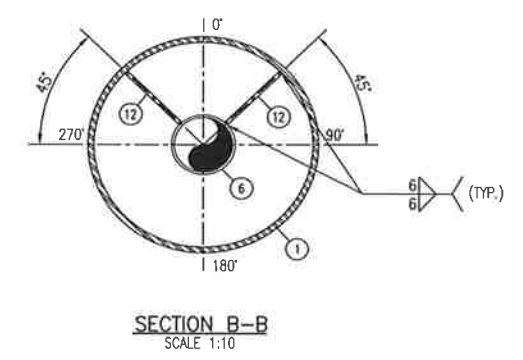
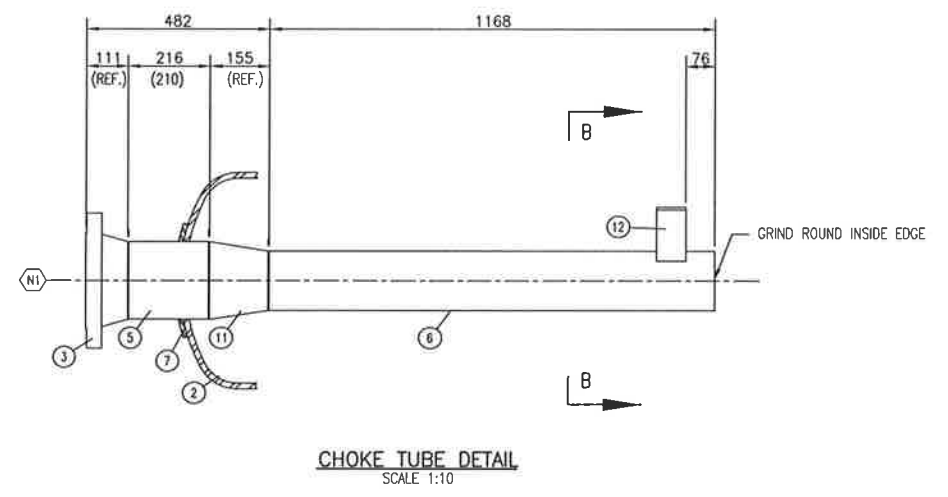
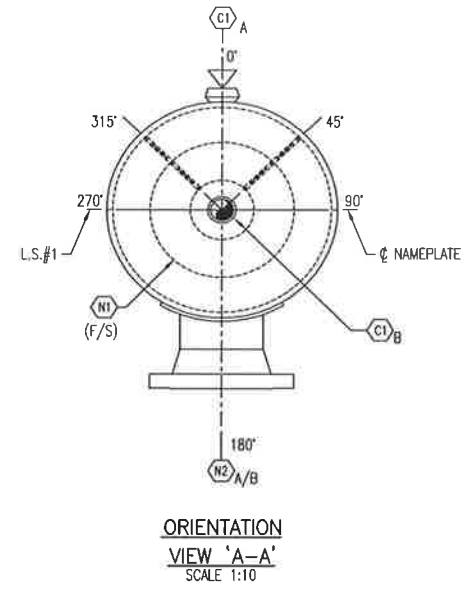
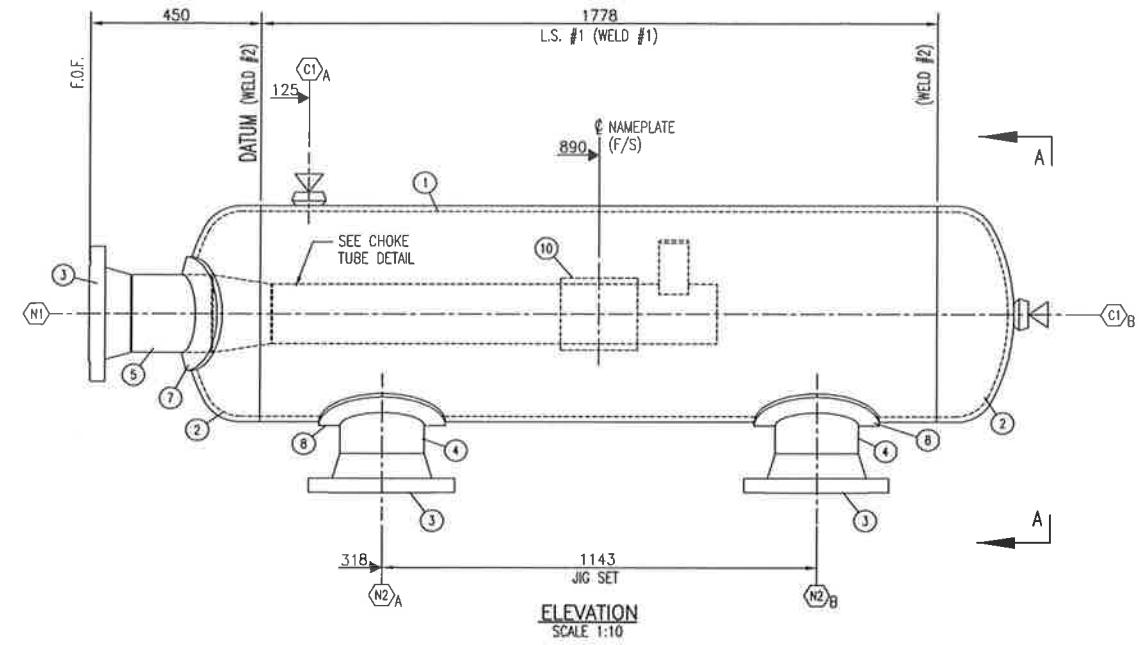


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NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ.	EXT. PROJ.	WELD	
N1	219	300#	RFWN	XH	INLET PROCESS GAS			7/14	
N2	219	300#	RFWN	XH	OUTLET PROCESS GAS	0	200	8/14	
C1	60	6000#	TOL	-	INSPECTION/VENT c/w PLUG	-	-	6	
C1	60	6000#	TOL	-	INSPECTION c/w PLUG	-	-	6	

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	1	SHELL PLATE: 15.88 THK. x 1778 LG. (ROLLED TO 610 O/D)
2	2	HEAD PLATE: 15.88 THK. (13.72 MIN.) THK. x 610 O/D, 2:1 S.E. c/w 51 S.F.
3	3	FLANGE: 219-300# RFWN SCH XH BORE
4	2	PIPE: 219 O/D x 12.7 WT. x 152 LG (CTS)
5	1	PIPE: 219 O/D x 12.7 WT. x 210 LG
6	1	PIPE: 168 O/D x 7.11 WT. x 1168 LG
7	1	REPAD PLATE: 12.7 THK. x 321 O/D x 222 I/D (DISHED TO SUIT 610 O/D, 2:1 S.E. HEAD)
8	2	REPAD PLATE: 9.53 THK. x 330 O/D x 222 I/D (ROLLED TO 610 I/D)
9	2	TOL: 60-6000# NPT c/w PLUG (1)-ON A 610 O/D RUN, (1)-FLAT
10	1	NAMEPLATE c/w MOUNTING BRACKET
11	1	CONCENTRIC REDUCER: 219 XH x 168 SCH 40 BW (SMLS)
12	2	F/BAR: 10 THK x 76 x 202 LG

CAPACITY: 0.54 m³
 WEIGHT EMPTY: 797 kg
 WEIGHT FULL OF WATER: 1337 kg
 SURFACE PREPARATION: PNT-11
 FINISH PAINT: PNT-11
 INSULATION: NONE
 MECHANICAL LOADINGS COVER AS PER UG22: YES [NO]
 IMPACT TEST: YES PER UG22 AS FOLLOWS:
 [NO] PER UG20(f):
 LONG- FULL UW11(a)
 CIRC- FULL UW11(a)
 PRODUCTION IMPACT TEST REQ'D: YES [NO]
 SHIP LOOSE: YES [NO]
 SERVICE: SOUR GAS
 LONG & CIRC. WELDS TYPE 1
 QWP: 590.2
 QCP: AQP-1050 (S) AQP-1227 (S)
 TACK WELDS WPS# 101
 PRESS. TO STRUCT. WELD WPS# 102, 106, 110

SERIAL NO: 99404-105 CRN:
 TAG NO: V-121 YEAR BUILT: 2000
 LSD #: -
 CODE:
 ASME SECT. VIII DIV I, '98, ADDENDA '99
 MAX. DESIGN PRESS: 4516 kPag @ TEMP: 149°C
 HYDROTEST: 5871 kPag
 MIN^m DESIGN METAL TEMP: -28°C @ MAWP 4516 kPag
 MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N

RADIOGRAPHY:
 LONG- FULL UW11(a)
 CIRC- FULL UW11(a)
 P.W.H.T.:
 YES MIN. TEMP: 593°C, TIME: (1) hr (MIN)
 CORR. ALLOW: 3.20 mm

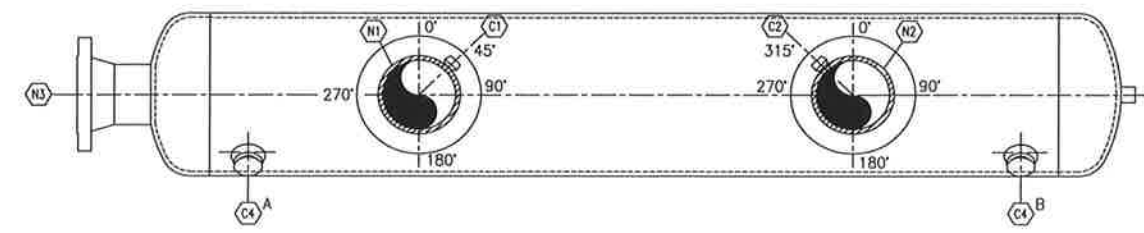
"SOUR SERVICE"

DOUBLE BUTT	SINGLE VEE	THREDOLET	NOZZLE & REPAD RECESSED	NOZZLE & REPAD FLUSH	PIPE TO FLANGE/FITTING
1. WPS# 102, 106, 110	2. WPS# 104, 106, 110	6. WPS# 102, 108, 110	7. WPS# 102, 106, 108, 110	8. WPS# 102, 106, 108, 110	14. WPS# 104, 106, 110

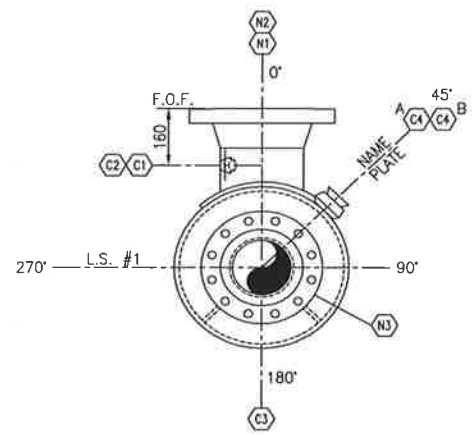
GENERAL NOTES		GENERAL NOTES		REVISION	
1) DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.		2	NEW DESIGN: VESSEL RE-ISSUED FOR CONSTRUCTION	D. SMITH	00/05/01
2) SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPLATTER.		1	ISSUED FOR CONSTRUCTION	L. B.	00/01/26
3) VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY					
4) VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS					
DATE: 2000.05.01 8:55am FILE NAME: J:\jobs99\DWG\99404\Comp\VSL\BTL-99404-105-01.dwg				BY	DATE
				CKD	ENG

APPROVED		DRAWN		PROPAG SYSTEMS LTD.	
MECH./STRUCT.	BY	D. SMITH	DATE	440 East Lake Road,	
DATE	DATE	00/04/06		Postal Bag #2	
ELECTRICAL	CHECKED			Airdrie, Alberta	
DATE	BY	M. IWANIUK	DATE	Canada T4B 2C3	
PROJECT	DATE	00/05/01	SCALE	AS NOTED	
DATE	SCALE	AS NOTED	DWG. No.:	D-BTL-99404-105	
				REV.	2

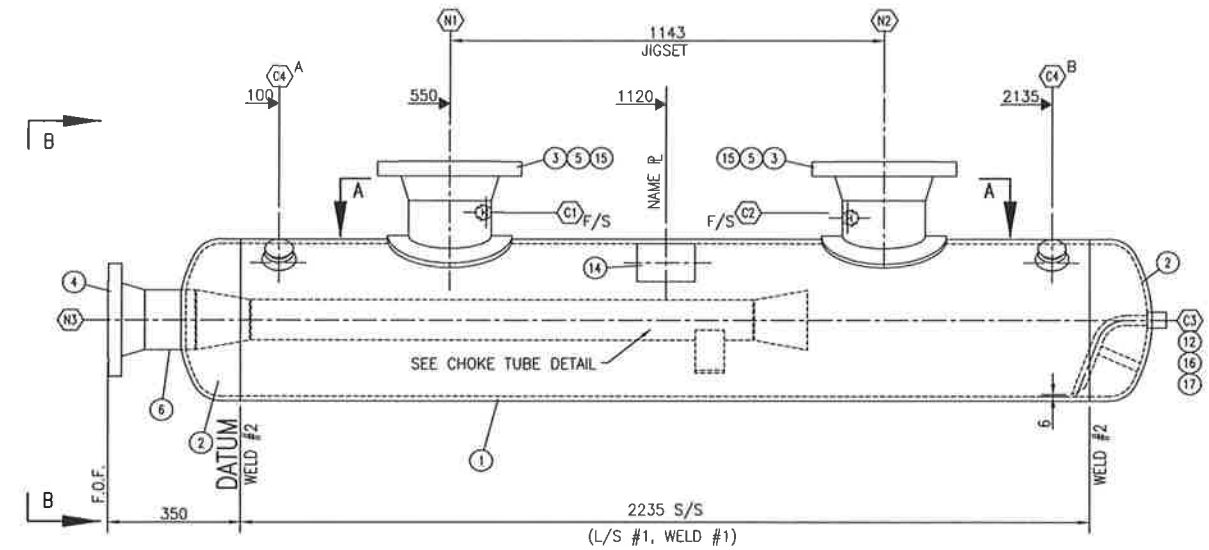
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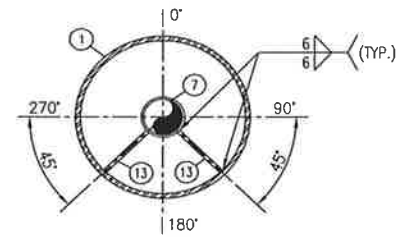
PLAN VIEW A-A
SCALE 1:10



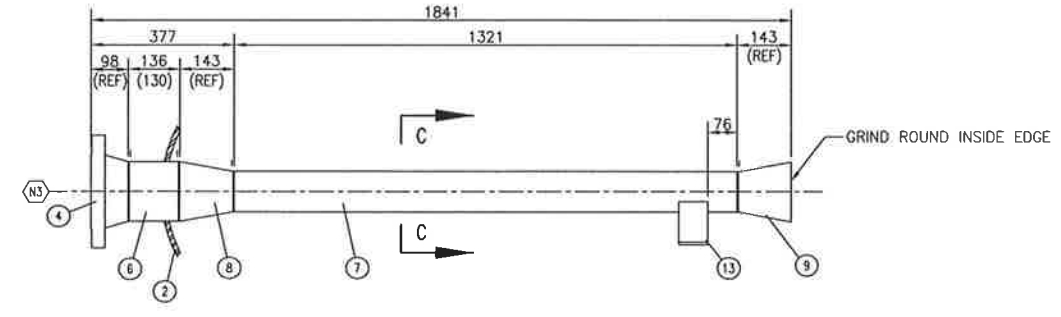
ORIENTATION B-B
SCALE 1:10



ELEVATION VIEW
SCALE 1:10



VIEW C-C
SCALE 1:10



CHOKE TUBE DETAIL
SCALE 1:10

NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ.	EXT. PROJ.	WELD	
N1	219	300#	RFWN	XH	INLET CYL. #1	MIN	220	B, 14	
N2	219	300#	RFWN	XH	INLET CYL. #2	MIN	220	B, 14	
N3	168	300#	RFWN	XXH	PROCESS GAS OUTLET	SPEC.	SPEC.	10, 14	
C1	27	6000#	TOL	-	THERMOWELL	-	-	6	
C2	27	6000#	TOL	-	THERMOWELL	-	-	6	
C3	27	6000#	CPLG	XXH	SYPHON DRAIN	-	-	4	
C4	48	6000#	TOL	-	INSPECTION (PLUGGED)	-	-	6	

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
1	1	SHELL PLATE: 12.7 THK. x 2235 LG. (ROLL TO 457 O/D)	SA-516-70N
2	2	HEAD PLATE: 457 O/D x 12.70 NOM. (10.62 MIN.) 2:1 S.E. c/w 51 S.F.	SA-516-70N
3	2	FLANGE: 219-300# RFWN XH BORE	SA-105N
4	1	FLANGE: 168-300# RFWN XXH BORE	SA-105N
5	2	PIPE: 219 O/D x 12.70 WT x 177 LG. (SMLS)	SA-106-B
6	1	PIPE: 168 O/D x 21.92 WT x 130 LG. (SMLS)	SA-106-B
7	1	PIPE: 114 O/D x 6.02 WT x 1321 LG. (SMLS)	SA-106-B
8	1	CONC. RED: 168 O/D XXH x 114 O/D SCH 40 BW (SMLS)	SA-234-WPB
9	1	CONC. RED: 168 O/D x 114 O/D, SCH 40 SMLS	SA-234-WPB
10	2	TOL: 48-6000# c/w PLUG (ON 457 O/D RUN)	SA-105N
11	2	TOL: 27-6000# (ON 219 O/D RUN)	SA-105N
12	1	CPLG: 27 - 6000# SW x NPT	SA-105N
13	2	FLAT BAR: 10 THK. x 76 x 156 LG.	G40.21M-300W
14	1	NAMEPLATE c/w MOUNTING BRACKET	SS/SA-36
15	2	REPAD: 9.53 THK x 330 O/D x 222 I/D (ROLLED TO 457 I/D)	SA-516-70N
16	1	PIPE: 27 O/D x 7.82 WT x 400 LG (SMLS) (C.T.S. & B.T.S.)	SA-106-B
17	1	F/BAR: 10 THK x 25 x 111 LG	G40.21M-300W

NOTE: THE FOLLOWING SUBSTITUTIONS ARE PERMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY: 0.364 m³

WEIGHT EMPTY: 586 kg
WEIGHT FULL OF WATER: 950 kg

SURFACE PREPARATION: PNT-12

PRIMER: PNT-12

FINISH PAINT: PNT-12

INSULATION: NONE

MECHANICAL LOADINGS GOVERNS AS PER UG 22: 7.10

SERIAL NO: 99404 '106' CRN:
TAG NO: V-122 YEAR BUILT: 2000
LSD #: -
CODE: -

ASME SECT. VIII DIV I, '98, ADDENDA '99
TEMA CLASS N/A, ADDENDA N/A

MAX: DESIGN PRESS: 4447 kPag @ TEMP: 176 °C
MIN: DESIGN PRESS: N/A kPag

HYDROTEST:
VESSEL 5871 kPag
COIL N/A kPag
MIN^m DESIGN METAL TEMP: -28 °C @ MAWP 4447 kPag

MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N

RADIOGRAPHY:
LONG - FULL UWII(a)
SHIP LOOSE: N/A
CIRC: FULL UWII(a) (INCL. ALL BUTT WELDS)

P.W.H.T.:
YES MIN. TEMP: 593 °C, TIME: 1.0 h (MIN.)
CORR. ALLOW: 3.2 mm

PRODUCTION IMPACT TEST REQ'D: N/A
LONG & CIRC. WELDS TYPE 1
QWP: 590.2
QCP: AQP-1050(S) AQP-1227(S)
TACK WELDS: WPS# 101
PRESS. TO STRUCT: WPS# 102, 106, 110

DOUBLE BUTT	SINGLE VEE	COUPLING	THREDOLET	NOZZLE & REPAD FLUSH	NOZZLE RECESSED	PIPE TO FLANGE/FITTING
BACK GOUGE TO SOUND METAL BEFORE 2nd WELD 1. WPS# 102, 106, 110	GMAW ROOT PASS 2. WPS# 104, 106, 110	2x45° CHAM. 4. WPS# 102, 108, 110	TO SUIT 2x45° CHAM. 6. WPS# 102, 108, 110	WELD FLUSH INSIDE 2x45° CHAM. 8. WPS# 102, 106, 108, 110	SPEC 10. WPS# 102, 106, 108, 110	GMAW ROOT PASS 14. WPS# 104, 106, 110

1) DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.
2) SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPLATTER.
3) VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY.
4) VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS.

GENERAL NOTES	REVISION
2 NEW DESIGN: VESSEL RE-ISSUED FOR CONSTRUCTION	D. SMITH 00/04/28 M.I. S.W.
1 ISSUED FOR CONSTRUCTION	T. DUONG 00/01/26 M.I. P.C.

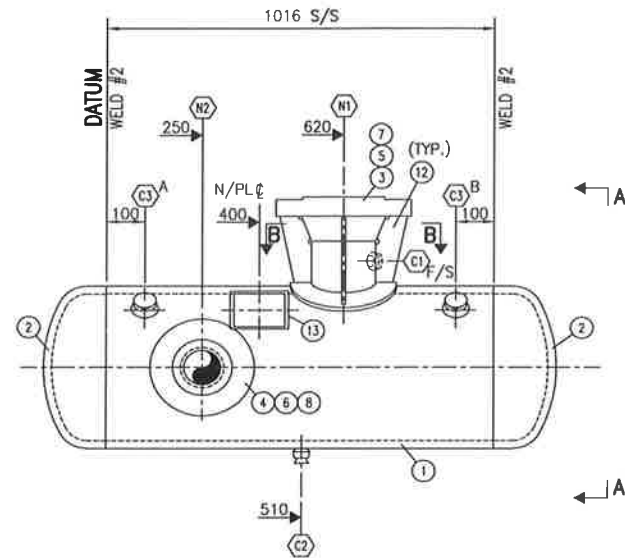
APPROVED	DRAWN
MECH./STRUCT. BY D. SMITH	DATE 00/04/07
ELECTRICAL CHECKED	BY M. IWANIUK
DATE 00/04/28	DATE 00/04/28
PROJECT S. WARD	SCALE AS NOTED
DATE 00/04/28	REV. 2

PROPAC SYSTEMS LTD.
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

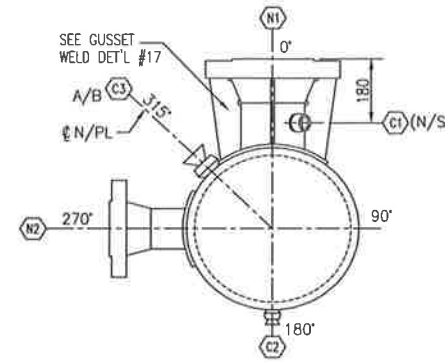
STOCK 1478 HP COMPRESSOR
1st STAGE DISCHARGE BOTTLE
457 O/D x 2235 S/S

DWG. No.: D-BTL-99404-106

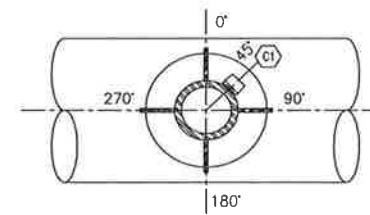
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ELEVATION
SCALE: 1:10



ORIENTATION
VIEW A-A
SCALE: 1:10



VIEW B-B
SCALE: 1:10

NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ	EXT. PROJ	WELD	
N1	168	600#	RFWN	XXH	PROCESS INLET	MIN.	250	8/14	
N2	114	600#	RFWN	XXH	PROCESS OUTLET	0	200	8/14	
C1	27	6000#	TOL	-	THERMOWELL	-	-	6	
C2	27	6000#	TOL	-	DRAIN c/w PLUG	-	-	6	
C3	48	6000#	TOL	-	INSPECTION c/w PLUG	-	-	6	

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	1	SHELL PIPE- 406 O/D x 21.44 WT x 1016 LG. SA-106-B
2	2	HEAD PLATE: 406 O/D x 22.23 THK. NOM. (20.07 MIN.) 2:1 S.E. c/w 51 S.F. SA-516-70N
3	1	FLANGE: 168-600# RFWN XXH BORE SA-105N
4	1	FLANGE: 114-600# RFWN XXH BORE SA-105N
5	1	REPAD: 9.53 x 280 O/D x 171 I/D (ROLL TO 406 I/D) SA-516-70N
6	1	REPAD: 9.53 x 216 O/D x 117 I/D (ROLL TO 406 I/D) SA-516-70N
7	1	PIPE: 168 O/D x 21.95 WT. x 190 LG. SMLS SA-106-B
8	1	PIPE: 114 O/D x 17.12 WT. x 147 LG. SMLS SA-106-B
9	1	TOL: 27-6000# (ON A 168 O/D RUN) SA-105N
10	1	TOL: 27-6000# (ON A 406 O/D RUN) c/w PLUG SA-105N
11	2	TOL: 48-6000# (ON A 406 O/D RUN) c/w PLUG SA-105N
12	4	PLATE: 10 THK. x 84 WD. x 250 LG. (CTS) SA-36
13	1	NAMEPLATE c/w MOUNTING BRACKET SA-36
14		

NOTE: THE FOLLOWING SUBSTITUTIONS ARE PERMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY: 0.13 m³
SURFACE AREA OF TUBES: N/A m²
WEIGHT EMPTY: 460 kg
WEIGHT FULL OF WATER: 590 kg
SURFACE PREPARATION: PNT-12
PRIMER: PNT-12
FINISH PAINT: PNT-12
INSULATION: NONE
MECHANICAL LOADINGS GOVERNS AS PER UC 22: NO

SERIAL NO: 99404 '108' CRN:
TAG NO: V-124 YEAR BUILT: 2000
LSD #: -
CODE:
ASME SECT. VIII DIV I, '98, ADDENDA '99
TEMA CLASS N/A, ADDENDA N/A
DESIGN PRESS: 8908 kPag @ TEMP: 176 °C

HYDROTEST:
VESSEL 11580 kPag
COIL N/A kPa
MIN^m DESIGN METAL TEMP: -28 °C @ MAWP 8908 kPag
MATERIAL: HEAD: SA-516-70N SHELL: SA-106B
RADIOGRAPHY:
LONG L- FULL UWI(c)
CIRC: FULL UWI(c) (INCL. ALL BUTT WELDS)

PRODUCTION IMPACT TEST REQ'D: NO
SHIP LOOSE: NO
SERVICE: SOUR GAS
LONG & CIRC. WELDS TYPE 1
QWP: 590.2
QCP: AQP-1050 (S) AQP-1227 (S)
TACK WELDS: WPS #101
PRESS. TO STRUCT WELD: WPS #102,106,110

IMPACT TEST: NO-- PER UG20(t)

P.W.H.T.:
YES MIN. TEMP: 593 °C, TIME: 1 hr min.
CORR. ALLOW: 3.2 mm

'SOUR SERVICE'

SINGLE VEE	THREDOLET	NOZZLE & REPAD FLUSH	PIPE TO FLANGE/FITTING	GUSSETS
2. WPS# 104.106.110	6. WPS# 102.108.110	8. WPS# 102.106.108.110	14. WPS# 104.106.110	17. WPS# 102.106.110

- DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.
- SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPLATTER.
- VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY.
- VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS.

GENERAL NOTES
DATE: 2000.04.28 9:24am FILE NAME: J:\jobs99\DWG\99404\Comp\VS\BTL-99404-108-01.dwg

No.	REVISION	BY	DATE	CKD	ENG
3	NEW DESIGN: VESSEL RE-ISSUED FOR CONSTRUCTION	D. SMITH	00/04/28	M.I.	S.W.
2	REVISED N2	S. FARWELL	00/02/03	M.A.	
1	ISSUED FOR CONSTRUCTION	P. TRAN	00/01/26	M.I.	P.C.

