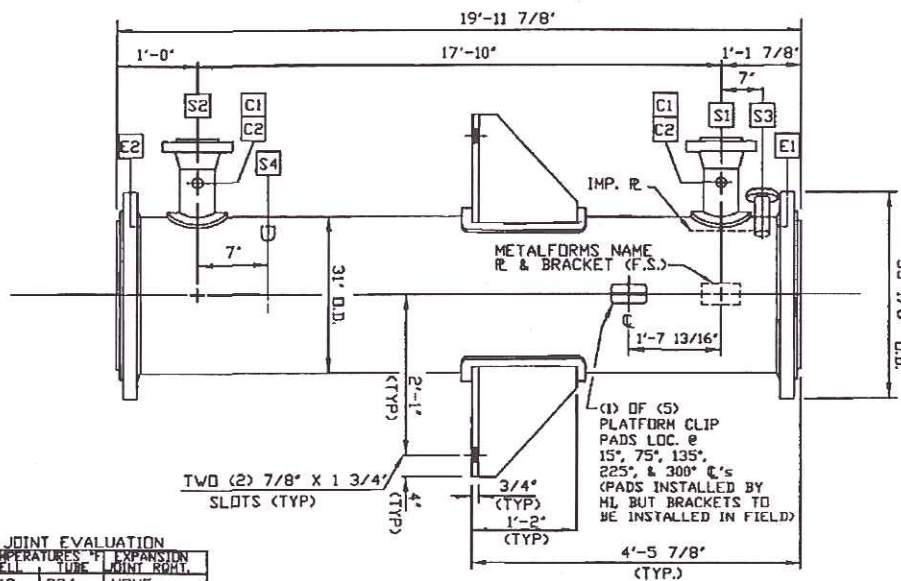
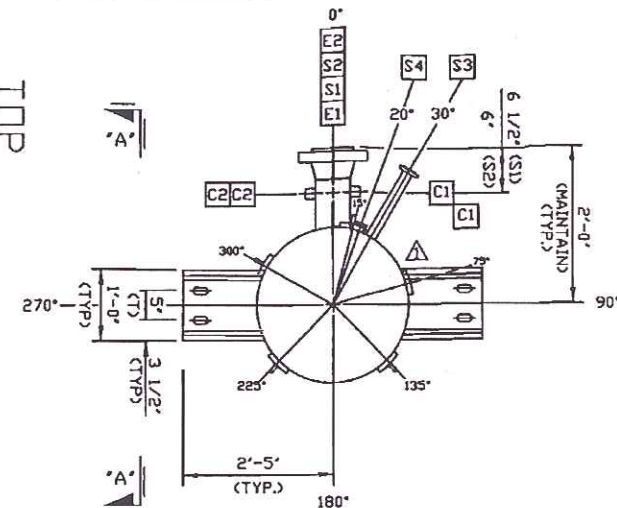




TOP



VIEW "A-A"
"TRUE ORIENTATION"

EQUIP. SAP#: 10202806
EQUIP. TAG#: 2308021
PLANT: BMD (GLYCOL 1)
SCOPE OF WORK: FABRICATE EXCHANGER, LESS HEADS.

EXPANSION JOINT EVALUATION

DESIGN CASE	TEMPERATURE OF EXPANSION JOINT	TEMPERATURE OF EXPANSION JOINT	TEMPERATURE OF EXPANSION JOINT
NORMAL OPER.	413	384	NONE
NORMAL START-UP	250	210	NONE
WINTER START-UP	400	360	NONE
TUBE START-UP	70	324	YES NOT INCLUDED

* DO NOT START-UP OR RUN TUBE SIDE WITHOUT SHELL SIDE.

1. TUBES: 705-3/4" O.D. X 14 (MW) X 20'-0" LG.
2. TUBE PITCH: 1' Δ
3. ALL BOLT HOLES TO STRADDLE C's.
4. ALL COUPLINGS PLUGGED.
5. PAINT: NEAR-WHITE SANDBLAST PER SSPC-SP10 AND APPLY ONE (1) COAT OF CARBOZINC #11, 3-4 MILS D.F.T.
6. TUBES WILL BE STRENGTH WELDED AND THEN ROLLED TO THE TUBESHEETS.
7. NATIONAL BOARD REGISTRATION REQ'D.
8. MASS SPECTROMETER HELIUM LEAK TEST REQUIRED.

