

1. Manufactured and certified by OHMSTEDE, INC. - LAPORTE PLANT 12415 LAPORTE RD. LAPORTE, TX 77571
(name and address of manufacturer)

2. Manufactured for M.W.KELLOGG / TENNECO OIL CO. P.O. BOX 1307 LAPORTE, TX 77572-1307
(name and address of purchaser)

3. Location of installation TENNECO OIL CO. - 1200 N. BROADWAY LAPORTE, TX 77571
(name and address)

4. Type: HORIZ. HT. EXCH. 28393 N/A 28393 164 1991
(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: 1989
(year)

1989 A N/A N/A
(addenda (Date)) (Code Case no.) (special service per UG-120(d))

Items 6-11 inclusive to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

6. Shell: SA516-70N 3/4" 1/8" 3' - 3" 16' - 11 15/16"
(mat'l. (spec. no., grade)) (nom. thickness (in.)) (corr. allow. (in.)) (dia. ID (ft. & in.)) (length (overall) (ft. & in.))

7. Seams: DBL-BUTT SPOT 85% N/A N/A DBL-BUTT SPOT 2
(long. (dbl., singl.)) (RT (spot or full)) (eff. (%)) (HT temp. (°F)) (time) (girth (dbl., singl.)) (RT (spot, partial, or full)) (no. of courses)

8. Heads: (a) SA516-70N (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)	END	3/4"	1/8"			2:1				CONCAVE
(b)	N/A									

If removable, bolts used (describe other fastenings): N/A
(mat'l., spec. no., gr., size, no.)

9. Type of jacket: N/A Proof test: _____

10. Jacket closure: N/A If bar, give dimensions: _____ If bolted, describe or sketch.
(describe as ogee & weld, bar, etc.)

11. MAWP: 390 at max. temp. 650° Min design metal temp.: 10° at 390 Hydro. XXXXXXX test pressure 585
(psi) (°F) (°F) (psi) (psi)

Items 12 and 13 to be completed for tube sections.

12. Tubesheets: SA350-LF2 38 7/8" 4 1/8" 1/8" BOLTED
(stationary mat'l. (spec. no., gr.)) (dia. (in.) (subject to pressure)) (nom. thickness (in.)) (corr. allow. (in.)) (attachment (welded, bolted))

N/A
(floating mat'l. (spec. no., gr.)) (dia. (in.)) (nom. thickness (in.)) (corr. allow. (in.)) (attachment)

13. Tubes: SA214 3/4" .083" (MW) 439 U
(mat'l. (spec. no., gr.)) (OD (in.)) (nom. thickness (in. or gauge)) (no.) (type (straight or U))

Items 14-17 inclusive to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell: SA516-70 1/2" 1/8" 3' - 3" 1' - 11"
(mat'l. (spec. no., gr.)) (nom. thickness (in.)) (corr. allow. (in.)) (dia. ID (ft. & in.)) (length (overall) (ft. & in.))

15. Seams: DBL-BUTT SPOT 85% N/A N/A DBL-BUTT SPOT 1
(long (dbl., singl.)) (RT (spot or full)) (eff. (%)) (HT temp. (°F)) (time) (girth (dbl., singl.)) (RT (spot, partial, or full)) (no. of courses)

16. Heads: (a) SA516-70 (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)	END	1/2"	1/8"			2:1				CONCAVE
(b)										

If removable, bolts used (describe other fastenings): (56) 7/8" SA193-B7 STUDS WITH (2) SA194-2H NUTS EACH.
(mat'l., spec. no., gr., size, no.)

17. MAWP: 278 at max. temp. 650° Min design metal temp.: 10° at 278 Hydro. XXXXXXX test pressure 417
(psi) (°F) (°F) (psi) (psi)

103351

18. Nozzles, inspection and safety valve openings: PER UG-125 · NOTE 39

[illegible]

19. Supports: Skirt NO Lugs 2 Legs NO Other (2) HORIZ. SUPPORTS Attached WELDED TO SHELL
(yes or no) (no.) (no.) (describe) (where and how)

20. Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: MINIMUM DESIGN METAL TEMPERATURE PER UG20
(name of part, item number, mfr's. name and identifying stamp)

ROLLED AND WELDED CYLINDERS MANUFACTURED BY OHMSTEDE, INC. - LAKE CHARLES PLANT UNDER
AUTHORIZATION # 17397 AND SERIAL #'S: 28393-1 AND 28393-2
CUSTOMER ITEM # 06E-115

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. 18673 expires JUNE 27, 19 92
Date 9-30-91 Name OHMSTEDE, INC. - LAPORTE Signed [Signature]
(manufacturer) (representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by: OHMSTEDE, INC. - LAPORTE PLANT at LAPORTE, TX

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the state or province of TEXAS and employed by H.S.B.I. & I. CO.

Report on 9-30, 19 91, 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 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 9-30-91 Signed E. Everett Folsch Commissions NB 9263
(Authorized Inspector) (Nat'l. Bd. (incl. endorsements) state, prov. and no.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the field assembly construction of all parts of this vessel conforms with the requirements of Section VIII, Division 1 of the ASME BOILER AND PRESSURE VESSEL CODE.

"U" Certificate of Authorization no. _____ expires _____, 19____.

Date _____ Name _____ Signed _____

(assembler that certified and constructed field assembly) (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 the state or province of _____ and employed by _____

_____ of _____ and employed by _____ have compared the statements in this Manufacturers' 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 that 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 150 psi.

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 _____ Signed _____ (Authorized Inspector) Commissions _____ (Nat'l. Bd. (incl. endorsements) state, prov. and no. _____)

ACCEPTANCE FOR ENGINEERING USE

THIS DOCUMENT IS:

