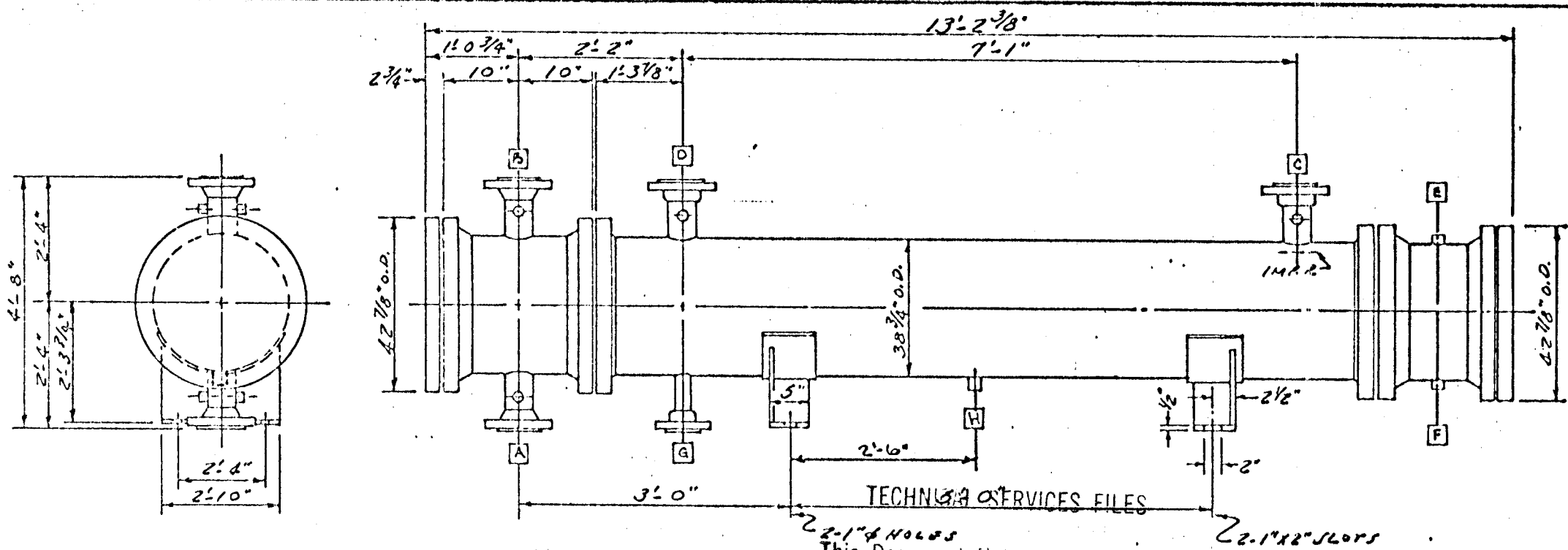


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This Document Not to be Removed
Without Proper Checkout.

