

8/4/76

106

FINAL DESIGN

CLIENT EQUIP. I/E 21-08-026

FOR: HOUSTON CHEMICAL CO.
BEAUMONT, TEXAS

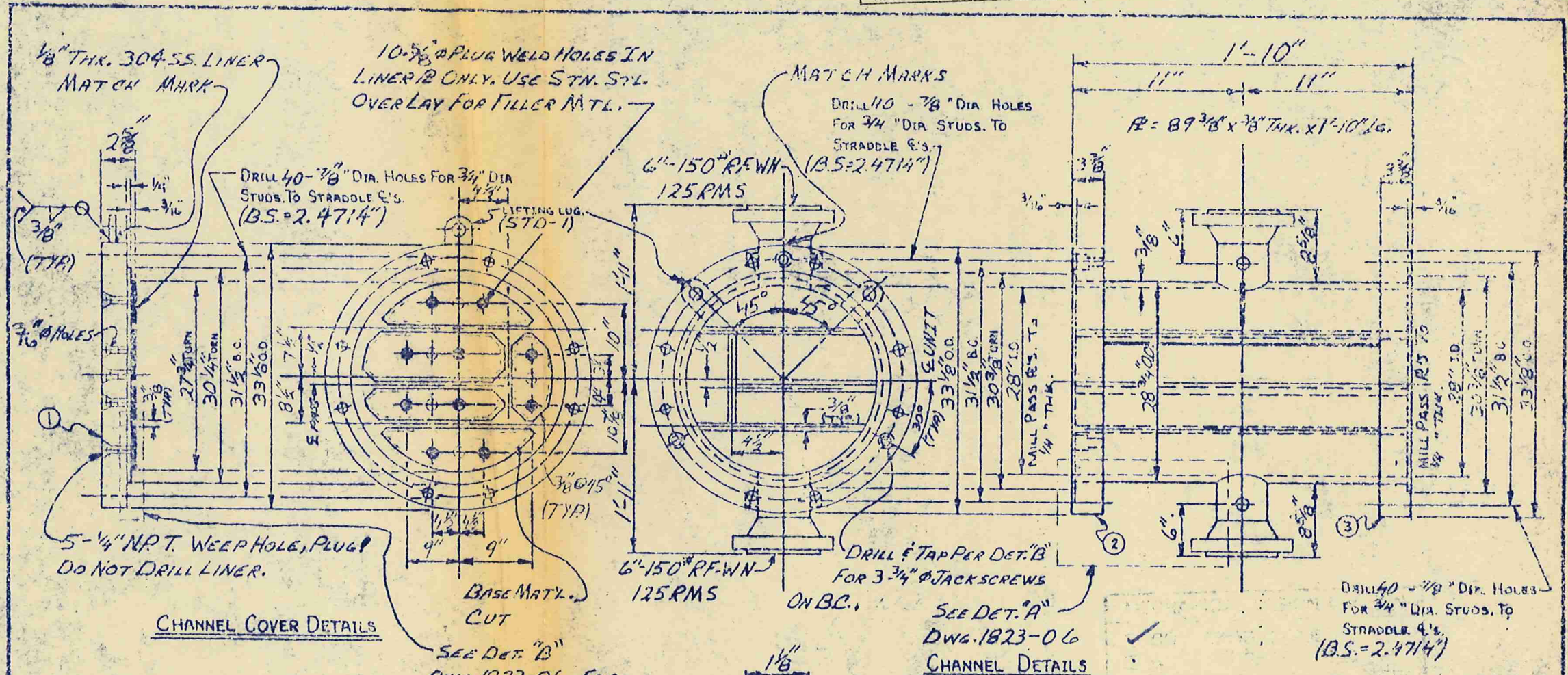
DESIGN DATA			NOZZLE DATA					GENERAL NOTES	
	SHELL	TUBES	MARK	SIZE	RATING	FACING	SERVICE		
DESIGN PRESS. (MAKUP)	80 PSI	75 PSI	A	6"	150*	R.F.*	INLET	1. DESIGN & CONSTRUCTION SHALL BE IN ACCORDANCE WITH: (A) SECTION VIII 1974 EDITION OF THE ASME CODE, DIV. 1 & SO STAMPED BY NATIONAL BOARD (B) TEMA "B" (C) CUST. SPEC'S 2. ALL BOLT HOLES TO STRADDLE ES. 3. SPOT X-RAY CHANNELS & SHELL 4. ONE SPARE SET OF GASKETS REQ'D 5. CHLORIDE CONTENT SHALL NOT EXCEED 25 PPM FOR TEST WATER IN SW. STL PARTS 6. Near white blast/SSPC-SPI0 on shell and all carbon steel parts and apply one coat of inorganic zinc rich primer (PPG #UC-46745 and 46) 3 mils min. D.F.T. 1st coat to be high solids epoxy (PPG #UC-46545; light gray 5 mils min. D.F.T. Top coat to be Aquapon (PPG #A-UC-46840 & B-UC-46834) WHITE 2 MILS MIN. D.F.T.	
TEST PRESS.	120 PSI	115 PSI	B	6"	150*	R.F.*	OUTLET		
DESIGN TEMPERATURE	170 °F	190 °F	C	8"	150*	R.F.	INLET		
CORROSION ALLOWANCE	1/8"		D	8"	150*	R.F.	OUTLET		
NUMBER OF PASSES	1	8	E	3/4"	6000*	CPLG.	VENT		
TUBE SURFACE (EFF.)		2315 SQ. FT.	F	3/4"	6000*	CPLG.	DRAIN		
TUBES: 600 - 3/4" φ x 16 BNQ (NG) SA-249-304			G	1"	6000*	CPLG.	DRAIN		
ESTIMATED WEIGHT EACH									
	DRY	WET							
	11300 LBS	16600 LBS							
			EACH NOZZLE EQUIPPED WITH 2-3/4" 6000* CPLG'S. (PLU446D).						
			*125 RMS FINISH ON PLG. FACE						