DESIGN PRESSURE (PSIG)
DESIGN TEMPERATURE (°F)
TEST PRESSURE (PSIG)
CORROSION ALLOWANCE
NUMBER OF PASSES
RADIOGRAPH
P.W.H.T.

SHELL	CHAN.
320	133
470/-20	400
480	---
1/16"	1/8"
1	1
RT-3	---
NONE	---

BUILT & STAMPED IN ACCORDANCE WITH ASME CODE, SECT. VIII, DIV. 1 2004 (A06) & TEMA "B".
CERTIFIED CORRECT FOR FABRICATION
BY: Samuel Kantar DATE: 12/18/07
CUSTOMER: EQUSTAR CHEMICALS, LP
P.O. NO: 4400839977 NO. REQ'D: ONE
ITEM: E-1530 SIZE: 30-240 TYPE: E-E
SERVICE: GLYCOL 1 FIRST EFFECT REBOILER



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BEAUMONT, TEXAS 77720

TITLE: OUTLINE DETAIL

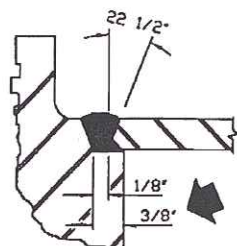
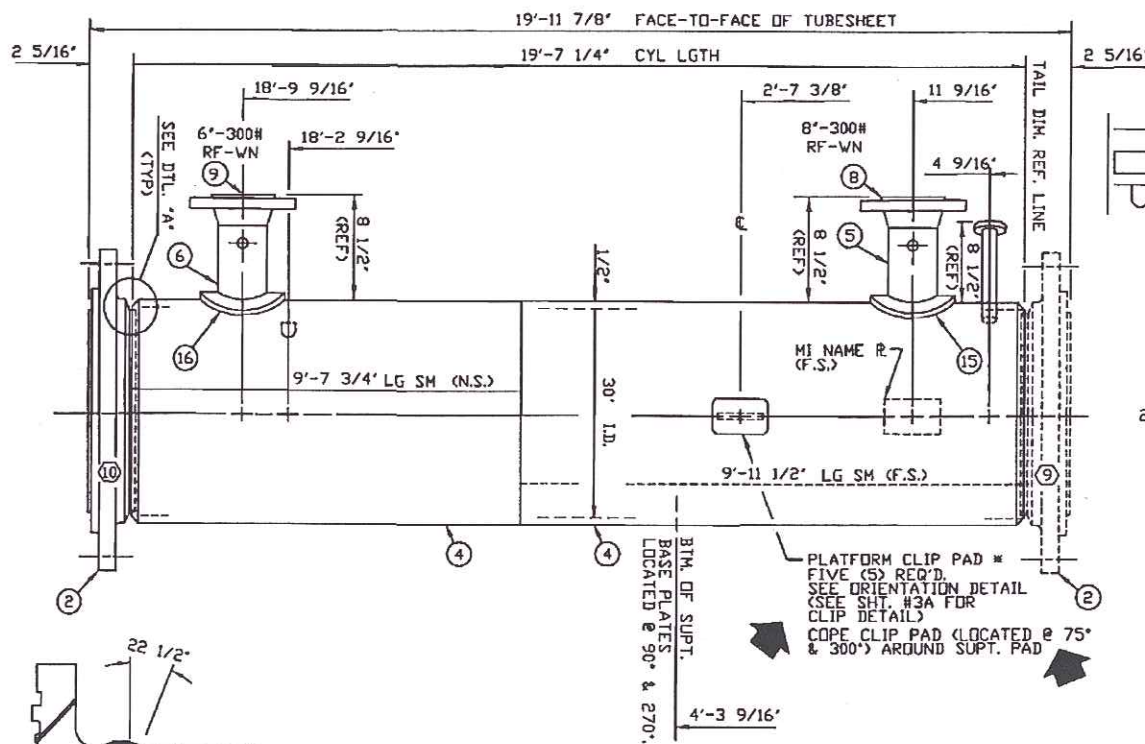
OWN. DATE	CHK. DATE	CHK. DATE	APPR. DATE	DWG. NO.	SH.
12/14/07	12/14/07	12/18/07	12/18/07	17315	1