FILE NO. C-3061

File C-3061

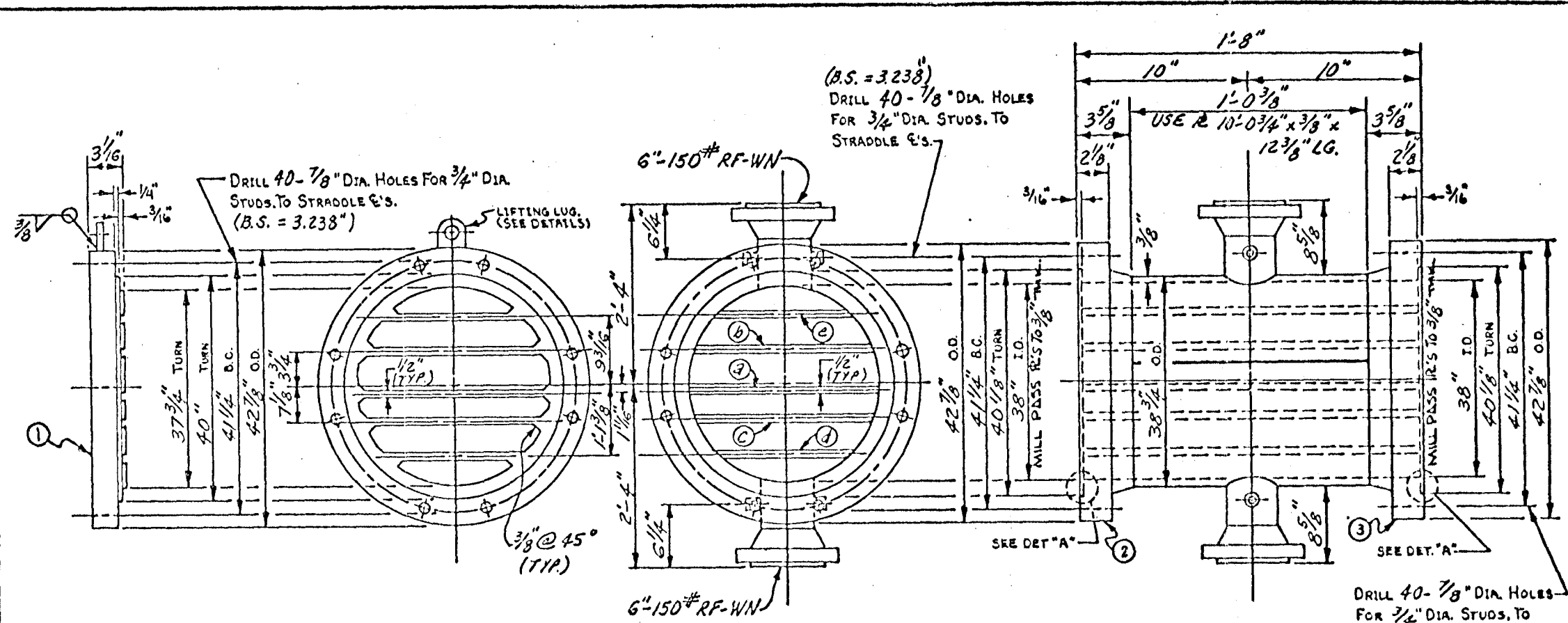
DESIGN DATA			NOZZLE DATA					GENERAL NOTES	CERTIFIED CORRECT FOR FABRICATION	
DESIGN PRESSURE	15 PSI	100 PSI	MARK	SIZE	RATING	FACING	SERVICE	1. DESIGN & CONSTRUCTION SHALL BE IN ACCORDANCE WITH: (A) SECTION VIII 1971 EDITION OF THE ASME CODE, DIV. I & SO STAMPED. (B) TEMA "C". 2. ALL BOLT HOLES TO STRADDLE Q.B. 3. SPOT X-RAY CHANNEL & SHELL. 4. HEAT TREAT CHANNELS. 5. PAINT CARBON STEEL w/ ONE COAT PAINT PRIMER.	BY: J. D. Hamlin	DATE: 3/10/73
TEST PRESSURE	25 PSI	150 PSI	A	6"	150#	RF	INLET		CUST: CATALYTIC, INC.	
DESIGN TEMPERATURE	300 °F	200 °F	B	6"	150#	RF	OUTLET		DEST: EL DORADO, KANSAS	
CORROSION ALLOWANCE	NONE	1/16"	C	20"	150#	RF	INLET		CUST. P.O.: 34580-0601-5	
NUMBER OF PASSES	1	10	D	16"	150#	RF	OUTLET (V)		ITEM: C-3061	
TUBE SURFACE (EFF)	2105	SQ. FT.	E	3/4"	6000#	CPLG	VENT	SERVICE: CONDENSER		
TUBES: 1100 - 3/4" O.D. X 16' L (MIN) SA-240-304			F	3/4"	6000#	CPLG	DRAIN	SERIAL: 0836		
ESTIMATED WEIGHT EACH			G	2"	150#	RF	OUTLET (L)	FILE: 375-73		
DRY 14,700 LBS	WET 20,300 LBS		H	1"	6000#	CPLG	SAMPLE	HUGHES-ANDERSON ENGINEERING CORP		
MATERIALS OF CONSTRUCTION: CHANNEL CYC: SA-515-70 TUBE SHEETS: SA-515-70 w/ 304 S.S. OVERLAY. BUNDLE MATL: SA-240-304 & 304 SS. SHELL MATL: SA-240-304			NOZZLES A, B, C & D TO HAVE 2-3/4" - 6000# CPLG'S (PLUGGED).					APPROVED FOR LAYOUT ONLY		
BUNDLE HAS 5 BAFFLES ON 16" CENTERS WITH DOUBLE-SEGMENTAL CUT 35%								CATALYTIC INC.		
								Date 3/4/74		
								Signed Ed Mallory / Blm		
								Engineering Department		
								All details and dimensions are the responsibility of the person who prepared the drawing. This approval does not relieve the obligation to meet specifications and all other terms and conditions of the subcontract or purchase order.		