ACCEPTED (AC) ☒

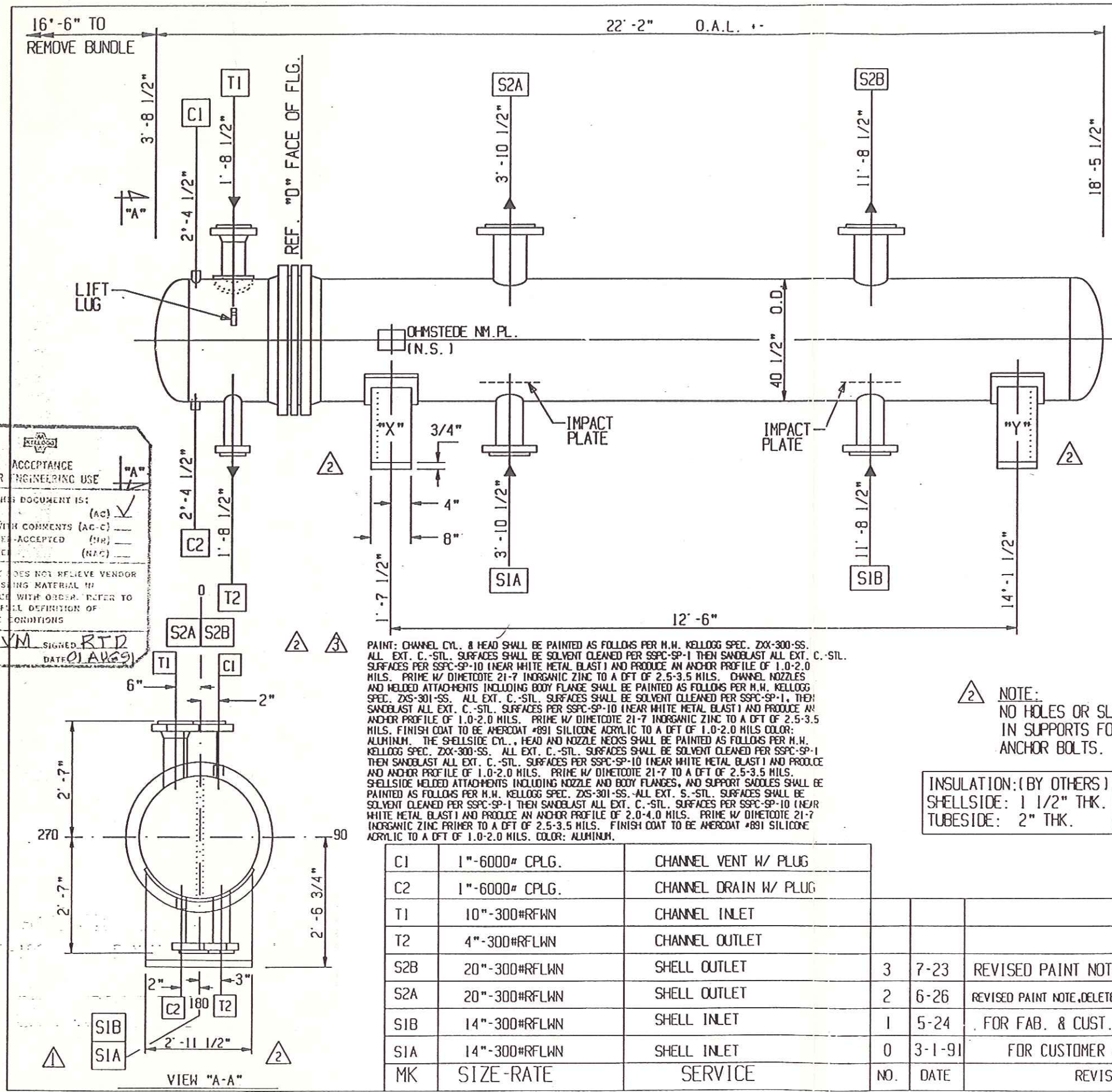
ACCEPTED WITH COMMENTS (AC-C) ☐

NOT REVIEWED-ACCEPTED (NR) ☐

NOT-ACCEPTED (NAC) ☐

ACCEPTANCE DOES NOT RELIEVE VENDOR FROM FURNISHING MATERIAL IN CONFORMANCE WITH ORDER. REFER TO VDR-1 FOR FULL DEFINITION OF ACCEPTANCE CONDITIONS.

DIVISION VM SIGNED: RJD DATE: 01 AUG 91



PAINT: CHANNEL CYL. & HEAD SHALL BE PAINTED AS FOLLOWS PER M.W. KELLOGG SPEC. ZOX-300-SS. ALL EXT. C.-STL. SURFACES SHALL BE SOLVENT CLEANED PER SSPC-SP-1 THEN SANDBLAST ALL EXT. C.-STL. SURFACES PER SSPC-SP-10 (NEAR WHITE METAL BLAST) AND PRODUCE AN ANCHOR PROFILE OF 1.0-2.0 MILS. PRIME W/ DIHETOCOTE 21-7 INORGANIC ZINC TO A DFT OF 2.5-3.5 MILS. CHANNEL NOZZLES AND WELDED ATTACHMENTS INCLUDING BODY FLANGE SHALL BE PAINTED AS FOLLOWS PER M.W. KELLOGG SPEC. ZXS-301-SS. ALL EXT. C.-STL. SURFACES SHALL BE SOLVENT CLEANED PER SSPC-SP-1, THEN SANDBLAST ALL EXT. C.-STL. SURFACES PER SSPC-SP-10 (NEAR WHITE METAL BLAST) AND PRODUCE AN ANCHOR PROFILE OF 1.0-2.0 MILS. PRIME W/ DIHETOCOTE 21-7 INORGANIC ZINC TO A DFT OF 2.5-3.5 MILS. FINISH COAT TO BE AEROCOT #891 SILICONE ACRYLIC TO A DFT OF 1.0-2.0 MILS. COLOR: ALUMINUM. THE SHELLSIDE CYL., HEAD AND NOZZLE NECKS SHALL BE PAINTED AS FOLLOWS PER M.W. KELLOGG SPEC. ZOX-300-SS. ALL EXT. C.-STL. SURFACES SHALL BE SOLVENT CLEANED PER SSPC-SP-1 THEN SANDBLAST ALL EXT. C.-STL. SURFACES PER SSPC-SP-10 (NEAR WHITE METAL BLAST) AND PRODUCE AN ANCHOR PROFILE OF 1.0-2.0 MILS. PRIME W/ DIHETOCOTE 21-7 TO A DFT OF 2.5-3.5 MILS. SHELLSIDE WELDED ATTACHMENTS INCLUDING NOZZLE AND BODY FLANGES, AND SUPPORT SADDLES SHALL BE PAINTED AS FOLLOWS PER M.W. KELLOGG SPEC. ZXS-301-SS. ALL EXT. S.-STL. SURFACES SHALL BE SOLVENT CLEANED PER SSPC-SP-1 THEN SANDBLAST ALL EXT. C.-STL. SURFACES PER SSPC-SP-10 (NEAR WHITE METAL BLAST) AND PRODUCE AN ANCHOR PROFILE OF 2.0-4.0 MILS. PRIME W/ DIHETOCOTE 21-7 INORGANIC ZINC PRIMER TO A DFT OF 2.5-3.5 MILS. FINISH COAT TO BE AEROCOT #891 SILICONE ACRYLIC TO A DFT OF 1.0-2.0 MILS. COLOR: ALUMINUM.

NOTE: NO HOLES OR SLOTS IN SUPPORTS FOR ANCHOR BOLTS.

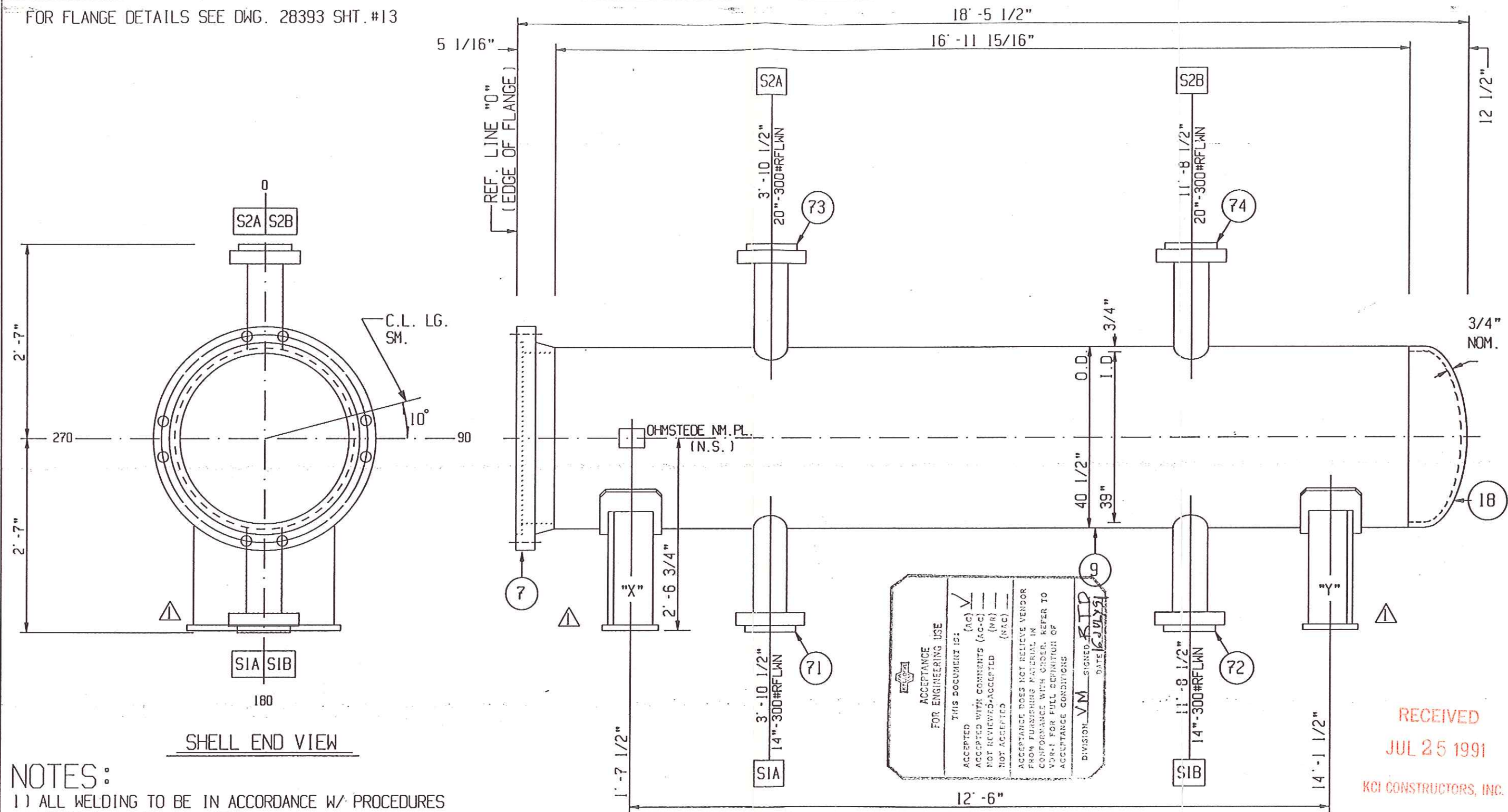
INSULATION: (BY OTHERS)
SHELLSIDE: 1 1/2" THK.
TUBESIDE: 2" THK.