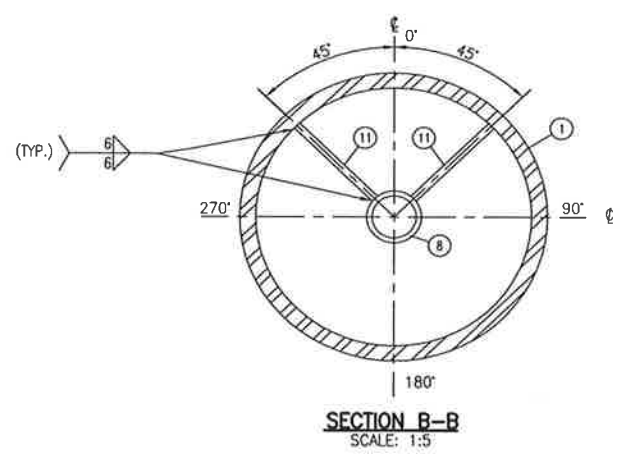
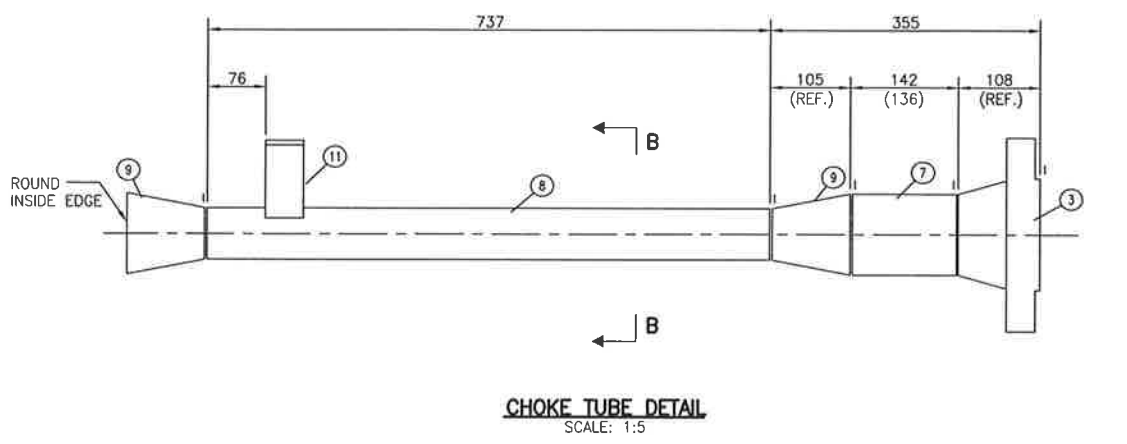
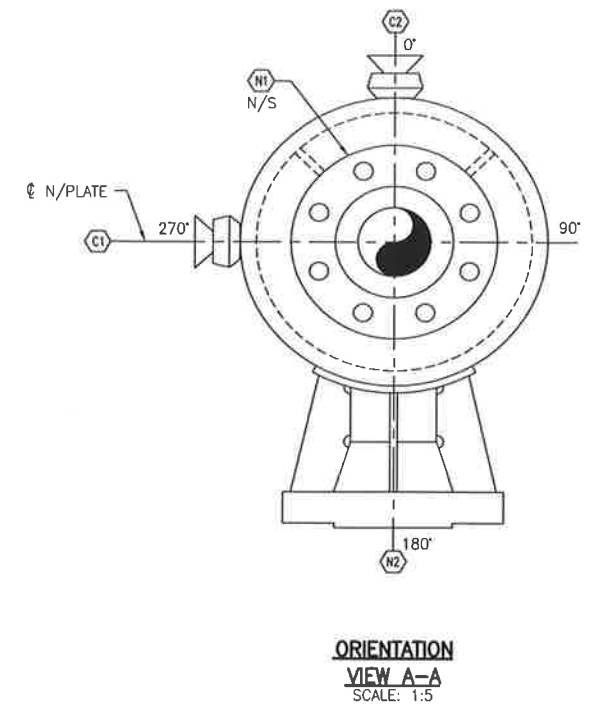
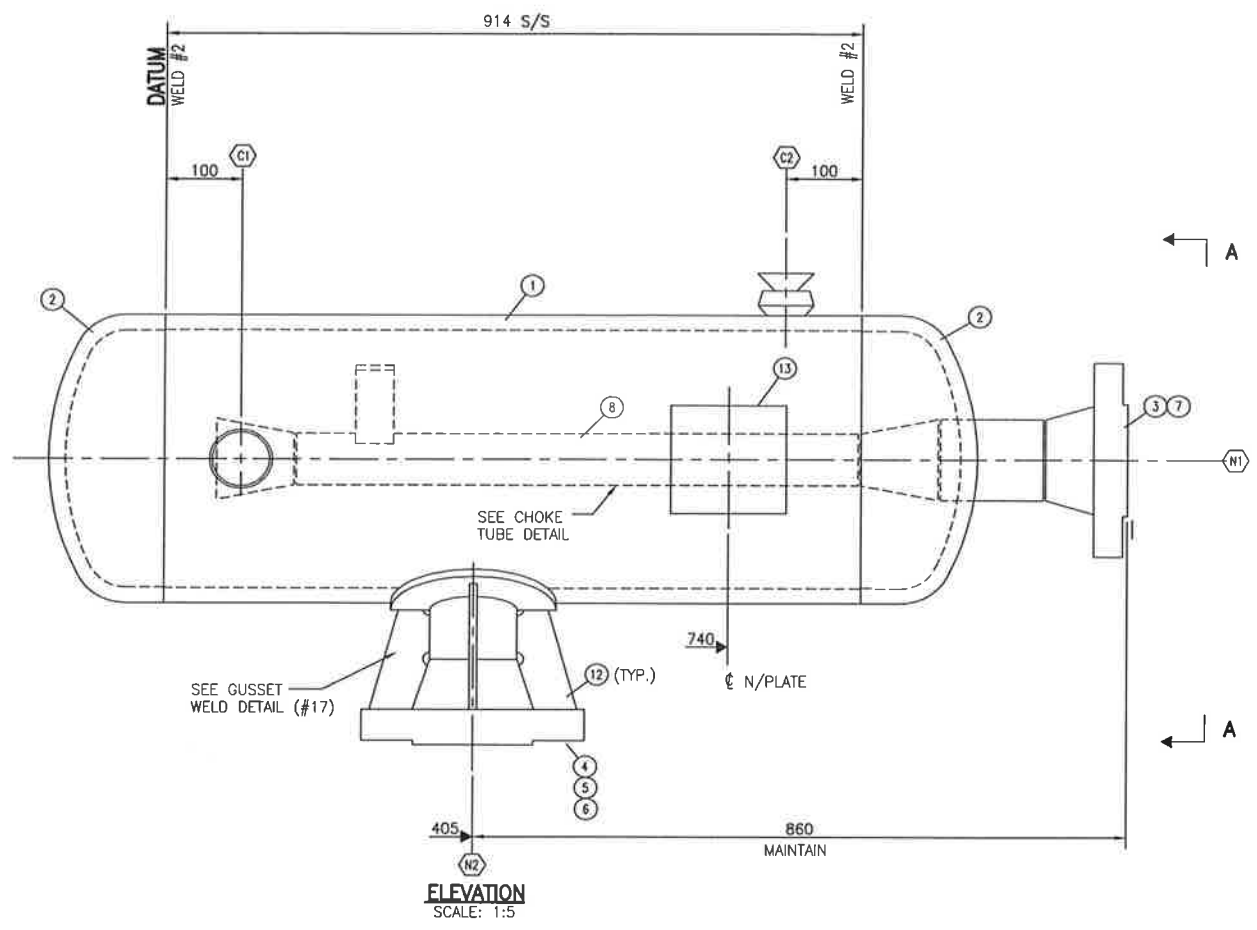
APPROVED		DRAWN	
MECH./STRUCT.	BY	D. SMITH	
DATE	DATE	00/04/11	
ELECTRICAL	BY	M. IWANIUK	
DATE	DATE	00/04/28	
PROJECT	S. WARD	DATE	00/04/28
DATE	00/04/28	SCALE	AS NOTED

PROPAG SYSTEMS LTD.
1478 HP STOCK COMPRESSOR
2ND STAGE DISCHARGE BOTTLE
406mm O/D x 1016mm S/S

PROPAG
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

DWG. No.: D-BTL-99404-108 REV. 3

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NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ.	PROJ.	WELD	
N1	114	600#	RFWN	XXH	PROCESS INLET	SPEC		10/14	
N2	114	900#	RFWN	XXH	PROCESS OUTLET	0	200	8/14	
C1	48	6000#	TOL	-	INSPECTION c/w PLUG	-	-	6	
C2	48	6000#	TOL	-	INSPECTION/VENT c/w PLUG	-	-	6	

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	1	SHELL PIPE: 406 O/D x 21.44 WT x 914 LG. SA-106-B
2	2	HEAD PLATE: 406 O/D x 22.23 THK. NOM. (20.06 MIN.) 2:1 S.E. c/w S.F. SA-516-70N
3	1	FLANGE: 114-600# RFWN XXH BORE SA-105N
4	1	FLANGE: 114-900# RFWN XXH BORE SA-105N
5	1	REPAD PLATE: 9.53 THK. x 216 O/D x 117 I/D (ROLL TO 406 I/D) SA-516-70N
6	1	PIPE: 114 O/D x 17.11 W.T. x 135 LG. (CTS) SMIS SA-106-B
7	1	PIPE: 114 O/D x 17.11 W.T. x 136 LG. (CTS) SMIS SA-106-B
8	1	PIPE: 73 O/D x 9.53 W.T. x 737 LG. SMIS SA-106-B
9	2	CONC. RED: 114 O/D x 73 O/D SCH XXH LE x SCH 160 SE BW SMIS SA-234-WPB
10	2	TOL: 48-6000# (ON A 406 O/D RUN) c/w PLUG SA-105N
11	2	F/BAR: 10 THK. x 50 x 143 LG. G40.21M-300W
12	4	PLATE: 10 THK. x 79 WD. x 200 LG. (CTS) SA-36
13	1	NAMEPLATE c/w MOUNTING BRACKET SS/SA-36
14		

NOTE: THE FOLLOWING SUBSTITUTIONS ARE RMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY: 0.12 m³
 SURFACE AREA OF TUBES: N/A m²
 WEIGHT EMPTY: 402 kg
 WEIGHT FULL OF WATER: 522 kg
 SURFACE PREPARATION:
 PRIMER: PNT-11
 FINISH PAINT:
 INSULATION: NONE
 MECHANICAL LOADINGS GOVERNS AS PER UG 22: (NO)

SERIAL NO: 99404 '109' CRN
 TAG NO: V-125 YEAR BUILT: 2000
 LSD #: -
 CODE:
 ASME SECT. VIII DIV I, '98, ADDENDA '99
 TEMA CLASS N/A, ADDENDA N/A
 DESIGN PRESS: 9067 kPag @ TEMP: 149 °C
 HYDROTEST:
 VESSEL 11787 kPag
 COIL N/A kPag
 MIN^m DESIGN METAL TEMP: -28 °C @ MAWP 9067 kPag
 MATERIAL: HEAD: SA-516-70N SHELL: SA-106-B

IMPACT TEST: NO - PER UG20(r)

PRODUCTION IMPACT TEST REQ'D: (NO)
 SHIP LOOSE: (NO)
 SERVICE: SOUR GAS
 LONG & CIRC. WELDS TYPE 1
 QWP: 590.2
 AQP-1050(S) AQP-1227(S)
 TACK WELDS: WPS #101
 PRESS. TO STRUCT. WELD: WPS #102,106,110

RADIOGRAPHY:
 LONG & FULL UWI(c)
 CIRC: FULL UWI(c) (INCL ALL BUTT WELDS)

P.W.H.T.:
 (YES) MIN. TEMP: 593 °C, TIME: 1 h (MIN.)
 CORR. ALLOW: 3.2 mm

'SOUR SERVICE'

SINGLE VEE	THREDOLET	NOZZLE & REPAD FLUSH	NOZZLE RECESSED	PIPE TO FLANGE/FITTING	GUSSETS
2. WPS# 104,106,110	6. WPS# 102,108,110	8. WPS# 102,106,108,110	10. WPS# 102,106,108,110	14. WPS# 104,106,110	17. WPS# 102,106,110

1) DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.
 2) SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPLATTER.
 3) VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY.
 4) VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS.

GENERAL NOTES		REVISION		BY		DATE		CKD		ENG	
2	NEW DESIGN: VESSEL RE-ISSUED FOR CONSTRUCTION	D. SMITH	00/04/28	M.I.	S.W.						
1	ISSUED FOR CONSTRUCTION	P.T.	00/01/26	M.I.	P.C.						

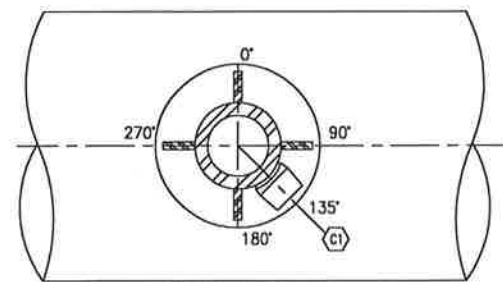
APPROVED		DRAWN	
MECH/STRUCT.	BY D. SMITH	DATE	00/04/12
ELECTRICAL	BY	DATE	CHECKED
PROJECT	BY M. TWANIUK	DATE	00/04/28
DATE	S. WARD	DATE	00/04/28
SCALE	AS NOTED		

PROPAG SYSTEMS LTD.
 1478 HP STOCK COMPRESSOR
 3RD STAGE SUCTION BOTTLE
 406mm O/D x 914mm S/S

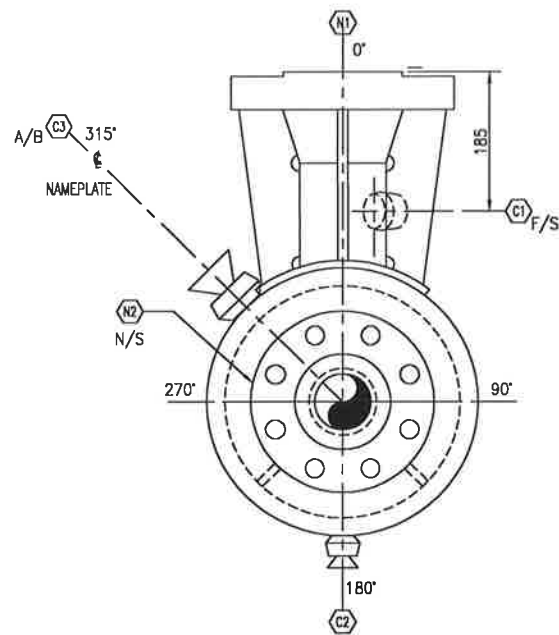
440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

DWG. No.: D-BTL-99404-109
 REV. 2

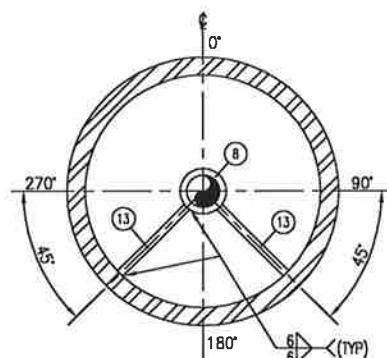
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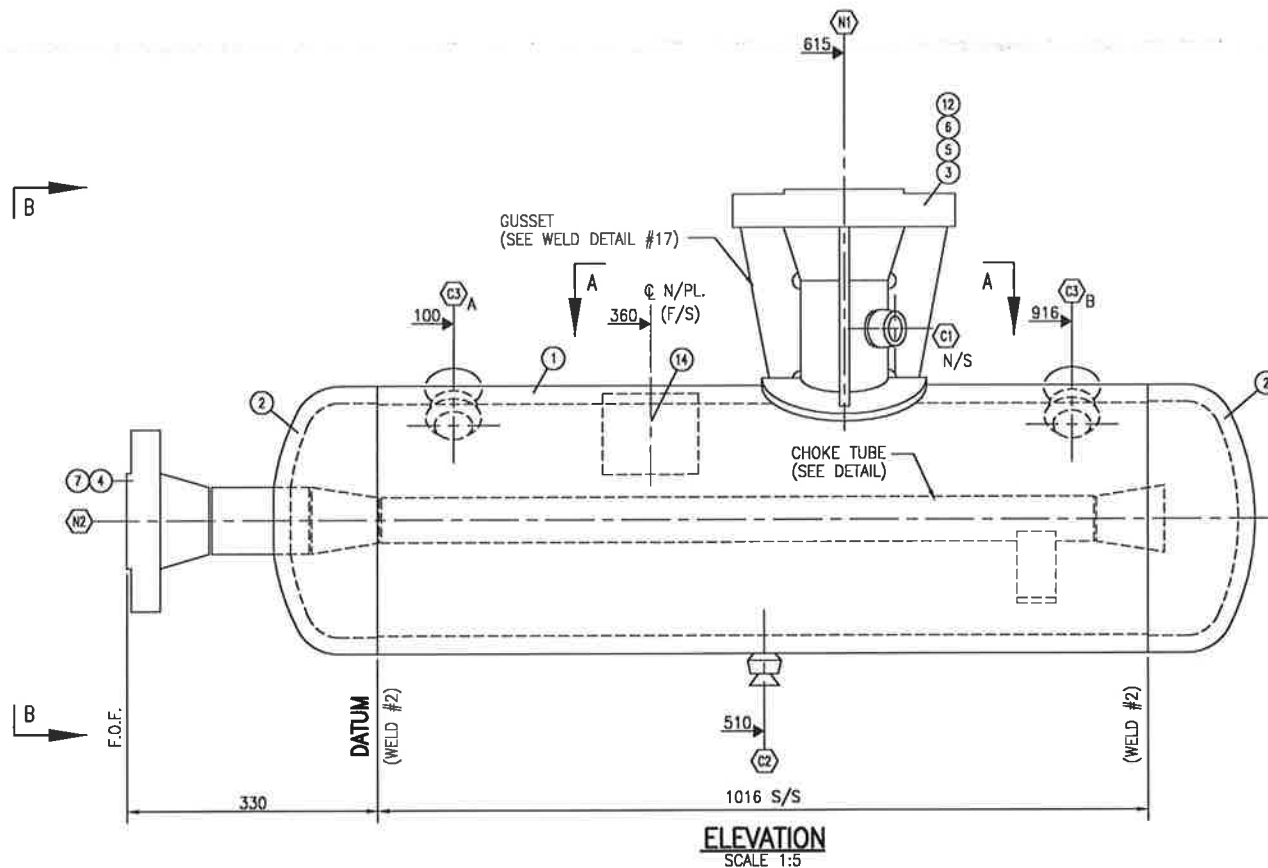
SECTION 'A-A'
SCALE 1:5



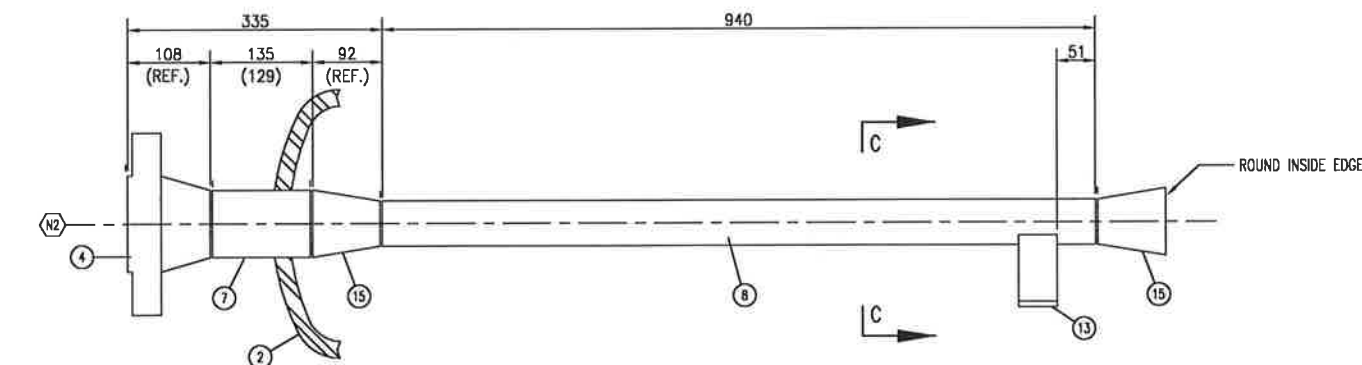
ORIENTATION 'B-B'
SCALE 1:5



SECTION 'C-C'
SCALE 1:5



ELEVATION
SCALE 1:5



CHOKE TUBE DETAIL
SCALE 1:5

NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ	EXT. PROJ	WELD	
N1	114	900#	RFWN	XXH	INLET	MIN.	260	8/14	
N2	89	900#	RFWN	XXH	PROCESS GAS OUTLET	SPEC	SPEC.	10/14	
C1	27	6000#	TOL	-	THERMOWELL (TE-126)	-	-	6	
C2	27	6000#	TOL	-	DRAIN c/w PLUG	-	-	6	
C3	48	6000#	TOL	-	INSPECTION c/w PLUG	-	-	6	

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	1	SHELL PIPE: 356 O/D x 23.83 THK. x 1016 LG. SA-106-B
2	2	HEAD PLATE: 356 O/D x 22.23 THK. NOM. (19.81 MIN.) 2:1 S.E. c/w 51 S.F. SA-516-70N
3	1	FLANGE: 114-900# RFWN XXH BORE SA-105N
4	1	FLANGE: 89-900# RFWN XXH BORE SA-105N
5	1	REPAD: 9.53 x 216 O/D x 117 I/D (ROLL TO 356 I/D) SA-516-70N
6	1	PIPE: 114 O/D x 17.12 WT. x 199 LG. (SMLS) SA-106-B
7	1	PIPE: 89 O/D x 15.24 WT. x 129 LG. (SMLS) SA-106-B
8	1	PIPE: 60 O/D x 8.74 WT. x 940 LG. (SMLS) SA-106-B
9	1	TOL: 27-6000# (ON A 114 O/D RUN) SA-105N
10	1	TOL: 27-6000# (ON A 356 O/D RUN) c/w PLUG SA-105N
11	2	TOL: 48-6000# (ON A 356 O/D RUN) c/w PLUG SA-105N
12	4	PLATE: 10 THK. x 79 WD. x 260 LG. (CIS) SA-516-70N
13	2	PLATE: 10 THK. x 51 WD. x 122 LG. (CIS) SA-516-70N
14	1	NAMEPLATE c/w MOUNTING BRACKET SS/SA-36
15	2	CONC. REDUCER: 89 XXH x 60 SCH 160 BW (SMLS) SA-234-WPB
16		

NOTE: THE FOLLOWING SUBSTITUTIONS ARE PERMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY: 0.091 m³
SURFACE AREA OF TUBES: N/A m²
WEIGHT EMPTY: 393 kg
WEIGHT FULL OF WATER: 484 kg
SURFACE PREPARATION: PNT-12
PRIMER: PNT-12
FINISH PAINT: PNT-12
INSULATION: NONE
MECHANICAL LOADINGS GOVERNS AS PER UG 22: YES (NO)

SERIAL NO: 99404 '110' CRN: P-0249.2
TAG NO: V-126 YEAR BUILT: 2000
LSD #: -
CODE:
ASME SECT. VIII DIV I, '98, ADDENDA '99
TEMA CLASS N/A, ADDENDA N/A
DESIGN PRESS: 11377 kPag @ TEMP: 176 °C

HYDROTEST:
VESSEL 14790 kPag
COIL N/A kPag
MIN^m DESIGN METAL TEMP: -28 °C @ MAWP 11377 kPag
MATERIAL: HEAD: SA-516-70N SHELL: SA-106-B
RADIOGRAPHY:
LONG^L FULL UWI(c) [REDACTED]
CIRC^C FULL UWI(c) (INCL. ALL BUTT WELDS) [REDACTED]
P.W.H.T.: YES MIN. TEMP: 593 °C, TIME: 1h (MIN.)
CORR. ALLOW: 3.2 mm

PRODUCTION IMPACT TEST REQ'D: (NO)
SHIP LOOSE: (NO)
SERVICE: SOUR GAS
LONG & CIRC. WELDS TYPE 1
QWP: 590.2
TACK WELDS: WPS #101
PRESS. TO STRUCT WELD: WPS #102, 106, 110

'SOUR SERVICE'

SINGLE VEE	THREDOLET	NOZZLE & REPAD FLUSH	NOZZLE RECESSED	PIPE TO FLANGE/FITTING	GUSSETS
2. WPS/ 104,106,110	6. WPS/ 102,108,110	8. WPS/ 102,106,108,110	10. WPS/ 102,106,108,110	14. WPS/ 104,106,110	17. WPS/ 102,106,110

- DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.
- SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPATTER.
- VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY.
- VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS.

GENERAL NOTES
DATE: 2000.05.01 9:40am FILE NAME: J:\jobs99\DWG\99404\Comp\VSL\BTL-99404-110-01.dwg

No.	REVISION	BY	DATE	CKD	ENG
3	NEW DESIGN: VESSEL RE-ISSUED FOR CONSTRUCTION	D. SMITH	00/05/01	M.I.	S.W.
2	INCREASED EXT. PROJ. OF N1 (WAS 250)	S. FARWELL	00/02/09	M.I.	N.E.
1	ISSUED FOR CONSTRUCTION	RADMLA J	00/01/26	M.I.	P.C.

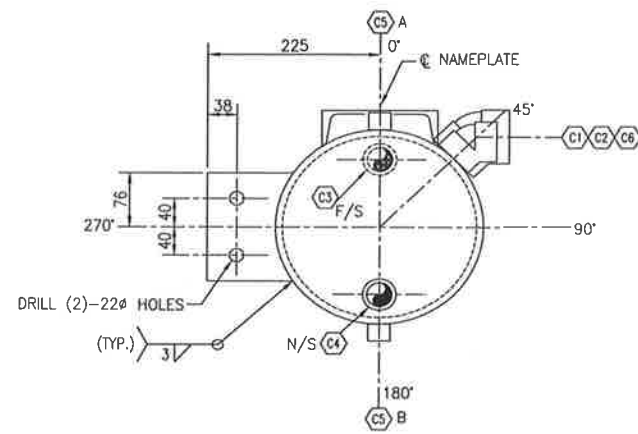
APPROVED		DRAWN	
MECH./STRUCT.	BY	D. SMITH	
DATE	DATE	00/04/12	
ELECTRICAL	CHECKED		
DATE	BY	M. IWANILIK	
PROJECT	DATE	00/05/01	
DATE	SCALE	AS NOTED	

PROPAC SYSTEMS LTD.
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

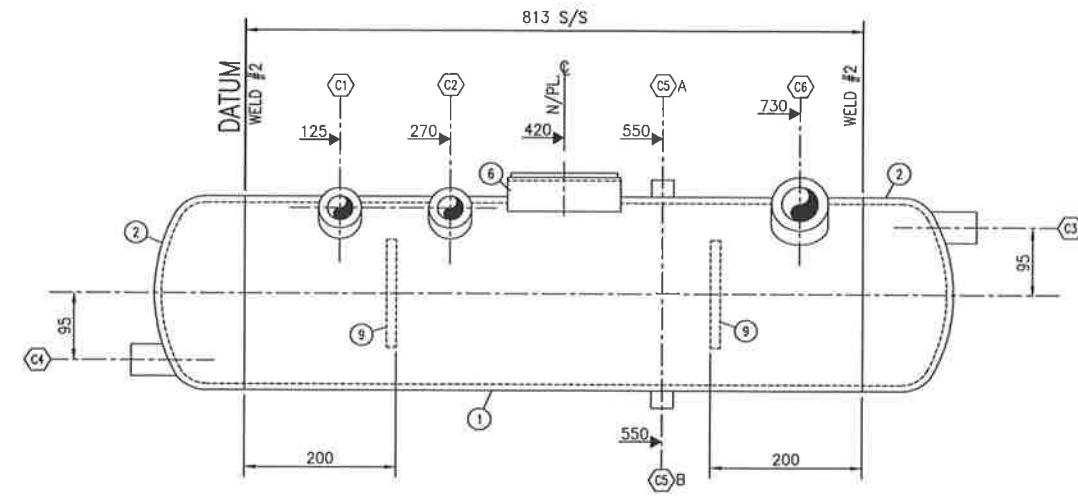
STOCK 1478 HP COMPRESSOR
3RD STAGE DISCHARGE BOTTLE
356mm O/D x 1016mm S/S

DWG. No.: D-BTL-99404-110
REV. 3

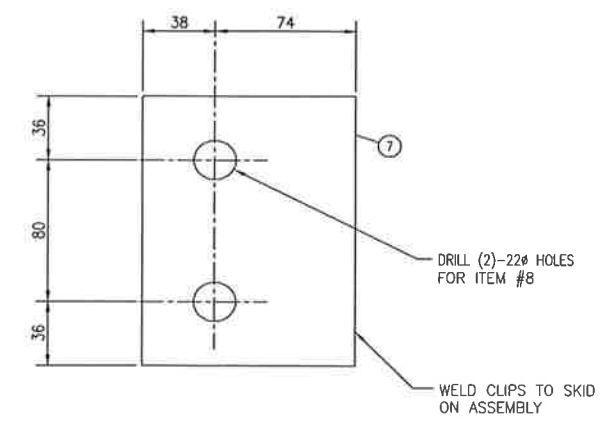
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ORIENTATION
SCALE 1:5



ELEVATION
SCALE 1:5



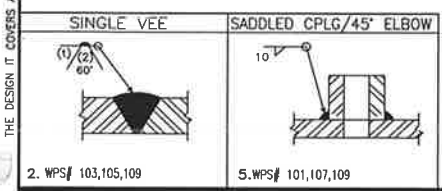
MOUNTING CLIP DETAIL
SCALE 1:2 (2-REQ'D)

NOZZLE SCHEDULE						
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ. EXT. PROJ. WELD
C1	33	3000#	45° ELBOW	-	CYLINDER PACKING VENT & DRAIN	- - 5
C2	33	3000#	45° ELBOW	-	CYLINDER DISTANCE PIECE DRAIN	- - 5
C3	33	3000#	1/2 CPLG	-	SEAL POT VAPOUR TO FLARE HEADER	- - 5
C4	33	3000#	1/2 CPLG	-	LIQUIDS TO DRAIN TANK	- - 5
C5	21	3000#	1/2 CPLG	-	LEVEL GAUGE	- - 5
C6	48	3000#	45° ELBOW	-	SEAL POT PRESSURE RELIEF	- - 5