HUGHES-ANDERSON ENGINEERING CORP			
TULSA, OKLAHOMA			
DRAWING TITLE: OUTLINE DIMENSIONAL			
WORK ORDER 0836		NUMBER REQD. ONE	
DATE 3/10/73	SIZE 38"x10"	DRAWING NUMBER 0836-01	
SCALE NONE	TYPE AEL		

APPROVED BY: W.L.C.B. 3/14/73

34580-0601-5 IR 4

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CHANNEL COVER DETAILS

CHANNEL DETAILS

NOTES:

- 1) ALL BOLT HOLES TO STRADDLE LUGS.
- 2) SPOT X-RAY CHANNEL.
- 3) SEE DWG. STD.-1 FOR WELD DETAILS.
- 4) HEAT TREAT CHANNEL FOR 1 Hr. @ 1100 °F.
- 5) WELDING TO BE IN ACCORDANCE W/ PROCEDURES MA-1AH AND SAM-1AH.
6. EACH NOZZLE EQUIPPED W/ 2-3/4"-6000# CPLGS.

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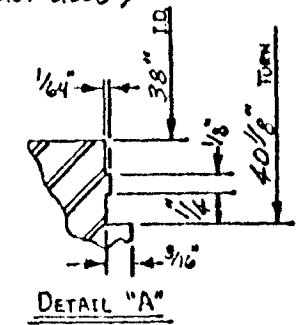
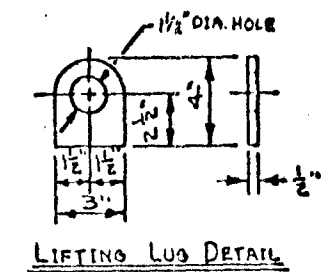
CATALYTIC INC.

Date 3/4/74

Signed Ed. Modell/Bem.

Engineering Department

All details and dimensions are the responsibility of the vendor. Proceed with fabrication. This approval does not relieve vendor of the obligation to meet specifications and all other terms and conditions of the subcontract or purchase order.



HUGHES-ANDERSON ENGINEERING CORP.			
TULSA, OKLAHOMA			
C-3061			
DRAWING TITLE CHANNEL DETAILS			
WORK ORDER 0836		NUMBER REQ'D. ONE	
DR. R.F.	DATE 1-21-74	SIZE 38"x10"	DRAWING NUMBER
CK 40P	SCALE ~	TYPE AEL	0836-02

34580-0601-5 2R2 C4

NOTES:

1. SEE DWG. STD.-1 FOR WELD DETAILS.
2. GRIND ALL WELDS FLUSH W/ I.D.
3. SPOT X-RAY SHELL.
4. ALL BOLT HOLES TO STR. & S.
5. ALL WELDING TO BE IN ACCORDANCE
W/ PROCEDURES SA-304 & MA-304.
6. ALL OVERLAY TO BE 308-L

APPROVED FOR LAYOUT ONLY

CATALYTIC INC.

Date 3/4/74

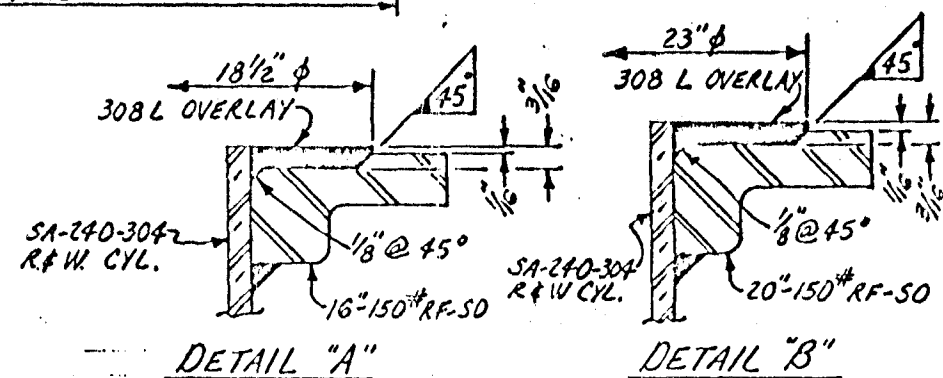
Signed Ed Modill / Blume

Engineering Department

All details and dimensions are the responsibility of the vendor. Proceed with fabrication. This approval does not relieve vendor of the obligation to meet specifications and all other terms and conditions of the subcontract or purchase order.