C1	1"-6000# CPLG.	CHANNEL VENT W/ PLUG
C2	1"-6000# CPLG.	CHANNEL DRAIN W/ PLUG
T1	10"-300#RFLWN	CHANNEL INLET
T2	4"-300#RFLWN	CHANNEL OUTLET
S2B	20"-300#RFLWN	SHELL OUTLET
S2A	20"-300#RFLWN	SHELL OUTLET
S1B	14"-300#RFLWN	SHELL INLET
S1A	14"-300#RFLWN	SHELL INLET
MK	SIZE-RATE	SERVICE

DESIGN DATA		SHELL	TUBE
DESIGN PRESSURE P.S.I.G.		390	260 / FV
TEST PRESSURE P.S.I.G. SHOP/FIELD		585/585	563/417
DESIGN TEMPERATURE DEG. F./MDMT (MAX/MIN)		650/ 10	650/ 10
CORROSION ALLOWANCE		.1250"	.1250"
NUMBER OF PASSES		DBL. SPLIT	2
RADIOGRAPHIC EXAMINATION		SPOT(RT-3)	SPOT(RT-3)
HEAT TREAT REQUIRED		NO	NO
ESTIMATED WEIGHTS, LBS.			
DRY: 27000	BUNDLE: 15000	WET: 38000	
SPECIFICATIONS			
ASME CODE SECTION VIII DIV.1 STAMP YES		M.W. KELLOGG SPECS.	
TEMA CLASS R		#C41-1E-6636, #4-7TS-6636	
NATIONAL BOARD REGISTRATION REQUIRED		#9-4S-6636, #06E-115-IFCDS	
		#P42-ITS-6636	
MATERIAL			
CHANNEL: SA-516-70			
SHELL: SA-516-70 NORM.			
TUBESHEETS: SA-350-LF2			
BAFFLES: SA36			
TUBES: SA-214			
(439) 3/4" O.D.X .083" MIN.		X 16'-0" ST. LGTH	
TUBE PITCH 1" □		SURFACE 2906 SQ.FT.	
GENERAL NOTES			
ALL BOLT HOLES TO STRADDLE NATURAL CENTER LINES.			
<u>MAX. ALLOWABLE PRESSURES</u>			
<u>SHELLSIDE</u>			
MAWP (HOT & CORR.) = 390 PSIG LIM. BY SHELL FLANGE			
MAP (N & C) = 390 PSIG LIM. BY SHELL FLANGE			
<u>TUBESIDE</u>			
MAWP (HOT & CORR.) = 278 PSIG LIM. BY CHANNEL COVER			
MAP (N & C) = 375 PSIG LIM. BY CHANNEL CYL.			
CERTIFIED <u>MI4</u>			
GASKETS: .1250" THK. AIDJNAF		DATE <u>6/6/91</u>	
2 SETS OF SPARE GASKETS REQUIRED.			
CUST: M.W.KELLOGG/TENNECO		RECEIVED	
P.O. NO.: 6636-99D1-C210-01 ✓		AUG 14 1991	
ITEM NO.: 06E-115 ✓		KCI CONSTRUCTORS, INC.	
SERVICE : DEPROPANIZER COLUMN REBOILER			
SHIP TO : LAPORTE ,TX			
OHMSTEDE JOB NO. :28393			
ASSEMBLY AND SPECIFICATIONS FOR			
ONE 39-192 B X U			
OWN. BY		OHMSTEDE	
GEO			
DATE			
2-26-91			
CKD. BY		DRAWING NO.	SHEET NO.
DC		28393	1
			REV. 3

103351

FOR FLANGE DETAILS SEE DWG. 28393 SHT.#13

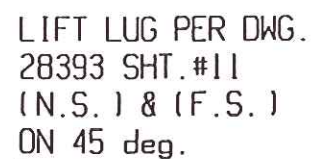


NOTES:

- 1) ALL WELDING TO BE IN ACCORDANCE W/ PROCEDURES #S/PI-1, #A/PI-1, #M3TR
- 2) ALL BOLT HOLES TO STRADDLE CENTER LINES.
- 3) SEE DWG. 28393 SHT.#14 FOR WELD & BEVEL DETAILS.
- 4) GRIND ALL INSIDE WELDS FLUSH.
- 5) SPOT RADIOGRAPHY.

CUST: M.W.KELLOGG/TENNECO
P.O. NO.: 6636-99DI-C210-01
ITEM NO.: 06E-115
SERVICE: DEPROPANIZER COLUMN REBOTILER
SHIP TO: LAPORTE, TX
OHMSTEDE JOB NO.: 28393

			SHELL DETAILS ✓				
			OWN. BY ERIC		OHMSTEDE		
			DATE 5-22-91				
1	6-26	DELETED HOLES & SLOTS IN SUPT'S.					
0	5-24	FOR FAB & CUST. REVIEW					
NO.	DATE	REVISIONS	CKD. BY DC	DRAWING NO. 28393	SHEET NO. ✓ 4	REV .1	



RECEIVED
JUL 09 1991

KCI CONSTRUCTORS, INC.

CUST: M.W.KELLOGG/TENNECO
P.O. NO.: 6636-9901-C210-01
ITEM NO.: 06E-115
SERVICE: DEPROPANIZER COLUMN REBOILER
SHIP TO: LAPORTE, TX
OHMSTEDE JOB NO.: 28393

NOTES :

- 1) ALL WELDING TO BE IN ACCORDANCE W/ PROCEDURES #S/PI-1, #A/PI-1, M3TR.
2) ALL BOLT HOLES TO STRADDLE CENTER LINES.
3) SEE DWG. 28393 SHT.#14 FOR WELD & BEVEL DETAILS.
4) SPOT RADIOGRAPHY.

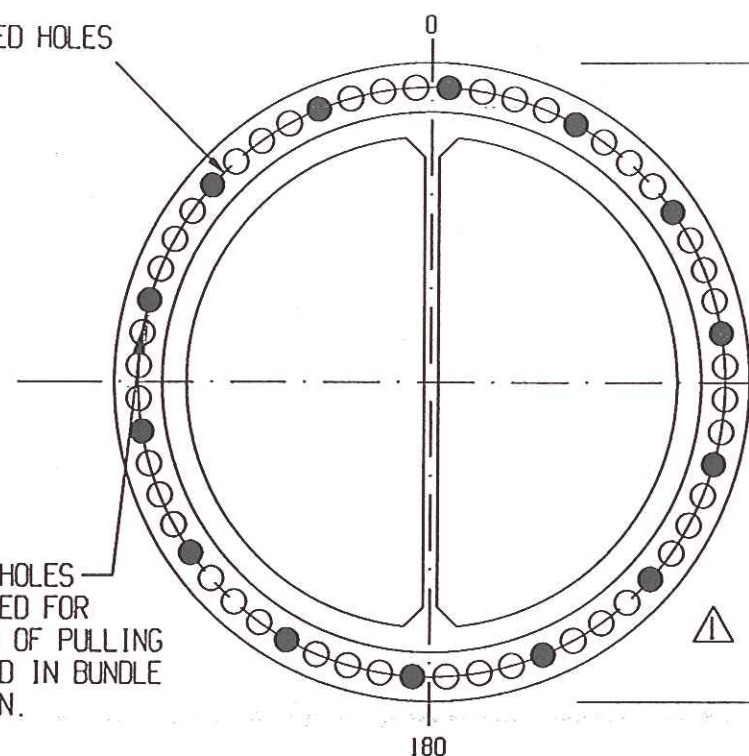
CHANNEL SIDE VIEW

			FRONT CHANNEL DETAILS		
			OWN. BY ERIC	OHMSTEDE	
			DATE 5-22-91		
0	5-24	FOR FAB. & CUST. REVIEW	CKD. BY	DRAWING NO.	SHEET NO.
NO.	DATE	REVISIONS	DC	28393	3
					REV 0