CERTIFIED CORRECT FOR FABRICATION			
BY: <i>J. O. Harris</i>		DATE: 10/21/75	
CUST.: SCIENTIFIC DESIGN CO.			
DEST.: BEAUMONT, TEXAS			
CUST. P.O.: 1607-009			
ITEM: E-1804			
SERVICE: REABSORBER WATER COOLER			
SERIAL: 1823			
FILE: 291-75			
HUGHES-ANDERSON ENGINEERING CORP. TULSA, OKLAHOMA			
DRAWING TITLE: OUTLINE DIMENSIONAL			
WORK ORDER 1823		NUMBER REQ'D. ONE	
DR. KEN	DATE 10/15/75	SIZE 28" x 20"	DRAWING NUMBER
CK JIM	SCALE NONE	TYPE AEM	1823-01

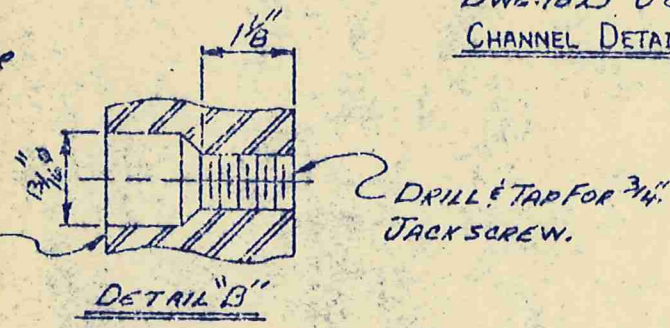
(A) Rev. / Cust. Dwg's 11/12/75 KEN (B) EIT WERE CPLG'S / CUST. 12/21/75 KEN (C) Gen. Rev. / Cust. 12/20/75 KEN (D) App. Nozzle to Shell 12/16/75 KEN (E) Rev. 12/16/75 KEN (F) CABLE, W.T. & TYP. 1/15/76
 DELETE UNL. CPLG'S.

FOREIGN PRINT FILE
HOUSTON CHEMICAL COMPANY
DIVISION OF
PPG INDUSTRIES, INC.
BEAUMONT, TEXAS 77704

JOB. NO. _____ DATE 2/18/77 P.O. 1607-009
DEPT. Glycol EQPT. NO. 21-08-026
VENDOR Hughes Anderson
MFR. _____
EQPT. USED FOR Reboiler Water Cooler



- NOTES!
- 1) ALL BOLT HOLES TO STRADDLE G'S.
 - 2) SPOT X-RAY CHANNEL.
 - 3) SEE DWG. STD.-1 FOR WELD DETAILS.
 - 4) WELDING TO BE IN ACCORDANCE W/ PROCEDURES MR-304 AND SA-304 AND SA-1-B.
 - 5) EACH NOZ. EQUIPPED W/ 2-3/4" 6000# CALG'S. (PLUGGED).
 - 6) ALL OVERLAY TO BE 308 L 1ST PASS 309 L REMAINDER IN ACC. W/ PROCEDURES UCL-43(308-L-1-M) AND UCL-43(308-L-1-A).
 7. ALL OVERLAY TO HAVE CHEM. ANALYSIS.



