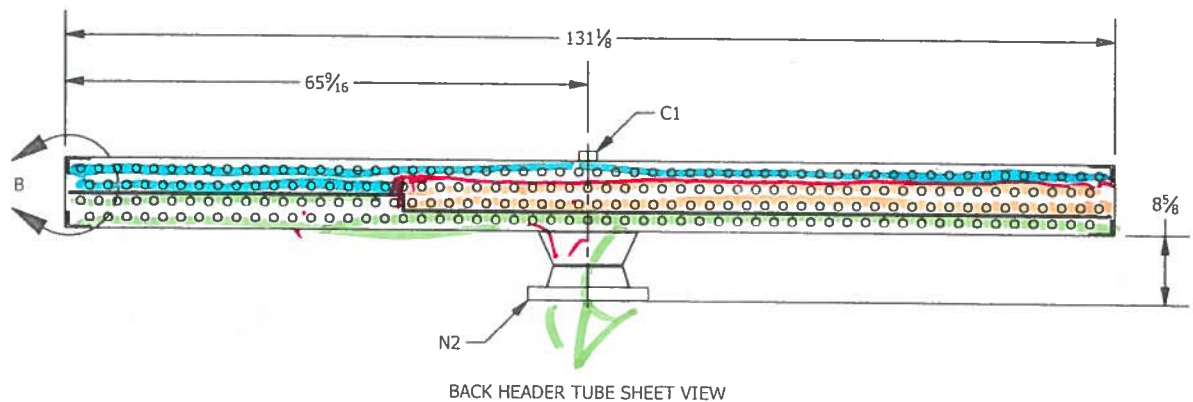
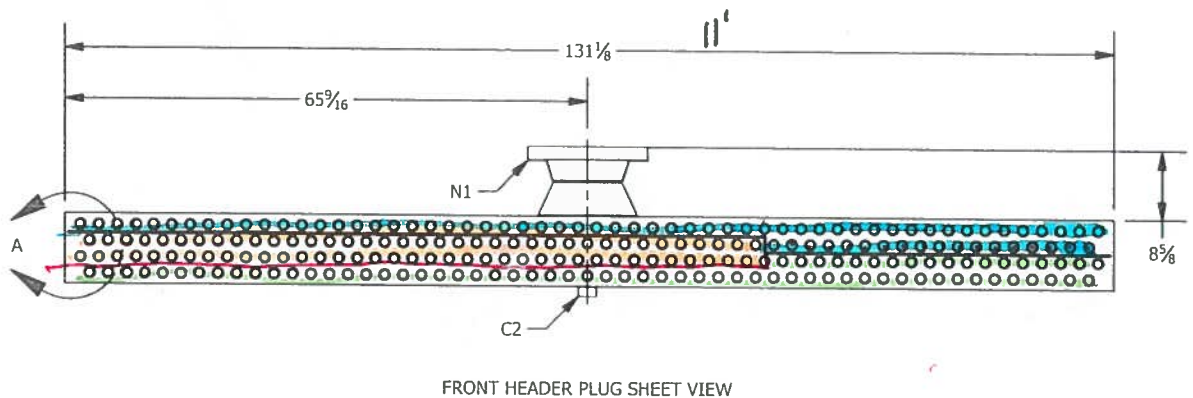
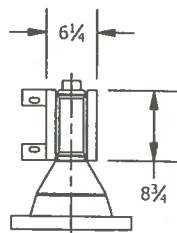


FINAL CERTIFIED
RELEASED FOR FABRICATION

32312-1 COIL TO REPLACE 49411-1 COIL

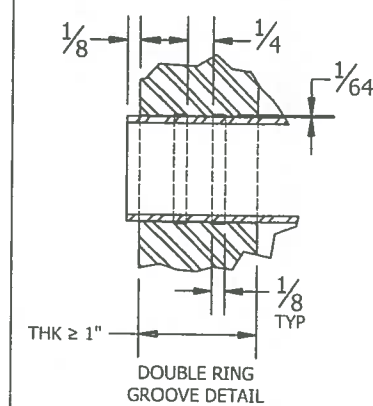
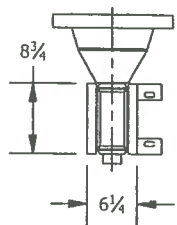