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	1	SHELL PIPE: 273 O/D x 9.27 W.T. x 813 LG. SMLS SA-106-B
2	2	PIPE CAP: 273 O/D SCH STD, BW SMLS SA-234-WPB
3	2	HALF CPLG: 33-3000# NPT. (CTS) SA-105N
4	2	HALF CPLG: 21-3000# NPT SA-105N
5	2	ELBOW: 33-3000# 45° NPT SA-105N
6	1	NAMEPLATE c/w MOUNTING BRACKET SS/SA-36
7	2	PLATE: 13 THK. x 112 WD. x 152 LG. SA-36
8	4	ZINC PLATED M/C BOLTS: 19# x 51 LG. c/w NUT & LOCKWASHER EACH SA-325
9	2	F/BAR: 13 THK. x 152 SQUARE (CTS) G40.21M-300W
10	1	ELBOW: 48-3000# 45° NPT SA-105N

CAPACITY: 0.05 m³
 WEIGHT EMPTY: 90 kg
 WEIGHT FULL OF WATER: 140 kg
 SURFACE PREPARATION: PNT-11
 PRIMER: PNT-11
 FINISH PAINT: PNT-11
 INSULATION: NONE
 IMPACT TEST: NO
 YES PER UOQI AS FOLLOWS:
 W/VE (1) W/VE (1) AT TEMP. 10
 NO PER UOQI (1) W/VE (1) AT TEMP. 10
 NO UOQI (1) W/VE (1) AT TEMP. 10
 PRODUCTION IMPACT TEST REQ'D: YES [NO]
 SHIP LOOSE: YES [NO]
 SERVICE: HYDROCARBONS
 LONG & CIRC. WELDS TYPE 1
 QWP: 590.2
 QCP: AQP-1050(S) AQP-1227(S)
 TACK WELDS WPS# 101
 PRESS. TO STRUCT. WPS# 101,105 & 109

SERIAL NO: 99404 '117' CRN: N/A
 TAG NO: V-130 YEAR BUILT: 2000
 LSD #: .
 CODE: NON-CODE
 MAX. DESIGN PRESS: 101 kPag @ TEMP. 149°C
 HYDROTEST: VESSEL 345 kPag
 MIN^m DESIGN METAL TEMP: -28 °C
 MATERIAL HEAD: SA-234-WPB SHELL: SMLS SA-106-B
 RADIOGRAPHY: LONG L: N/A
 SERVICE: HYDROCARBONS
 CIRC: N/A
 P.W.H.T.: [NO]
 CORR. ALLOW: NONE
"SOUR SERVICE"



APPROVED		DRAWN		BY		DATE	
MECH./STRUCT.	BY	L. BELOUKHINA	DATE	00/01/12			
ELECTRICAL	CHECKED	M. IWANIUK	DATE	00/05/01			
PROJECT	DATE	S. WARD	DATE	00/05/01			
DATE	SCALE	00/05/01	SCALE	AS NOTED			

GENERAL NOTES		GENERAL NOTES		REVISION	
2	NEW DESIGN: VESSEL RE-ISSUED FOR CONSTRUCTION	D. SMITH	00/05/01	M.I.	S.W.
1	ISSUED FOR CONSTRUCTION	L. B.	00/01/26	M.I.	P.C.
No.		BY	DATE	CKD	ENG

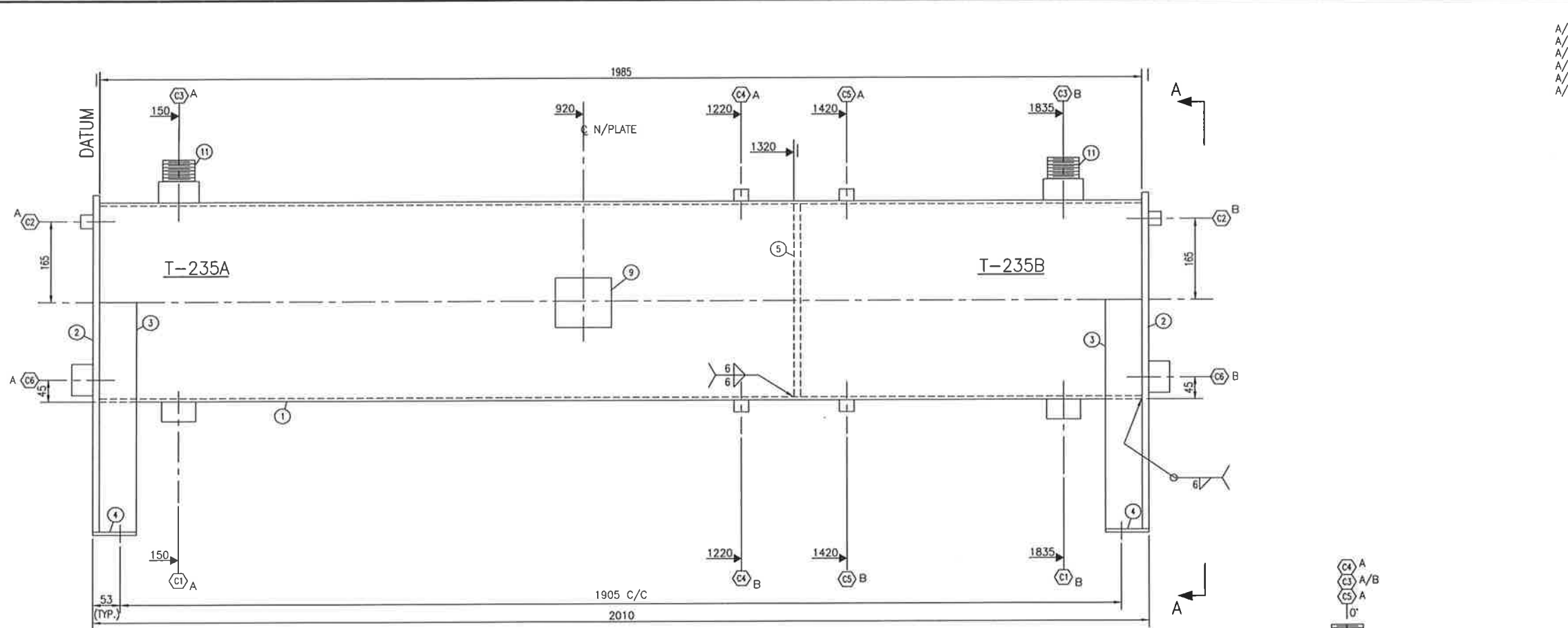
DATE: 2000.05.01 9:53am	FILE NAME: J:\jobs99\DWG\99404\Comp\VSL\POT-99404-117-01.dwg	NO.	2	REV.	2
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PROPAK
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

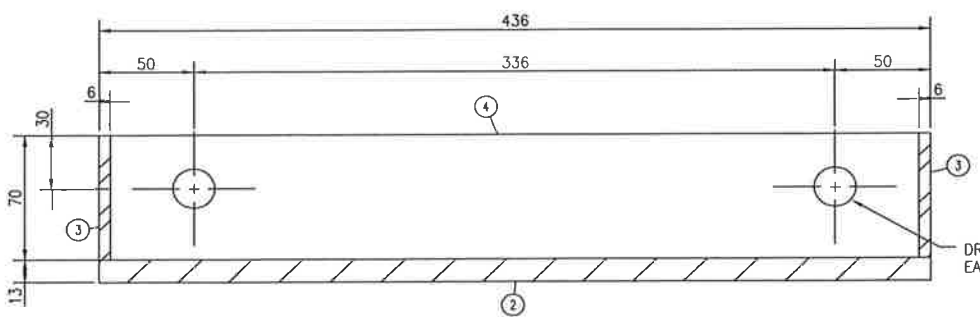
PROPAC SYSTEMS LTD
 STOCK 1478 HP COMPRESSOR PACKAGE
 PACKING VENT & DRAIN SEAL POT
 273mm O/D x 813mm S/S

DWG. No.: D-POT-99404-117

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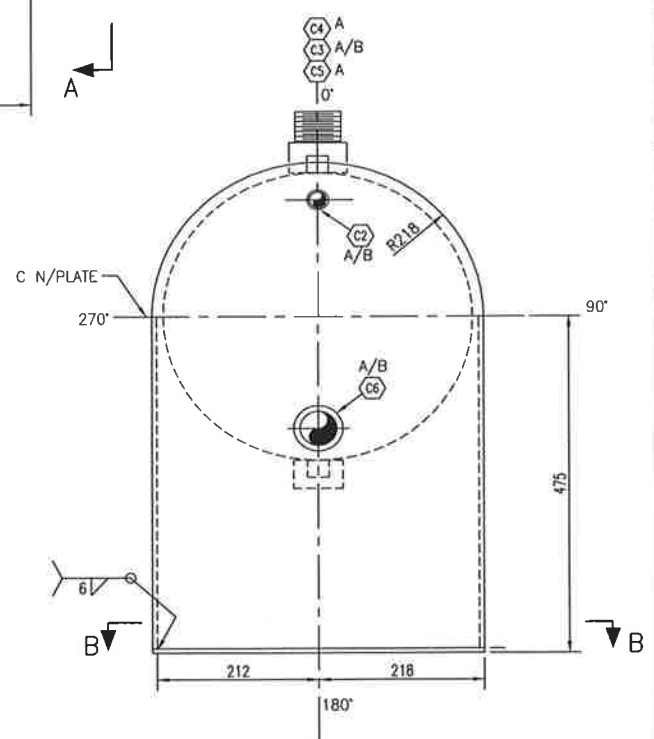


ELEVATION
SCALE: 1:5



VIEW 'B-B'
SCALE: 1:2

DRILL (2)-22Ø HOLES IN EACH SADDLE FOR ITEM #10



VIEW 'A-A'
SCALE: 1:5

NOZZLE SCHEDULE										
MK	SIZE	RATING	FACING	SCH	SERVICE	INT.	PROJ	EXT.	PROJ	WELD
A/B	C1	48	3000#	HALF CPLG	- SHUNT LINE	-	-	-	-	5
A/B	C2	21	3000#	HALF CPLG	- VENT	-	-	-	-	5
A/B	C3	60	3000#	HALF CPLG	- PRV VENT/FILL	-	-	-	-	5
A/B	C4	21	3000#	HALF CPLG	- LG	-	-	-	-	5
A/B	C5	21	3000#	HALF CPLG	- LG	-	-	-	-	5
A/B	C6	48	3000#	HALF CPLG	- LSI-235 A/B	-	-	-	-	5

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	1	PIPE: 406 O/D x 6.35 W.T. x 1985 LG. SA-53-B (MIN)
2	2	PLATE: 12.70 THK. x 436 WD. x 693 LG. (CTS) SA-36
3	4	PLATE: 6 THK. x 70 WD. x 469 LG. SA-36
4	2	FLAT BAR: 6 THK. x 83 WD. x 436 LG. SA-36
5	1	PLATE: 12.70 THK. x 390 O/D SA-36
6	2	HALF CPLG: 60 - 3000# NPT SA-105
7	4	HALF CPLG: 48 - 3000# NPT SA-105
8	6	HALF CPLG: 21 - 3000# NPT SA-105
9	1	NAMEPLATE c/w MOUNTING BRACKET SS/SA-36
10	4	ZINC PLATED BOLTS: 19Ø x 50 LG. c/w (1) HEXNUT & WASHER EACH SA-325
11	2	NIPPLE: 60 O/D SCH. STD. x 76 LG. (T.B.E.) SMLS SA-106-B

CAPACITY: T-235A: 0.161 m³
T-235B: 0.079 m³

WEIGHT EMPTY: 237 kg
WEIGHT FULL OF WATER: 477 kg

SURFACE PREPARATION: PNT-11
PRIMER: PNT-11
FINISH PAINT: PNT-11
INSULATION: NONE

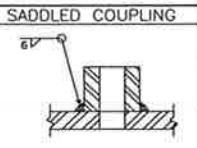
SERVICE: GLYCOL
LONG & CIRC. WELDS TYPE 1
QWP: 590.2
QCP: AQP-1050(S) AQP-1227(S)
TACK WELDS: WPS# 101
PRESS. TO STRUCT. WELD WPS# 101,105,109

SERIAL NO: 99404-118 CRN: N/A
TAG NO: T-235 A/B YEAR BUILT: 2000
LSD #: -
CODE: **NON CODE**

DESIGN PRESS: 101 kPag
DESIGN TEMP: 100 °C
HYDROTEST: 150 kPag

MATERIAL: HEAD: SA-36
SHELL: SA-53-B (MIN)

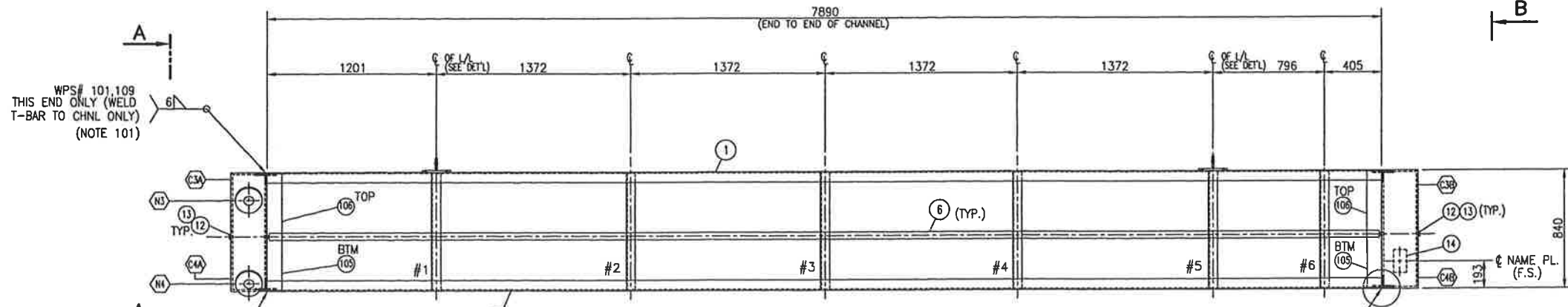
RADIOGRAPHY:
LONG: N/A
CIRC: N/A
P.W.H.T.:
 YES/ NO
CORR. ALLOW: NIL



5. WFS/ 101,107,109

GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		PROPAG SYSTEMS LTD.		440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3	
DATE: 2000.05.03 11:36am	FILE NAME: J:\jobs99\DWG\99404\Comp\VSL\TNK-99404-118-01.dwg	No.	REVISION	BY	DATE	CKD	ENG	MECH./STRUCT.	BY	D. SMITH	DATE
		2	NEW DESIGN: VESSEL RE-ISSUED FOR CONSTRUCTION	D. SMITH	00/05/03	M.L.	S.W.	DATE	00/04/28		
		1	ISSUED FOR CONSTRUCTION	R.J.	00/01/28	M.L.	T.K.	ELECTRICAL	CHECKED		
								DATE	BY	M. IWANIUK	DATE
								PROJECT	S. WARD		00/05/03
								DATE	00/05/03		
								SCALE	AS NOTED		
								DWG. No.:	D-TNK-99404-118		REV. 2

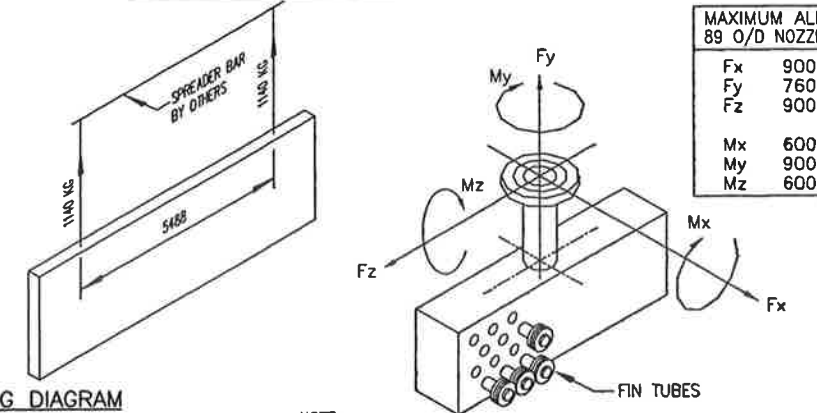
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BUNDLE PLAN VIEW
SCALE 1:20

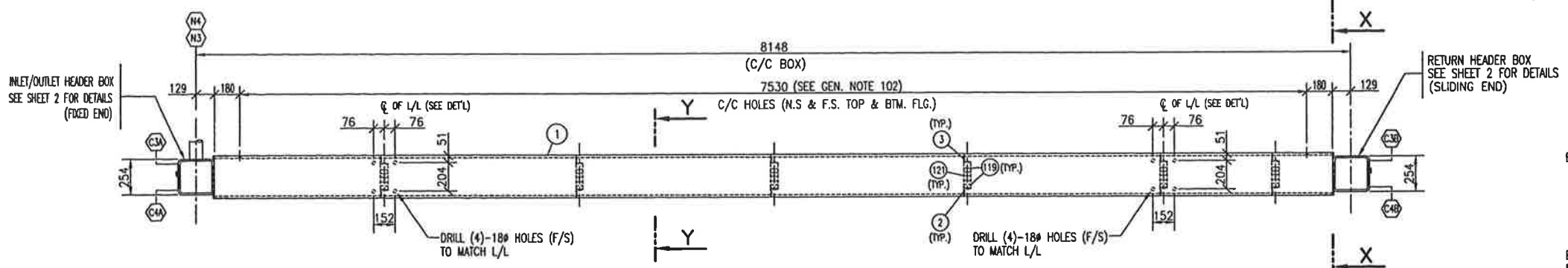
NOZZLE SCHEDULE						
MK	SIZE	RATING	FACING	SCH	SERVICE	EXT. PROJ. WELD
N3	89	150#	RFWN	160	AJW INLET (AC-230)	254 2/3
N4	89	150#	RFWN	160	AJW OUTLET (AC-230)	254 2/3
A/B	C3	22	SHDR PLUG	14 UNF	VENT	-
A/B	C4	22	SHDR PLUG	14 UNF	DRAIN	-

MAXIMUM ALLOWABLE 89 O/D NOZZLE LOADS	
Fx	900 lb
Fy	760 lb
Fz	900 lb
Mx	600 ft-lb
My	900 ft-lb
Mz	600 ft-lb



LIFTING DIAGRAM
FOR AC-230

NOTE:
WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 1520 KG.



BUNDLE ELEVATION VIEW
SCALE 1:20

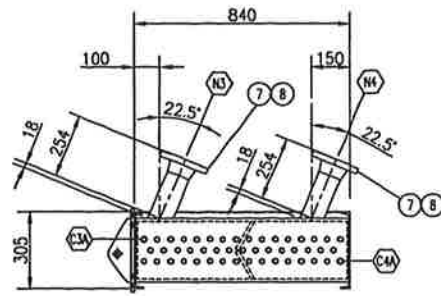
BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	2	SIDE CHANNELS: MC310 @ 15.8 kg/m x 7890 LG G40.21M-300W
2	6	BTM. TUBE SUP'T: L 51 x 51 x 6 THK. x 830 LG G40.21M-300W
3	6	TOP TUBE SUP'T: L 51 x 51 x 6 THK. x 818 LG G40.21M-300W
4		
5		
6	4.7	TUBES (WELDED): 19# x 16 B.W.G. W.T x 7925 LG c/w L-TENSION ALUMINUM FIN SA-214 ERW
7	2	PIPE: (SMLS) 89 O/D x 11.13 W.T x 227 LG (C.T.S.) SA-106-B
8	2	FLG: 89 - 150# RFWN SCH 160 BORE SA-105
9		
10		
11		
12	94	GASKET: 29 (1 1/8") O/D x 22 (7/8") I/D x 1.59 (1/16") THK. (MAX. BHN 110) C1010/20
13	94	HEX STEEL SHOULDER PLUG: 22 (7/8") # - (14 UNF) x 19 (3/4") LG. SA-105
14	2	NAME PLATE c/w MOUNTING BRACKET SS/SA-36
15		
16		
17		
18		

NOTE: THE FOLLOWING SUBSTITUTIONS ARE PERMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

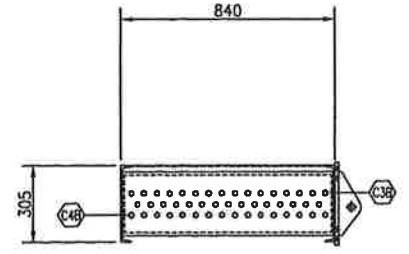
CAPACITY:	0.156 m ³	SERIAL NO:	99404-234	CRN:	
SURFACE AREA OF TUBES:		YEAR BUILT:	2000		
INCLUDING FIN:	534.43 m ²	LSD NO.:			
WEIGHT EMPTY: (SEE NOTE 103)	1520 kg	CODE:	NON-CODE		
WEIGHT FULL OF WATER:	1676 kg				
SURFACE PREPARATION:		MAX. DES. PRES.:	97 kPag		
PRIMER:		DESIGN TEMP.:	149 °C		
FINISH PAINT:	PNT 11	CORR. ALLOW.:	0 mm		
INSULATION:	NONE	HYDROTEST:	518 kPag		
PRODUCTION IMPACT TEST REQ'D:		MDMT:	-28 °C		
MECH LOADINGS GOVERN PER UG 22:	NO		97 kPag		
IMPACT TEST:	NO	MATERIAL: HDR BOXES:	G40.21M-350(A-500C)/SA-516/70		
		TUBES: (WELDED)	SA-214ERW		
		RADIOGRAPHY:	N/A		
SHIP LOOSE:	NO	P.W.H.T.:	NO		
SERVICE:	60% EG/H2O	MINIMUM TEMP. FOR TIME:	°C		
QWP:	590.2		°F		
QCP: AQP-1050(S) : AQP-1227(S)					
TACK, PRES/STRUCT WELDS	101, 109				
STRUCT TO STRUCT WELDS	101, 109				

TAG NO: AC-230

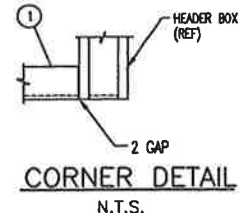
PROPAG
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3



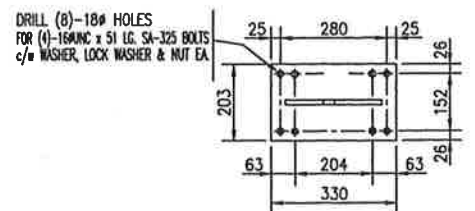
VIEW 'A-A'
SCALE 1:15



VIEW 'B-B'
SCALE 1:15



CORNER DETAIL
N.T.S.



REMOVABLE LIFTING LUG DETAIL
(REUSABLE)
(2)-REQ'D.
SCALE 1:10

- NOTES:
- HOLES SPACED 204 APART ARE FOR 305 DEEP SIDE CHANNEL HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
 - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
 - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".
 - ALWAYS USE 2 LUGS FOR LIFTING.
 - A SPREADER BAR IS REQ'D. TO ENSURE STRAIGHT UP LIFT.
 - ALL MATERIALS SA-36.

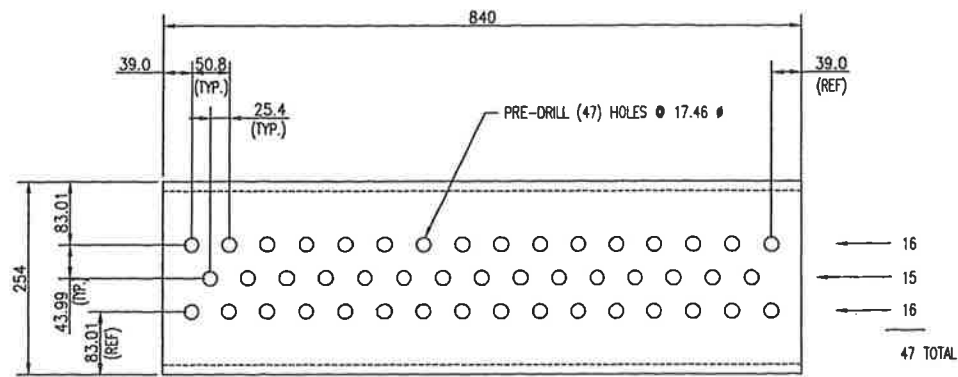
SADDLED COUPLING	NOZZLE ABUTTED	PIPE TO FLANGE/FITTING
1. WPS# 101, 107, 109	2. WPS# 101, 107, 109	3. WPS# 103, 105, 109

101. THE INLET/OUTLET HEADER BOX CAN BE WELDED TO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE T-BAR (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE RETURN HEADER BOX. IT SHOULD BE FREE TO SLIDE.	104. REMOVE ALL SHARP EDGES & BURRS.
102. ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.	
103. WEIGHT ACCOUNTS FOR POSSIBLE CHANGE TO 14 B.W.G. TUBES.	
GENERAL NOTES	GENERAL NOTES
DATE: 2000.05.11 2:09pm FILE NAME: J:\jobs99\DWG\99404\CIF\BDL-99404-234-01.dwg	1 ISSUED FOR CONSTRUCTION
	BY G. CHIN DATE 00/05/11
	CKD DP PC
	REVISION

APPROVED		DRAWN	
MECH/STRUCT. S. ISAACS	BY G. CHIN	DATE 00/05/11	DATE 00/05/02
ELECTRICAL	BY	DATE	CHECKED
PROJECT P. CRAWFORD	BY D. PARTIBLE	DATE 00/05/11	
DATE 00/05/11	DATE		
	SCALE AS NOTED		

PROPAG SYSTEMS LTD.			
STOCK 1480 HP COMPRESSOR, M/N W 1480, 6HOS-3			
AUX. JACKET WATER			
AC-230			
DWG. No.: D-BDL-99404-234	SHT. 1 OF 2	REV. 1	

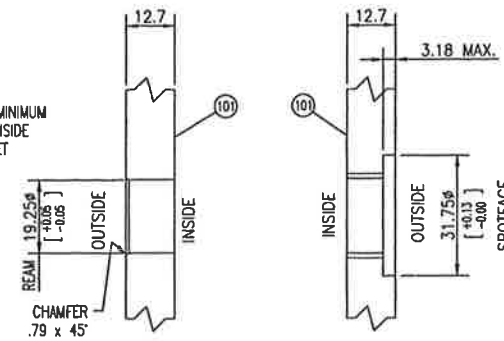
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TUBESHEET/PLUGSHEET LAYOUT

SCALE 1:5
 (10) (2)-HSS REQ'D

SHOP NOTE:
 EXPAND TUBES A MINIMUM
 OF 10mm FROM INSIDE
 FACE OF TUBESHEET



TUBESHEET HOLES

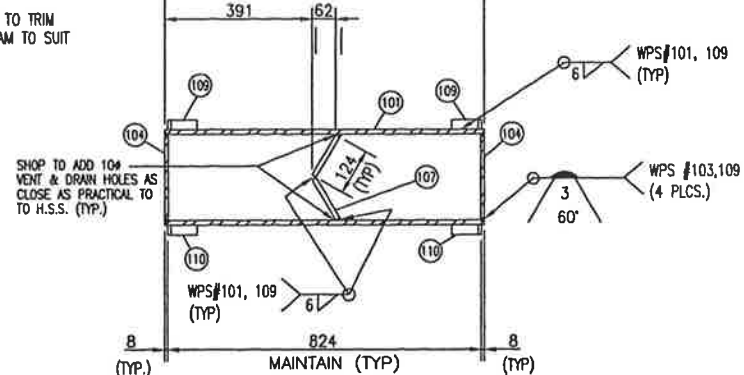
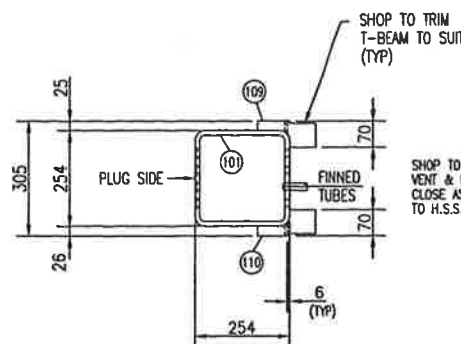
SCALE 1:1

PLUGSHEET HOLES

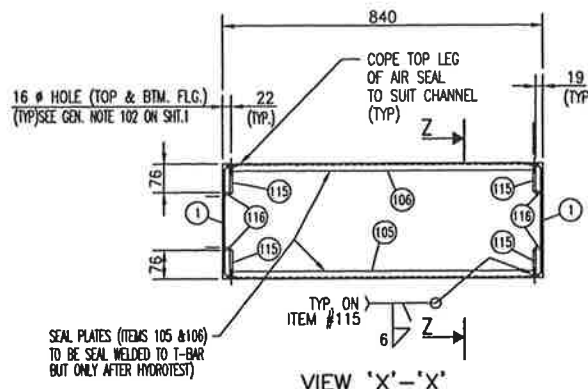
SCALE 1:1

NOTE: CORE DRILL 20.27# (0.798")
 (TAP 7/8" - 14 UNF 28)
 RECOMMENDED INSTALLATION TORQUE ON EACH
 HEX HEAD SHOULDER PLUG 90 FT-LB.
 *KOPR-KOTE ANTI-SEIZE COMPOUND TO BE
 USED AS A THREAD LUBRICANT.*