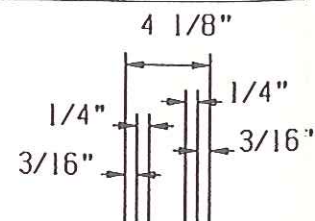
DRILL (56) HOLES EQUALLY SPACED TO STRADDLE CTR. LINES
 DRILL & TAP (14) HOLES 7/8" DIA. X 9 T.P.I. THRU EO. SPACED
 DRILL (42) HOLES 1" DIA. 
 CHORD= 2.4461"

● = TAPPED HOLES

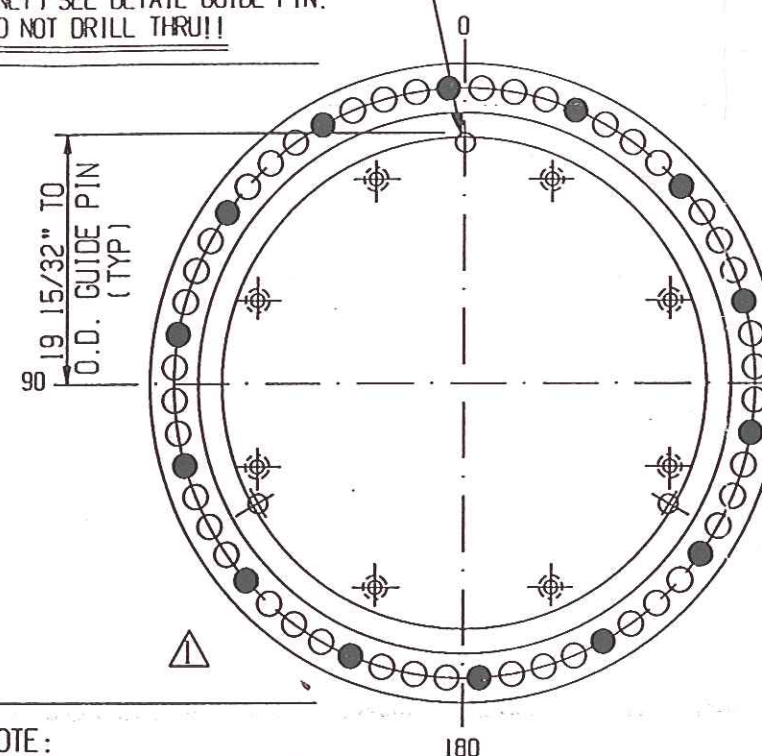
(4)
 THREADED HOLES
 MAY BE USED FOR
 INSERTION OF PULLING
 EYE TO AID IN BUNDLE
 EXTRACTION.



CHANNEL SIDE



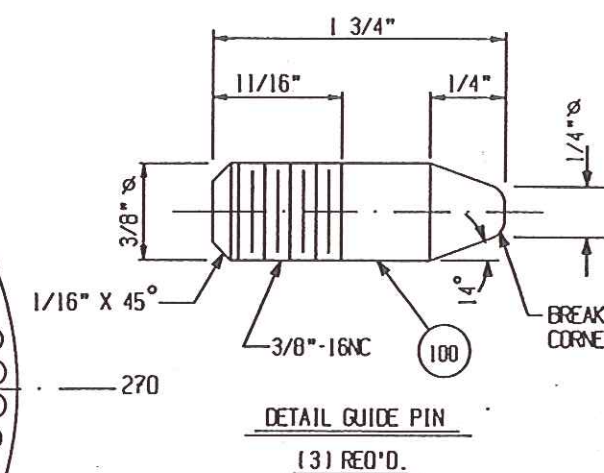
STARTING POINT FOR (3) HOLES:
 DRILL 5/16" DIA. X 1" DP. TO
 POINT OF DRILL & TAP 3/8"-16NC
 EO. SPACED 120 DEG. APART ON
 38 9/16" DIA. CIRCLE (SHELLSIDE
 ONLY) SEE DETAIL GUIDE PIN.
 DO NOT DRILL THRU!!



SHELL SIDE

SHOP NOTE:
 O & T GUIDE PIN HOLES BEFORE
 MACHINING 38 7/8" DIA. SHELL
 SIDE TURN.

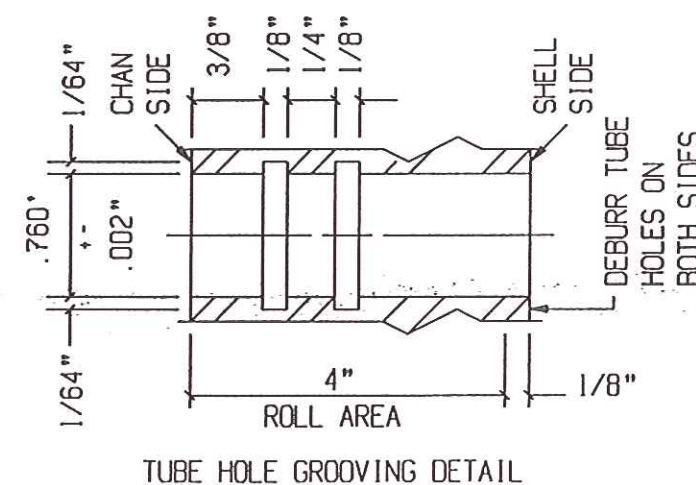
DRILL & TAP 3/4" DEEP FOR 8 - 1/2" DIA.
 TIE RODS ON SHELL SIDE OF
 # 19 TUBESHEET. DO NOT DRILL THRU!!
 (SEE TUBE LAYOUT FOR LOCATIONS.)



DETAIL GUIDE PIN
 (3) REQ'D.

RECEIVED
 JUL 25 1991

ACCEPTANCE FOR ENGINEERING USE	
THIS DOCUMENT IS:	
ACCEPTED	(AC) ☒
ACCEPTED WITH COMMENTS	(AC-C) ☐
NOT REVIEWED-ACCEPTED	(NR) ☐
NOT ACCEPTED	(NAC) ☐
ACCEPTANCE DOES NOT RELIEVE VENDOR FROM FURNISHING MATERIAL IN CONFORMANCE WITH ORDER. REFER TO VDR-1 FOR FULL DEFINITION OF ACCEPTANCE CONDITIONS	
DIVISION: V.M.	SIGNED: <u>RTD</u> DATE: <u>16 JULY 91</u>



TUBE HOLE GROOVING DETAIL

- NOTES: KCI CONSTRUCTORS, INC.
- 1) MACHINE ALL GASKET SURFACES TO 125 RMS.
 - 2) ALL PASS PLATE GROOVE WIDTHS TO BE 1/2" WIDE.
 - 3) ALL PASS PLATE GROOVE JUNCTIONS TO BE NOTCHED 3/8" AT 45 Deg.