BACK HEADER END PLATE VIEW

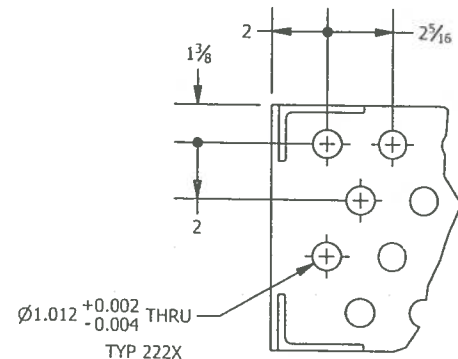


FRONT HEADER END PLATE VIEW

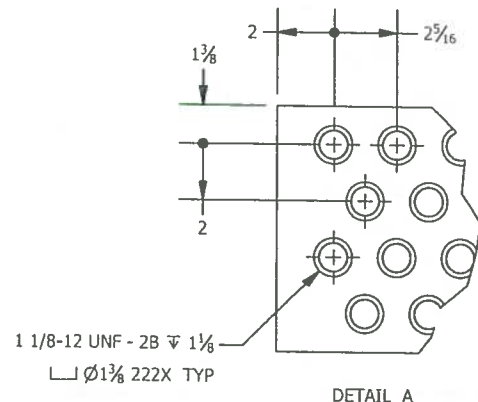
FRONT HEADER END PLATE VIEW



DOUBLE RING GROOVE DETAIL



DETAIL B



DETAIL A

DESIGN CONDITIONS

DESIGN PRESSURE: 500 PSIG	APPROX DRY WEIGHT: 13751 lbs
DESIGN TEMP: 450 °F	APPROX WET WEIGHT: 16650 lbs
TEST PRESSURE: 750 PSIG	FRONT HEADER WEIGHT: 963 lbs
MDMT: -20 °F	BACK HEADER WEIGHT: 946 lbs
CORR. ALLOW: 0"	BUNDLE VOLUME: 348 gal

HEADER MATERIAL (in)(mm)

MAT'L:	THICK	LENGTH	WIDTH	BEVEL
SA-516 70				
TUBE/PLUG	1.125"	131.125"	8.75"	NONE
WRAPPER	0.5"	131.125"	3.75"	LONG
END PLATE	0.5"	7.4375"	3.75"	ALL
PASS PLATE	0.5"	130.125"	4.0"	NONE
SA-516 70				
TUBE/PLUG	1.125"	131.125"	8.75"	NONE
WRAPPER	0.5"	131.125"	3.75"	ALL
END PLATE	0.5"	7.4375"	3.75"	ALL
PASS PLATE	0.5"	130.125"	4.0"	NONE

SCHEDULE OF OPENINGS

NOZZLE	SERVICE	QTY	DESCRIPTION
N1	INLET	1	8"-300 RF-WN 0.500" WT(SCH. XH) SA-105
N2	OUTLET	1	8"-300 RF-WN 0.500" WT(SCH. XH) SA-105
C1	VENT	1	1"-6000# HALF-CPLG THD SA-105
C2	DRAIN	1	1"-6000# HALF-CPLG THD SA-105

INLET PIPE: 0.750" WT X 4" Lg. SA-216-WCB (CAST TRANSITION)
OUTLET PIPE: 0.750" WT X 4" Lg. SA-216-WCB (CAST TRANSITION)

TUBES

TUBE QUANTITY:	222
TUBE FACES:	56
TUBE OD X THK:	1" X 0.06"
TUBE MATERIAL:	SA-214
FIN TYPE:	L-TENSION WRAPPED ALUMINUM
FIN HEIGHT:	0.625"
LENGTH:	40 FT.
ROWS:	4
PASSES:	3