FINAL DESIGN

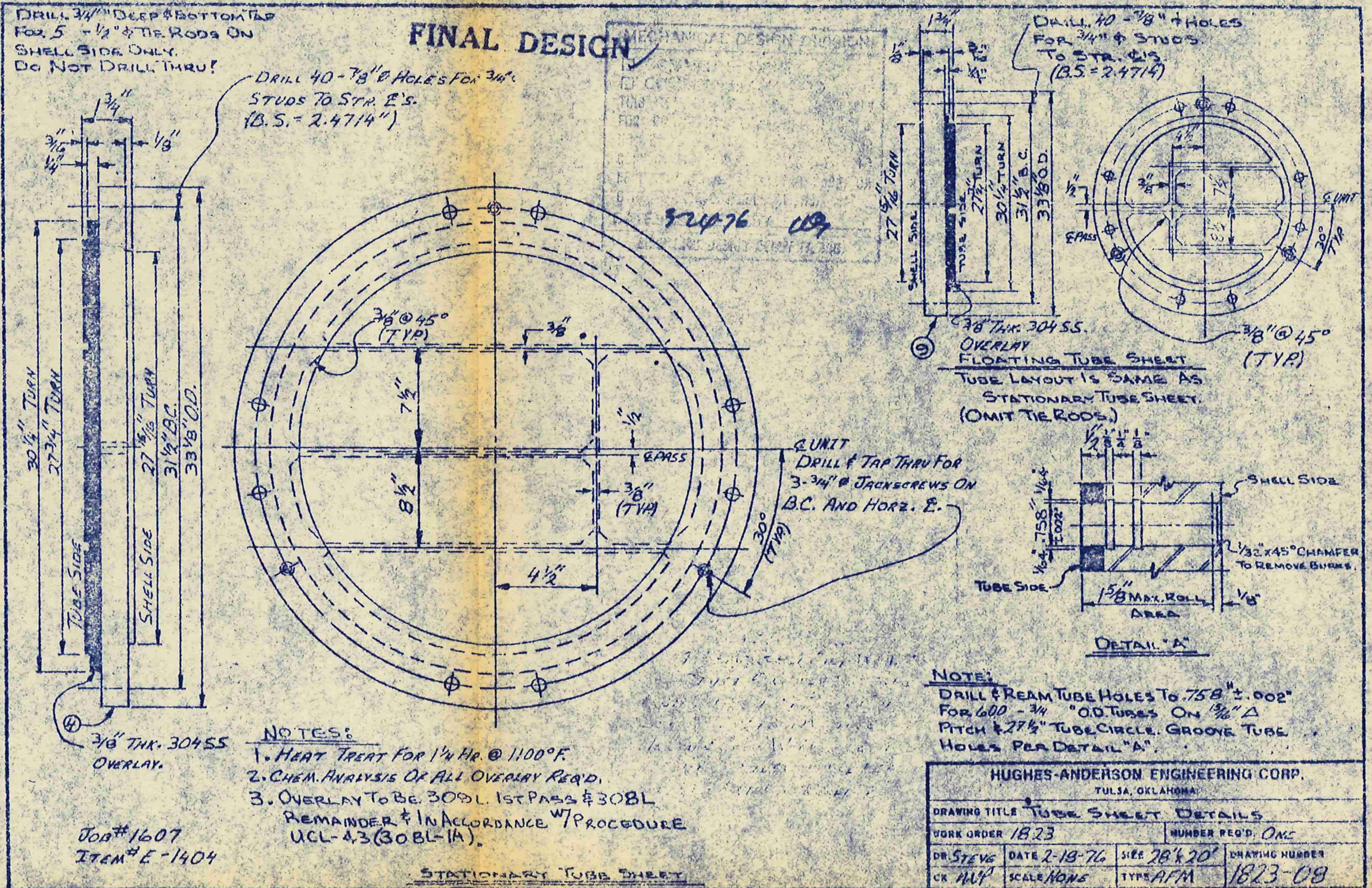
3-24-76 CA

JOB# 1607
ITEM# E-1404

HUGHES-ANDERSON ENGINEERING CORP. TULSA, OKLAHOMA			
DRAWING TITLE <u>CHANNEL DETAILS</u>			
WORK ORDER <u>1823</u>	NUMBER REQ'D <u>ONE</u>		
DR <u>STEVE</u>	DATE <u>2-19-76</u>	SIZE <u>28"x20"</u>	DRAWING NUMBER