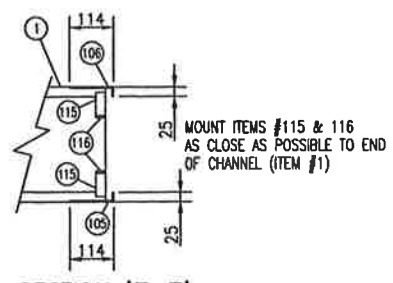
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
EX-STOCK-P	101	2	HSS: 12.7 THK. x 254 x 254 x 840 LG. G40.21M-350W(A-500C)
	102		
	103		
STOCK	104	4	PLATE: 9.53 THK. x 223 SO. (C.T.S.) SA-516-70
STOCK	105	2	BTM. AIR SEAL: PRE-FORMED ANGLE 3 THK x 25 x 114 x 800 LG. SA-36
	106	2	TOP AIR SEAL: PRE-FORMED ANGLE 3 THK x 25 x 114 x 800 LG. SA-36
	107	2	PLATE: 13 THK. x 124 WD. x 229 LG. (C.T.S.) SA-36
	108		
	109	4	WT 75 x 15 kg/m x 70 LG. SA-36
	110	4	WT 75 x 15 kg/m x 70 LG. SA-36
	111		
	112		
	113		
	114		
	115	4	FLATBAR: 6 THK. x 25 x 65 LG. G40.21M-300W
	116	4	FLATBAR: 6 THK. x 25 x 14 LG. G40.21M-300W
	117	24	M/C BOLTS: 13 # UNC x 38 LG. c/w WASHER, LOCK WASHER & NUT EA. (ZINC-COATED) SA-325
	118		
	119	12	FLAT BAR: 3 THK. x 51 x 200 LG. (F. & C.T.S.) G40.21M-300W
	120		
	121	18	ALUMINUM STRIP: 24 BWG x 38 x 1300 LG. (C.T.S.) ALUMINUM
	122		
	123	12	FLAT BAR: 6 THK x 89 x 44 LG. G40.21M-300W
	124		



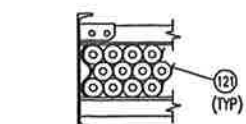
INLET/OUTLET HEADER BOX DETAIL
 (VIEWED FROM PLUGSIDE)
 SCALE 1:10



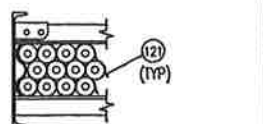
VIEW 'X'-'X'
 SCALE 1:10



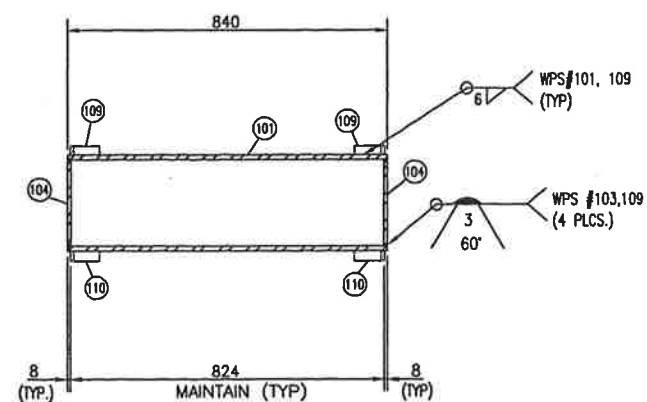
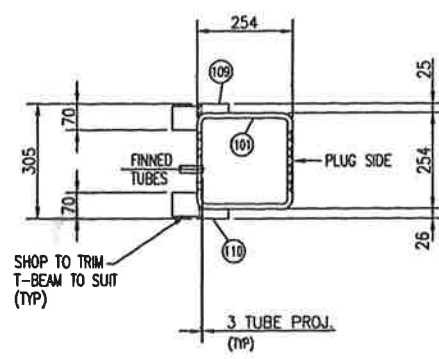
SECTION 'Z'-'Z'
 SCALE 1:10



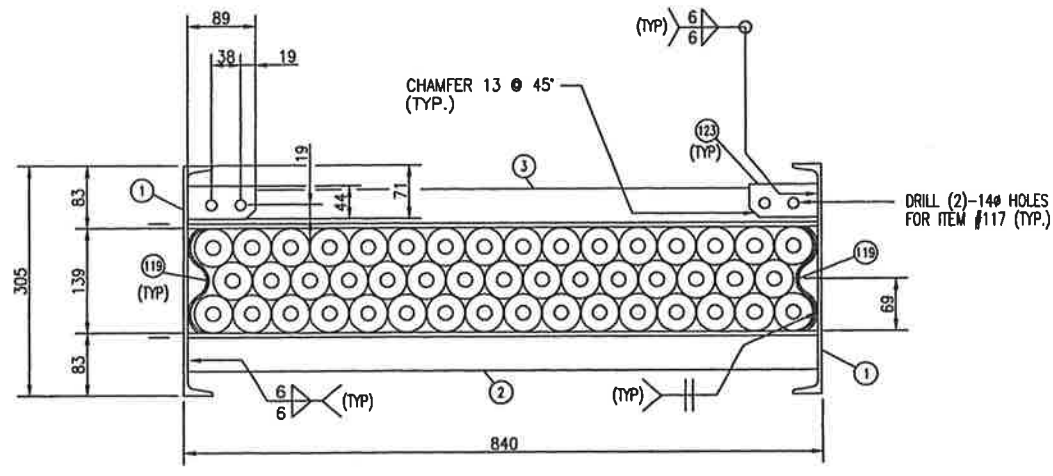
ALUMINUM WRAP AT SUPPORTS #1,3,&5
 SCALE 1:10



ALUMINUM WRAP AT SUPPORT #2,4&6
 SCALE 1:10



RETURN HEADER BOX DETAIL
 SCALE 1:10



SECTION 'Y'-'Y'
 SCALE 1:5

SEE SHT. 1 FOR GENERAL NOTES

GENERAL NOTES	GENERAL NOTES
DATE: 2000.05.11 2:09pm	FILE NAME: J:\jobs99\DWG\99404\Ci\BDL-99404-234-02.dwg

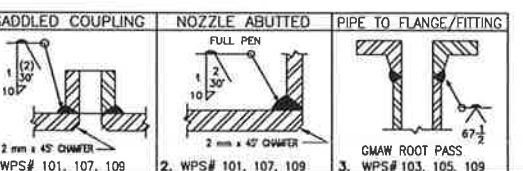
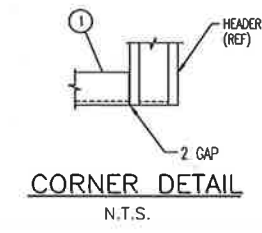
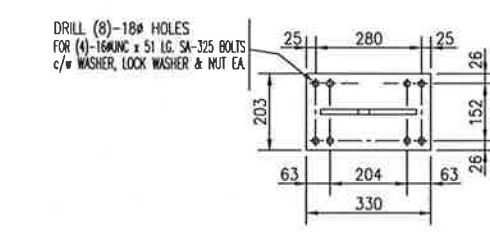
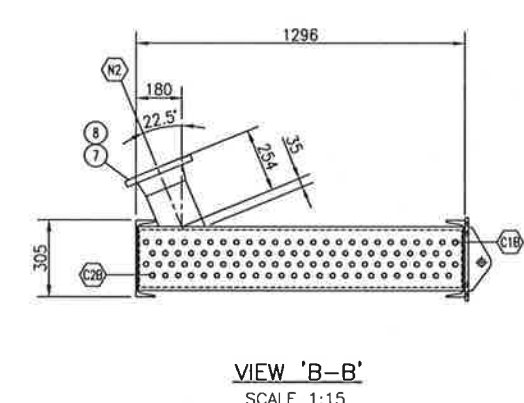
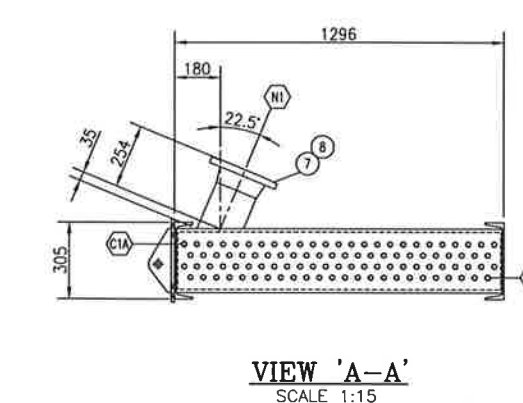
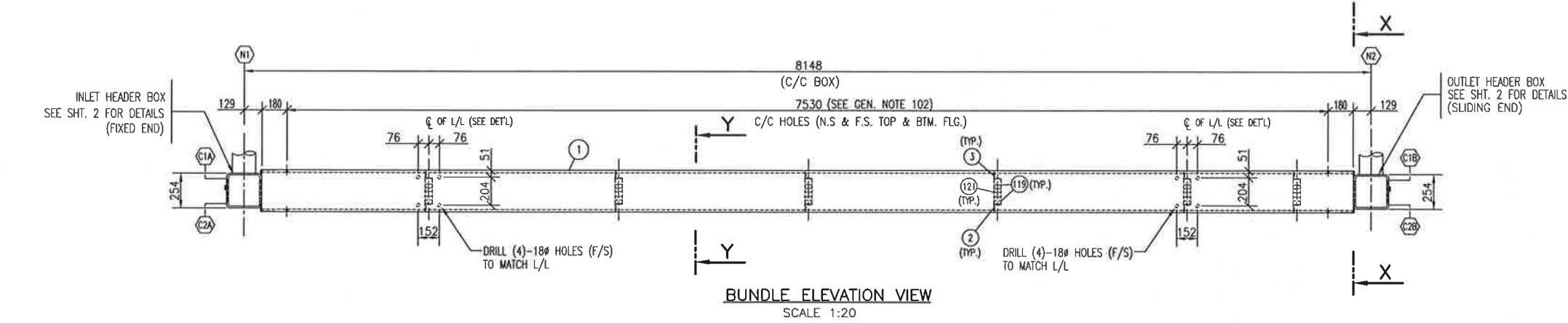
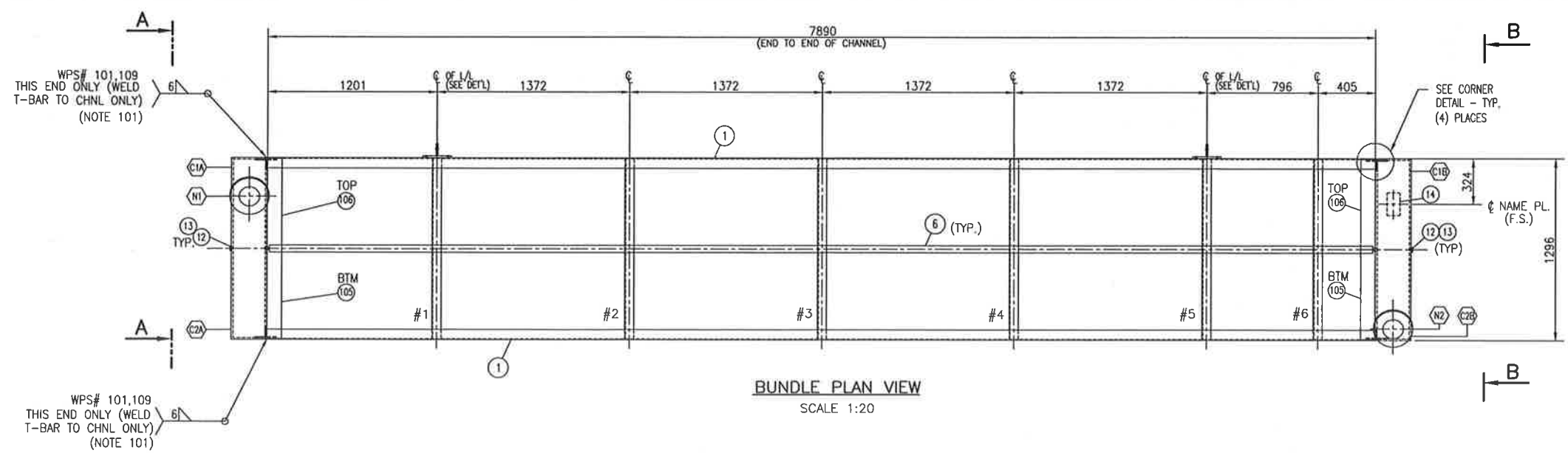
NO.	REVISION	BY	DATE	CHKD	ENG
1	ISSUED FOR CONSTRUCTION	G. CHIN	00/05/11	DP	PC

APPROVED	BY	DATE	DRAWN	BY	DATE
MECH./STRUCT.	S. ISAACS	00/05/11	G. CHIN		00/05/02
ELECTRICAL					
PROJECT	P. CRAWFORD	00/05/11	D. PARTIBLE		00/05/11
DATE					

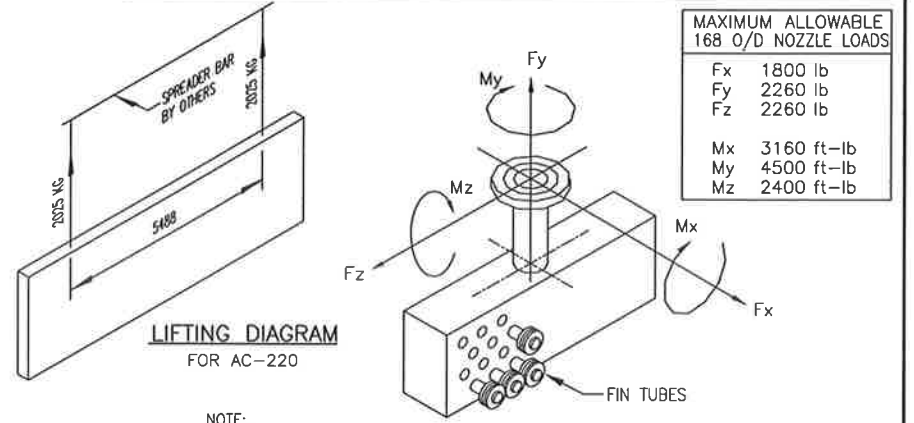
PROPAC SYSTEMS LTD.	
440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3	
STOCK 1480 HP COMPRESSOR, M/N W 1480, 6HOS-3 AUX. JACKET WATER AC-230	DWG. No.: D-BDL-99404-234
SHT. 2 OF 2	REV. 1

PROPAC
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

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NOZZLE SCHEDULE						
MK	SIZE	RATING	FACING	SCH	SERVICE	EXT. PROJ. WELD
N1	168	150#	RFWN	80	EJW INLET (AC-220)	254 2/3
N2	168	150#	RFWN	80	EJW OUTLET (AC-220)	254 2/3
A/B	C1	22	SHDR. PLUG	14 UNF	VENT	-
A/B	C2	22	SHDR. PLUG	14 UNF	DRAIN	-



NOTE:
WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2700 KG.

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	2	SIDE CHANNELS: C310 @ 31 kg/m x 7890 LG
2	6	BTM. TUBE SUP'T: L 64 x 64 x 6 THK x 1282 LG
3	6	TOP TUBE SUP'T: L 51 x 51 x 6 THK x 1270 LG
4		
5		
6	98	TUBES (WELDED): 19# x 16 B.W.G. WT x 7925 LG c/w L-TENSION ALUMINUM FIN SA-214 ERW
7	2	PIPE: (SMLS) 168 O/D x 10.97 W.T. x 225 LG (C.T.S.)
8	2	FLG: 168 - 150# RFWN SCH 80 BORE
9		
10		
11		
12	196	GASKET: 29 (1 1/8" O/D x 22 (7/8" I/D x 158 (1/16" THK (MAX. BHN 110) C1010/20
13	196	HEX STEEL SHOULDER PLUG: 22 (7/8" Ø - (14 UNF) x 19 (3/4" LG. SA-105
14	1	NAME PLATE c/w MOUNTING BRACKET SS/SA-36
15		
16		
17		
18		

NOTE: THE FOLLOWING SUBSTITUTIONS ARE PERMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY:	0.285 m ³	SERIAL NO:	99404-235 CRN:
SURFACE AREA OF TUBES INCLUDING FIN:	1114.34 m ²	YEAR BUILT:	2000
WEIGHT EMPTY: (SEE NOTE 103)	2700 kg	LSD NO.:	-
WEIGHT FULL OF WATER:	2985 kg	CODE:	NON-CODE
SURFACE PREPARATION:		MAX. DES. PRES.:	97 kPag
PRIMER:	PNT 11	DESIGN TEMP.:	149 °C
FINISH PAINT:		CORR. ALLOW.:	0 mm
INSULATION:	NONE	KYDROTEST:	518 kPag
PRODUCTION IMPACT TEST REQ'D:		MDMT:	-28 °C
MECH LOADINGS GOVERN PER UG 22:	NO		97 kPag
IMPACT TEST:	NO	MATERIAL: HDR BOXES:	G40.21M-350(A-500C)/SA-516-70
		TUBES:	(WELDED) SA-214ERW
		RADIOGRAPHY:	N/A
		P.W.H.T.:	NO
SHIP LOOSE:	NO	MINIMUM TEMP. FOR TIME:	°C
SERVICE:	60% EG/H2O		°C
QWP:	590.2		
QCP: AQP-1050(S) : AQP-1227(S)			
TACK, PRES/STRUCT WELDS	101, 109		
STRUCT TO STRUCT WELDS	101, 109		

TAG NO: AC-220

101. THE INLET HEADER BOX CAN BE WELDED TO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE T-BAR (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE OUTLET HEADER BOX, IT SHOULD BE FREE TO SLIDE.	104. REMOVE ALL SHARP EDGES & BURRS.
102. ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.	
103. WEIGHT ACCOUNTS FOR POSSIBLE CHANGE TO 14 B.W.G. TUBES	

GENERAL NOTES

DATE: 2000.05.17 3:58pm FILE NAME: J:\jobs99\DWG\99404\Cir\BDL-99404-235-01.dwg

No.	REVISION	BY	DATE	CKD	ENG
3	RE-ISSUED FOR CONSTRUCTION	G. CHIN	00/05/17	J.D. for 11	P.N.L. C.
2	ADDED DIMENSION FOR ITEM 2: L 89 x 64	I.LEE	00/02/15	J.W. D.	TRACY K.
1	ISSUED FOR CONSTRUCTION	I.LEE	00/02/04	J.M.D.	TRACY K.

APPROVED		DRAWN	
MECH./STRUCT.	S. ISAACS	BY	G. CHIN
DATE	00/05/11	DATE	00/05/02
ELECTRICAL		CHECKED	
DATE		BY	I. LEE
PROJECT	P.CRAWFORD	DATE	00/05/11
DATE	00/05/11	SCALE	AS NOTED

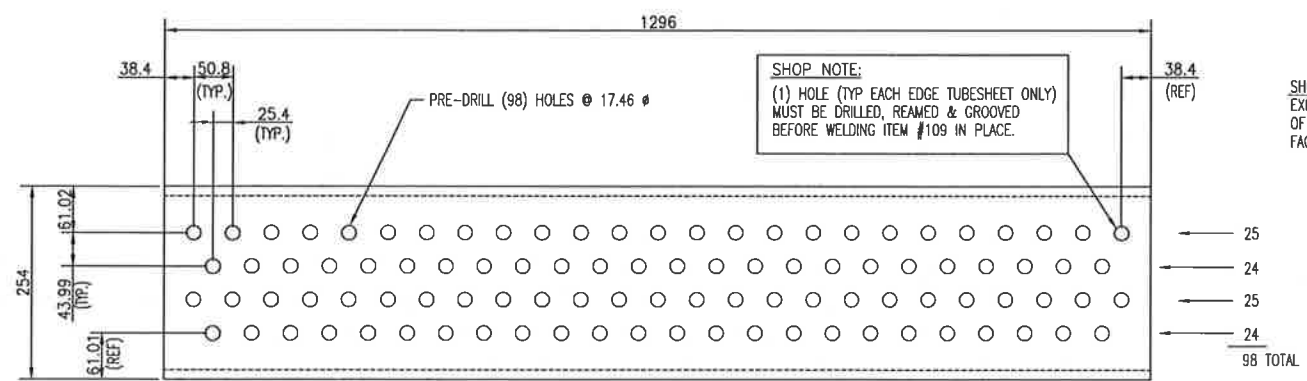
PROPAG SYSTEMS LTD.

440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3

STOCK 1480 HP COMPRESSOR, M/N W 1480, 6HOS-3 ENGINE JACKET WATER AC-220

DWG. No.: D-BDL-99404-235 SHT. 1 OF 2 REV. 3

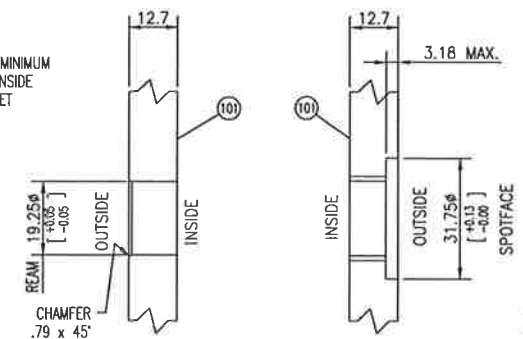
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TUBESHEET/PLUGSHEET LAYOUT
SCALE 1:5
(10) (2)-HSS REQ'D

SHOP NOTE:
(1) HOLE (TYP EACH EDGE TUBESHEET ONLY) MUST BE DRILLED, REAMED & GROOVED BEFORE WELDING ITEM #109 IN PLACE.

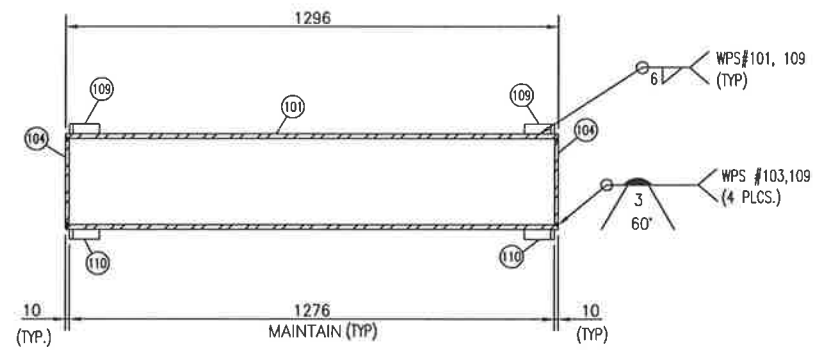
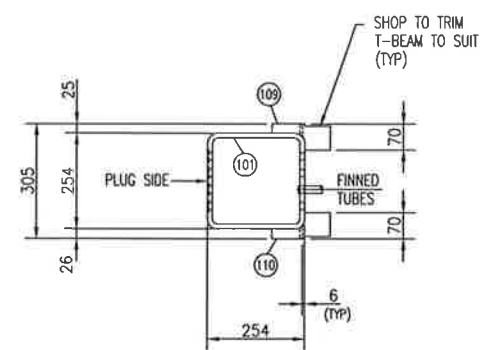
SHOP NOTE:
EXPAND TUBES A MINIMUM OF 10mm FROM INSIDE FACE OF TUBESHEET



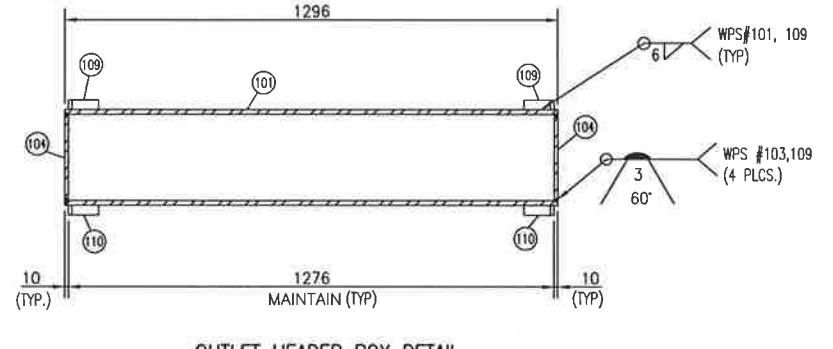
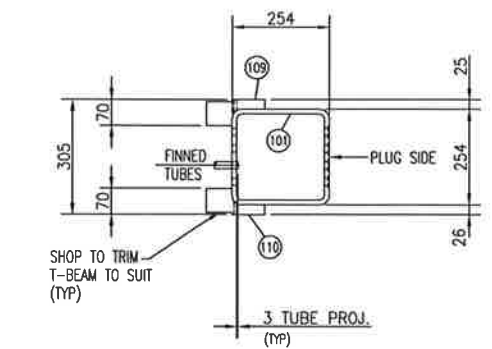
TUBESHEET HOLES SCALE 1:1
PLUGSHEET HOLES SCALE 1:1

NOTE: CORE DRILL 20.276 (0.798") (TAP 7/8" - 14 UNF 2B)
RECOMMENDED INSTALLATION TORQUE ON EACH HEX HEAD SHOULDER PLUG 90 FT-LB.
"KOPR-KOTE" ANTI-SEIZE COMPOUND TO BE USED AS A THREAD LUBRICANT.

BILL OF MATERIAL			DESCRIPTION	
EX-STOCK-P	ITEM	QUA	HSS: 12.7 THK. x 254 x 254 x 1296 LG.	G40.21M-350W(A-500C)
	101	2		
	102			
	103			
STOCK	104	4	PLATE: 9.53 THK. x 223 SQ. (C.T.S.)	SA-516-70
STOCK	105	2	BTM. AIR SEAL: PRE-FORMED ANGLE 3 THK x 25 x 114 x 1246 LG.	SA-36
STOCK	106	2	TOP AIR SEAL: PRE-FORMED ANGLE 3 THK x 25 x 114 x 1246 LG.	SA-36
	107			
	108			
	109	4	WT 75 x 15 kg/m x 70 LG.	SA-36
	110	4	WT 75 x 15 kg/m x 70 LG.	SA-36
	111			
	112			
	113			
	114			
	115	4	FLATBAR: 6 THK. x 25 x 61 LG.	G40.21M-300W
	116	4	FLATBAR: 6 THK. x 25 x 16 LG.	G40.21M-300W
	117	24	M/C BOLTS: 13 # UNC x 38 LG. c/w WASHER, LOCK WASHER & NUT EA. (ZINC COATED)	SA-325
	118			
	119	12	FLAT BAR: 3 THK. x 51 x 300 LG. (F. & C.T.S.)	G40.21M-300W
	120			
	121	24	ALUMINUM STRIP: 24 BWG x 38 x 2050 LG. (C.T.S.)	ALUMINUM
	122			
	123	12	FLAT BAR: 6 THK x 89 x 44 LG.	G40.21M-300W
	124			



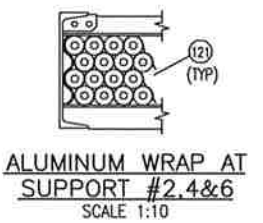
INLET HEADER BOX DETAIL
SCALE 1:10



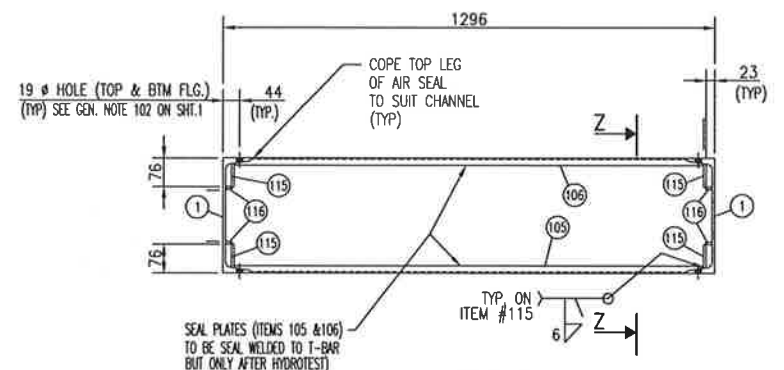
OUTLET HEADER BOX DETAIL
SCALE 1:10



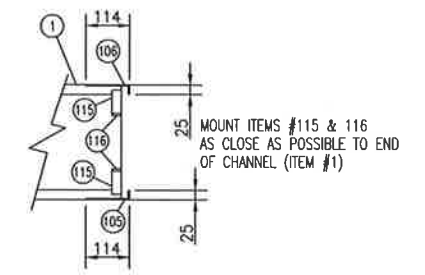
ALUMINUM WRAP AT SUPPORTS #1,3,&5
SCALE 1:10



ALUMINUM WRAP AT SUPPORT #2,4,&6
SCALE 1:10

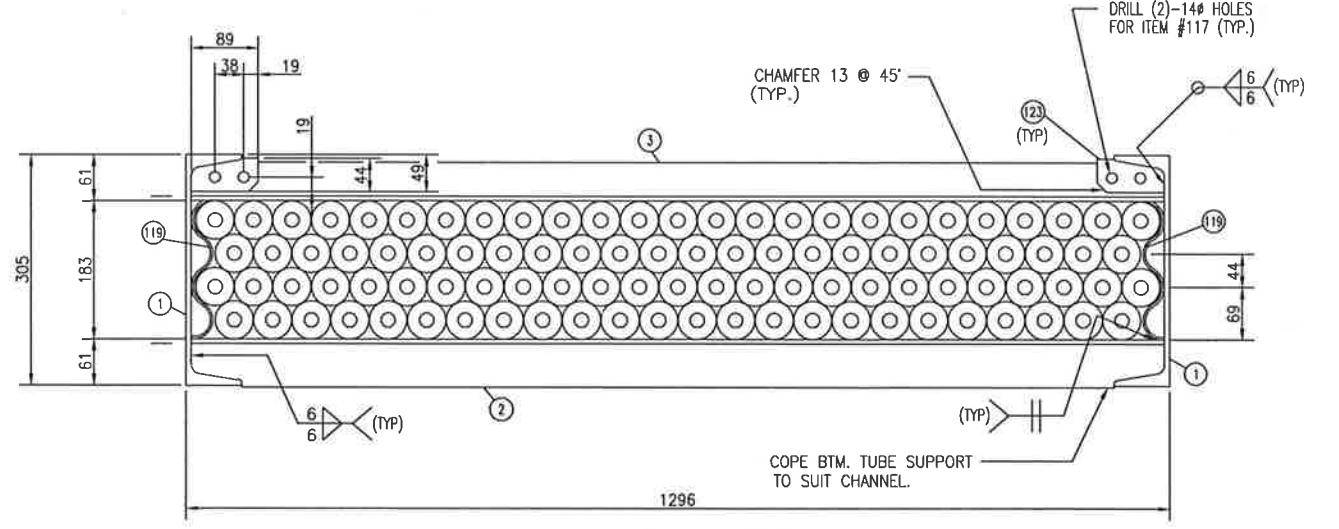


VIEW 'X'-'X'
SCALE 1:10



SECTION 'Z-Z'
SCALE 1:10

MOUNT ITEMS #115 & 116 AS CLOSE AS POSSIBLE TO END OF CHANNEL (ITEM #1)



SECTION 'Y'-'Y'
SCALE 1:5

COPE BTM. TUBE SUPPORT TO SUIT CHANNEL.