NO.	DESCRIPTION
E2	DRAIN 1/4" N.P.T. W/ PLUG
E1	VENT 1/4" N.P.T. W/ PLUG
C2	TEMP. 3/4"-6000# CPLG (2 REQ'D.)
C1	PRESS. 3/4"-6000# CPLG (2 REQ'D.)
S4	INST. CONN. 3/4"-6000# CPLG
S3	CHEM. CLEAN 1 1/2"-300# RF-LWN
S2	OUTLET 6"-300# RF-WN
S1	INLET 8"-300# RF-WN
WK	SERVICE

REV.	REVISION DESCRIPTION	BY	CHK	DATE
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C356960

SHOP INSPECTOR 12/18/2007



DETAIL 'A'

SEE END VIEW FOR TRUE ORIENTATION

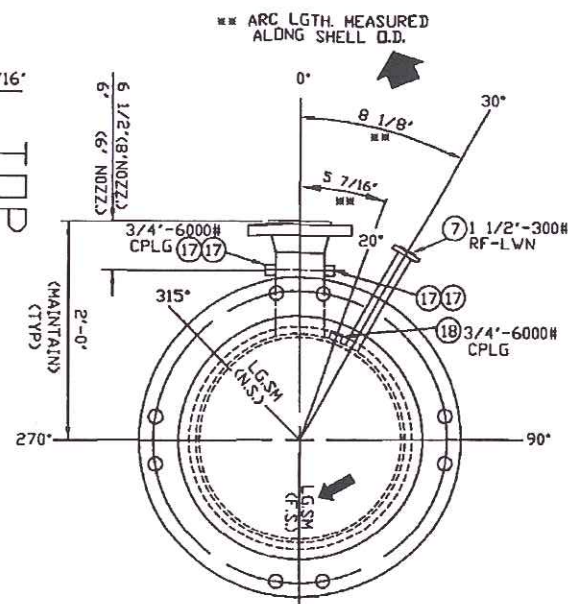
SHELL

X-RAY : RT-3

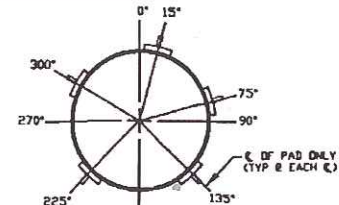
- NOTES: 1. SEE WELD MAP DWG. SHT. #1-2- FOR W.P.S.
2. SEE STANDARD DETAIL DWG. SHT. #1-10- FOR WELD DETAILS.
3. END VIEW NOZZLE PROJECTION MUST BE MAINTAINED.

* NOTE: INSTALL CLIP PADS ONLY
P & C'S AS SHOWN BUT
BRACKETS TO BE LOCATED
& WELDED IN FIELD.

* PAD ORIENTATION DETAIL
LOCATION DETAIL
TOTAL (5) PADS REQ'D



'TRUE ORIENTATION'



CUSTOMER: EQUSTAR CHEMICALS, LP
PLANT: BMO (GLYCOL1)
ITEM NO.: E-1530
EQUIP TAG#: 2308021
P.O. NO.: 4400839977
EQUIP. SAMP#: 10202806
SERVICE: GLYCOL 1 FIRST EFFECT REBOILER