PLUGS

PLUG QUANTITY:	444
PLUG MATERIAL:	SA-105
PLUG GASKET:	A366
PLUG TYPE:	SHLD
FRONT:	P9-9
BACK:	P9-9

SIDE FRAME

SF THICKNESS:	0.25"
SF LENGTH:	477.5"
SF DEPTH/FLG:	17" TOP FLG: 3" BTM FLG: 3"
SUPPORT:	BEAM: S 04 x 7.7
BINDER:	L3 (3 X 2 X 1/4 FORMED ANGLE)

FINISH REQUIREMENTS

HEADERS:	White Mtl Blast (SP5) (Metalize)
SIDEFRAMES:	Hand tool clean (SP2) (Galvanize)

REQUIREMENTS | DETAILS

API-661:	NO	*
NB REQ'D:	YES	*
ASME STAMP:	YES	2010 ASME CODE SECTION VIII DIVISION 1 APPENDIX 13
CRN:	NO	*
PWHT:	NO	*
XRAY:	NO	*
BRINELL:	NO	*
IMPACT TEST:	NO	IMPACT TESTING EXEMPT PER UG-20(f)
MT / PT:	YES	MT / PT PLATE EDGES PER UG-93(d)(3)

MODELED BY:
WRW

DETAILED BY:
WRW

CHECKED BY:
JMC

APPROVED BY:
JCS

UNLESS OTHERWISE SPECIFIED

- REMOVE ALL BURRS AND SHARP CORNERS.
- COR. RAD .03
- DO NOT SCALE DRAWING.
- ALL DIMENSIONS ARE IN INCHES.
- ALT DIMENSIONS ARE IN MM
- MACHINE FIN.
- FABRICATION
 - .X = ± 0.25
 - .XX = ± 0.125
 - .XXX = ± 0.06
 - FRACTION = ± 1/8
 - ANGLES ± 3°
- MACHINE
 - .X = ± 0.030
 - .XX = ± 0.015
 - .XXX = ± 0.005
 - ANGLES ± 1/2°
 - FRACTION = ± 1/64

CHART COOLER SERVICE CO, INC.