- SEE SHIT. 1 FOR GENERAL NOTES

GENERAL NOTES
DATE: 2000.05.17 3:59pm FILE NAME: J:\jobs99\DWG\99404\Clr\BDL-99404-235-02.dwg

GENERAL NOTES

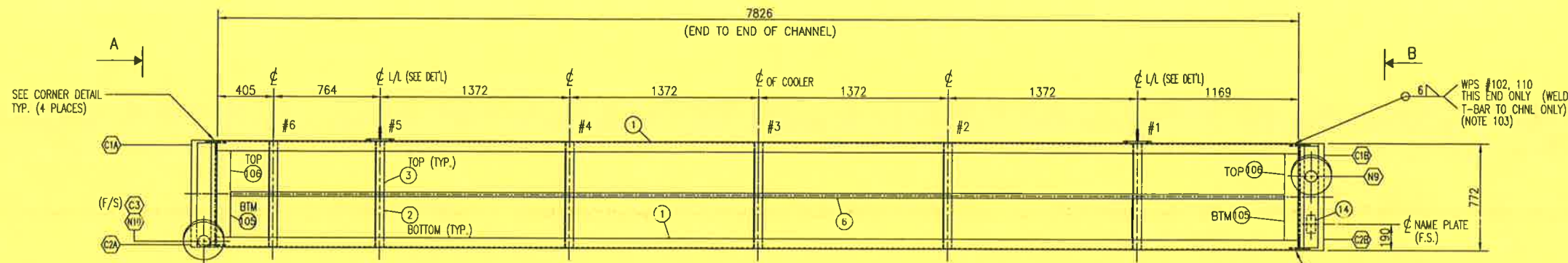
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2	RE-ISSUED FOR CONSTRUCTION	G. CHIN	00/05/17	J.D.fort.L.	PAUL C.
1	ISSUED FOR CONSTRUCTION	I.LEE	00/02/04	JIM.D	TRACY.K

APPROVED	BY	DATE	DRAWN	BY	DATE
MECH./STRUCT.	S. ISAACS	00/05/11	G. CHIN	G. CHIN	00/05/02
ELECTRICAL			CHECKED	I. LEE	00/05/11
PROJECT	P.CRAWFOR	00/05/11	DATE		
DATE			SCALE	AS NOTED	

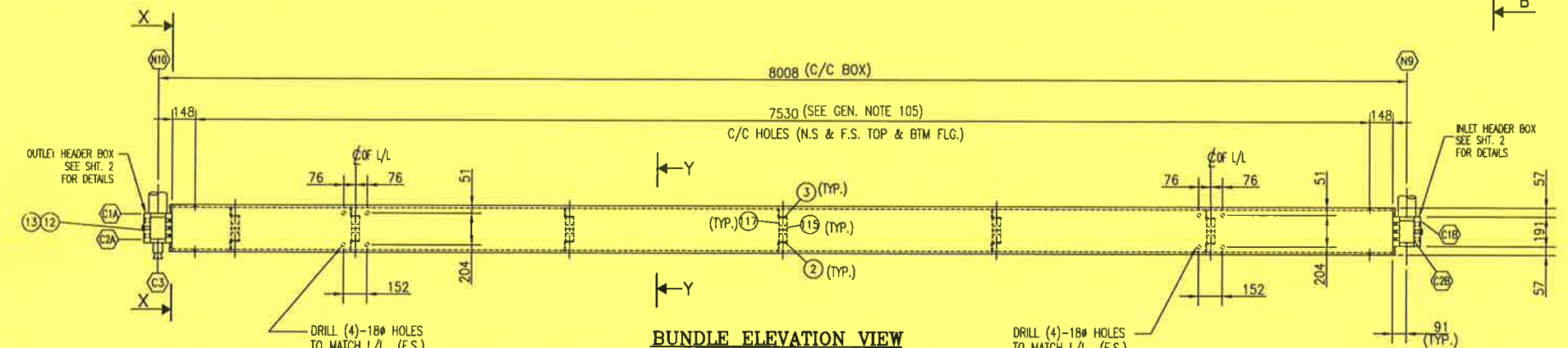
PROPAK SYSTEMS LTD.
STOCK 1480 HP COMPRESSOR, M/N W 1480, 6HOS-3
ENGINE JACKET WATER
AC-220
DWG. No.: D-BDL-99404-235 SHT. 2 OF 2 REV. 2

PROPAK
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

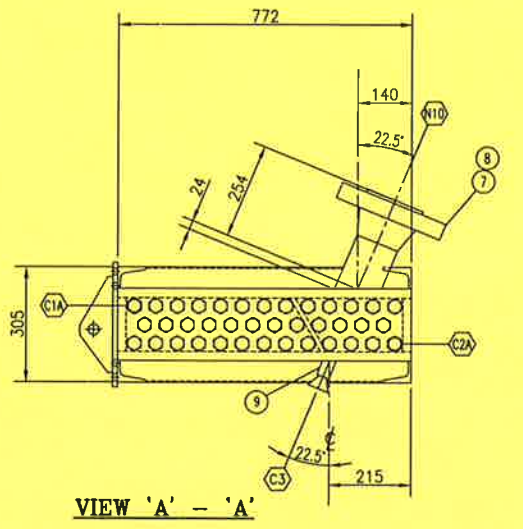
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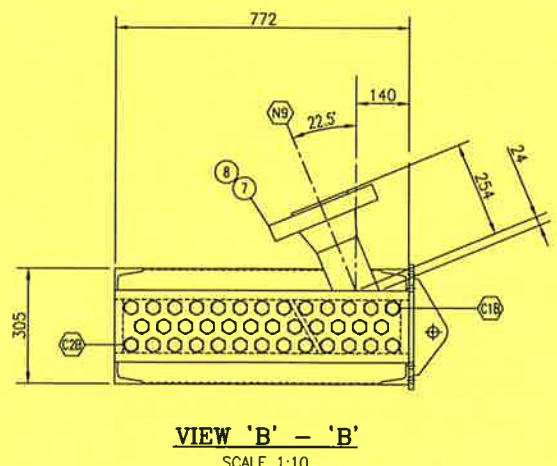
BUNDLE PLAN VIEW
SCALE 1:20



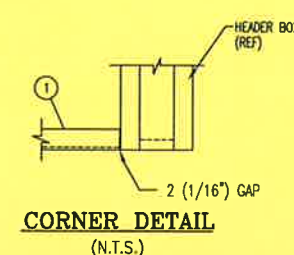
BUNDLE ELEVATION VIEW
SCALE 1:20



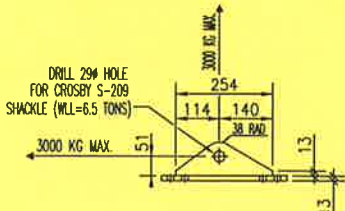
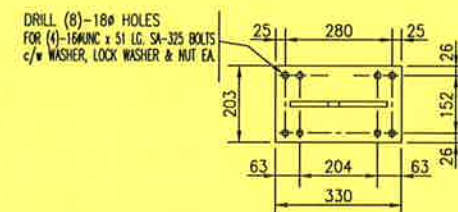
VIEW 'A' - 'A'
SCALE 1:10



VIEW 'B' - 'B'
SCALE 1:10



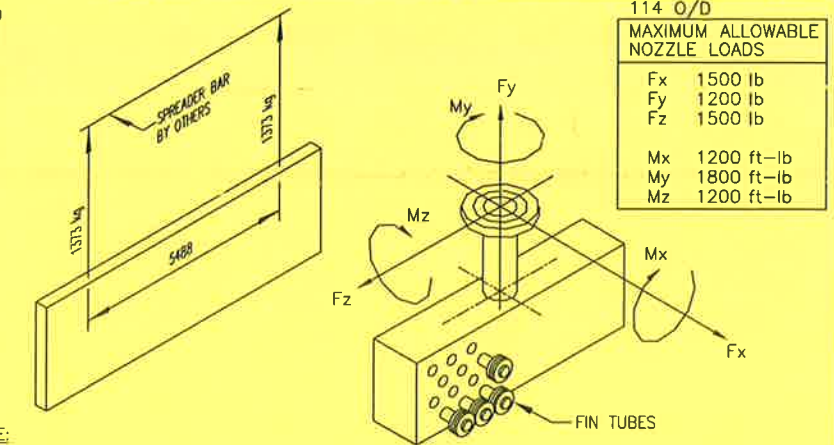
CORNER DETAIL
(N.T.S.)



REMOVABLE LIFTING LUG DETAIL
(2)-REQ'D.
(REUSEABLE)
SCALE 1:10

TRANSFER TO DWG.# D-BDL-00423-231 (SHT. 1)

NOZZLE SCHEDULE						
MK	SIZE	RATING	FACING	SCH	SERVICE	PROJ WELD
N9	114	900#	RFWN	XXH	INLET	254 2/3
N10	114	900#	RFWN	XXH	OUTLET	254 2/3
A/B	C1	29	SLDR PLUG	12UNF	VENT	-
A/B	C2	29	SLDR PLUG	12UNF	DRAIN	-
	C3	27	6000#	NPT	TC w/PLUG	1



NOTE:
WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 1830 KG.

LIFTING DIAGRAM
FOR AC-212

MATERIAL NOTES	
U.T. EXAMINATION REQUIRED IN STRICT ACCORDANCE WITH SA-435 ON A 51 mm (2") GRID AND SUPPLEMENTARY EXAMINATION TO SA-577.	
MATERIAL HARDNESS AFTER STRESS-RELIEVING (INCLUDING WELD METAL & HAZ) SHALL NOT EXCEED HRC-22	

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
1	2	SIDE CHANNELS: C310 Ø 31 kg/m x 7826 LG.	G40.21M-300W
2	6	BTM. TUBE SUP'T: L 64 x 64 x 6 THK. x 758 LG	G40.21M-300W
3	6	TOP TUBE SUP'T: L 64 x 64 x 6 THK. x 746 LG	G40.21M-300W
4			
5			
6	38	TUBES (SMLS): 25ø x 14 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINUM FIN	SA-179
		0.4 THK x 16 HIGH Ø 394 FINS/m, & 67mm STRIP BACK EACH END.	
7	2	FLG: 114 - 900# RFWN SCH XXH BORE	SA-105N
8	2	PIPE: (SMLS) 114 O/D x 17.12 W.T. x 160 LG (C.T.S.)	SA-106-B
9	1	CPLG: 27 - 6000# NPT c/w PLUG	SA-105N
10			
11			
12	76	GASKET: 35 (1 3/8") O/D x 29 (1 1/8") I/D x 1.59 (1/16") THK. MAX. 8HN 110	C1010/20
13	76	HEX STEEL SHOULDER PLUG: 29 (1 1/8") ø - (12 UNF) x 32 (1 1/4") LG.	SA-105N
14	1	NAME PLATE c/w MOUNTING BRACKET	SS/SA-36
15			
16			
17			
18			
19			
20			
21			

NOTE: THE FOLLOWING SUBSTITUTIONS ARE PERMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY:	0.123 m ³	SERIAL NO:	99404-231 CRN:	
SURFACE AREA OF TUBES INCLUDING FIN:	508.36 m ²	YEAR BUILT:	2000	
WEIGHT EMPTY:	1830 kg	LSD NO.:	-	
WEIGHT FULL OF WATER:	1953 kg	CODE:	ASME SECT VIII DIV I, '98, ADDENDA '99	
SURFACE PREPARATION:		MAX. DESIGN PRESSURE:	11377 kPag	
PRIMER:		DESIGN TEMP:	177 °C	
FINISH PAINT:	PNT 12	CORR. ALLOW:	3.18 mm	
INSULATION:	NONE	HYDROTEST:	17065 kPag	
PRODUCTION IMPACT TEST REQ'D:		MINM DESIGN METAL TEMP:	-28 °C	
MECH LOADINGS GOVERN PER UG 22:	NO		11377 kPag	
IMPACT TEST:	NO - PER UG20(f); UCS-66(a) UCS-66(c)	MATERIAL: HEADERS:	SA-516-70N	
		TUBES:	(SMLS) SA-179	
		RADIOGRAPHY:	N/A	
			EXCEPT FULL ON FLG/PIPE WELDS OF NOZZLE	
SHIP LOOSE:	NO	P.W.H.T.:	YES	
SERVICE:	NATURAL GAS	MINIMUM TEMP:	593 °C	
QWP: 590.2		FOR TIME:	1 Hr	
QCP: AQP-1050(S) : AQP-1227(S)				
TACK, PRES/STRUCT WELDS 102, 110				
STRUCT TO STRUCT WELDS 101, 109				

SADDLED COUPLING	NOZZLE ABUTTED	PIPE TO FLANGE/FITTING
1. WPS# 102, 108, 110	2. WPS# 102, 108, 110	3. GMAW ROOT PASS

GENERAL NOTES	
101. ALL WELDING INCLUDING THE SLIDE T-BAR SHOULD BE COMPLETED AND ALL PILOT HOLES SHOULD BE DRILLED BEFORE THE HEADER BOX IS STRESS-RELIEVED.	104. REMOVE ALL SHARP EDGES AND BURRS.
102. TUBE & PLUG SHEET HOLES SHOULD BE FINISHED ONLY AFTER STRESS-RELIEVING.	105. ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.
103. AFTER STRESS-RELIEVING, THERE SHOULD BE NO WELDING ON THE HEADER BOXES. THE INLET HEADER BOX CAN BE WELDED INTO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE T-BAR (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE OUTLET HEADER BOX. IT SHOULD BE FREE TO SLIDE.	106. MAG-PARTICLE REQUIRED ON PLATE EDGE PREPARATIONS AND PERIPHERAL EDGES BOTH BEFORE & AFTER WELDING PER UG-93(d).4.

No.	REVISION	BY	DATE	CKD	ENG
3	TRANSFER TO JOB #00423	G. CHIN	10/05/11	J.D.	PAUL C.
2	RE-ISSUED FOR CONSTRUCTION	G. CHIN	00/05/17	J.D.	PAUL C.
1	ISSUED FOR CONSTRUCTION	LEE	00/02/04	JIM.D	TRACY.K

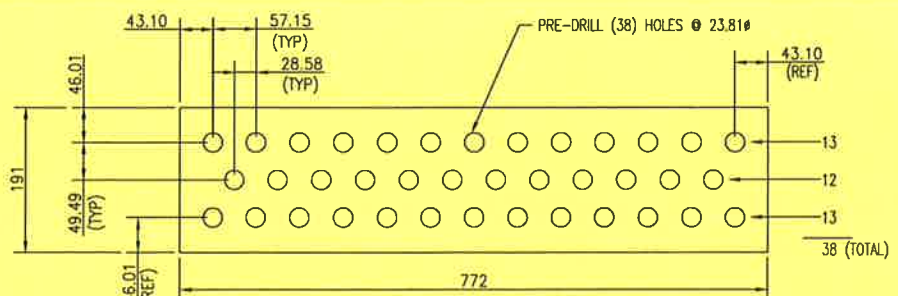
APPROVED		DRAWN	
MECH./STRUCT. SIS/MS	DATE 00/05/11	BY G. CHIN	DATE 00/04/27
ELECTRICAL	DATE	BY D. PARTIBLE	DATE 00/05/11
PROJECT P.CRAWFORD	DATE 00/05/11	SCALE AS NOTED	

PROPAC SYSTEMS LTD.
1480 HP STOCK COMPRESSOR, M/N W 1480, 6HOS-3
3rd STAGE GAS AFTERCOOLER
AC-212

DWG. No.: D- BDL-99404-231 SHT. 1 OF 2 REV. 3

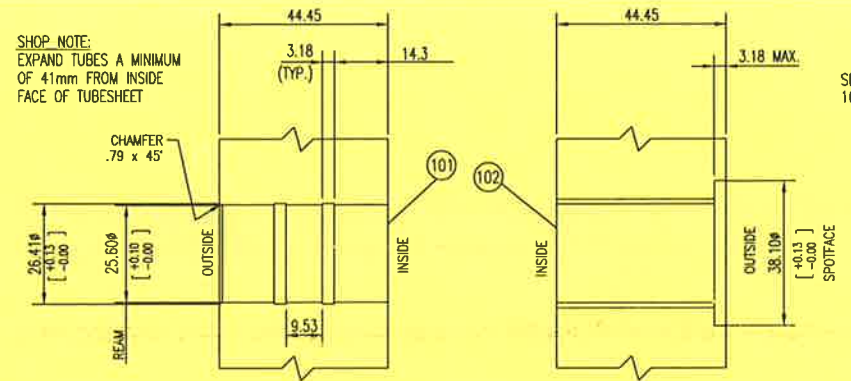
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

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TUBESHEET/PLUGSHEET LAYOUT
SCALE 1:5

⑩ (2)-TUBESHEETS REQUIRED ⑪ (2)-PLUGSHEETS REQUIRED

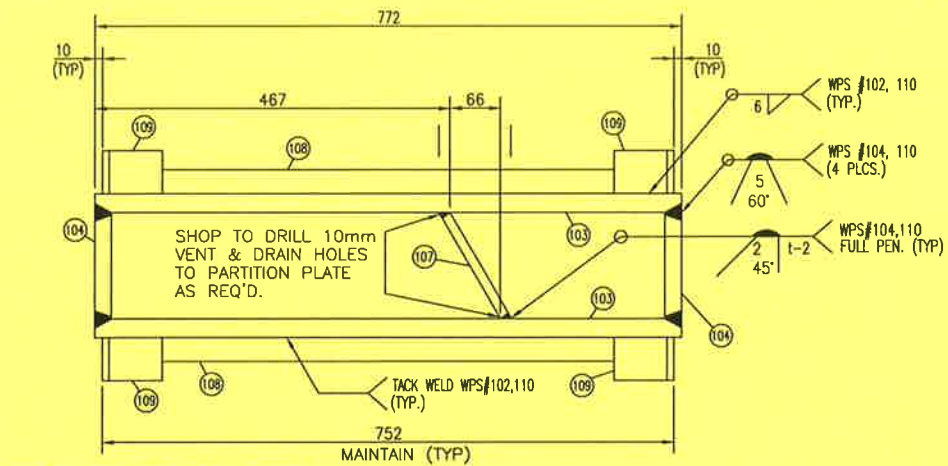
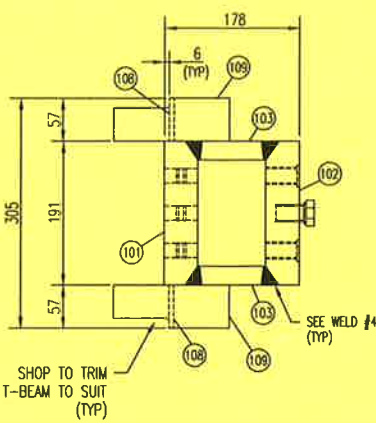


TUBESHEET HOLES
SCALE 1:1

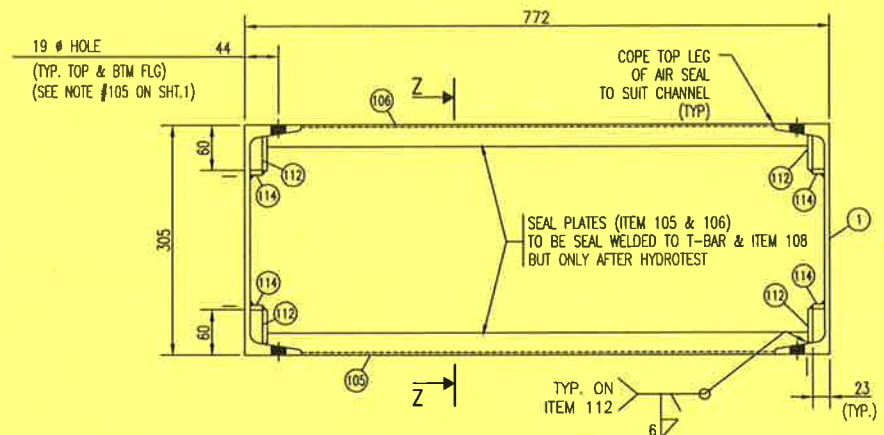
PLUGSHEET HOLES
SCALE 1:1

CORE DRILL 26.29 (1.035") Ø
(TAP 1.125"-12 UNF 2B)
RECOMMENDED INSTALLATION TORQUE
ON EACH HEX HEAD SHOULDER PLUG: 300 FT-LB
"KOPR-KOTE ANTI-SEIZE COMPOUND TO
BE USED AS A THREAD LUBRICANT."

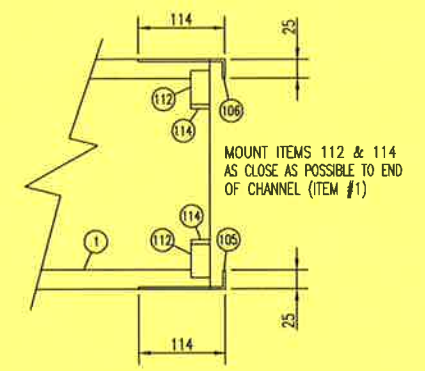
BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
101	2	TUBESHEET - PLATE: 44.45 THK. x 191 DEEP x 772 LG.
102	2	PLUGSHEET - PLATE: 44.45 THK. x 191 DEEP x 772 LG.
103	4	PLATE: 25.4 THK. x 79 WD. x 772 LG.
104	4	PLATE: 22.23 THK. x 79 WD. x 130 LG.
105	2	BTM. AIR SEAL: PRE-FORMED ANGLE: 3 THK x 25 x 114 x 730 LG [SEE DETAIL]
106	2	TOP AIR SEAL: PRE-FORMED ANGLE: 3 THK x 25 x 114 x 730 LG [SEE DETAIL]
107	2	PLATE: 13 THK. x 89 x 155 LG.
108	4	FLAT BAR: 3 THK. x 38 x 590 LG.
109	8	WT 75 x 15 kg/m x 57 LG.
110		
111	12	FLAT BAR: 6 THK. x 89 x 44 LG.
112	4	FLAT BAR: 6 THK. x 25 x 45 LG.
113		
114	4	FLAT BAR: 6 THK. x 25 x 16 LG.
115	12	FLAT BAR: 3 THK. x 51 x 300 LG. (C.T.S.)
116	24	M/C BOLTS 13 # UNC x 38 LG. c/w WASHER, LOCK WASHER & NUT EA. (ZINC COATED)
117	18	ALUMINUM WRAP: 38 WD x 24 Go. x 1200 (C.T.S.)



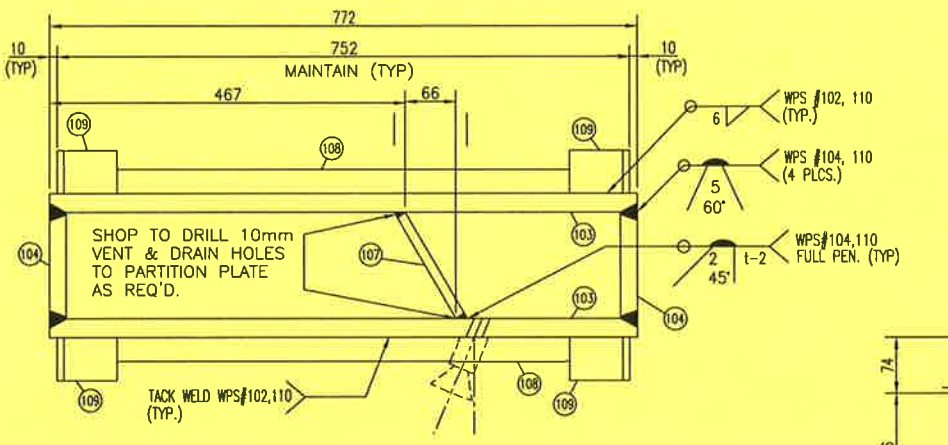
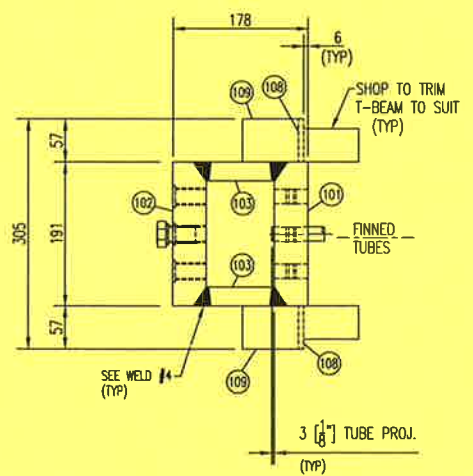
**INLET HEADER BOX DETAIL
(VIEWED FROM PLUG SIDE)**
SCALE 1:5



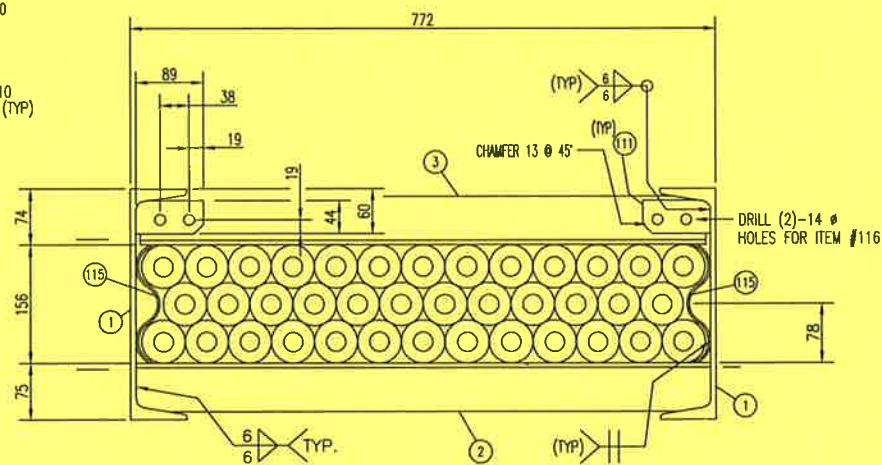
VIEW 'X'-X'
SCALE 1:5



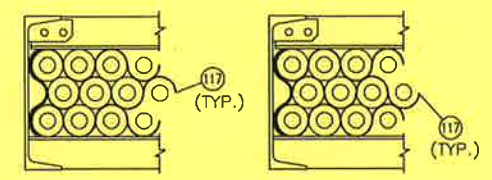
SECTION 'Z-Z'
SCALE 1:5



**OUTLET HEADER BOX DETAIL
(VIEWED FROM PLUG SIDE)**
SCALE 1:5

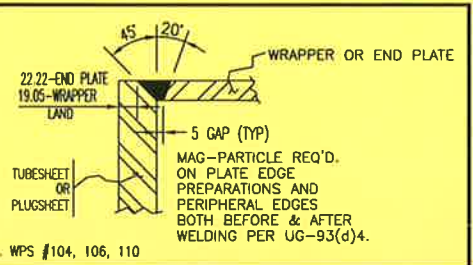


SECTION 'Y'-Y'
SCALE 1:5



ALUMINUM WRAP AT SUPPORTS #1, #3 & #5
SCALE 1:7.5

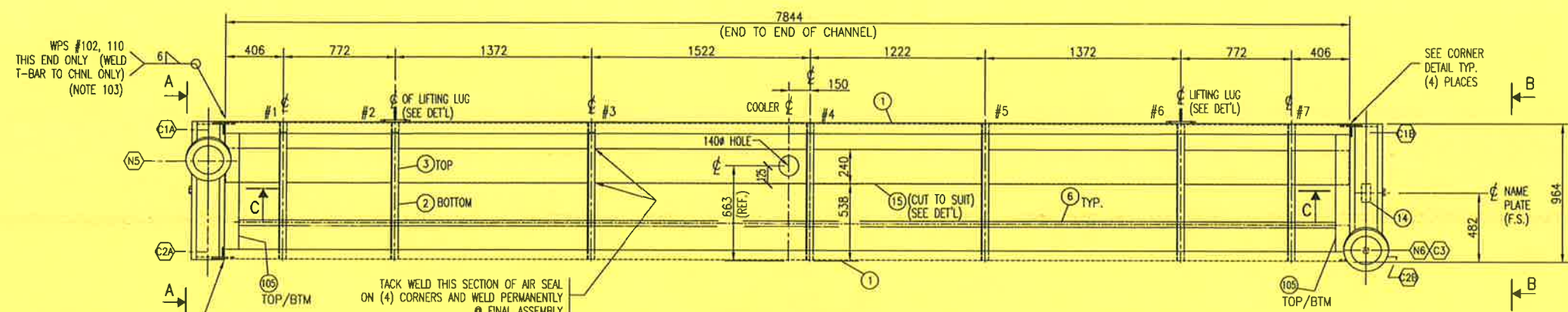
ALUMINUM WRAP AT SUPPORT #2, #4 & #6
SCALE 1:7.5