CUST: M.W. KELLOGG/TENNECO
 P.O. NO.: 6636-99D1-C210-01
 ITEM NO.: 06E-115
 SERVICE: DEPROPANIZER COLUMN REBOILER
 SHIP TO: LAPORTE, TX
 OHMSTEDE JOB NO.: 28393

			TUBESHEET DETAILS						
			OWN. BY ERIC	OHMSTEDE					
							DATE 5-22-91		
1	6-26	REVISED BOLT HOLES AS MARKED	CKD. BY DC					DRAWING NO. 28393	SHEET NO. 5
0	5-24	FOR FAB. & CUST. REVIEW							
NO.	DATE	REVISIONS							

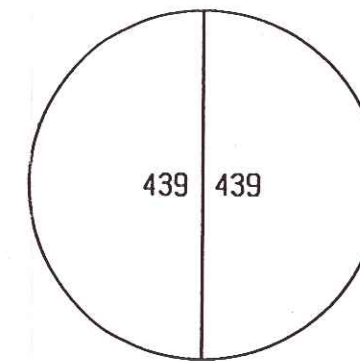
TIE RODS.
1/2" O.D.
8 REOD. TOTAL

DUMMY TUBES.
(BAFFLES ONLY)
23D 1" O.D.
5 REOD. TOTAL

1 1/8"
PASS LANE GAP

ROW "A"
ROW "B"
ROW "C"
ROW "D"
ROW "E"
ROW "F"
ROW "G"
ROW "H"
ROW "J"
ROW "K"
ROW "L"
ROW "M"
ROW "N"
ROW "O"
ROW "P"
ROW "Q"
ROW "R"
ROW "S"

ACCEPTANCE FOR ENGINEERING USE	
THIS DOCUMENT IS:	
ACCEPTED	(AC) ☒
ACCEPTED WITH COMMENTS	(AC-C) ☐
NOT REVIEWED-ACCEPTED	(NR) ☐
NOT ACCEPTED	(NAC) ☐
ACCEPTANCE DOES NOT RELIEVE VENDOR FROM FURNISHING MATERIAL IN CONFORMANCE WITH ORDER. REFER TO VDR-1 FOR FULL DEFINITION OF ACCEPTANCE CONDITIONS	
DIVISION MECH	SIGNED <i>J. Keith</i> DATE 7/1/91



TUBE DISTRIBUTION

RECEIVED
JUL 09 1991

KCI CONSTRUCTORS, INC.

NOTES:

- 1) DRILL AND REAM TUBE HOLES IN TUBESHEETS TO .7600" $\pm$.002" DIA. FOR 439 - 3/4" O.D. U-TUBES. TOTAL HOLES = 878
- 2) TUBE PITCH = 1" SQUARE.
- 3) NUMBER OF PASSES = 2
- 4) SEE DRAWING 28393 SHT.#5 FOR TUBE HOLE GROOVING DETAILS.
- 5) BAFFLE O.D. = 38 13/16"
- 6) O.T.L. = 38 5/16"

CUST: M.W.KELLOGG/TENNECO
P.O. NO.: 6636-99D1-C210-01
ITEM NO.: 06E-115
SERVICE: DEPROPANIZER COLUMN REBOILER
SHIP TO: LAPORTE, TX
OHMSTEDE JOB NO.: 28393

13 1/8"

(2) BOTTOM
TIE RODS

23C (2) REO'D.

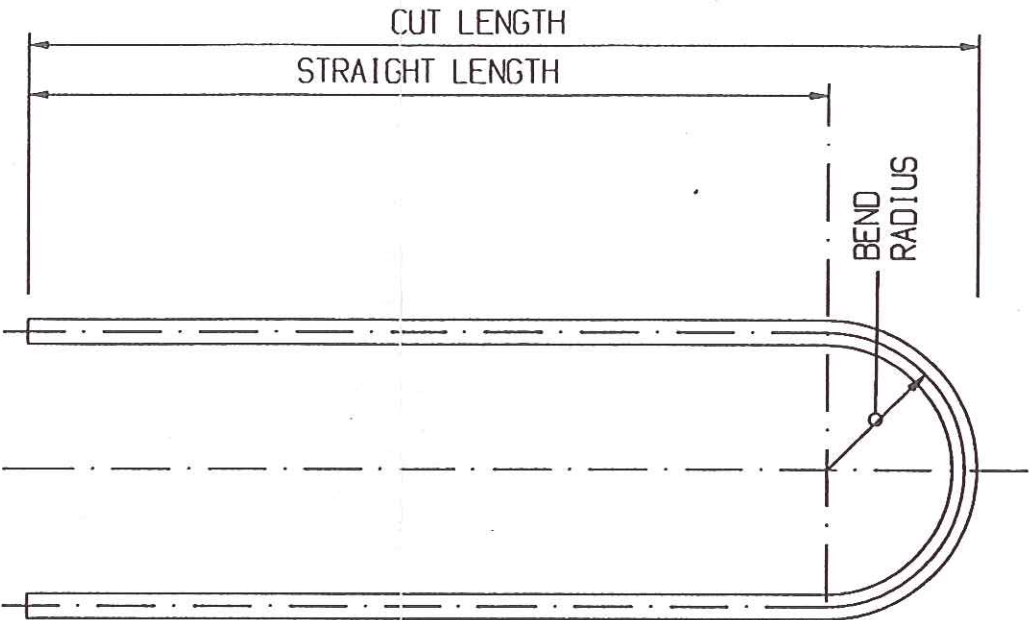
180

VIEW LOOKING AT SHELL SIDE OF NO. 19 TUBESHEET

0.13" C.L. TUBES
270

TUBE LAYOUT			OHMSTEDE		
0	5-24	FOR FAB. & CUST. REVIEW	OWN. BY ERIC	DRAWING NO. 28393	SHEET NO. 6
			DATE 5-22-91		
NO.	DATE	REVISIONS	CKD. BY DC	REV.	0

ROW	NO. OF TUBES	BEND RADIUS	BEND DIAMETER	BEND LENGTH	STRAIGHT LENGTH	CUT LENGTH	ORDER LENGTH
A	27	1 1/8"	2 1/4"	0' -3 9/16"	16' -0"	16' -1 1/2"	32' -3 9/16"
B	27	2 1/8"	4 1/4"	0' -6 11/16"	16' -0"	16' -2 1/2"	32' -6 11/16"
C	27	3 1/8"	6 1/4"	0' -9 7/8"	16' -0"	16' -3 1/2"	32' -9 7/8"
D	27	4 1/8"	8 1/4"	1' -1"	16' -0"	16' -4 1/2"	33' -1"
E	27	5 1/8"	10 1/4"	1' -4 1/8"	16' -0"	16' -5 1/2"	33' -4 1/8"
F	27	6 1/8"	12 1/4"	1' -7 1/4"	16' -0"	16' -6 1/2"	33' -7 1/4"
G	27	7 1/8"	14 1/4"	1' -10 7/16"	16' -0"	16' -7 1/2"	33' -10 7/16"
H	25	8 1/8"	16 1/4"	2' -1 9/16"	16' -0"	16' -8 1/2"	34' -1 9/16"
J	27	9 1/8"	18 1/4"	2' -4 11/16"	16' -0"	16' -9 1/2"	34' -4 11/16"
K	27	10 1/8"	20 1/4"	2' -7 13/16"	16' -0"	16' -10 1/2"	34' -7 13/16"
L	27	11 1/8"	22 1/4"	2' -11"	16' -0"	16' -11 1/2"	34' -11"
M	27	12 1/8"	24 1/4"	3' -2 1/8"	16' -0"	17' -0 1/2"	35' -2 1/8"
N	27	13 1/8"	26 1/4"	3' -5 1/4"	16' -0"	17' -1 1/2"	35' -5 1/4"
O	25	14 1/8"	28 1/4"	3' -8 3/8"	16' -0"	17' -2 1/2"	35' -8 3/8"
P	23	15 1/8"	30 1/4"	3' -11 9/16"	16' -0"	17' -3 1/2"	35' -11 9/16"
Q	19	16 1/8"	32 1/4"	4' -2 11/16"	16' -0"	17' -4 1/2"	36' -2 11/16"
R	13	17 1/8"	34 1/4"	4' -5 13/16"	16' -0"	17' -5 1/2"	36' -5 13/16"
S	10	18 1/8"	36 1/4"	4' -9"	16' -0"	17' -6 1/2"	36' -9"



RECEIVED
JUL 09 1991
KCI CONSTRUCTORS, INC.

TOTAL NO. REQUIRED: 439 U-TUBES
 SIZE: 3/4" O.D. X 0.083" MIN.
 MATERIAL: SA-214

MAXIMUM OUT-OF-ROUNDNESS OF TUBES AT
 U-BENDS NOT TO EXCEED 10%.