CK <u>WAM</u>	SCALE <u>NONE</u>	TYPE <u>AFM</u>	<u>1823-02</u>

FOREIGN PRINT FILE
 HOUSTON CHEMICAL COMPANY
 DIVISION OF
 PPG INDUSTRIES, INC.
 BEAUMONT, TEXAS 77704

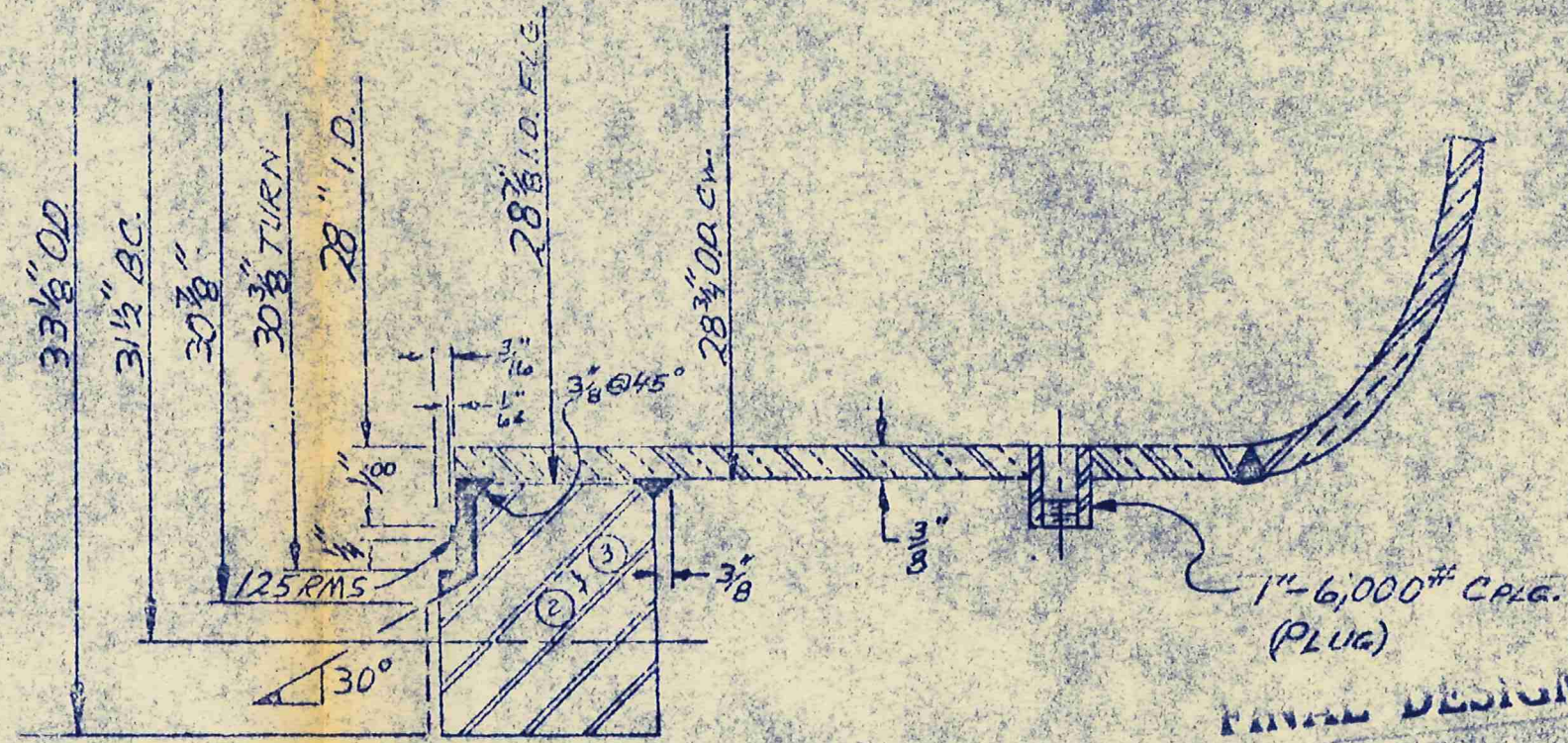
JOB. NO. _____ DATE 2/19/77 P.O. 1607-009
 DEPT. Glycol EQPT. NO. 21-08-026
 VENDOR Hughes-Anderson
 MFR. _____
 EQPT. USED FOR Reboiler Water Cooler