SUPPORT DETAILS

* { 1-REQ'D. W72- 1" Φ HOLES MK'D. (X).
1-REQ'D W72- 1" X 2" SLOTS MK'D. (Y).



HUGHES-ANDERSON ENGINEERING CORP. TULSA, OKLAHOMA			
DRAWING TITLE SHELL DETAILS			
WORK ORDER 0836		NUMBER REQ'D. ONE	
DR. R.F.	DATE 1-21-74	SIZE 38" x 10'	DRAWING NUMBER
CK 6/11/74	SCALE ~	TYPE AEL	0836-03

34580-0601-5 3R2

57

DRILL $\frac{3}{4}$ " DEEP & BOTTOM TAP
FOR 8 - $\frac{1}{2}$ " ϕ TIE RODS ON
SHELL SIDE OF #9 ONLY.
DO NOT DRILL THRU!
SEE TUBE LAYOUT FOR LOCATION

CATALYTIC INC

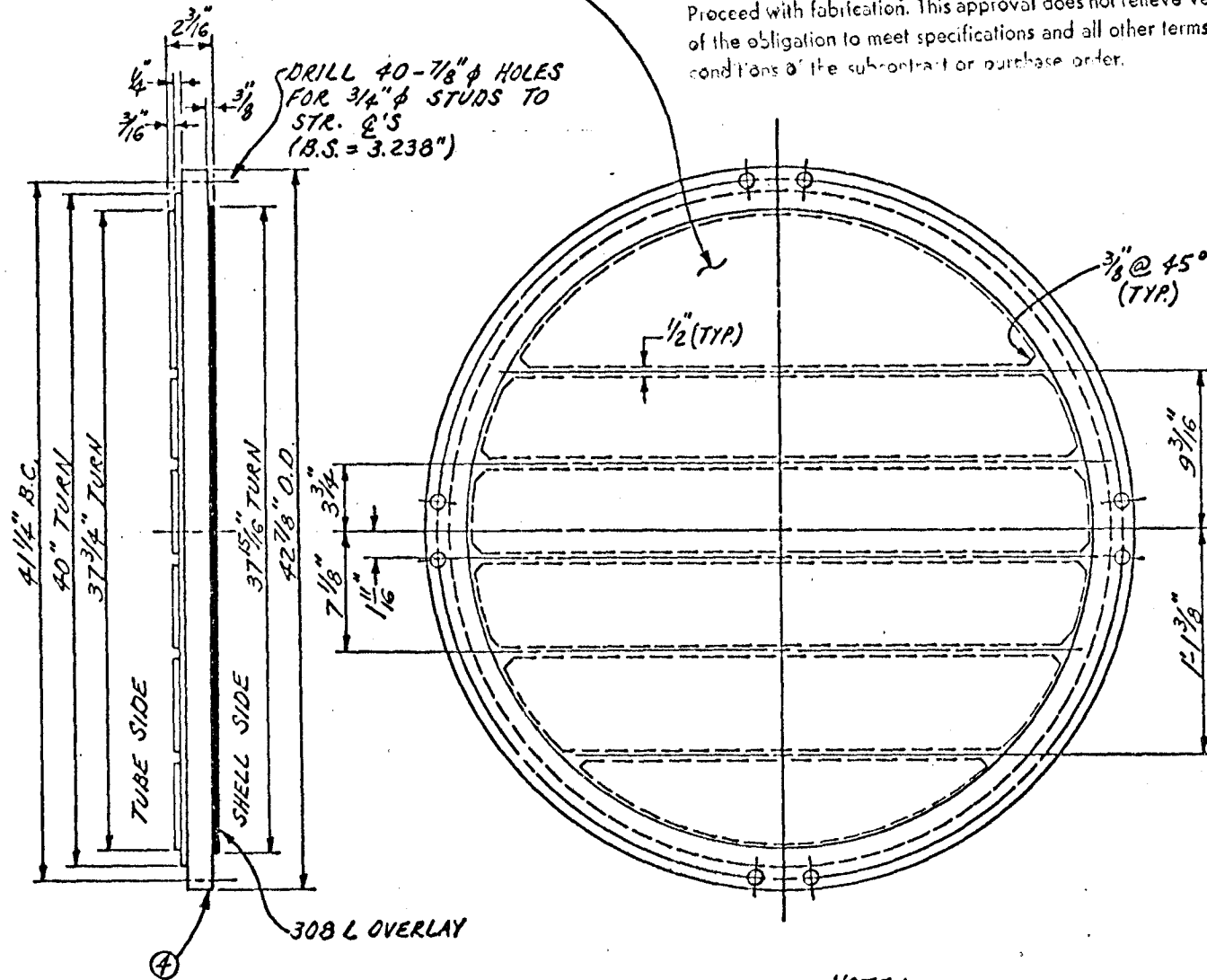
Date 3/4/74

