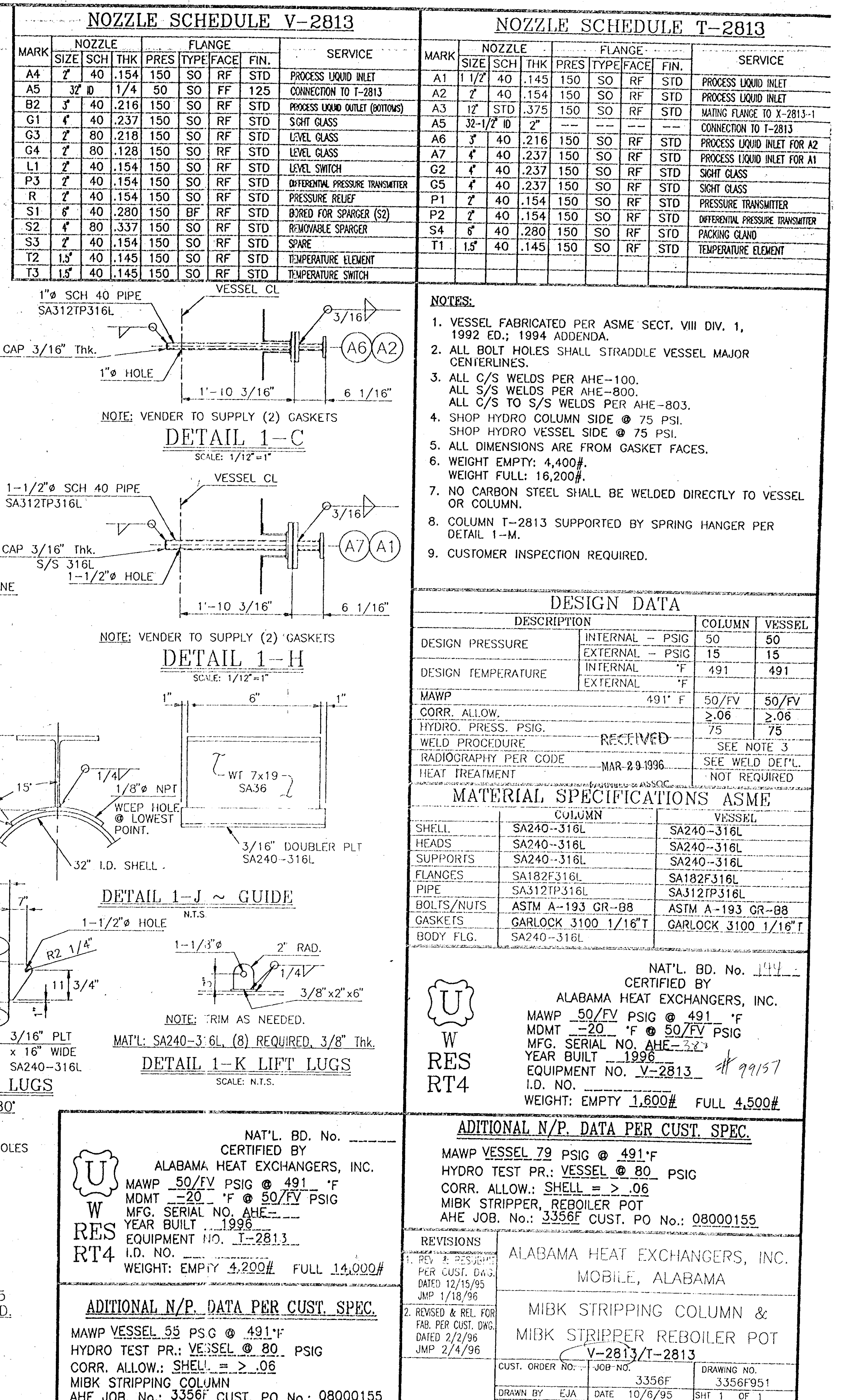
MATERIAL SPECIFICATIONS ASME		
	COLUMN	VESEL
SHELL	SA240-316L	SA240-316L
HEADS	SA240-316L	SA240-316L
SUPPORTS	SA240-316L	SA240-316L
FLANGES	SA182F316L	SA182F316L
PIPE	SA312TP316L	SA312TP316L
BOLTS/NUTS	ASTM A-193 GR-B8	ASTM A-193 GR-B8
GASKETS	GARLOCK 3100 1/16"	GARLOCK 3100 1/16"
BODY FLG.	SA240-316L	

NAT'L. BD. No. _____
CERTIFIED BY
ALABAMA HEAT EXCHANGERS, INC.
MAWP 50 FV PSIG @ 491 F
MDMT -20 F @ 50 FV PSIG
MFG. SERIAL NO. AHE-
YEAR BUILT - 1996
EQUIPMENT NO. V-2813
I.D. NO. _____
WEIGHT: EMPTY 4,400# FULL 14,000#

ADDITIONAL N/P. DATA PER CUST. SPEC.		
MAWP VESSEL 79 PSIG @ 491 F		
HYDRO TEST PR.: VESSEL @ 80 PSIG		
CORR. ALLOW.: SHELL = >.06		
MIBK STRIPPER, REBOILER POT		
AHE JOB. No.: 3356F CUST. PO No.: 08000155		

REVISIONS		
1. REV. & RESUBMIT PER CUST. DWG. DATED 12/15/95 JWP 1/18/96		
2. REVISED & REL. FOR FAB. PER CUST. DWG. DATED 2/2/96 JWP 2/4/96		
ALABAMA HEAT EXCHANGERS, INC. MOBILE, ALABAMA		
MIBK STRIPPING COLUMN & MIBK STRIPPER REBOILER POT		
V-2813		
CUST. ORDER NO.	JOB NO. 3356F	DRAWING NO. 3356F951
DRAWN BY EJA	DATE 10/6/95	SHT 1 OF 1
APP'D BY	DATE	SCALE: 1/2"=1'-0"

NAT'L. BD. No. _____
CERTIFIED BY
ALABAMA HEAT EXCHANGERS, INC.
MAWP VESSEL 55 PSIG @ 491 F
HYDRO TEST PR.: VESSEL @ 80 PSIG
CORR. ALLOW.: SHELL = >.06
MIBK STRIPPING COLUMN
AHE JOB. No.: 3356F CUST. PO No.: 08000155



VESSEL /
ONLY!
COLUMN IS GONE!

99157