JOB# 1607
 ITEM# E-1404

FOREIGN PRINT FILE
 HOUSTON CHEMICAL COMPANY
 DIVISION OF
 PPG INDUSTRIES, INC.
 BEAUMONT, TEXAS 77704

JOB. NO. _____ DATE 2/19/77 P.O. 1607-009
 DEPT. Glycol EQPT. NO. 21-08-026
 VENDOR Hughes-Anderson
 MFR. _____
 EQPT. USED FOR Reabsorber Water Cooler



DETAIL "A"

FINAL DESIGN
 MECHANICAL DESIGN DIVISION
 3-21-76 WR

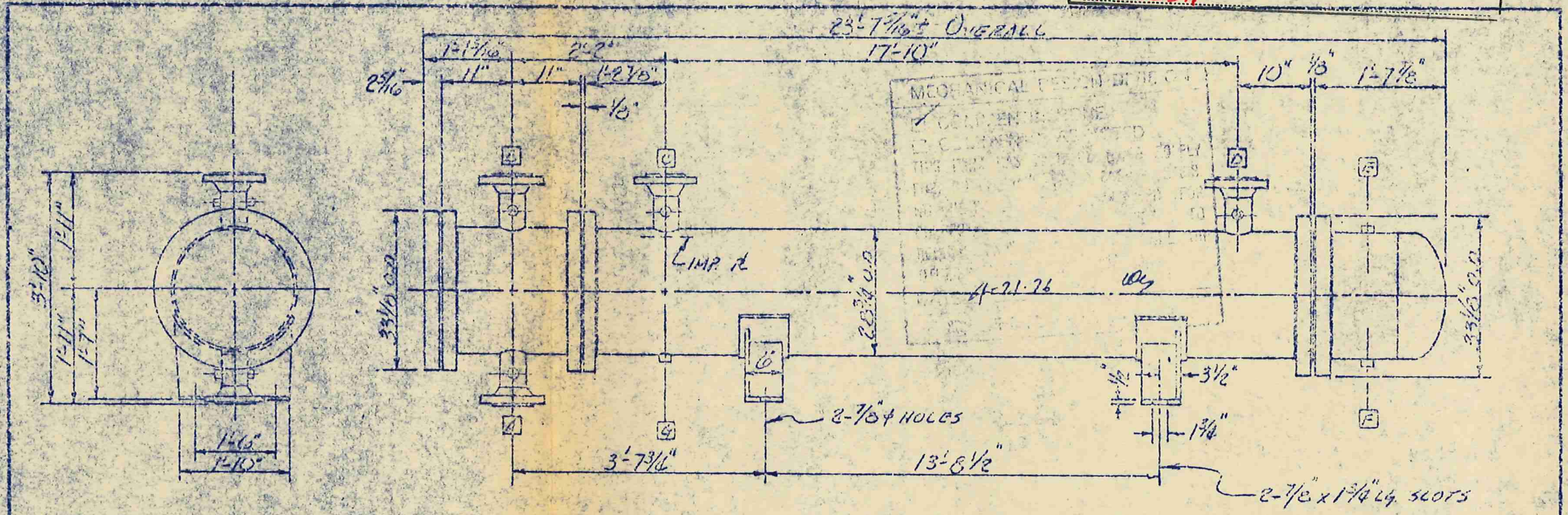
- NOTES:
 1. ALL OVERLAY TO BE IN 309-L FIRST PASS & 308-L REMAINDER & IN ACCORDANCE W/ PROCEDURES UCL-43 (308-L-1-A) & UCL-43 (308-L-1-M).
 2. ALL OVERLAY TO HAVE CHEM. ANALYSIS.