3515 DAWSON RD.
TULSA, OK 74115
(918)621-5200

TITLE: HEADER DETAILS

CLIENT: PIEDMONT NATURAL GAS

SERVICE: CONDENSER | TAG NO.: N/A

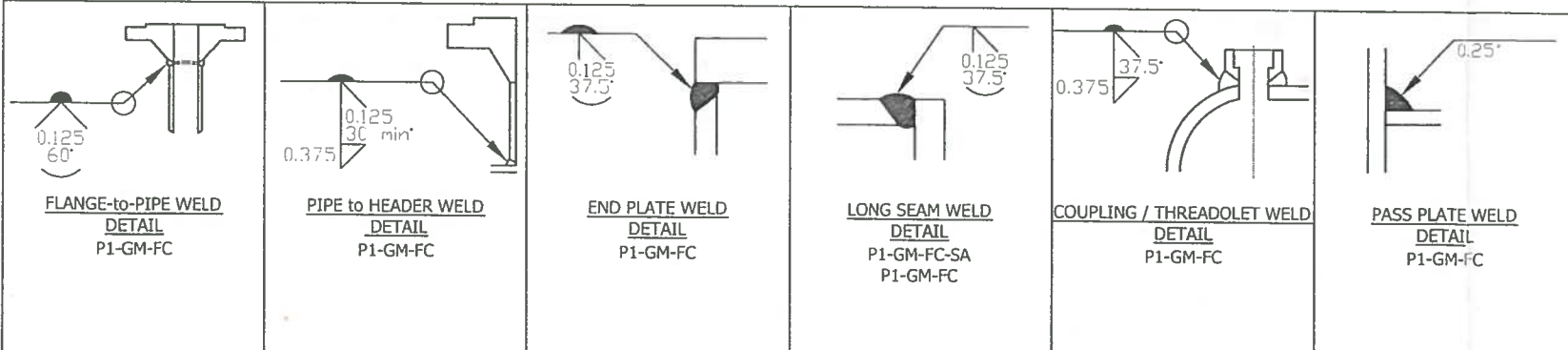
PO#: S236454 | PROJECT: 721022-A1

DATE: 7/23/2012

JOB No.: 32312

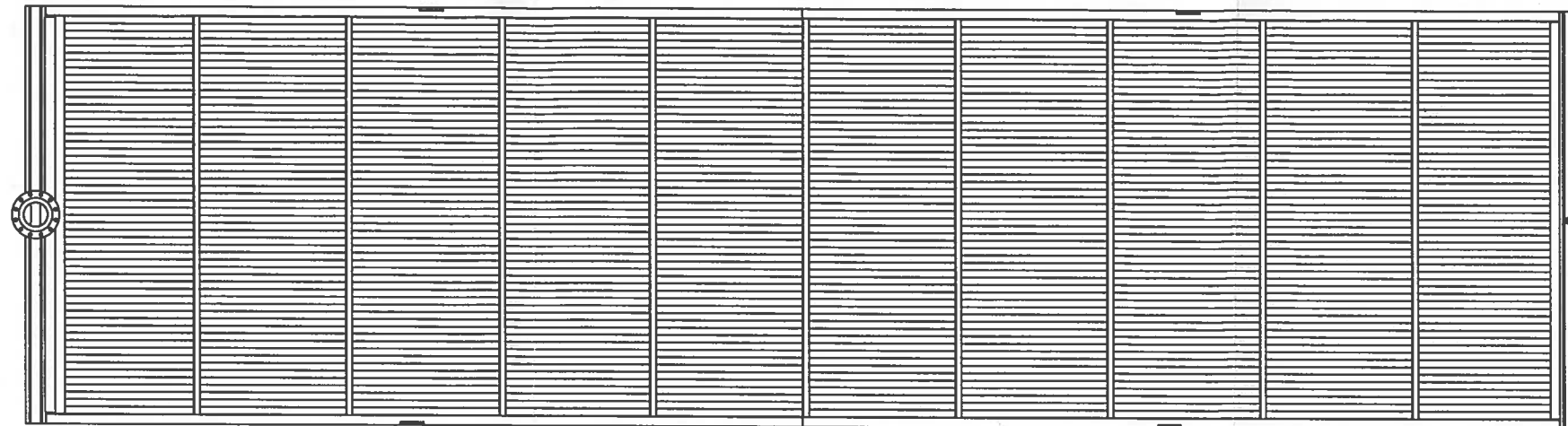
MODEL: 1-HF120-2-40

REV. 0 | DRAW NO.: 32312-1-2 | UNITS: 1



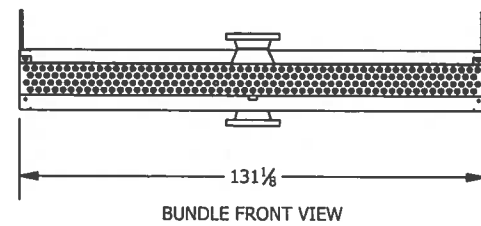
FINAL CERTIFIED
RELEASED FOR FABRICATION

32312-1 COIL TO REPLACE 49411-1 COIL

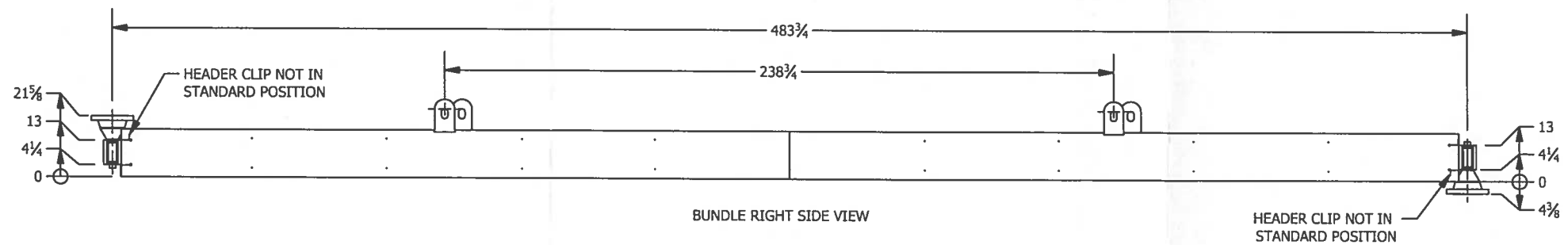


BUNDLE TOP VIEW

41' 41'