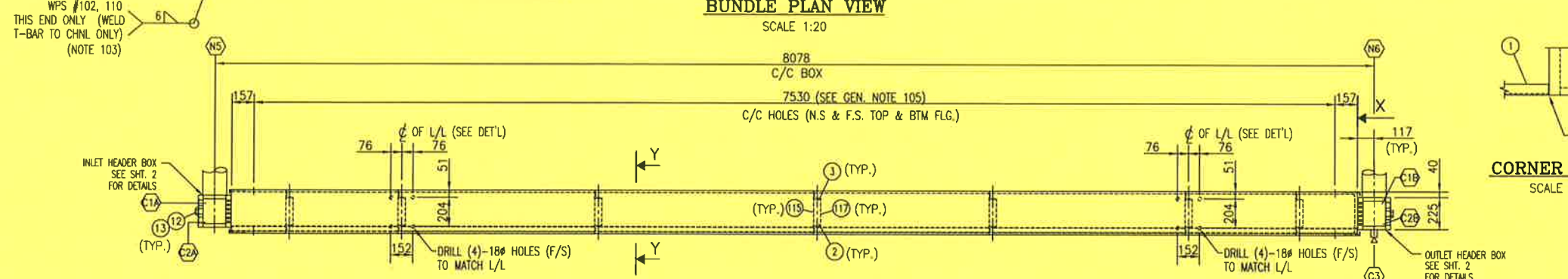
TRANSFER TO DWG.# D-BDL-00423-231 (SHT. 2)

GENERAL NOTES		REVISION		APPROVED		DRAWN		PROPAG SYSTEMS LTD.	
- SEE SHT. 1 FOR GENERAL NOTES & MATERIAL NOTES		No.	REVISION	BY	DATE	BY	DATE	440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3	
DATE: 2000.10.04 11:09am FILE NAME: J:\jobs99\DWG\99404\Cir\BDL-99404-231-02.dwg		3	TRANSFER TO JOB #00423	G. CHIN	00/05/11	G. CHIN	00/04/26	1480 HP STOCK COMPRESSOR, M/N W 1480 6HOS-3 3rd STAGE GAS AFTERCOOLER (AC-212)	
		2	RE-ISSUED FOR CONSTRUCTION	G. CHIN	00/05/17	D. PARTIBLE	00/05/11	DWG. No.: D-BDL-99404-231 SHT. 2 OF 2	
		1	ISSUED FOR CONSTRUCTION	LLEE	00/02/04	J.M.D	TRACY.K	REV. 3	

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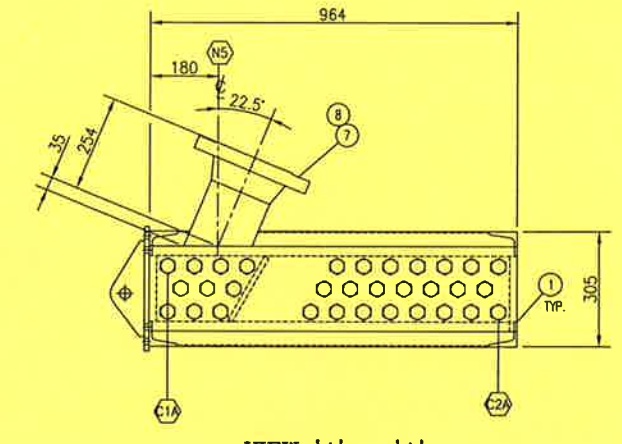


BUNDLE PLAN VIEW
SCALE 1:20

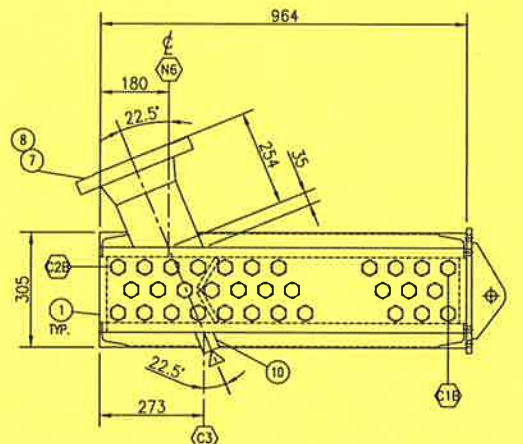


BUNDLE ELEVATION VIEW
SCALE 1:20

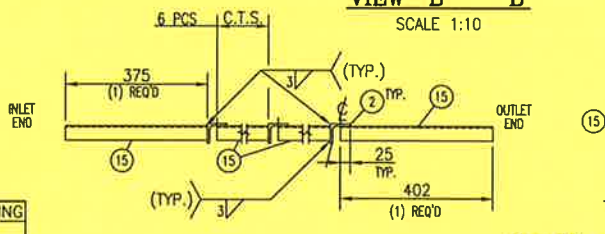
CORNER DETAIL
SCALE 1:10



VIEW 'A' - 'A'
SCALE 1:10



VIEW 'B' - 'B'
SCALE 1:10

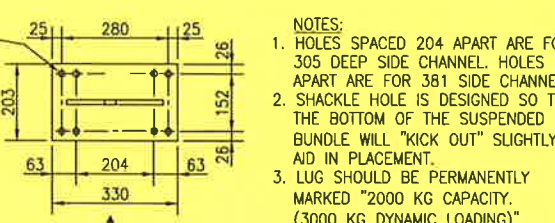


VIEW 'C' - 'C'
SCALE 1:10

SHAFT AIRSEAL ITEM #15 DETAIL
(MAKES 8 PCS. CUT TO SUIT)
SCALE 1:20

TRANSFER TO DWG.# D-BDL-00423-233 (SHT. 1)

DRILL (8)-18# HOLES FOR (4)-16MM x 51 LG. SA-305 BOLTS c/w WASHER, LOCK WASHER & NUT EA



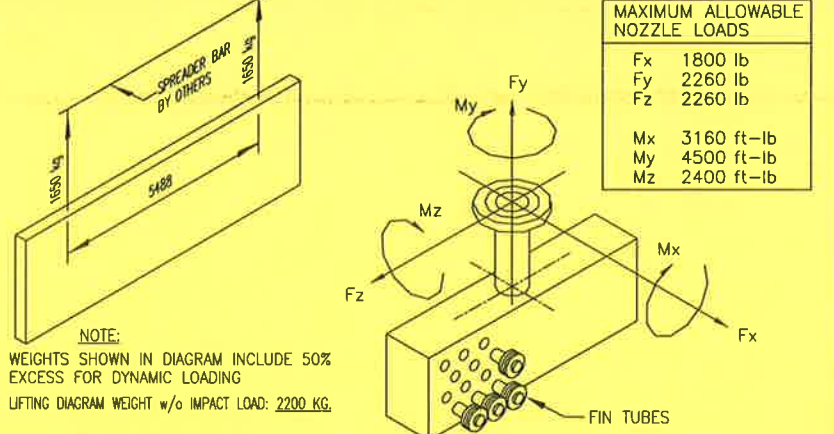
REMOVABLE LIFTING LUG DETAIL (REUSABLE)
(2)-REQ'D.
SCALE 1:10

- NOTES:**
- Holes spaced 204 apart are for 305 DEEP SIDE CHANNEL. HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
 - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
 - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".
 - ALWAYS USE 2 LUGS FOR LIFTING.
 - A SPREADER BAR IS REQ'D. TO ENSURE STRAIGHT UP LIFT.
 - ALL MATERIALS SA-36.

MATERIAL NOTES

- U.T. EXAMINATION REQUIRED IN STRICT ACCORDANCE WITH SA-435 ON A 51 mm (2") GRID AND SUPPLEMENTARY EXAMINATION TO SA-577.
- MATERIAL HARDNESS AFTER STRESS-RELIEVING (INCLUDING WELD METAL & HAZ) SHALL NOT EXCEED HRC-22

NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	EXT. PROJ	WELD		
N5	168	300#	RFWN	160	INLET	254	2/3		
N6	168	300#	RFWN	160	OUTLET	254	2/3		
A/B	C1	41	SHDR PLUG	12UN	VENT w/ PLUG	-	-		
A/B	C2	41	SHDR PLUG	12UN	DRAIN w/ PLUG	-	-		
A/B	C3	27	6000#	NPT	TC c/w PLUG	-	1		



NOTE:
WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2200 KG.

LIFTING DIAGRAM
FOR AC-210

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
1	2	SIDE CHANNELS: C310 @ 31 kg/m x 7844 LG.	G40.21M-300W
2	7	BTM. TUBE SUP'T: L 51 x 51 x 6 THK. x 950 LG.	G40.21M-300W
3	7	TOP TUBE SUP'T: L 51 x 51 x 6 THK. x 938 LG.	G40.21M-300W
4			
5			
P 6	32	TUBES (SMLS): 38# x 16 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINIUM FINES 0.4 THK x 16 HIGH @ 394 FINS/m & 57mm STRIP BACK EACH END.	SA-179
7	2	FLG: 168 - 300# RFWN SCH 160 BORE	SA-105N
8	2	PIPE: (SMLS) 168 O/D x 18.26 W.T. x 216 LG (CTS)	SA-106-B
9			
10	1	CPLG: 27 - 6000# NPT c/w PLUG	SA-105N
11			
P 12	64	GASKET: 48 (1 7/8" O/D x 41 (1 5/8" I/D x 1.58 (1/16" THK MAX. BHN 110 C1010/20	
P 13	64	HEX STEEL SHOULDER PLUG: 41 (1 5/8" Ø - (12 UN) x 35 (1 3/8" LG.	SA-105N
14	1	NAME PLATE c/w MOUNTING BRACKET	SS/SA-36
15	1	SHAFT AIR SEAL: FORMED ANGLE PLATE: 3 THK. x 240 x 38 x 7700 LG. (CTS)	SA-36

NOTE: THE FOLLOWING SUBSTITUTIONS ARE PERMITTED (THE OPPOSITE NOT ALLOWED)
SA-350-LF2 for SA-105, SA-333-Gr6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY:	0.29	m ³	SERIAL NO: 99404-233 CRN:	YEAR BUILT: 2000
SURFACE AREA OF TUBES INCLUDING FINES:	564	m ²	LSD NO.:	-
WEIGHT EMPTY: (SEE NOTE #106)	2200	kg	CODE:	ASME SECT VIII DIV I, '98, ADDENDA '99
WEIGHT FULL OF WATER:	2490	kg	MAX. DES. PRES.:	4447 kPag
SURFACE PREPARATION:			DESIGN TEMP:	176 °C
PRIMER:	PNT 12		CORR. ALLOW:	3.18 mm
FINISH PAINT:			HYDROTEST:	6670 kPag
INSULATION:	NONE		MDMT:	-28 °C
PROD. IMPACT TEST REQ'D:	NO			4447 kPag
MECH. LOADS GOV. PER UG22:	NO		MATERIAL: HDR BOXES:	SA-516-70N
			TUBES:	(SMLS) SA-179
IMPACT TEST:	NO - PER U020(f) UCS-66(a); UCS-66(c)		RADIOGRAPHY:	N/A EXCEPT FULL ON FLG/PIPE WELDS ON NOZZLE
SHIP LOOSE:	NO		P.W.H.T.:	YES
SERVICE:	NATURAL GAS		MINIMUM TEMP:	594 °C
QWP: 590.2			FOR TIME:	1 Hr
QCP: AQP-1050(S) : AQP-1227(S)			MATERIAL HARDNESS AFTER STRESS-RELIEVING (INCLUDING WELD METAL AND HAZ)	SHALL NOT EXCEED HRC-22
TACK, PRES/STRUCT WELDS 102, 110				
STRUCT TO STRUCT WELDS 101, 109				

SADDLED COUPLING	NOZZLE ABUTTED	PIPE TO FLANGE/FITTING
1. WPS# 102,108,110	2. WPS# 102,108,110	3. WPS# 104,106,110

GENERAL NOTES		GENERAL NOTES	
101. ALL WELDING INCLUDING SLIDE T-BAR SHOULD BE COMPLETED, AND ALL PILOT HOLES SHOULD BE DRILLED BEFORE THE HEADER BOX IS STRESS-RELIEVED.	104. REMOVE ALL SHARP EDGES & BURRS.	105. ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.	106. WEIGHT ACCOUNT FOR POSSIBLE CHANGE TO 14 B.W.G. TUBES.
102. TUBE AND PLUG SHEET HOLES SHOULD BE FINISHED ONLY AFTER STRESS-RELIEVING.	107. MAG-PARTICLE REQUIRED ON PLATE EDGE PREPARATIONS AND PERIPHERAL EDGES BOTH BEFORE & AFTER WELDING PER UG-93(d).	103. AFTER STRESS-RELIEVING, THERE SHOULD BE NO WELDING ON THE HEADER BOXES. THE INLET HEADER BOX CAN BE WELDED INTO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE T-BAR (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE OUTLET HEADER BOX. IT SHOULD BE FREE TO SLIDE.	

No.	REVISION	BY	DATE	CKD	ENG
3	TRANSFER TO JOB #00423	ILEE	00/10/06		
2	RE-ISSUED FOR CONSTRUCTION	ILEE	00/05/17	JIM D.	PAUL C.
1	ISSUED FOR CONSTRUCTION	ILEE	00/02/04	JIM D.	TRACY K.

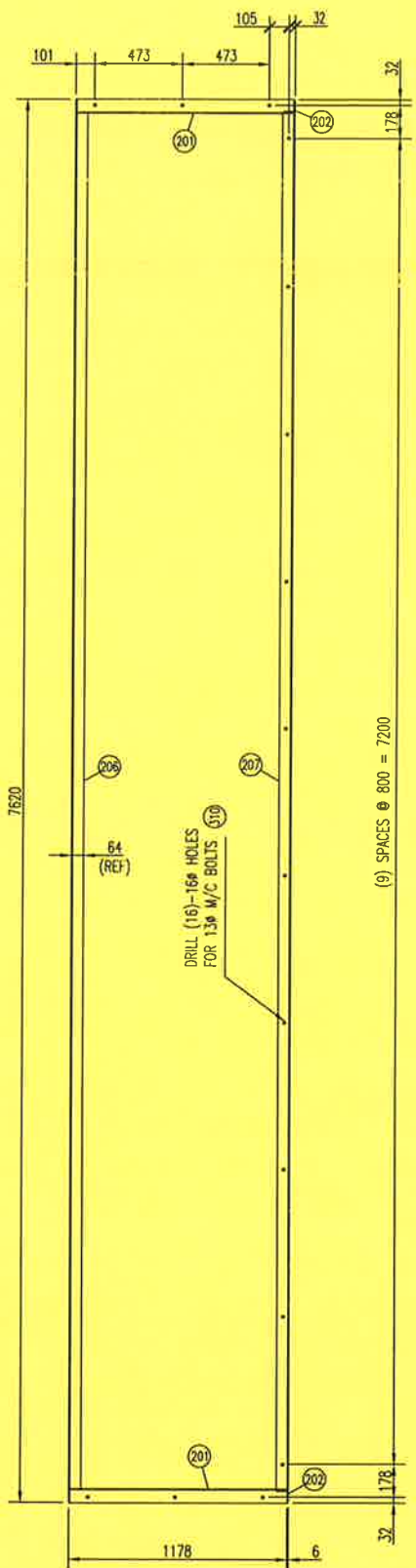
APPROVED		DRAWN	
MECH./STRUCT. S. ISAACS	BY	L.B./I.LEE	DATE
DATE 00/05/11	DATE	00/05/03	
ELECTRICAL	BY	CHECKED	
DATE	BY	J. DELORME	
PROJECT P.CRAWFORD	DATE	00/05/11	
DATE 00/05/11	SCALE	AS NOTED	

PROPAC SYSTEMS LTD.
440 East Lake Road, Postal Bag #2, Airdrie, Alberta Canada T4B 2C3

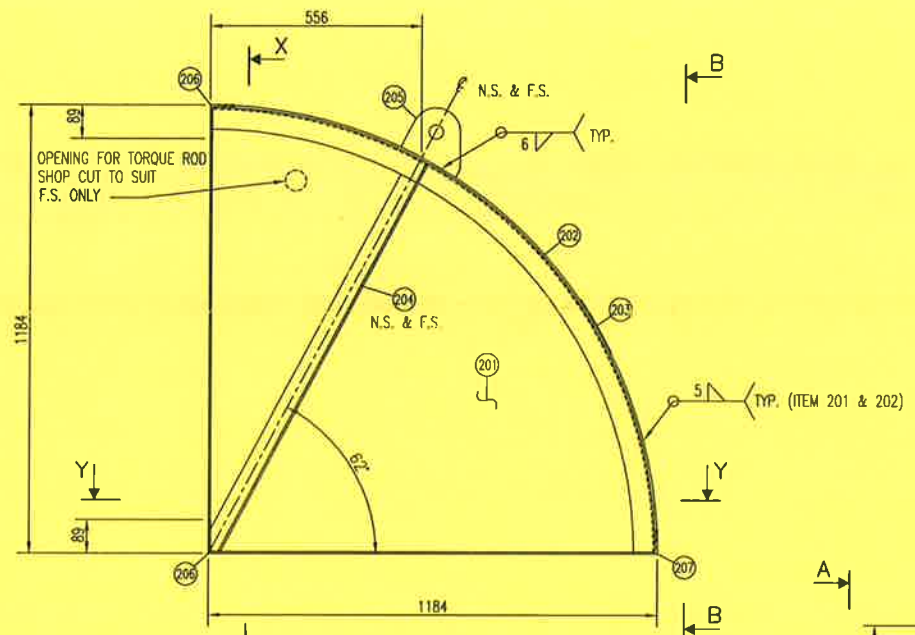
STOCK 1480 HP COMPRESSOR, M/N W 1480, 6HOS-3
1st STAGE INTERCOOLER
AC-210

DWG. No.: D-BDL-99404-233 SHT. 1 OF 2 REV. 3

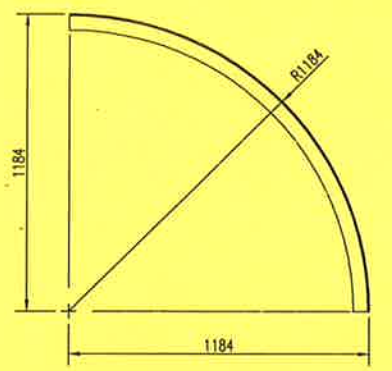
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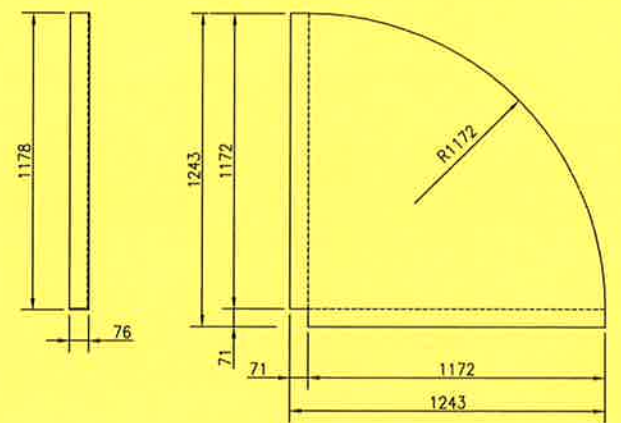
SECTION 'Y-Y'
SCALE: 1:20



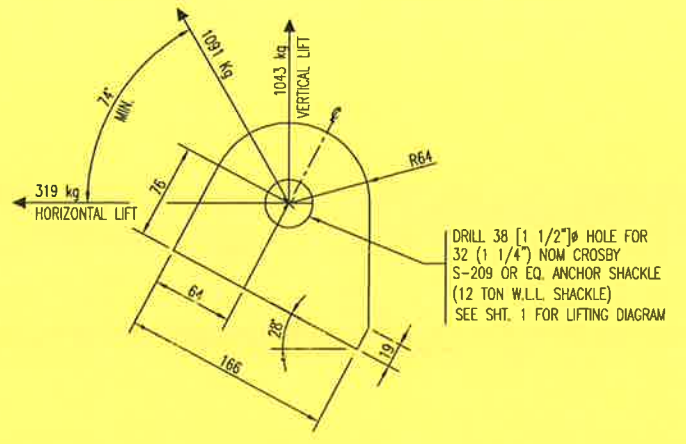
VIEW 'A-A'
SCALE: 1:10



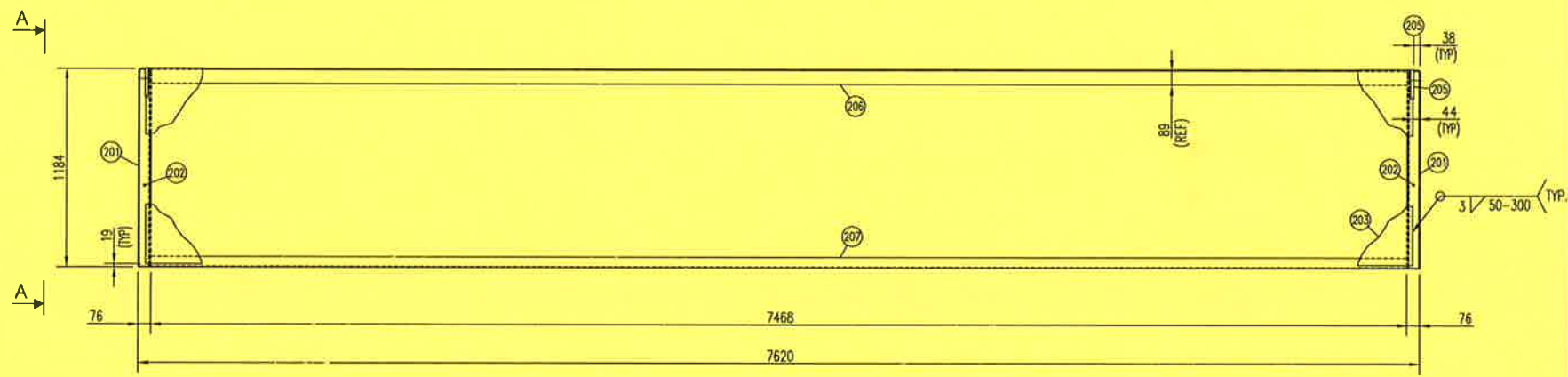
ITEM #202 DETAIL
(1) REQUIRED AS SHOWN
(1) REQUIRED OPPOSITE HAND
SCALE: 1:15



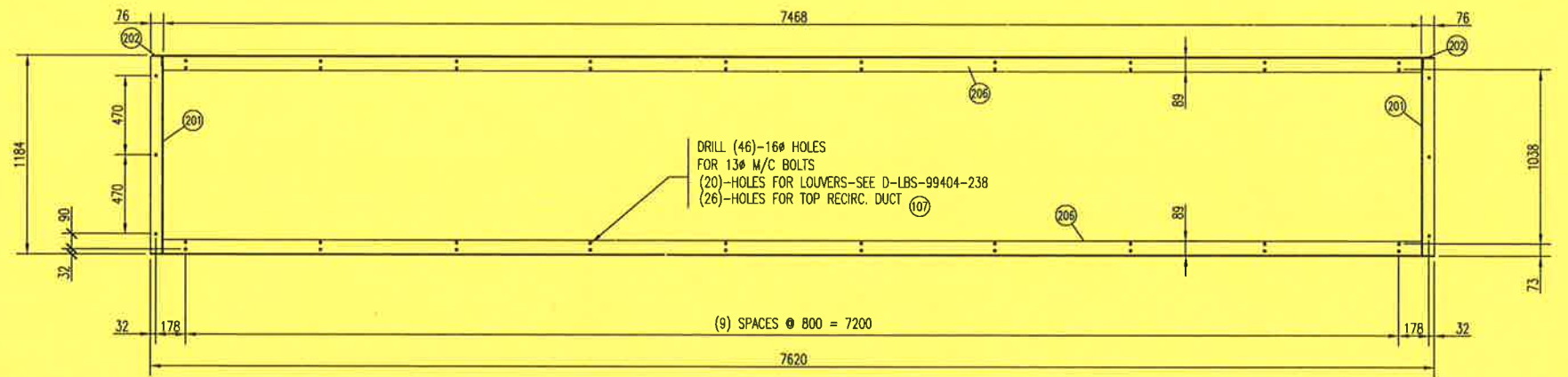
ITEM #201 DETAIL
(1) REQUIRED AS SHOWN
(1) REQUIRED OPPOSITE HAND
SCALE: 1:15



LIFT. LUG DETAIL (205)
(2) REQUIRED
SCALE 1:3



VIEW 'B-B'
SCALE: 1:20



SECTION 'X-X'
SCALE: 1:20

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
P 201	2	PRE-FORMED PLATE: 5 THK X 1243 SQ. (CUT & BEND TO SUIT) (SEE DETAIL), (1) REQ'D OPPOSITE HAND	SA-36
P 202	2	ANGLE: 64 x 64 x 6 x 2260 LG (ROLL TO 1184 O/R TOE-IN) C.T.S. (SEE DETAIL), (1) REQ'D OPPOSITE HAND	G40.21M-300W
203	1	PLATE: 3 THK. x 1827 x 7532 LG (ROLL HARD WAY TO 1184 I/R)	SA-36
204	2	ANGLE: 51 x 51 x 6 x 1172 LG (C.T.S.)	G40.21M-300W
205	2	PLATE: 13 THK. x 166 x 140 LG. (C.T.S.) SEE DETAIL.	SA-36
206	2	ANGLE: 89 x 64 x 6 x 7468 LG	G40.21M-300W
207	1	ANGLE: 64 x 64 x 6 x 7468 LG	G40.21M-300W
208			
209			

1. SEE SHT. 1 FOR GEN. NOTES.
2. ROLL RECIRC. DUCTING WEIGHT IS APPROX.: 790 KGS

GENERAL NOTES
1 ISSUED FOR CONSTRUCTION

NO.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	BRAGINSKY	00/10/10	DP	JV

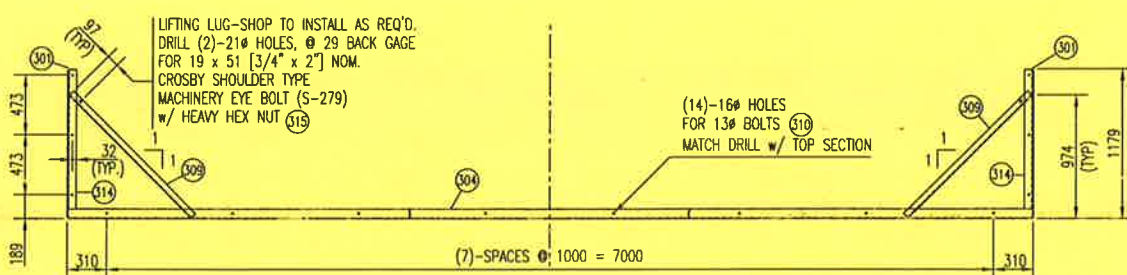
APPROVED		DRAWN	
MECH./STRUCT.	BY: <i>[Signature]</i>	BY: I. BRAGINSKY	DATE: 00/09/29
ELECTRICAL	DATE: <i>[Signature]</i>	CHECKED	
DATE	BY: D. PARTIEN	DATE	00/10/10
PROJECT	DATE	SCALE	AS NOTED
DATE	00/10/10		

APACHE CANADA LTD.
1478 HP HAMBURG COMPRESSOR PACKAGE
AERIAL COOLER-ROLL RECIRC. DUCTING
MDL: 1SV1-156-312-F

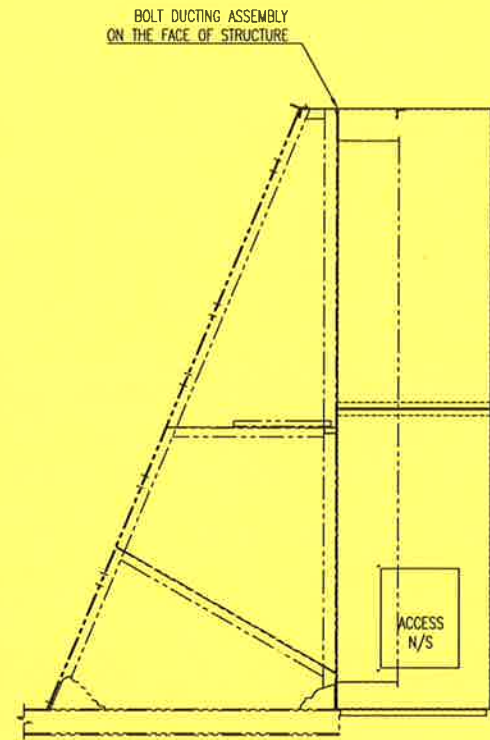
PROPAC
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