JOB # 1607
 ITEM # E-1404

HUGHES-ANDERSON ENGINEERING CORP. TULSA, OKLAHOMA			
DRAWING TITLE <u>OVERLAY DETAILS</u>		NUMBER REQ'D <u>ONE</u>	
WORK ORDER <u>1823</u>	DATE <u>2-24-76</u>	SIZE <u>28x20</u>	DRAWING NUMBER <u>1823-05</u>
DR <u>STEVE</u>	SCALE <u>NONE</u>	TYPE <u>AFM</u>	

FOREIGN PRINT FILE
HOUSTON CHEMICAL COMPANY
DIVISION OF
PPG INDUSTRIES, INC.
BEAUMONT, TEXAS 77704

JOB. NO. _____ DATE 8-17-76 P.O. 1607-009
DEPT. GLYCOL EQPT. NO. 21-08-026
VENDOR HUGHES ANDERSON
MFR. _____
EQPT. USED FOR REABSORBER WATER COOLER



CLIENT EQUIP. NO. 21-08-026

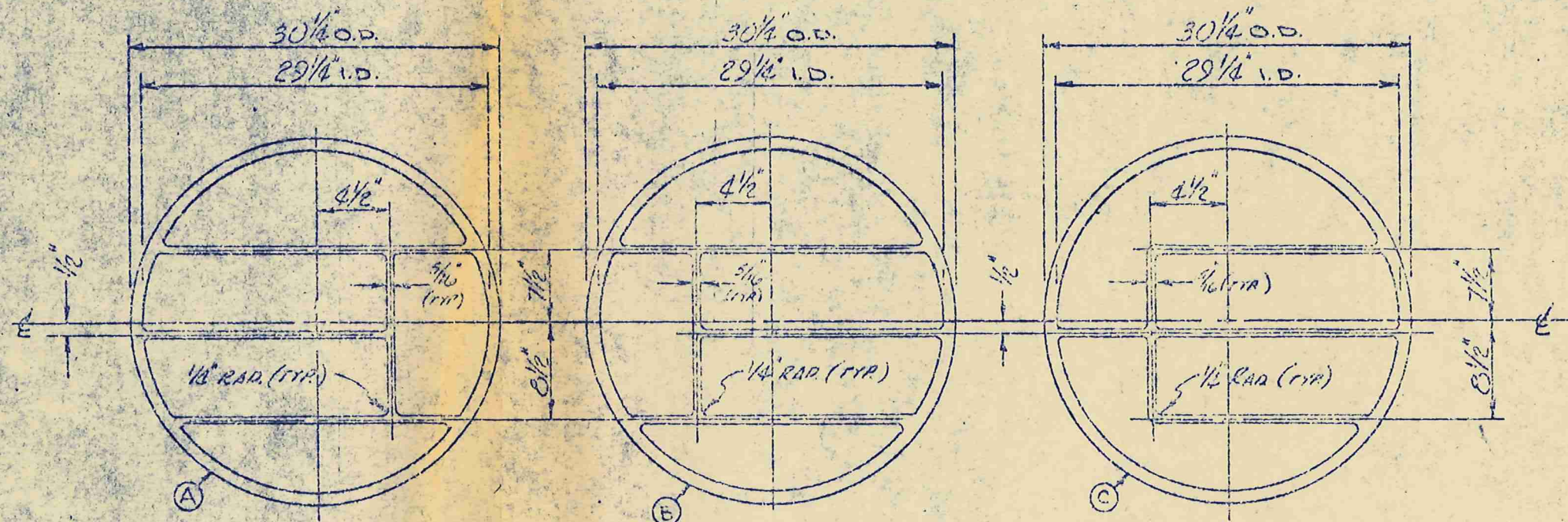
FOR HOUSTON CHEMICAL CO.
BEAUMONT, TEXAS

DESIGN DATA			NOZZLE DATA				GENERAL NOTES		CERTIFIED CORRECT FOR FABRICATION		
	SHELL	TUBES	MARK	SIZE	ORATING	FACING	SERVICE				
DESIGN PRESS. (MIN.)	30 PSI	75 PSI	A	20"	150"	R.F.	INLET	1. DESIGN & CONSTRUCTION SHALL BE IN ACCORDANCE WITH: (A) SECTION VIII 1974 EDITION OF THE ASME CODE, DIV. 1 & SO STAMPED BY (B) TEMA "B" MINIMAL SUPRA. (C) CUST. SPEC'S.			
TEST PRESS.	100 PSI	115 PSI	B	16"	150"	R.F.	OUTLET	2. ALL BOLT HOLES TO STRADDLE I.D.			
DESIGN TEMPERATURE	170 °F	190 °F	C	6"	150"	R.F.	INLET	3. SPOT X-RAY CHANNELS & SHELL & ONE SPARE SET OF GASKETS REQ'D.			
CORROSION ALLOWANCE	3/8"		D	2"	150"	R.F.	OUTLET	4. CHLORIDE CONTENT SHALL NOT EXCEED 25 PPM FOR TEST WATER ON FINISH PARTS.			
NUMBER OF PASSEGES	1	8	E	3/4"	6000"	CPLG.	DRILL	5. Near white blast/SSPC-SP10 on shell and all carbon steel parts and apply one coat of inorganic zinc rich primer (PPG #UC-46745 and 46) 3 mils min. D.F.T. 1st coat to be high solids epoxy (PPG #UC-42205) light gray 5 mils min. D.F.T. Top coat to be Aquaron (PPG #UC-42207) white 2 mils min. D.F.T.			