QUANTITIES SHOWN ARE FOR
 ONE SET OF U-TUBES,
 1 -SET REQ'D. TOTAL.

ACCEPTANCE
FOR ENGINEERING USE

THIS DOCUMENT IS:

ACCEPTED (AC) ☒

ACCEPTED WITH COMMENTS (AC-C) ☐

NOT REVIEWED-ACCEPTED (NR) ☐

NOT ACCEPTED (NAC) ☐

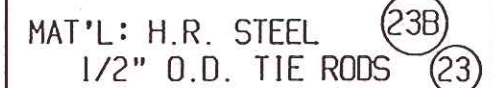
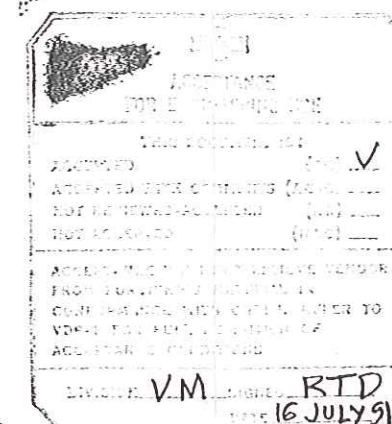
ACCEPTANCE DOES NOT RELIEVE VENDOR FROM FURNISHING MATERIAL IN CONFORMANCE WITH ORDER. REFER TO VDR-1 FOR FULL DEFINITION OF ACCEPTANCE CONDITIONS

DIVISION MECH SIGNED

DATE 21 JUN 91

CUST: M.W.KELLOGG/TENNECO
 P.O. NO.: 5636-9901-C210-01
 ITEM NO.: 06E-115
 SERVICE : DEPROPANIZER COLUMN REBOILER
 SHIP TO : LAPORTE ,TX
 OHMSTEDE JOB NO.:28393

TUBE BENDING SCHEDULE				
			OWN. BY	OHMSTEDE
			ERIC	
			DATE	
0	5-24	FOR FAB. & CUST. REVIEW	5-22-91	
NO.	DATE	REVISIONS	CKD. BY	DRAWING NO.
			DC	28393
			SHEET NO.	REV.
			7	0



MAT'L: A-214 (23A)
3/4" O.D. SPACER TUBING

RECEIVED

JUL 25 1991

KCI CONSTRUCTORS, INC.

OHMSTEDE

DRAWING NO.	SHEET NO.	REV.
28393	8	1

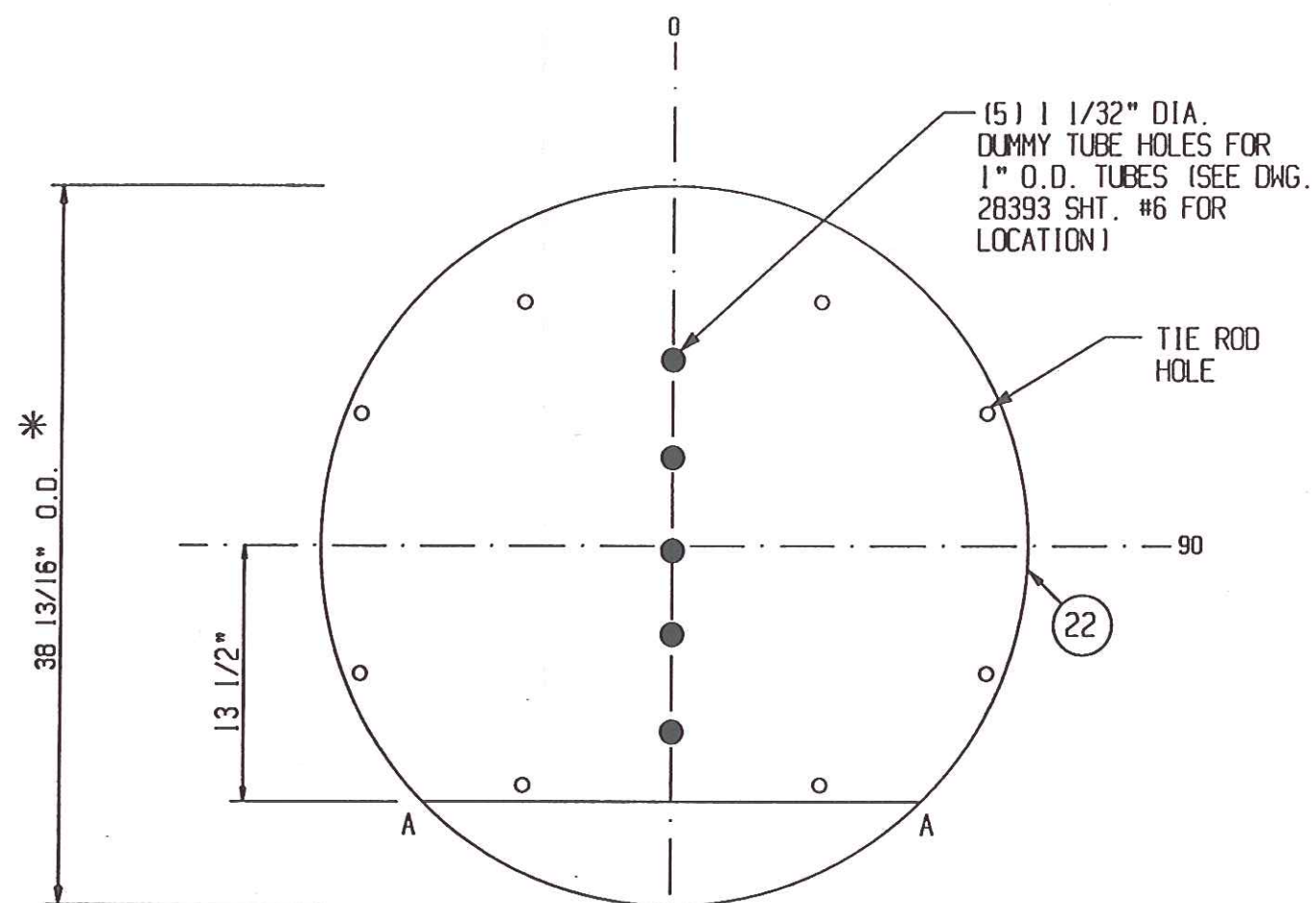
1) SEE DWG. NO. 28393 SHT. #9 FOR SECTION AND VIEW DETAILS.