DWG. No.: D-DCT-99404-236 SHT. 2 OF 3 REV. 1

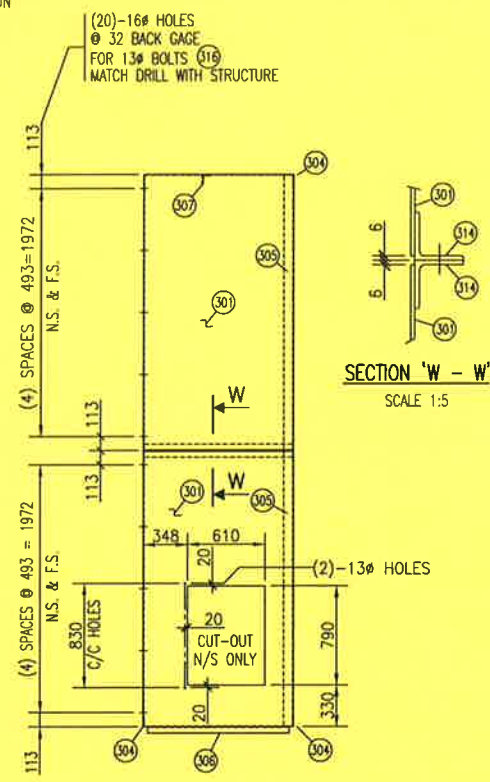
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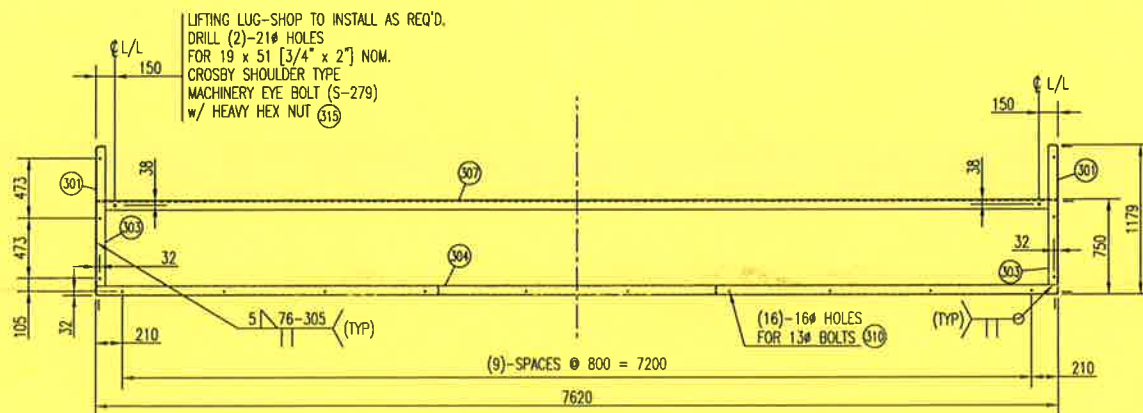
SECTION 'Y - Y'
LOWER SECTION
SCALE 1:30



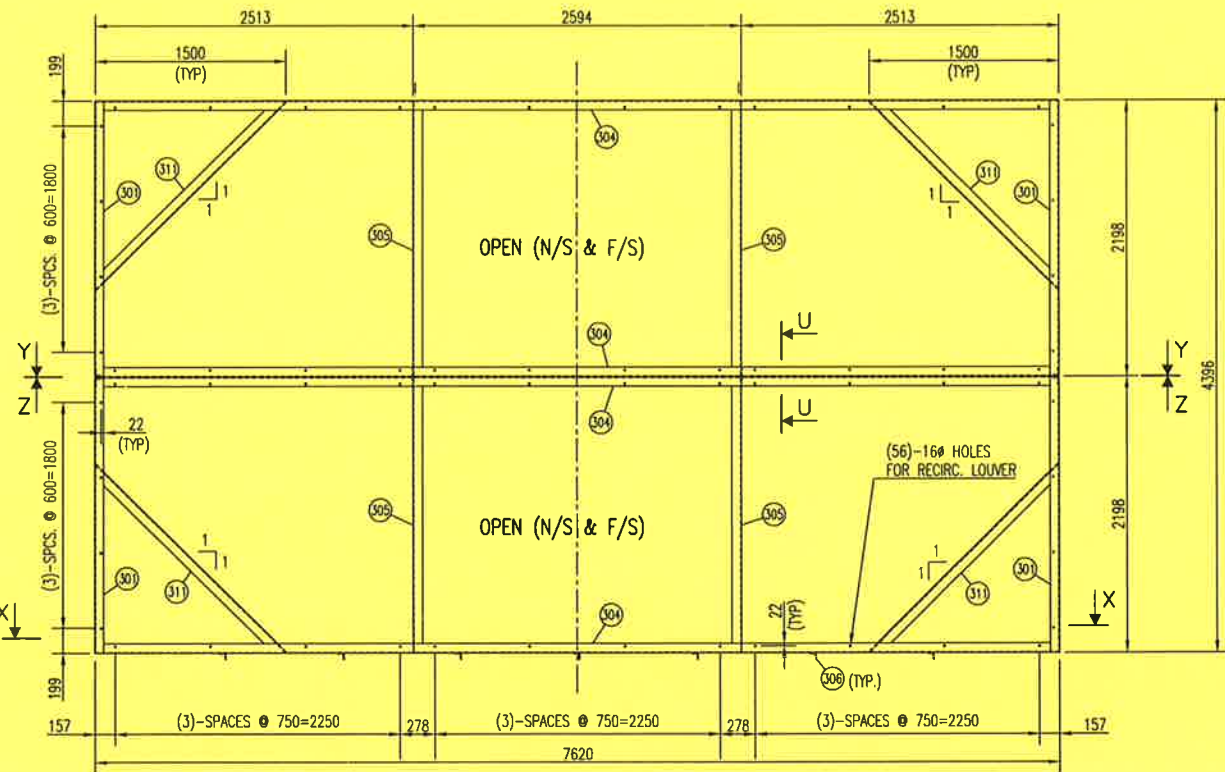
DUCTING ATTACHMENT DETAIL



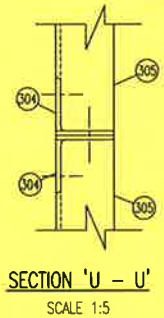
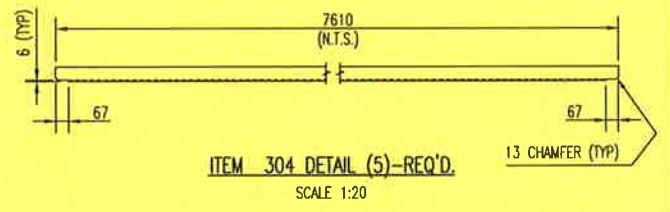
SECTION 'W - W'
SCALE 1:5



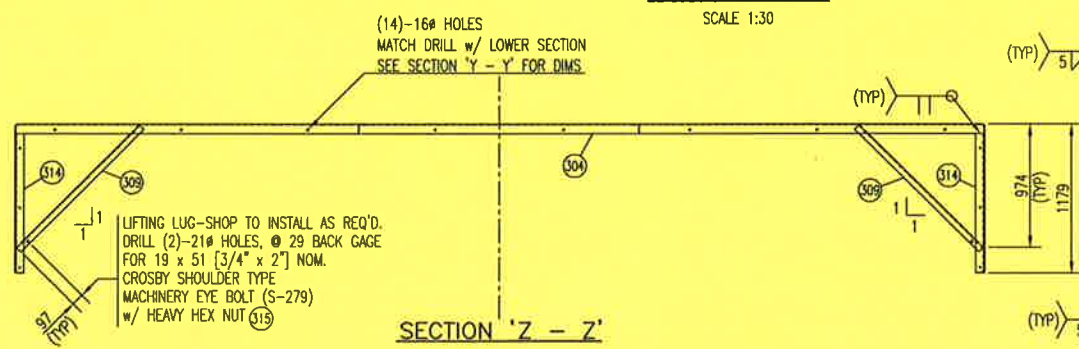
PLAN VIEW
SCALE 1:30



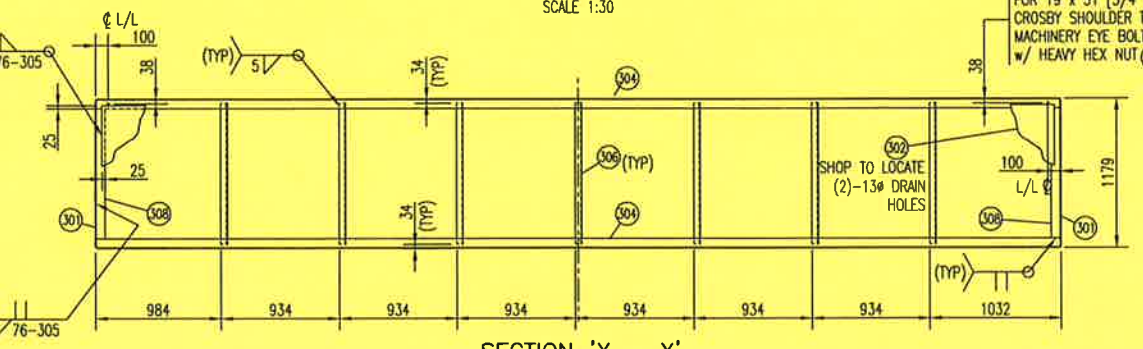
ELEVATION VIEW
SCALE 1:30



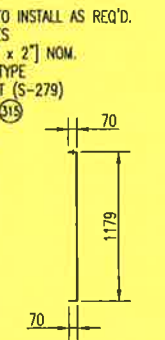
SECTION 'U - U'
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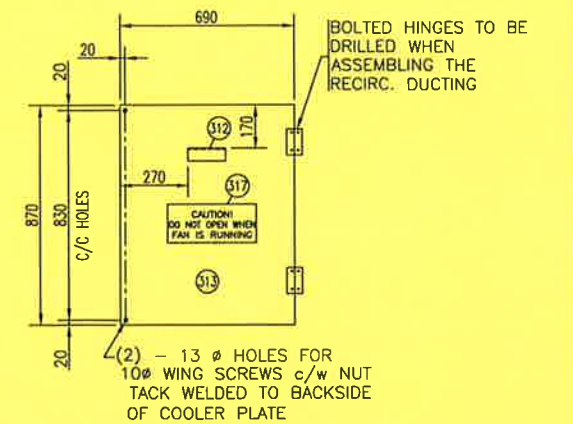
SECTION 'Z - Z'
TOP SECTION
SCALE 1:30



SECTION 'X - X'
SCALE 1:30



ITEM 301 SECTION
SCALE 1:30



ACCESS OPENING COVER
SCALE 1:15

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
301	4	PRE-FORMED CHNL. PLATE 1179 DEEP x 70 TOP & BOTTOM FLG. x 5 THK x 2192 LG. (SEE DETAIL)	SA-36
302	1	PLATE: 5 THK x 1077 WD. x 7508 LG.	SA-36
303	2	FLAT BAR: 6 THK x 76 x 1096 LG.	G40.21M-300W
304	5	ANGLE: 76 x 76 x 6 x 7610 LG (SEE DETAIL)	G40.21M-300W
305	4	ANGLE: 76 x 76 x 6 x 2186 LG	G40.21M-300W
306	7	ANGLE: 51 x 51 x 6 x 1111 LG	G40.21M-300W
307	1	ANGLE: 76 x 76 x 6 x 7610 LG	G40.21M-300W
308	2	FLAT BAR: 6 THK x 76 x 1027 LG	G40.21M-300W
309	4	ANGLE: 51 x 51 x 6 x 1370 LG	G40.21M-300W
310	30	M/C BOLT: 13 # x 38 LG c/w (1) WASHER, LOCK WASHER & HEX NUT EA. (ZINC PLATED)	SA-325
311	4	ANGLE: 76 x 76 x 6 x 2114 LG	G40.21M-300W
312	1	ANGLE: 51 x 51 x 6 x 150 LG	G40.21M-300W
313	1	PLATE: 3 THK x 690 x 870 LG.	SA-36
314	4	ANGLE: 64 x 64 x 6 x 1086 LG	G40.21M-300W
315	8	CROSBY MACHINERY EYE BOLT: 19# x 51 MOL S-279 (WLL=7200) c/w HEAVY HEX NUT & WASHER	ASI-1035
316	20	M/C BOLT: 13 # x 44 LG c/w (1) WASHER, LOCK WASHER & HEX NUT EA. (ZINC PLATED)	SA-325
317	1	LAMACOID: 152 WD. x 350 LG. w/ WHITE LETTERING 25mm HEIGHT & RED BACKGROUND	

1. SIDE RECIRC. DUCTING WEIGHT IS APPROX: 1500 KGS.

DATE: 2000.10.06 10:55am FILE NAME: J:\jobs99\DWG\99404\Cir-client changes\DCT-99404-236-03.dwg

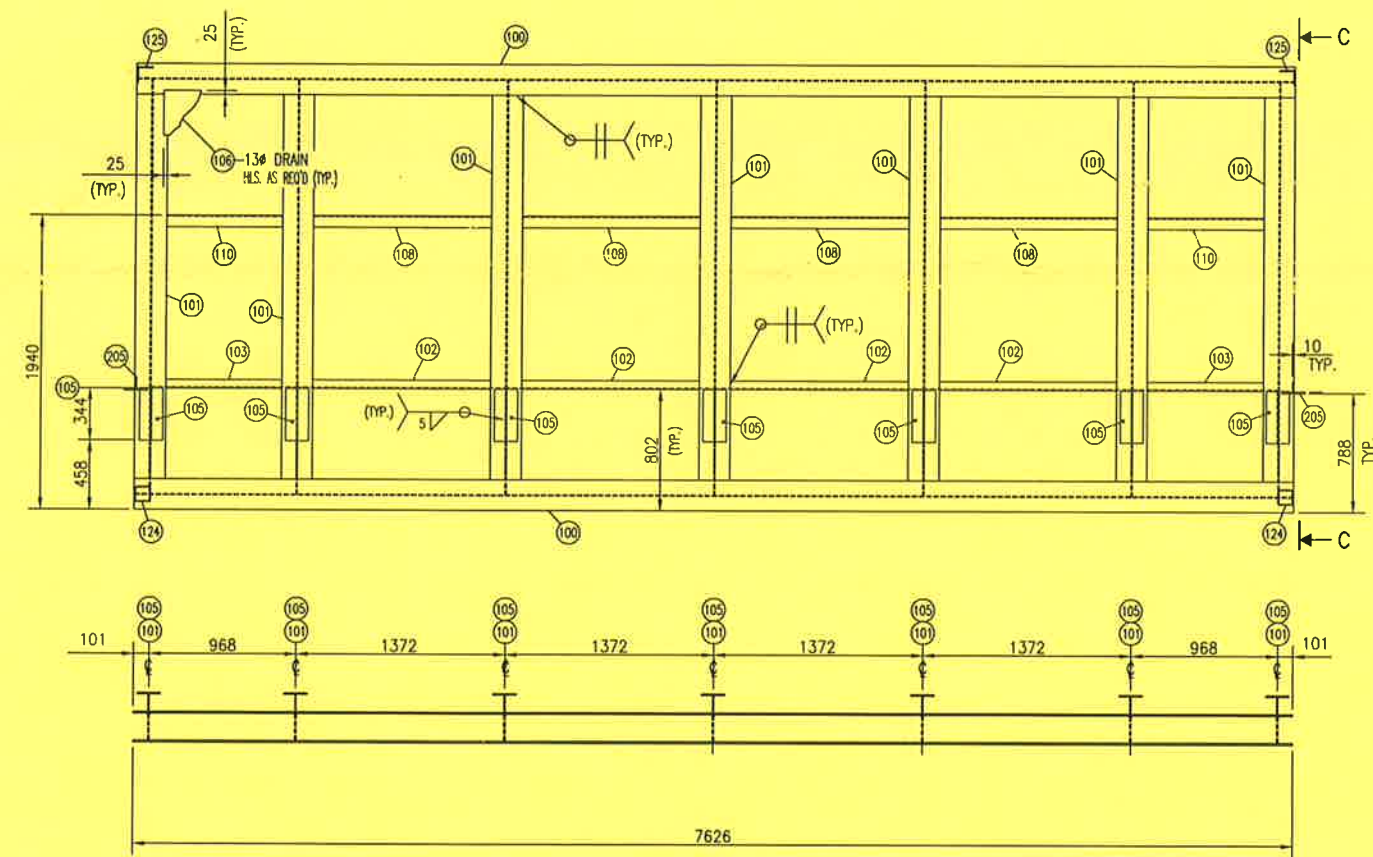
No.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	IBRAGINSKY	00/10/06	adca	h.w.

APPROVED	BY	DRAWN
MECH/STRUCT.	IBRAGINSKY	IBRAGINSKY
DATE	00/10/02	DATE
ELECTRICAL	CHECKED	BY
DATE	00/10/02	DATE
PROJECT	AS NOTED	SCALE
DATE	00/10/02	AS NOTED

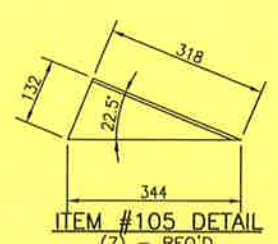
APACHE CANADA LTD.
1478 HP HAMBURG COMPRESSOR PACKAGE
AERIAL COOLER-SIDE RECIRC. DUCTING
MDL: 1SV1-156-312-F
DWC. No.: D-DCT-99404-236 SHT.3 OF 3 REV. 1

PROPAC
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

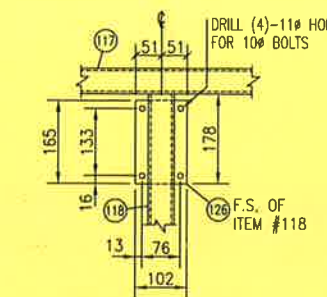
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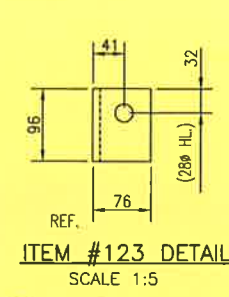
BASE DETAILS
SCALE 1:25



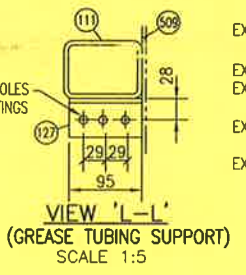
VIEW 'F-F'
SCALE 1:7.5



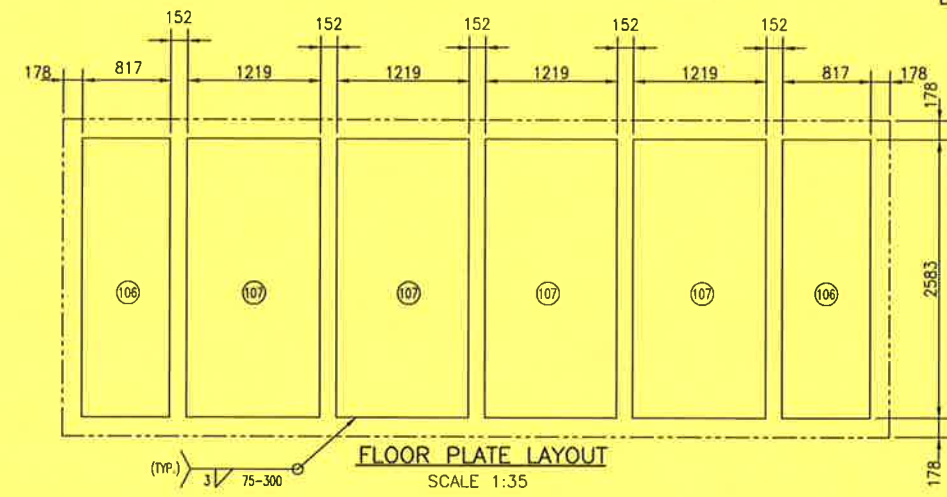
ITEM #126 DETAIL
(VIBRATION SWITCH MOUNTING PLATE)
SCALE 1:7.5



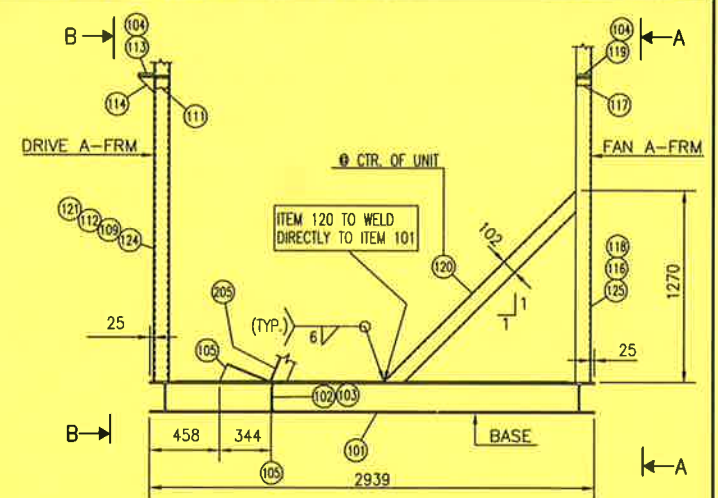
ITEM #123 DETAIL
SCALE 1:5



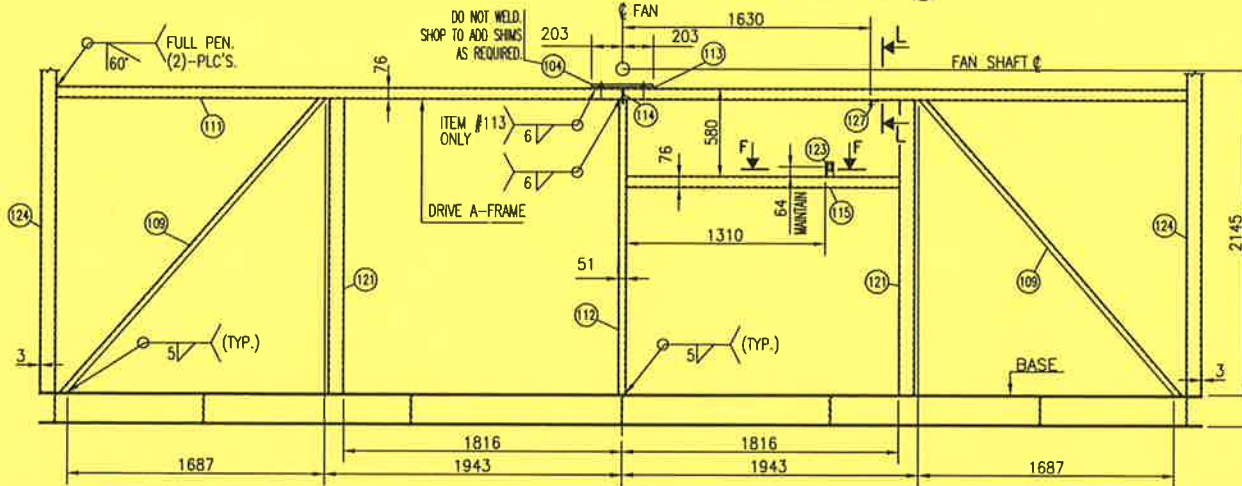
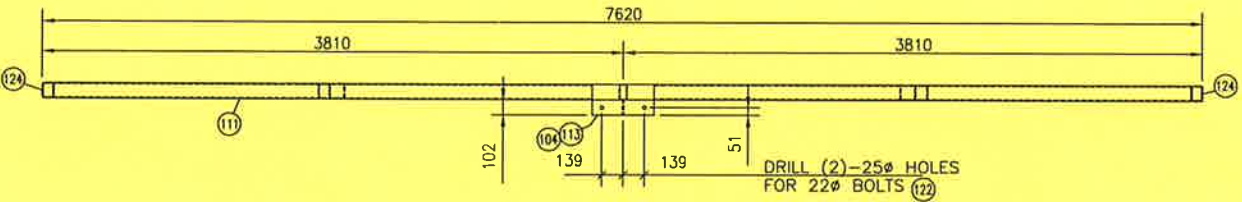
VIEW 'L-L'
(GREASE TUBING SUPPORT)
SCALE 1:5



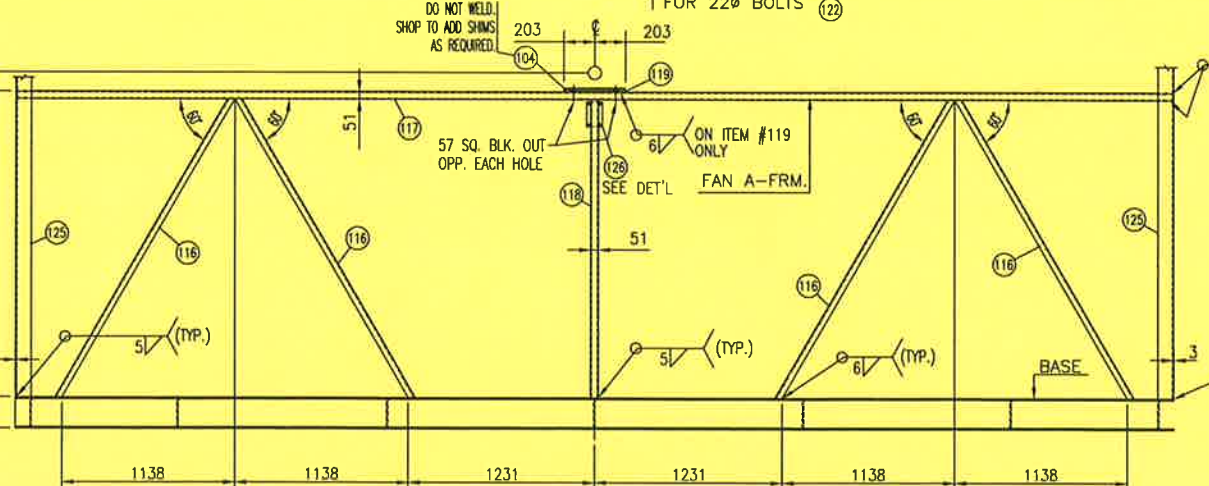
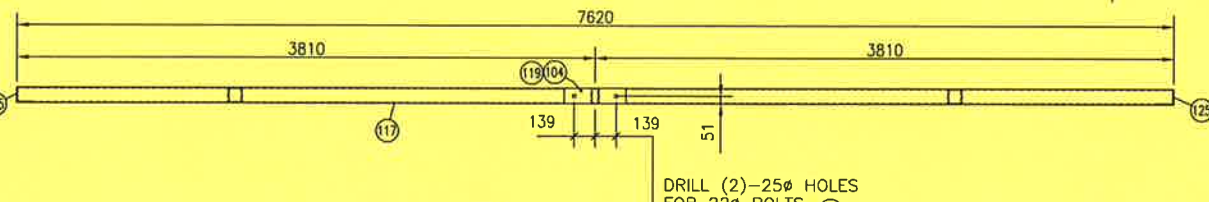
FLOOR PLATE LAYOUT
SCALE 1:35



VIEW 'C-C'
SCALE 1:25



VIEW 'B-B'
SCALE 1:25



VIEW 'A-A'
SCALE 1:25

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
100	2	WF: W200 x 46 KG/M x 7626 LG.	G40.21M-300W
101	7	WF: W200 x 46 KG/M x 2728 LG.	G40.21M-300W
102	4	CHNL: C200 x 17 KG/M x 1364 LG.	G40.21M-300W
103	2	CHNL: C200 x 17 KG/M x 960 LG.	G40.21M-300W
104	2	FLAT BAR: 13 THK. x 102 x 406 LG. (SHOP CHECK THICKNESS)	G40.21M-300W
105	4	WF: 150 x 22 KG/M x 318 LG. (ONE MAKES TWO) (SEE DET'L)	G40.21M-300W
106	2	PLATE: 5 THK. x 817 x 2583 LG.	SA-36
107	4	PLATE: 5 THK. x 1219 x 2583 LG.	SA-36
108	4	ANGLE: 76 x 76 x 6 THK x 1168 LG.	G40.21M-300W
109	2	CHNL: C100 x 8 KG/M x 2606 LG.	G40.21M-300W
110	2	ANGLE: 76 x 76 x 6 THK. x 764 LG.	G40.21M-300W
111	1	HSS: 102 x 76 x 6 THK. x 7416 LG.	G40.21M-350W
112	1	HSS: 102 x 51 x 5 THK. x 1941 LG.	G40.21M-350W
113	1	FLAT BAR: 13 THK. x 204 x 406 LG.	G40.21M-300W
114	1	PLATE: 10 THK. x 102 x 102 LG. (CUT DIAGONAL MAKES TWO)	SA-36
115	1	HSS: 102 x 76 x 6 THK. x 1790 LG.	G40.21M-350W
116	4	CHNL: C100 x 8 KG/M x 2295 LG.	G40.21M-300W
117	1	HSS: 102 x 51 x 5 THK. x 7608 LG.	G40.21M-350W
118	1	HSS: 102 x 51 x 5 THK. x 1966 LG.	G40.21M-350W
119	1	FLAT BAR: 13 THK. x 102 x 406 LG.	G40.21M-300W
120	1	HSS: 102 x 51 x 5 THK. x 1796 LG. (C.T.S.)	G40.21M-350W
121	2	HSS: 102 x 102 x 6 THK. x 1941 LG.	G40.21M-350W
122	4	M/C BOLTS: 22# x 102 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EACH (ZINC PLATED)	SA-325
123	1	ANGLE: 76 x 51 x 10 THK. x 96 LG. (SEE DETAIL)	G40.21M-300W
124	2	HSS: 102 x 102 x 6 THK. x 4506 LG.	G40.21M-350W
125	2	ANGLE: 102 x 102 x 6 THK. x 4396 LG.	G40.21M-300W
126	1	FLAT BAR: 6 THK. x 102 x 165 LG.	G40.21M-300W
127	1	ANGLE: 51 x 51 x 6 THK. x 95 LG.	G40.21M-300W

GENERAL NOTES		GENERAL NOTES	
1. ALL DIMENSIONS ARE IN MM.	7. ALL WELDS TO BE 6 MM CONT. FILLET U.N.O.		
2. CUT LENGTHS ARE EXACT c/w TOL. +0/-3 MM.	8. COOLER FRAME WEIGHT IS APPROX. 18500 kg. (A)		
3. SHOP TO COPE ALL MEMBERS TO SUIT.	9. SURFACE PREP.: PRIME: -PNT 11		
4. DRILL ALL HOLES - DO NOT FLAME CUT.	PAINT: -PNT 11		
5. STRUCTURAL WELDS: E-7018-1 ELECTRODES OR E-7X-TX WIRE TO BE USED.			
6. REMOVE ALL SHARP EDGES AND BURRS.			