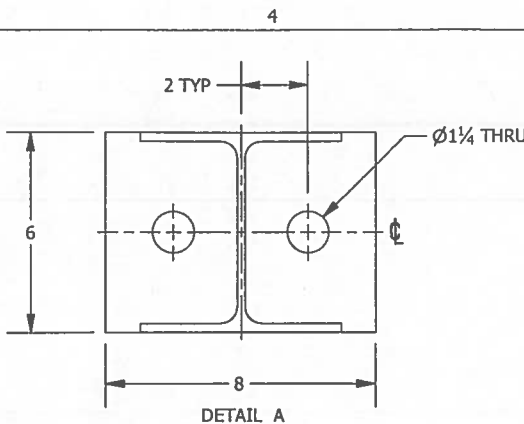
BUNDLE FRONT VIEW



BUNDLE RIGHT SIDE VIEW

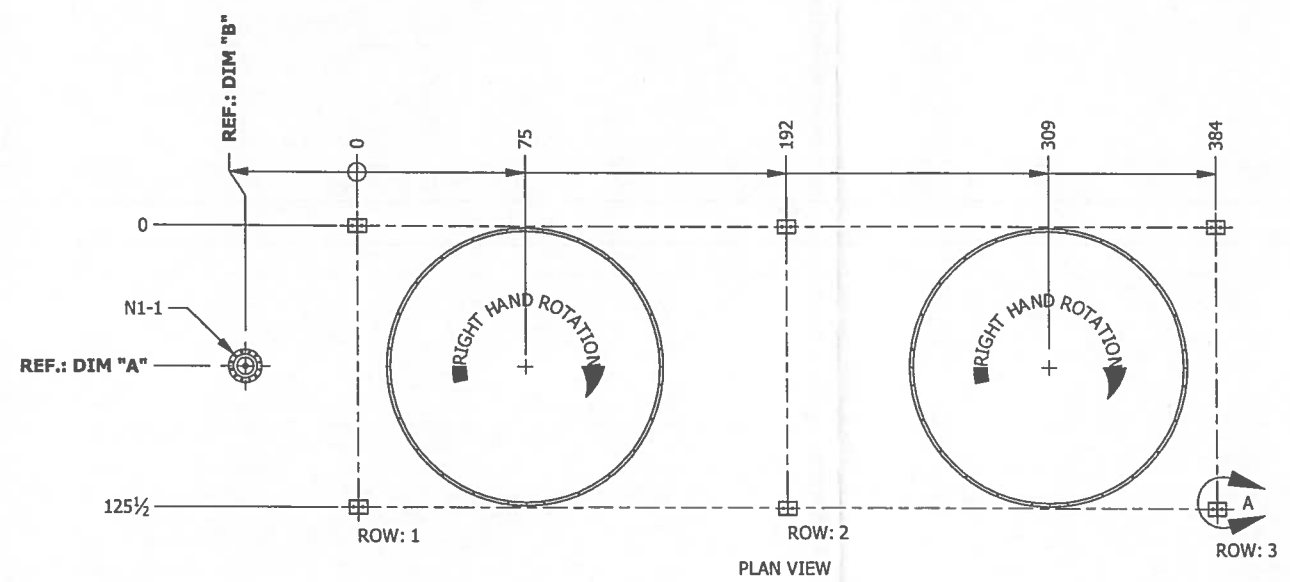
HEADER CLIP NOT IN
STANDARD POSITION

MODELED BY: WRW DETAILED BY: WRW CHECKED BY: JMC APPROVED BY: JCS	UNLESS OTHERWISE SPECIFIED		CHART COOLER SERVICE CO, INC. 3515 DAWSON RD. TULSA, OK 74115 (918)621-5200		
	1. REMOVE ALL BURRS AND SHARP CORNERS. 2. COR. RAD .03 3. DO NOT SCALE DRAWING. 4. ALL DIMENSIONS ARE IN INCHES. 5. ALT DIMENSIONS ARE IN MM 6. MACHINE FIN.	6. FABRICATION .X = ± 0.25 .XX = ± 0.125 .XXX = ± 0.06 FRACTION = ± 1/8 ANGLES ± 3° 7. MACHINE .X = ±0.030 .XX = ±0.015 .XXX = ±0.005 ANGLES ±1/2° FRACTION = ± 1/64	TITLE: BUNDLE ARRANGEMENT CLIENT: PIEDMONT NATURAL GAS SERVICE: CONDENSER TAG NO.: N/A PO#: S236454 PROJECT: 721022-A1 DATE: 7/23/2012 JOB No.:32312 MODEL: 1-HF120-2-40 REV. 0 DRAW NO.: 32312-1-1 UNITS: 1		



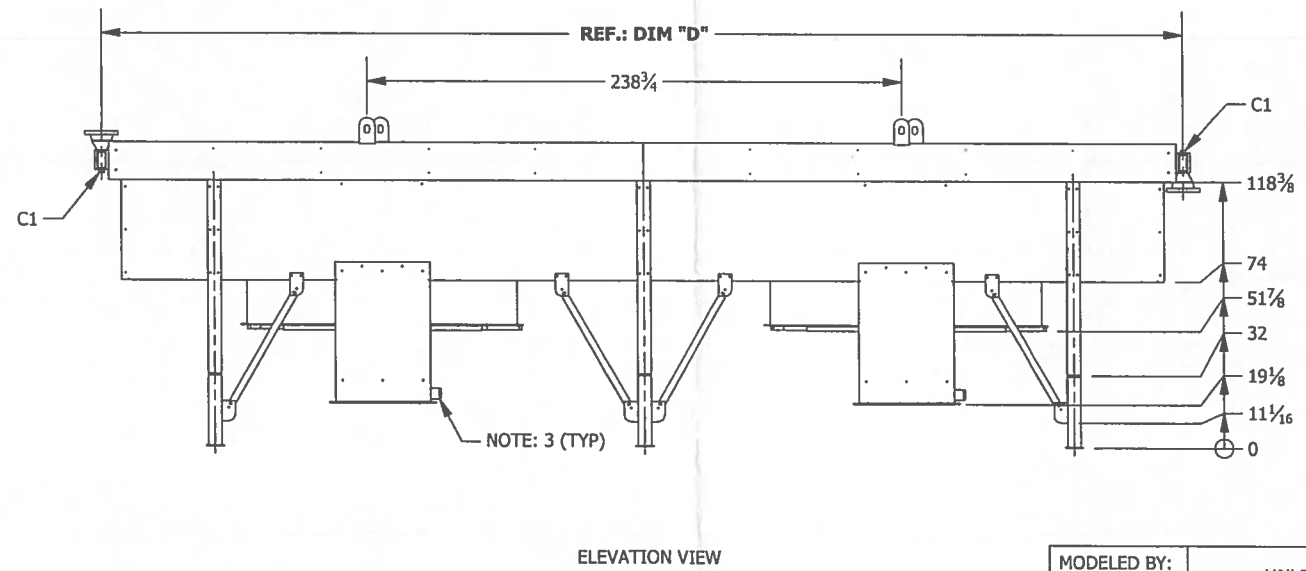
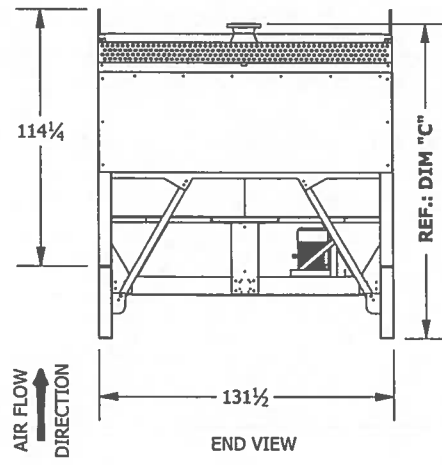
WET/OPERATING WEIGHT: 33500/30700		WIND SP: 30		SNOW LOAD: 0 lbs/sq-ft		PLATFORM: 100lbs/sq-ft LIVE	
DRY WEIGHT: 30600		WIND LOAD: 30 psf		SEIS ZONE: 0			
COLUMN LOAD (KIPS)	DRY DEAD	WET DEAD	WIND VERT	WIND HORIZ	SEIS VERT	SEIS HORIZ	TOTAL
Row 1/Column	3.9	4.2	2.8	1.1	0	0	8.5
Row 2/Column	7.7	8.4	5.6	2.2	0	0	14
Row 3/Column	3.9	4.2	2.8	1.1	0	0	8.5