1	6-26	CORRECTED U-BENDS
0	5-24	FOR FAB. & CUST. REVIEW
NO.	DATE	REVISIONS

OWN. BY
ERIC

DATE	5-22-91
------	---------

CKD. BY	
DC	



VIEW ZZ OF BAFFLES

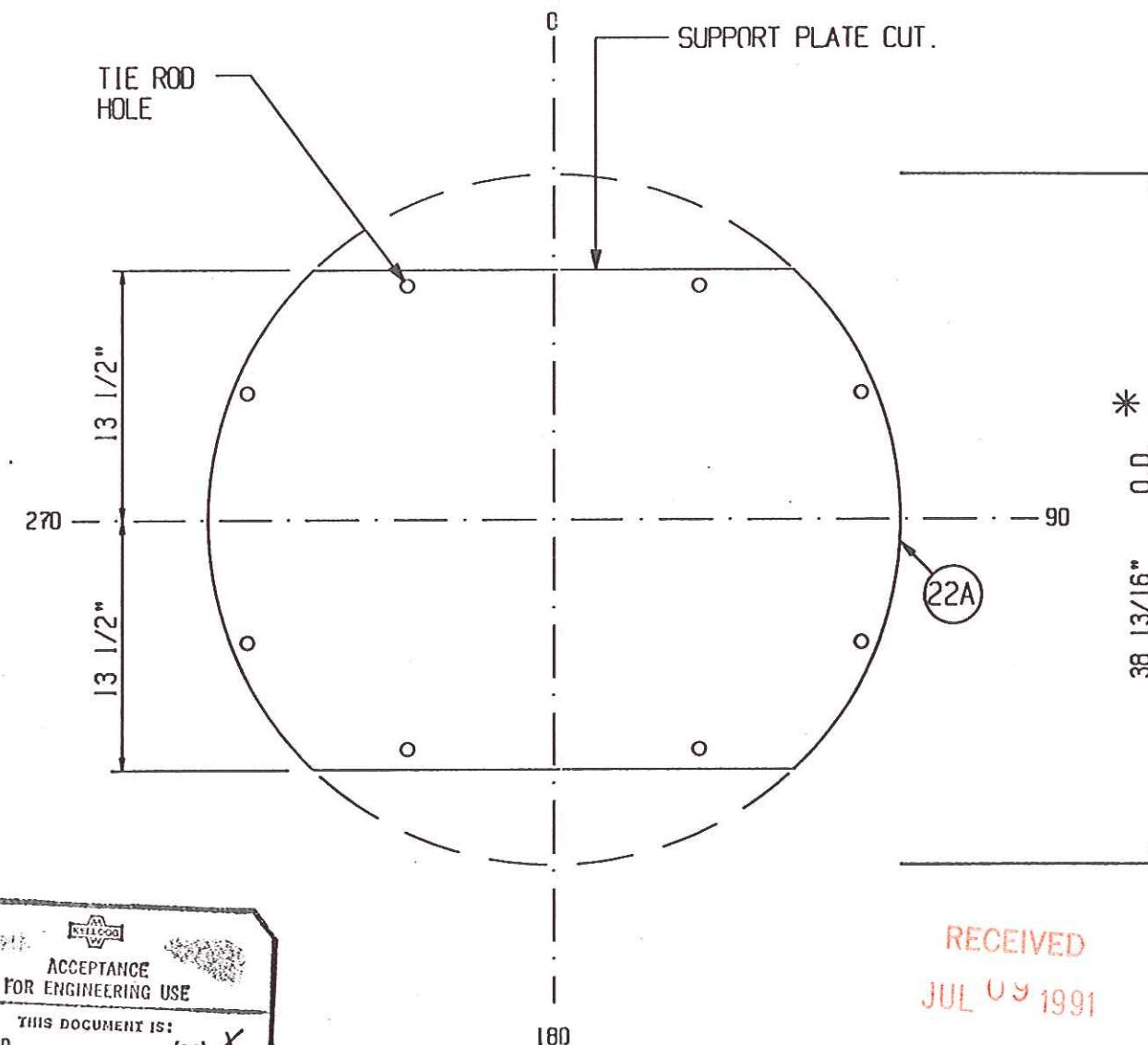
1/2" THK.

2 -REQ'D. CUT AA (MK "A")

1 -REQ'D. CUT FULL DIA. (MK "B")

NOTES:

- 1) DRILL TUBE HOLES IN BAFFLES 49/64" 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.



VIEW XX OF SUPT.PL.

5/8" THK.

1-REQ'D.

ACCEPTANCE FOR ENGINEERING USE	
THIS DOCUMENT IS:	
ACCEPTED	(AC) ☒
ACCEPTED WITH COMMENTS	(AC-C) ☐
NOT REVIEWED-ACCEPTED	(NR) ☐
NOT ACCEPTED	(NAC) ☐
ACCEPTANCE DOES NOT RELIEVE VENDOR FROM FURNISHING MATERIAL IN CONFORMANCE WITH ORDER. REFER TO VDR-1 FOR FULL DEFINITION OF ACCEPTANCE CONDITIONS	
DIVISION MECH	SIGNED <i>[Signature]</i> DATE 5/20/91

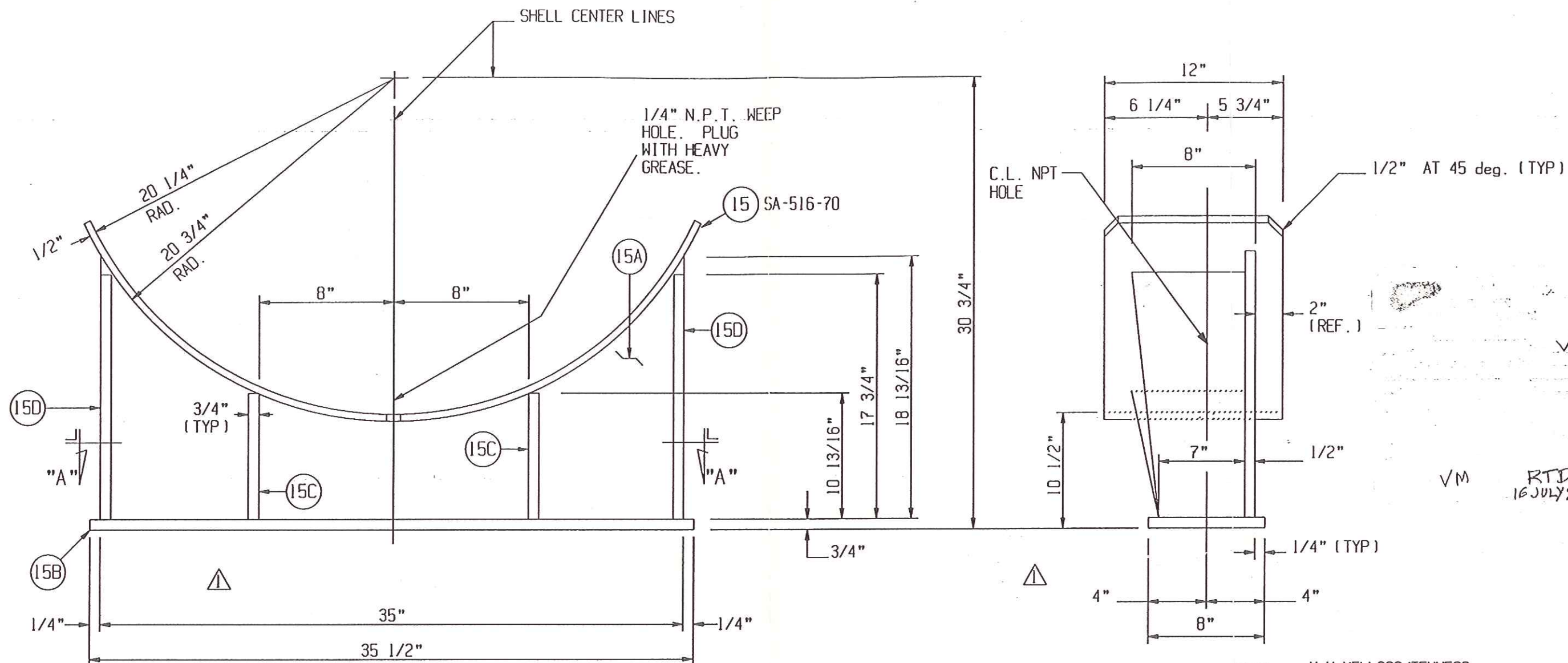
RECEIVED
JUL 09 1991

KCI CONSTRUCTORS, INC.

CUST: M.W.KELLOGG/TENNECO
P.O. NO.: 6636-99D1-C210-01
ITEM NO.: 06E-115
SERVICE: DEPROPANIZER COLUMN REBOILER
SHIP TO: LAPORTE, TX
OHMSTEDE JOB NO.: 28393

BAFFLE DETAILS		
0	5-24	FOR FAB. & CUST. REVIEW
NO.	DATE	REVISIONS
OWN. BY ERIC		
DATE 5-22-91		
CKD. BY DC		
DRAWING NO. 28393		
SHEET NO. 9		
REV. 0		

10
21

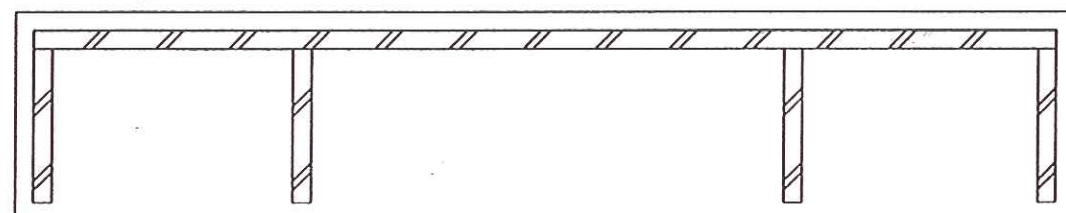


CUST: M.W. KELLOGG/TENNECO
 P.O. NO.: 6636-99D1-C210-01
 ITEM NO.: 06E-115
 SERVICE: DEPROPANIZER COLUMN REBOILER
 SHIP TO: LAPORTE, TX
 OHMSTEDE JOB NO.: 28393