Signed *Ed Madril / Blm*

Engineering Department

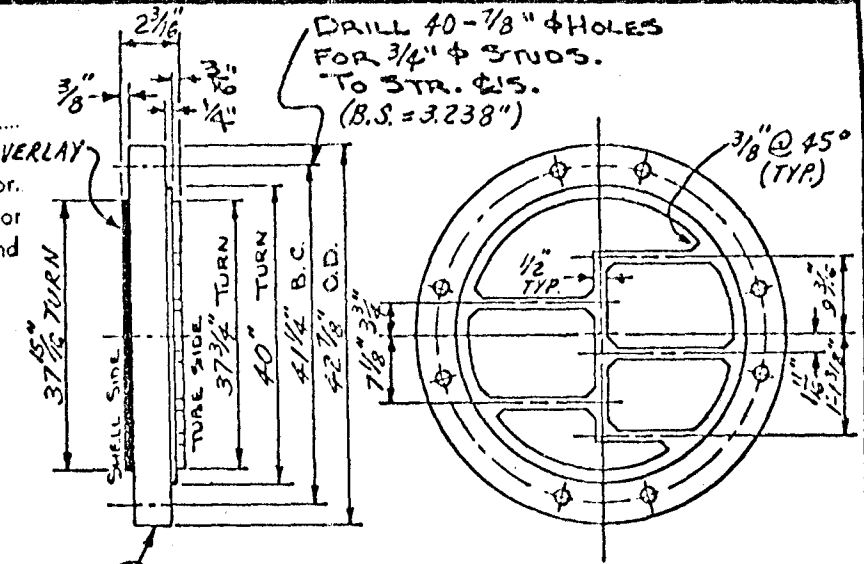
308 L OVERLAY

All details and dimensions are the responsibility of the vendor.
Proceed with fabrication. This approval does not relieve vendor
of the obligation to meet specifications and all other terms and
conditions of the sub-contract or purchase order.

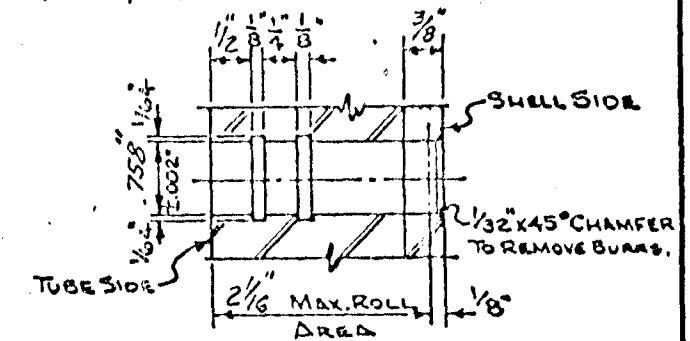


NOTE:
1. ALL OVERLAY TO BE 308 L.
2. HEAT TREAT T.S. FOR 2 HRS. @ 1100°
PRIOR TO DRILLING & REAMING & FINISH
MACH.
3. DYE CHECK AFTER HEAT TREATING.