COIL #	SERVICE	CODE	PRESSURES (psig) [barg]			DESIGN				TOP OF COIL	
			DESIGN	OPERATING	TEST	DESIGN	INLET	OUTLET	AIR DESIGN INLET		AIR DESIGN OUTLET
1	CONDENSER	PER 2010 ASME CODE SEC. VIII DIV 1	500	660.3	750	450	180	120	90	91	NONE



GENERAL NOTES:
 1. COOLER IS OF BOLTED CONSTRUCTION.
 2. FINISH: GALVANIZED.
 3. VIBRATION SWITCH: MURPHY VS2-EX
 4. SPARE ELECTRIC MOTOR

COIL ORDER (LEFT TO RIGHT) W/ COIL VOLUMES.
 CONDENSER (COIL 1) = 348 GAL



DRIVE	
FAN SHEAVE	QD3/5V31.50
MOTOR SHEAVE	QD3/5V5.90
BELTS	3/5VX1250
CENTER DIST	30.39
MOTOR	
HP	25
RPM	1750
FRAME	284T
ENCLOSURE	TEFC
VOLTS	460
FREQUENCY	60*
PHASES	3
FAN	
MAKE	MOORE
DIA. (ft)	10
MODEL	10000-30 EC VT
BLADE QTY	5
PITCH	6.9
ACFM/FAN	282000.
RPM	323.2
HP	21.76
BEARING	
FAN	1.9375 SCM 4 BOLT FLANGE
IDLER	-

SCHEDULE OF OPENINGS/REFERENCE DIMENSION TABLE						
TAG	SERVICE	DIM A	DIM B	DIM C	DIM D	DESCRIPTION
N1-1	COIL 1 INLET 1	62-3/4 in	49-7/8 in	140 in	483-3/4 in	8"-300# RF-WN 0.322" WT(SCH. 40) SA-105
N2-1	COIL 1 OUTLET 1	62-3/4 in	49-7/8 in	114 in	483-3/4 in	8"-300# RF-WN 0.322" WT(SCH. 40) SA-105
C1	COIL 1 V & D					(2) 1"-6000# HALF-CPLG THD SA-105

REV	DESCRIPTION	DATE	APPROVED
0	RELEASED FOR FABRICATION	8/25/2011	EDM

FINAL CERTIFIED
 RELEASED FOR FABRICATION

MODELED BY: EDM	UNLESS OTHERWISE SPECIFIED
DETAILED BY: EDM	1. REMOVE ALL BURRS AND SHARP CORNERS.
CHECKED BY: ...	2. COR. RAD .03
APPROVED BY: ...	3. DO NOT SCALE DRAWING.
	4. ALL DIMENSIONS ARE IN INCHES.
	5. ALT DIMENSIONS ARE IN MM
	6. MACHINE FIN.
	7. MACHINE
	6. FABRICATION

CHART COOLER SERVICE CO, INC.
 3515 DAWSON RD.
 TULSA, OK 74115
 (918)621-5200

BAY ARRANGEMENT

CLIENT: **PIEDMONT NATURAL GAS**

SERVICE: ... | TAG NO.: ...

PO#: S236454 | PROJECT: 721022-A1

DATE: 08/25/2011 | JOB No.: 49411 | MODEL: 1-HF120-2-40

REV: 0 | DRAW NO.: 49411-O-2 | UNITS: 1