RECEIVED
 JUL 25 1991

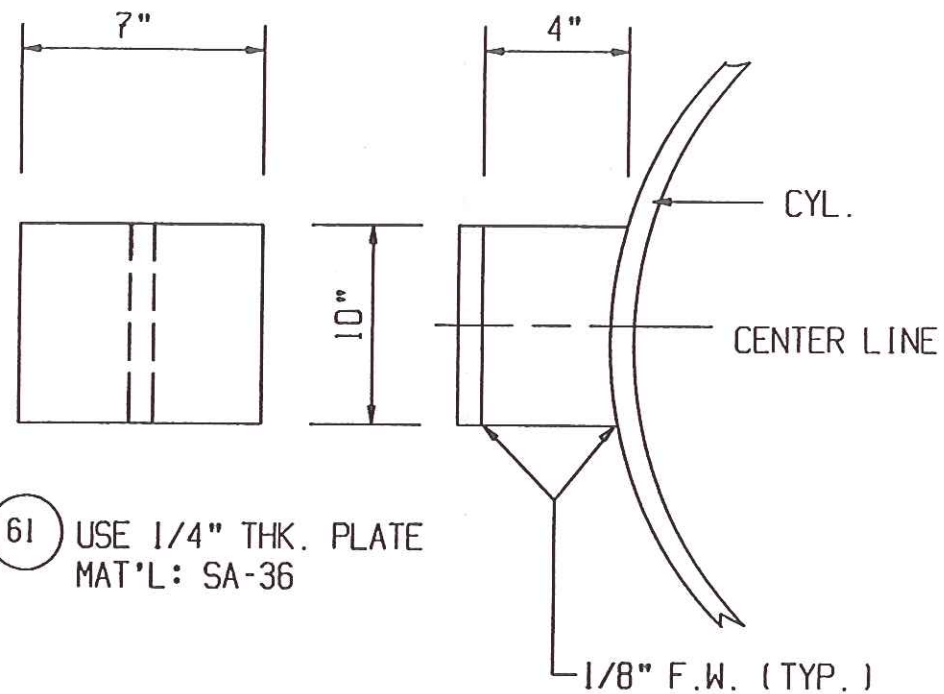
KCI CONSTRUCTORS, INC.

ONE REQUIRED MARKED 'X'
 ONE REQUIRED MARKED 'Y'
 ALL MAT'L. TO BE SA-36 EXCEPT AS NOTED
 ALL WELDS TO BE 1/4\"/>



SECTION "A-A"

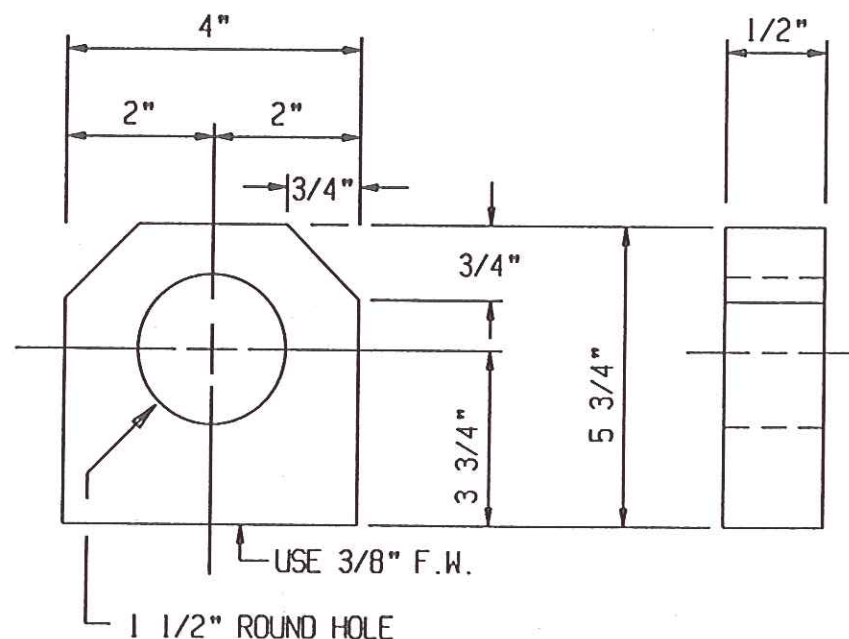
			SUPPORT DETAILS			
			OWN. BY ERIC	OHMSTEDE		
			DATE 5-22-91			
1	6-26	DELETED HOLES & SLOTS	CKD. BY DC	DRAWING NO. 28393	SHEET NO. 10	REV. 1
0	5-24	FOR FAB. & CUST. REVIEW				
NO.	DATE	REVISIONS				



61 USE 1/4" THK. PLATE
MAT'L: SA-36

(ONE) REQ'D.

NAME PLATE BRACKET DETAIL



62
SA-516-70

NO. REQUIRED: (2)

LIFTING LUG DETAIL

MATERIAL: 18-8 STN. STL. (16 GA)

60

NATIONAL BOARD NO. *	
CERTIFIED AND MANUFACTURED BY	
Ohmstede, Inc.	
☐ ST. GABRIEL	☐ LAKE CHARLES
☒ LA PORTE	☐ CORPUS CHRISTI
SHELL TUBE	
MAWP	390 PSI
AT	278 PSI
MAX. DESIGN TEMP.	650 °F
TEST PRESS.	585 PSI
MIN. DESIGN METAL TEMP.	10 °F @ 390 PSI
MIN. DESIGN METAL TEMP.	10 °F @ 278 PSI
ITEM NO. 06E-115	SERIAL NO. 28393
SIZE 39 X 192	TYPE 8 X U
YEAR BUILT 1991	
P.O. NO. 6636-99DI-C210-01	
SERVICE: DEPROPANIZER COLUMN REBOILER TUBESIDE EXT. PRESS. = 15 PSIG. @ 650°F.	

* TO BE ASSIGNED AT TIME OF SHIPMENT

MAX. ALLOW PRESS. (NEW & COLD)
SHELLSIDE: 390 PSIG.
TUBESIDE: 375 PSIG.
SHOP TEST PRESS.
SHELLSIDE: 585 PSIG.
TUBESIDE: 563 PSIG.

ACCEPTANCE FOR ENGINEERING USE	
THIS DOCUMENT IS:	
ACCEPTED (AC)	☒
ACCEPTED WITH COMMENTS (AC-C)	☐
NOT REVIEWED-ACCEPTED (NR)	☐
NOT ACCEPTED (NAC)	☐
ACCEPTANCE DOES NOT RELIEVE VENDOR FROM FURNISHING MATERIAL IN CONFORMANCE WITH ORDER. REFER TO VDR-1 FOR FULL DEFINITION OF ACCEPTANCE CONDITIONS	
DIVISION MECH	SIGNED <i>J. B. B.</i> DATE <i>11/11/91</i>

60 SUPPLEMENTARY NAME PLATE
USE BACKSIDE OF STD.
NAME PLATE.

CUST: M.W. KELLOGG/TENNECO
P.O. NO.: 6636-99DI-C210-01
ITEM NO.: 06E-115
SERVICE: DEPROPANIZER COLUMN REBOILER
SHIP TO: LAPORTE, TX
OHMSTEDE JOB NO.: 28393

KCI CONSTRUCTORS, INC.

NAME PL., BRKT. & LIFT LUGS

OWN. BY
ERIC

DATE
5-22-91

CKD. BY
DC

DRAWING NO.

28393

SHEET NO.

11

REV.

0

NO.	DATE	REVISIONS	OWN. BY	DATE	CKD. BY	DRAWING NO.	SHEET NO.	REV.
0	5-24	FOR FAB. & CUST. REVIEW	ERIC	5-22-91	DC	28393	11	0

12