FRONT TUBE SHEET



BACK TUBE SHEET
TUBE LAYOUT IS SAME AS
FRONT TUBE SHEET.
DRILL & TAP FOR TIE RODS



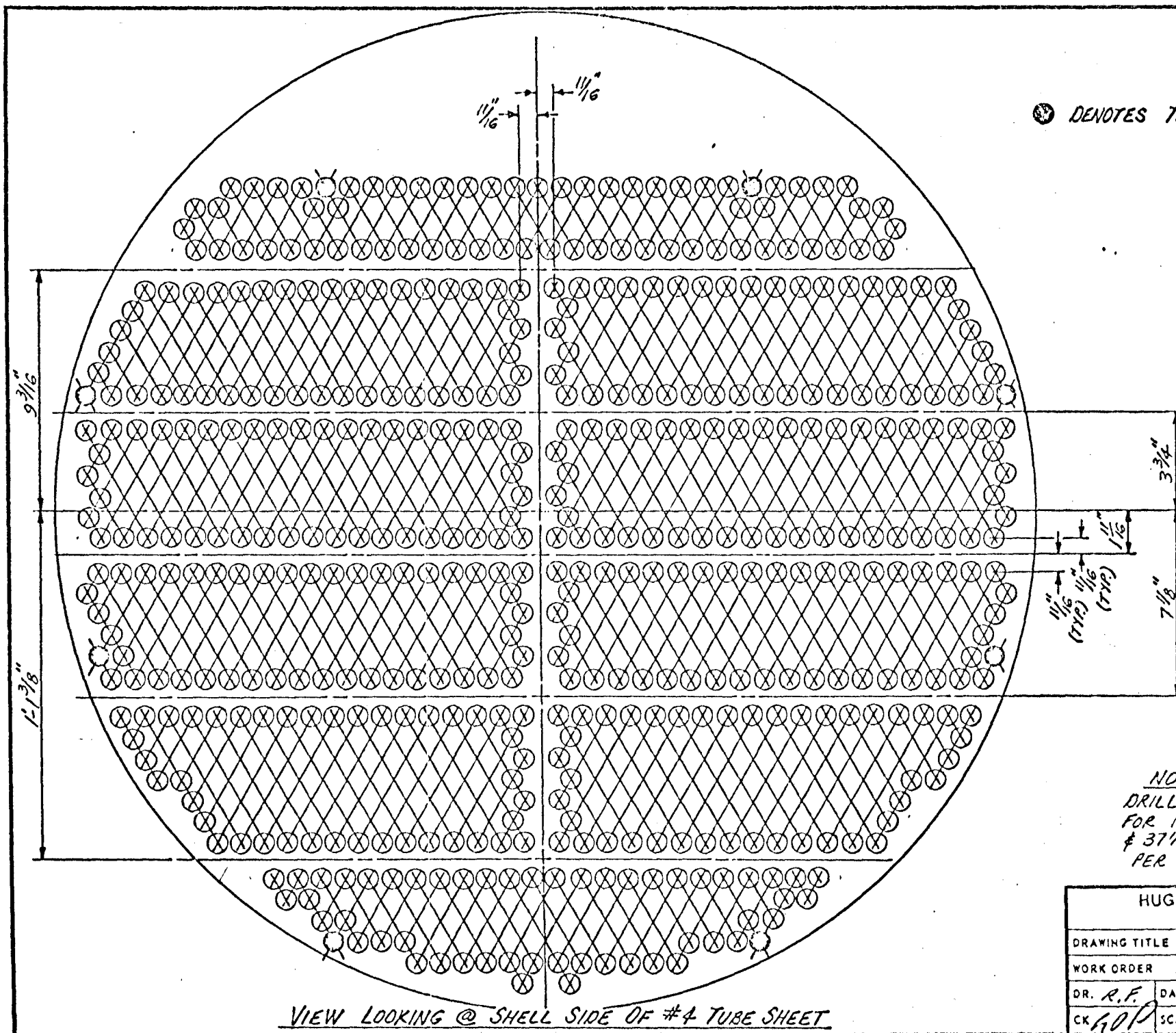
NOTE:

DRILL & REAM TUBE HOLES TO .758" $\pm$.002"
FOR 1100 - $\frac{3}{4}$ " O.D. TUBES ON $\frac{15}{16}$ " Δ
PITCH & $37\frac{1}{2}$ " TUBE CIRCLE. GROOVE TUBE
HOLES PER DETAIL "A".

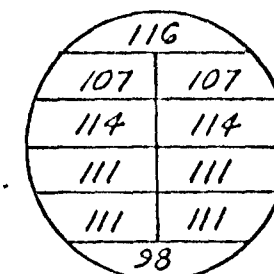
HUGHES-ANDERSON ENGINEERING CORP.			
TULSA, OKLAHOMA C-3061			
DRAWING TITLE TUBE SHEET DETAILS			
WORK ORDER 0836		NUMBER REQ'D. ONE	
DR. R.F.	DATE 1-21-74	SIZE 38" x 10'	DRAWING NUMBER
CK <i>ADP</i>	SCALE $\sim$	TYPE AEL	0836-05

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🌐 DENOTES TIE ROD LOCATION ONLY



TUBES / PASS

APPROVED FOR LAYOUT ONLY

CATALYTIC INC.