TUBES: 600 - 3/4" x 16.000 (2) S&W 19-302			F	1"	6000"	CPLG.	WRRM	HUGHES-ANDERSON ENGINEERING CORP. TULSA, OKLAHOMA			
ESTIMATED WEIGHT EACH										DRAWING TITLE <u>OUTLINE DIMENSIONAL</u>	
DRY	13,000 LBS	13,200 LBS								WORK ORDER <u>1323</u> NUMBER REQ'D. <u>ONE</u>	
			EACH NOZZLE EQUIPPED WITH 2-4/4" 6000" CPLGS. (PL0465D). #125 RMS FINISH ON FLG. FACE							DR. <u>KWH</u> DATE <u>10/15/75</u> SIZE <u>20" x 30"</u> DRAWING NUMBER	
										CK. <u>Jim</u> SCALE <u>NONE</u> TYPE <u>AFM</u> <u>1323-01</u>	

Rev. / Cust. Drawg. 11/11/75 KWH (3) 1/2" more cplgs / Cost 12/21/75 KWH (4) Gen. Rev. / Cust. 12/21/75 KWH (5) Add Note #6 3/21/76 KWH (6) PER. CUST. **FINAL DESIGN** 08

FOREIGN PRINT FILE
HOUSTON CHEMICAL COMPANY
DIVISION OF
PPG INDUSTRIES, INC.
BEAUMONT, TEXAS 77704

JOB. NO. _____ DATE 8-17-76 P.O. 1607-009
DEPT. GLYCOL EQPT. NO. 21-08-026
VENDOR HUGHES ANDERSON
MFR. _____
EQPT. USED FOR PEABSORBER WATER COOLER



CHANNEL COVER GASKET
1/8" THK. 304 STN. STL.
JACKETED ASBESTOS
FILLED, ONE REQ'D.
(J.M. 923 OR EQUAL)

CHANNEL GASKET
1/8" THK. 304 STN. STL.
JACKETED ASBESTOS
FILLED, ONE REQ'D.
(J.M. 923 OR EQUAL)

BACK CHANNEL GASKET
1/8" THK. 304 STN. STL.
JACKETED ASBESTOS
FILLED, ONE REQ'D.
(J.M. 923 OR EQUAL)

MECHANICAL DESIGN DIVISION
 COMMENTS: NONE
 COMMENTS: AS NOTED
THIS DRAWING IS TO BE USED ONLY
FOR THE PROJECT AND NOT FOR
REUSE ON OTHER PROJECTS
DATE: 8-17-76
BY: J.M.
CHECKED: J.M.
4-21-76 *cds*

REQUIRED AS NOTED FOR ONE SET

HUGHES-ANDERSON ENGINEERING CORP. TULSA, OKLAHOMA			
DRAWING TITLE GASKET DETAILS			
WORK ORDER	1823	NUMBER REQ'D.	TWO SETS
DR.	Ken	DATE	10/15/75
CK.	Jim	SCALE	NONE
SIZE	20" x 30"	TYPE	AFM
DRAWING NUMBER		1823-11	

Q Rev. Pass Rids 11/16/75 Ken @ Add J.M. Number / Cust. 1/24/76 Ken

FINAL DESIGN