REV.	REVISION DESCRIPTION	BY	CHK	DATE

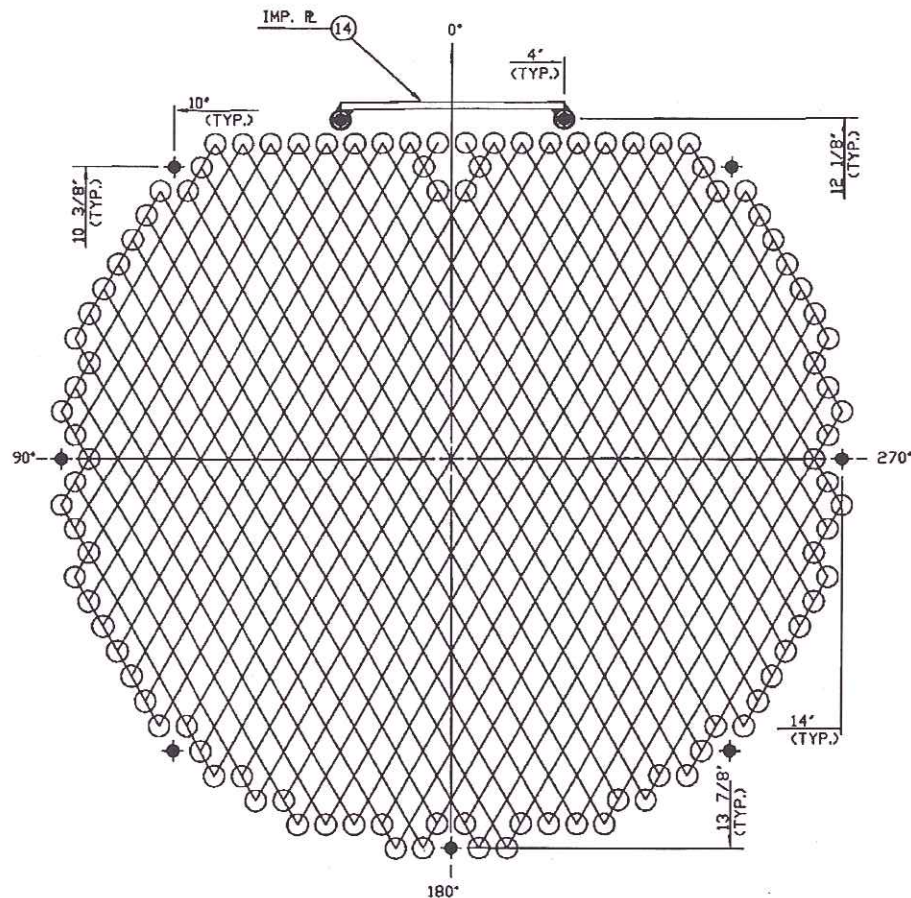
MI METALFORMS, INC.
P.O. BOX 20118
BEAUMONT, TEXAS 77720

TITLE: SHELL DETAIL

OWN. DATE:	CHK. DATE:	CHK. DATE:	APPR. DATE:	DWG. NO.:	SHT.:
KL 12/14/07	VA 12/14/07	BK 12/18/07	BK 12/18/07	17315	3

SHBEM19

SHOP INSPECTOR 12/18/2007



NOTES:

1. 705 - 3/4" O.D. TUBES
2. 1" Δ TUBE PITCH
3. 28.4" Δ OF OUTERMOST TUBES
4. DRILL (9) TIE ROD HOLES 9/16" Ø IN BAFFLES.
5. DRILL TUBE HOLES IN BAFFLES 49/64" Ø
6. DRILL & TAP 5/8" DEEP FOR (9) - 1/2" Ø TIE RODS ON SHELL SIDE OF #9 TUBESHEET.

● DENOTES (9) - 1/2" Ø TIE RODS

CUSTOMER: EQUISTAR CHEMICALS, LP
 PLANT: BMO (GLYCOL I)
 ITEM NO.: E-1530
 EQUIP TAG#: 2308021
 P.O. NO.: 4400839977
 EQUIP. SAPH: 10202806
 SERVICE: GLYCOL 1 FIRST EFFECT REBOILER



METALFORMS, INC.
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 BEAUMONT, TEXAS 77720

TITLE: TUBE LAYOUT

DATE:	CHK:	DATE:	CHK:	DATE:	CHK:	DATE:	CHK:	DATE:	CHK:
12/14/07	VA	12/14/07	BK	12/18/07	BK	12/18/07	BK	12/18/07	BK

17315 5

LAYST