Date 3/4/74

Signed Eric E. Madill / Blue

Engineering Department

All details and dimensions are the responsibility of the vendor. Proceed with fabrication. This approval does not relieve vendor of the obligation to meet specifications and all other terms and conditions of the subcontract or purchase order.

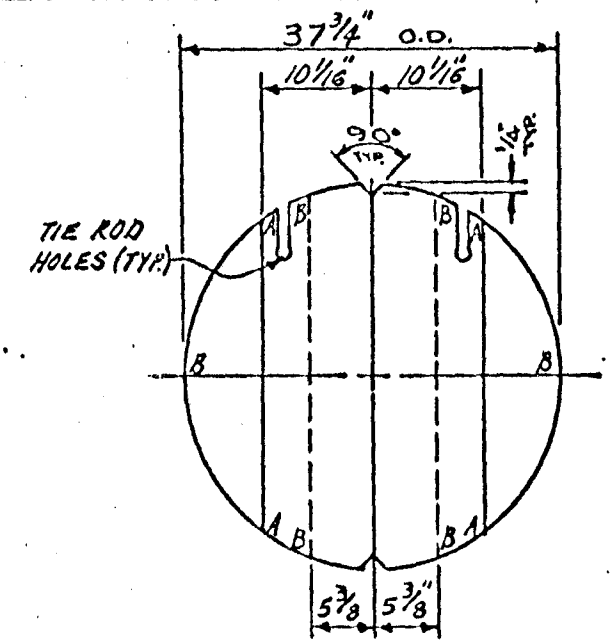
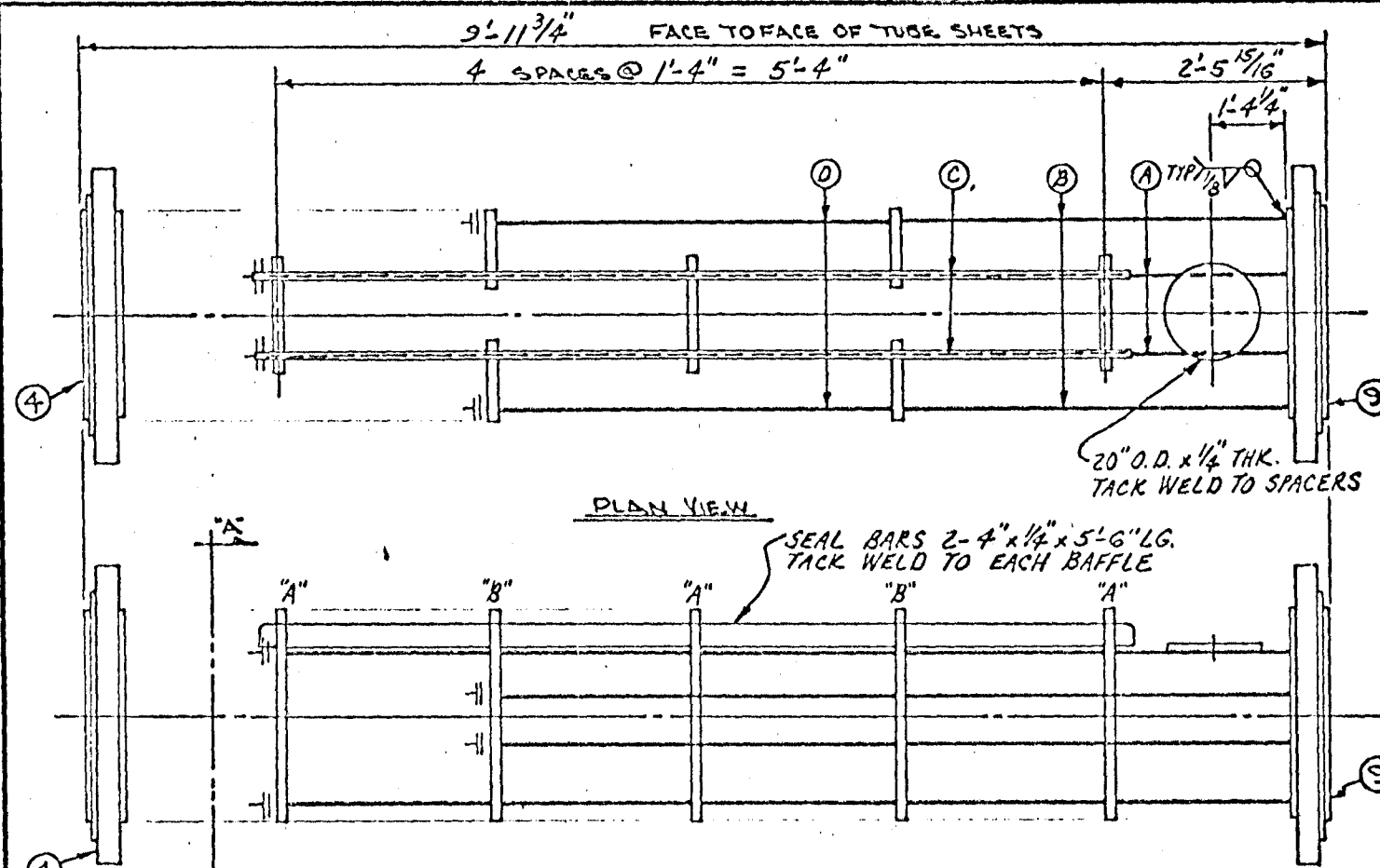
NOTE:

DRILL & REAM TUBE HOLES TO .758" ± .002"
FOR 1100 - 3/4" O.D. TUBES ON 15/16" Δ PITCH
& 37 1/2" TUBE CIRCLE. GROOVE TUBE HOLES
PER DETAIL "A" DWG. 0836-05

HUGHES-ANDERSON ENGINEERING CORP. TULSA, OKLAHOMA				12-3061
DRAWING TITLE <i>TUBE LAYOUT</i>				
WORK ORDER <i>0836</i>			NUMBER REQ'D. <i>ONE</i>	
DR. <i>R.F.</i>	DATE <i>1-22-74</i>	SIZE <i>38" x 10"</i>	DRAWING NUMBER	
CK <i>ROP</i>	SCALE <i>~</i>	TYPE <i>AEL</i>	<i>0836-06</i>	

34580-0601-5 GR2

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VIEW "A-A" BAFFLES
3 - REQ'D. CUT "AAAA" - 5/16" THK.
2 - REQ'D. CUT "BBB-BBB" - 5/16" THK.

APPROVED FOR LAYOUT ONLY

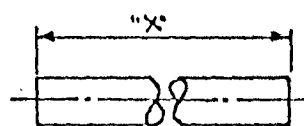
CATALYTIC INC.

Date 3/4/74

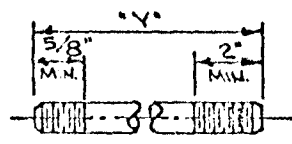
Signed *Ed McAllister*

Engineering Department

All details and dimensions are the responsibility of the vendor. Proceed with fabrication. This approval does not relieve vendor of the obligation to meet specifications and all other terms and conditions of the subcontract or purchase order.



3/4" O.D. SPACER TUBING



1/2" x 1/4" TIE RODS

INCD	REQ'D.	"X"	INCD	REQ'D.	"X"	REQ'D.	"Y"
(A)	4	2'-3 13/32"	(B)	4	3'-7 13/32"	4	6'-6 1/4"
(C)	16	1'-3 11/16"	(D)	4	2'-7 11/16"	4	7'-10 1/4"
(E)							
(F)							

NOTES:

1. DRILL 4 9/16" DIA. HOLES FOR TUBES.
2. DRILL 9/16" DIA. HOLES FOR TIE RODS.
3. DEBURR ALL TUBE HOLES.
4. REMOVE ALL SHARP CORNERS ON BAFFLES.

HUGHES-ANDERSON ENGINEERING CORP.			
TULSA, OKLAHOMA C-3061			
DRAWING TITLE BUNDLE DETAILS			
WORK ORDER 0836	NUMBER REQ'D. ONE		
DR. R.F.	DATE 1-22-74	SIZE 38"x10'	DRAWING NUMBER
CK JPP	SCALE ~	TYPE AEL	0836-01

34580-0601-5 7R2