No.	REVISION	BY	DATE	CKD	ENG
3	WEIGHT WAS 9900 KG/SHEET 4 OF 5 TRANSFERRED TO JOB# 00423	LEBRACHSKY	00/10/05	DP	D.W.
2	RE-ISSUED FOR CONSTRUCTION	LEBRACHSKY	00/05/17	J.D.	P.A.C.
1	ISSUED FOR CONSTRUCTION	D. PARTIBLE	00/02/15	T.E.	T.K.

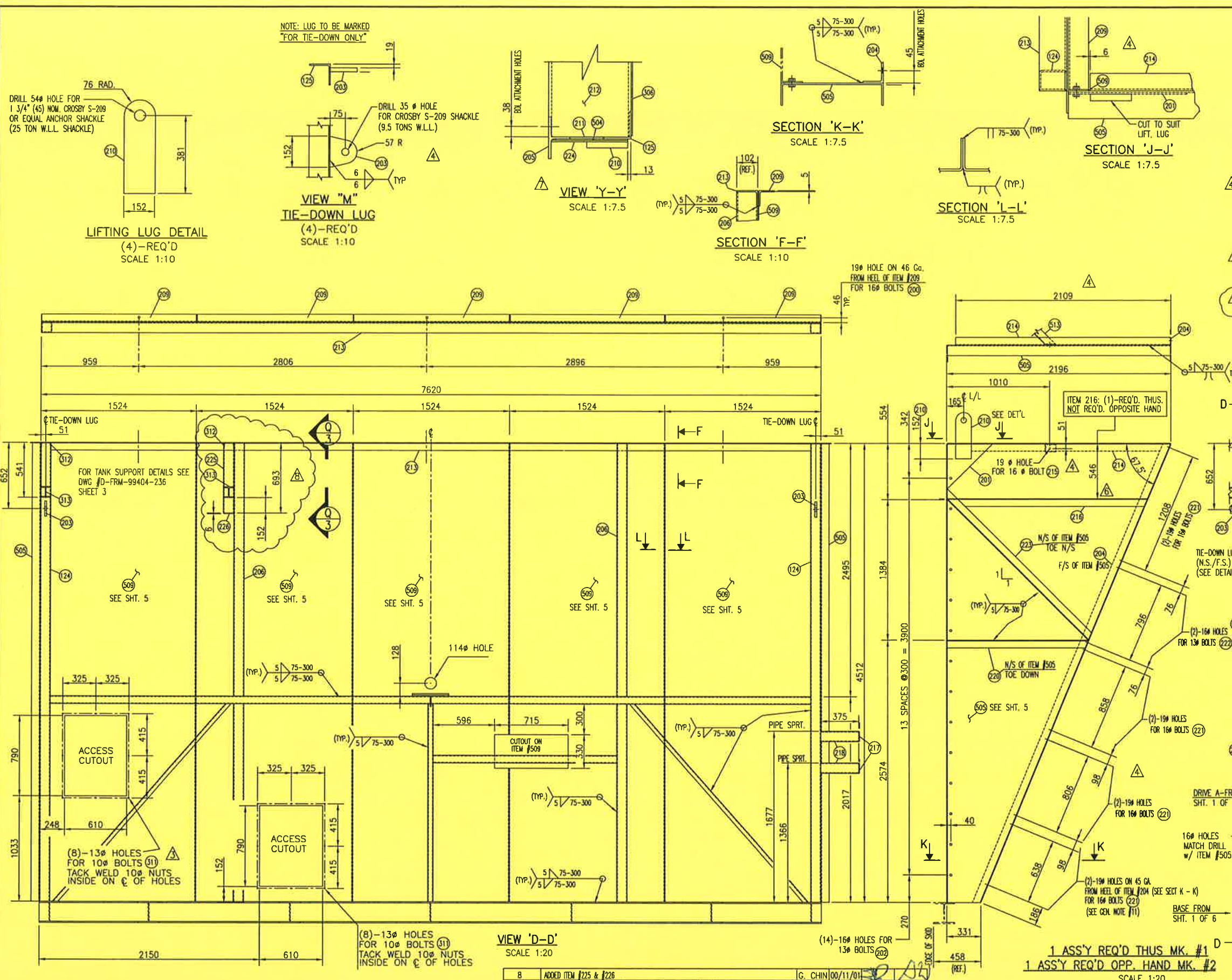
APPROVED		DRAWN	
MECH./STRUCT.	S. ISAACS	BY	I. BRAGINSKY
DATE	00/05/12	DATE	00/05/05
ELECTRICAL		CHECKED	
DATE		BY	D. PARTIBLE
PROJECT	P. CRAWFORD	DATE	00/05/12
DATE	00/05/12	SCALE	AS NOTED

APACHE CANADA LTD.
1478 HP HAMBURG COMPRESSOR PACKAGE
AERIAL COOLER - FRAME ASSEMBLY
MDL.: 1-SV-1-156-312-F

PROPAK
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

DWG. No.: D-FRM-99404-236 SHEET 1 OF 5 REV. 3

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BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
200	4	N/C BOLT: 1/2" x 44 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA (ZINC PLATED)	SA-325
201	1	PLATE: 6 THK. x 440 SQ. (CUT DIAGONAL) (1)-MAKES TWO	SA-36
202	28	N/C BOLT: 1/2" x 44 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA (ZINC PLATED)	SA-325
203	4	PLATE: 19 THK. x 132 WD. x 152 LG. (C.T.S. SEE DETAIL)	SA-36
204	2	ANGLE: 76 x 76 x 6 THK. x 4915 LG. (1)-OPPOSITE HAND	G40.21M-300W
205	2	WT 75 x 15 KG/M x 4790 LG. (C.T.S.)	G40.21M-300W
206	2	HSS: 102 x 102 x 6 THK. x 2488 LG.	G40.21M-350W
207	2	ANGLE: 76 x 76 x 6 THK. x 1180 LG.	G40.21M-300W
208	2	ANGLE: 76 x 76 x 6 THK. x 1968 LG.	G40.21M-300W
209	5	ANGLE: 76 x 76 x 6 THK. x 1508 LG.	G40.21M-300W
210	4	PLATE: 22 THK. x 152 WD. x 457 LG.	SA-36
211	2	FLAT BAR: 6 THK. x 76 WD. x 152 LG. (C.T.S.)	G40.21M-300W
212	1	CHNL: C310 x 31 KG/M x 7606 LG.	G40.21M-300W
213	1	ANGLE: 102 x 76 x 6 THK. x 7820 LG.	G40.21M-300W
214	2	ANGLE: 76 x 76 x 6 THK. x 2103 LG. (C.T.S.)	G40.21M-300W
215	2	N/C BOLT: 1/2" x 51 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA (ZINC PLATED)	SA-325
216	1	ANGLE: 76 x 76 x 6 THK. x 1960 LG. (C.T.S.)	G40.21M-300W
217	2	PLATE: 6 THK. x 96 SQ.	SA-36
218	2	HSS: 102 x 102 x 6 THK. x 375 LG.	G40.21M-350W
219	30	SPACERS: 10 THK x 76 x 305 LG.	VITON RUBBER
220	2	ANGLE: 76 x 76 x 6 THK. x 1384 LG.	G40.21M-300W
221	32	N/C BOLT: 1/2" x 57 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA (ZINC PLATED)	SA-325
222	8	N/C BOLT: 1/2" x 44 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA (ZINC PLATED)	SA-325
223	2	ANGLE: 76 x 76 x 6 THK. x 2033 LG.	G40.21M-300W
224	1	PLATE: 6 THK. x 270 x 427 LG. (CUT DIAGONAL) (1)-MAKES TWO	SA-36
225	1	HSS: 102 x 102 x 6 THK. x 693 LG.	G40.21M-350W
226	1	PLATE: 6 THK. x 90 WD x 90 LG.	SA-36

GENERAL NOTES

11. ALL BOLT HOLES FOR ATTACHING THE BUNDLES TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.

12. VITON RUBBER STRIPS (ITEM #219) TO BE LOCATED BETWEEN BUNDLES AND AT SAME POSITION AS BUNDLE TUBE SUPPORTS & KEEPERS.

DATE: 2000.11.01 8:34am FILE NAME: J:\jobs99\DWG\99404\Cir-client changes\FRM-99404-236-02.dwg

No.	REVISION	BY	DATE	CKD	ENG
8	ADDED ITEM #225 & #226	G. CHIN	00/11/01	J.D.	G.W.
7	ADDED ITEM #224/DWL TO L/L & WAS 82/MODIFIED VIEW Y-Y/DELETED SHOP NOTE	LIBRAGNSKY	00/10/26	J.D.	G.W.
6	ADDED ITEM #215	LIBRAGNSKY	00/10/24	J.D.	G.W.
5	ADDED TANK SUPPORT/PIPE SUPPORT ELEVATION WAS 1337	G. CHIN	00/10/23	D.P.	G.W.
4	ADDED ITEM #214 & #215/DWL ITEM #200 WAS 6, ITEM #221 WAS 24, ITEM #222 WAS 16/CHGD. LOCATION OF TIE-DOWN LUGS & HOLE FOR ITEM #215	LIBRAGNSKY	00/10/06	D.P.	G.W.
3	ACCESS CUT-OUT RE-LOCATED DUE TO PIPING INTERFERENCE	J.J. DELOME	00/09/15	L.J.D.	CLAUDE G. PANA C.
2	RE-ISSUED FOR CONSTRUCTION	LIBRAGNSKY	00/05/17	J.D.	T.K.
1	ISSUED FOR CONSTRUCTION	D. PARTIBLE	00/02/11	J.D.	T.K.

APPROVED		DRAWN	
MECH./STRUCT.	S. ISAACS	BY	LIBRAGNSKY
DATE	00/05/12	DATE	00/05/05
ELECTRICAL		CHECKED	
DATE		BY	D. PARTIBLE
PROJECT	P. CRAWFORD	DATE	00/05/12
DATE	00/05/12	SCALE	AS NOTED

PROPAC

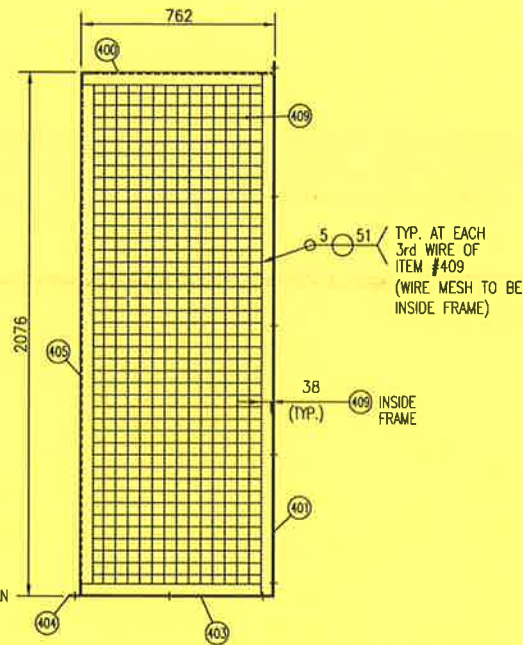
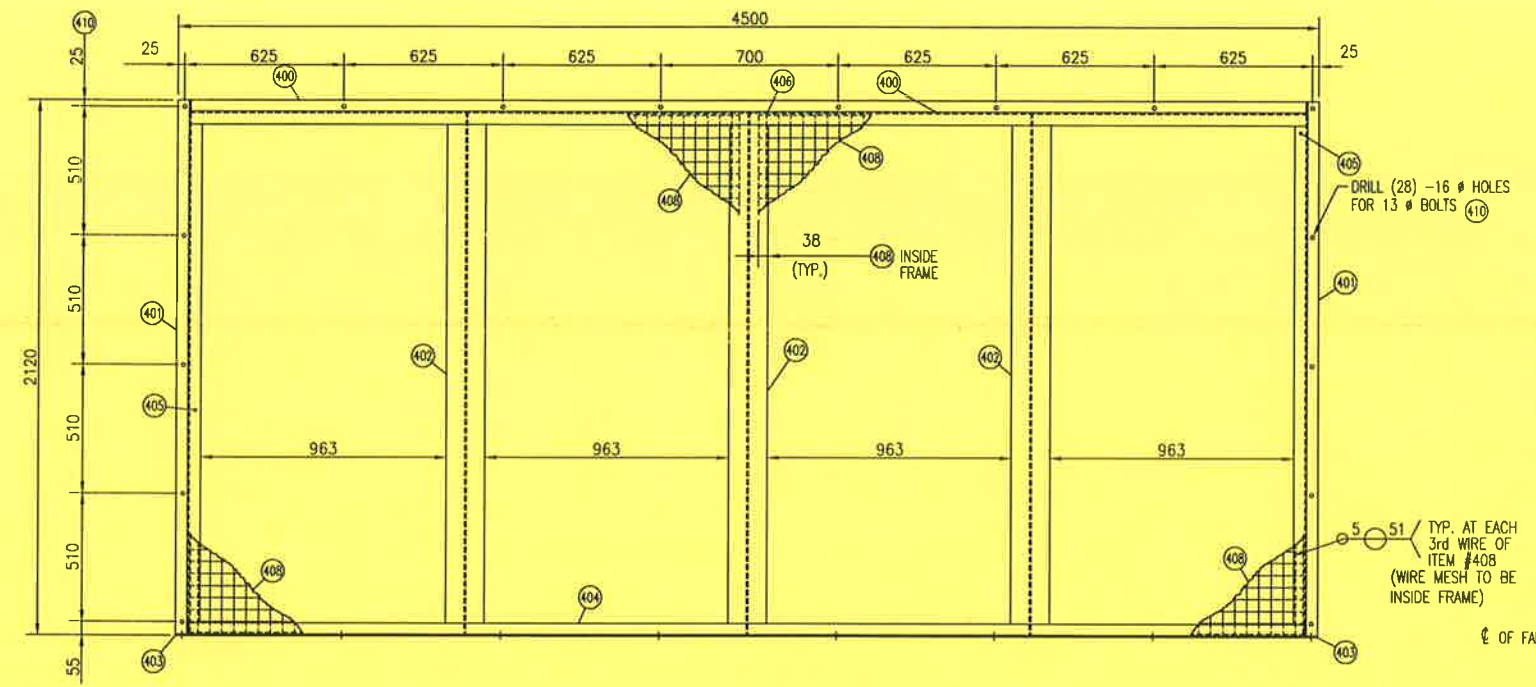
APACHE CANADA LTD.

1478 HP HAMBURG COMPRESSOR PACKAGE
AERIAL COOLER - FRAME ASSEMBLY
MDL: 1-SV-1-156-312-F

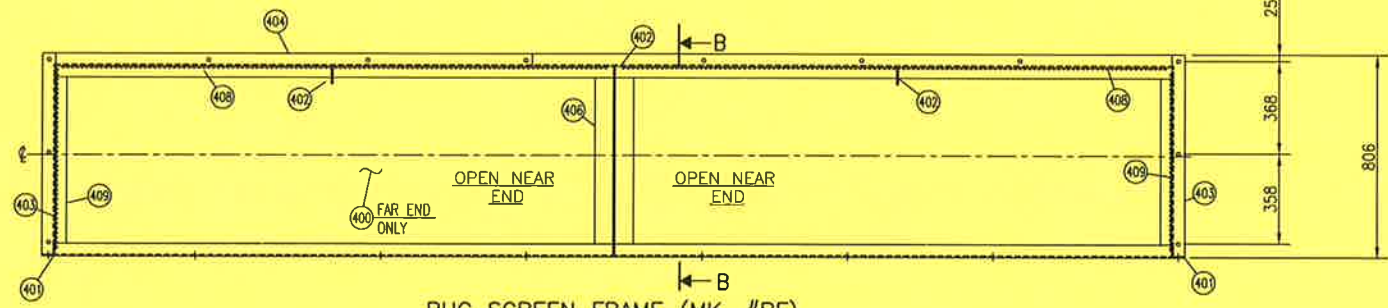
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

DWG. No.: D-FRM-99404-236 SHEET 2 OF 5 REV. 8

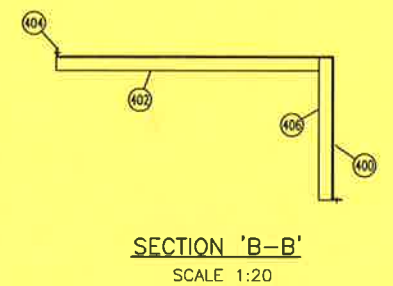
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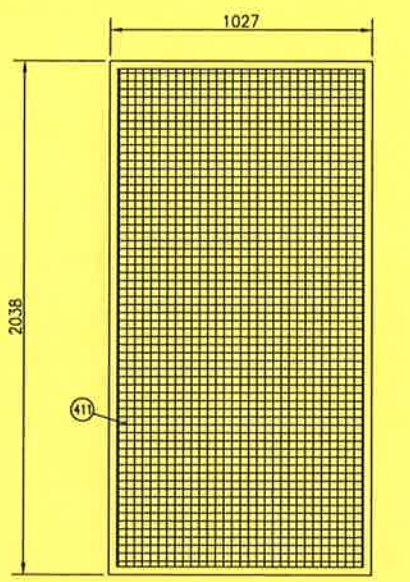
BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
400	2	PLATE: 6 THK. x 840 WD. x 4488 LG. (B.T.S./C.T.S.) SEE DETAIL SA-36
401	4	ANGLE: 51 x 51 x 6 THK. x 2114 LG. G40.21M-300W
402	6	WT: 75 x 15 KG/M x 2064 LG. G40.21M-300W
403	4	ANGLE: 51 x 51 x 6 THK. x 806 LG. G40.21M-300W
404	2	ANGLE: 51 x 51 x 6 THK. x 4398 LG. G40.21M-300W
405	4	ANGLE: 51 x 51 x 6 THK. x 1974 LG. G40.21M-300W
406	2	WT: 75 x 15 KG/M x 755 LG. G40.21M-300W
407		
408	8	SQ. MESH WIRE CLOTH: 51mm C/C x 3.4mm # x 1027 x 2038 LG. (C.T.S.) SA-36
409	4	SQ. MESH WIRE CLOTH: 51mm C/C x 3.4mm # x 736 x 2038 LG. (C.T.S.) SA-36
410	44	M/C BOLT: 13# x 38 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA. (ZINC PLATED) SA-325
411	8	BUG SCREEN PANELS: VELCRO-BACKED POLYESTER-VINYL, NO CHANNEL FRAME REQ'D. BUILD FOR DIRECT-MOUNTING ON THE COOLER FRAME. 1027 WIDE x 2038 HIGH
412	4	BUG SCREEN PANELS: VELCRO-BACKED POLYESTER-VINYL, NO CHANNEL FRAME REQ'D. BUILD FOR DIRECT-MOUNTING ON THE COOLER FRAME. 736 WIDE x 2038 HIGH MESH: 8 x 10 LINES/INCH



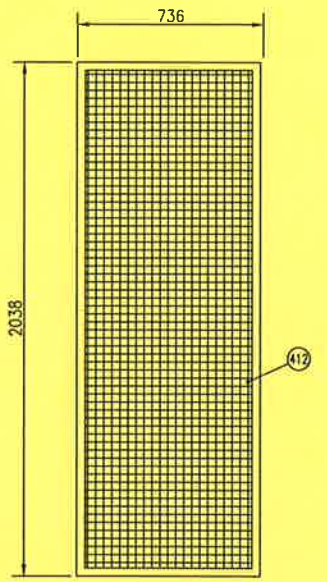
TRANSFER TO DWG.# D-FRM-00423-236 (SHT.4)



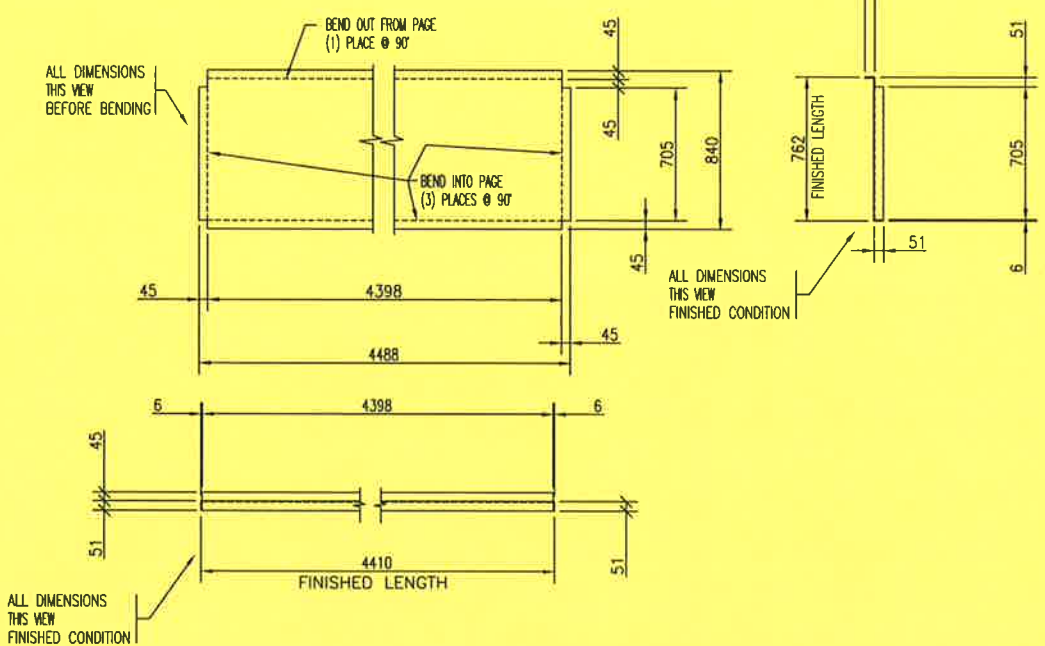
BUG SCREEN FRAME (MK. #BF)
(2)-REQ'D. THUS
SCALE 1:15



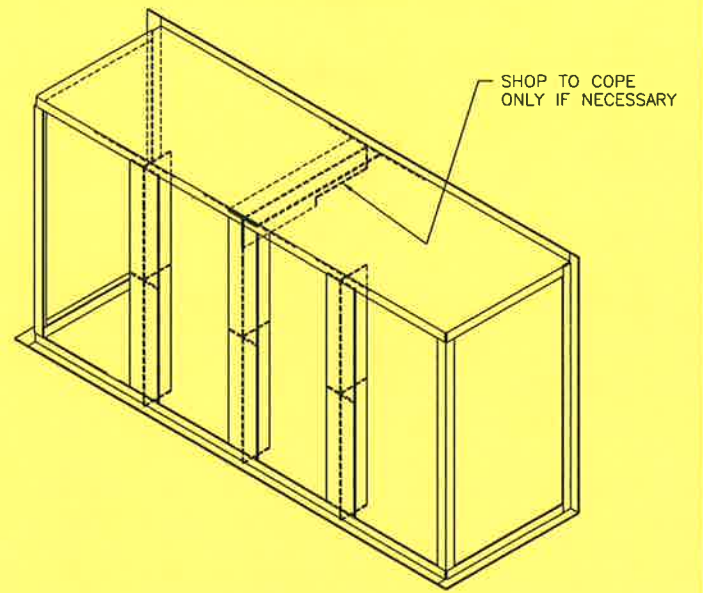
BUG SCREEN MESH DETAIL
(8) EACH-REQ'D. THUS
SCALE 1:15



BUG SCREEN MESH DETAIL
(4) EACH-REQ'D. THUS
SCALE 1:15



DETAIL OF ITEM #400
(2) REQ'D THUS
SCALE 1:20

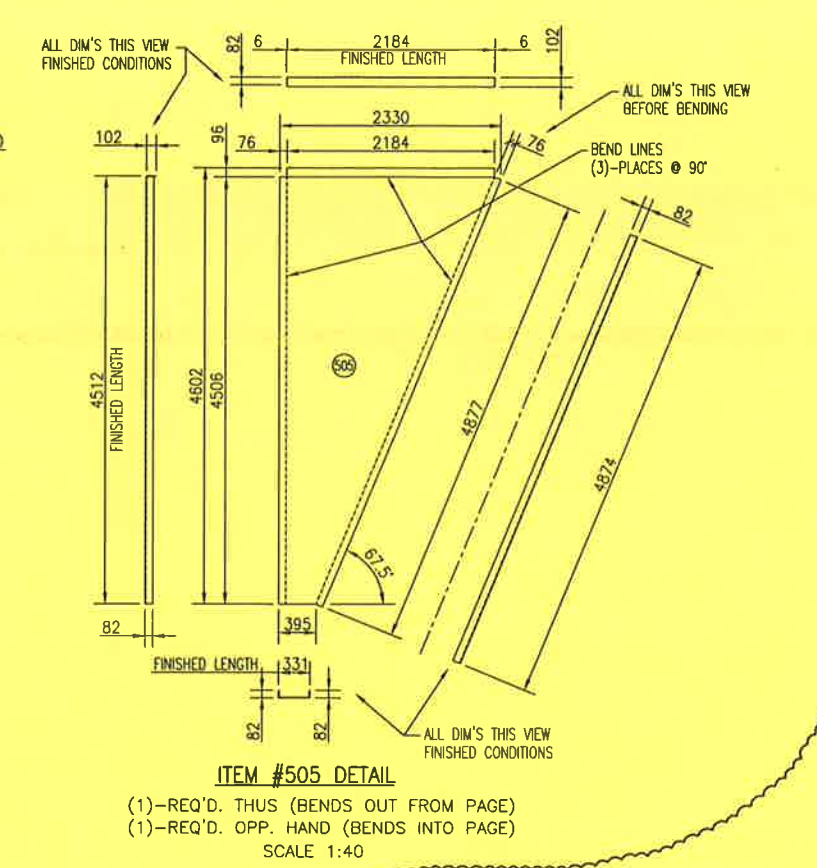
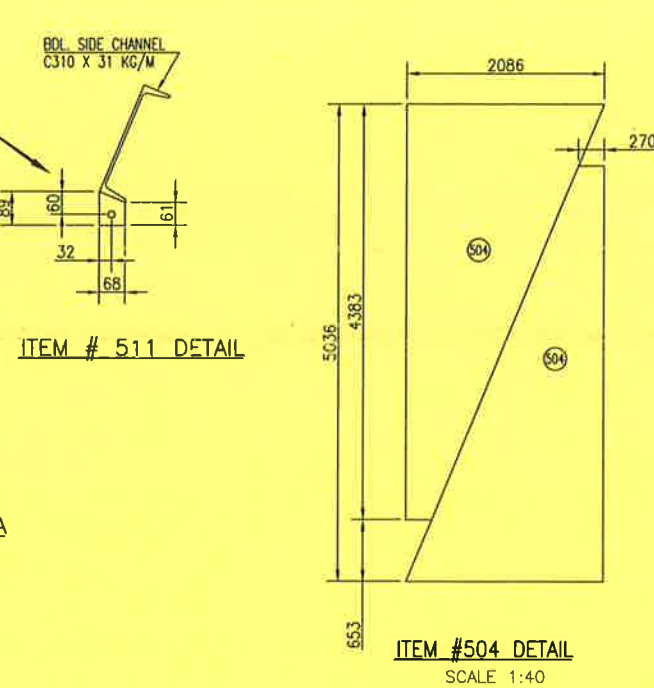
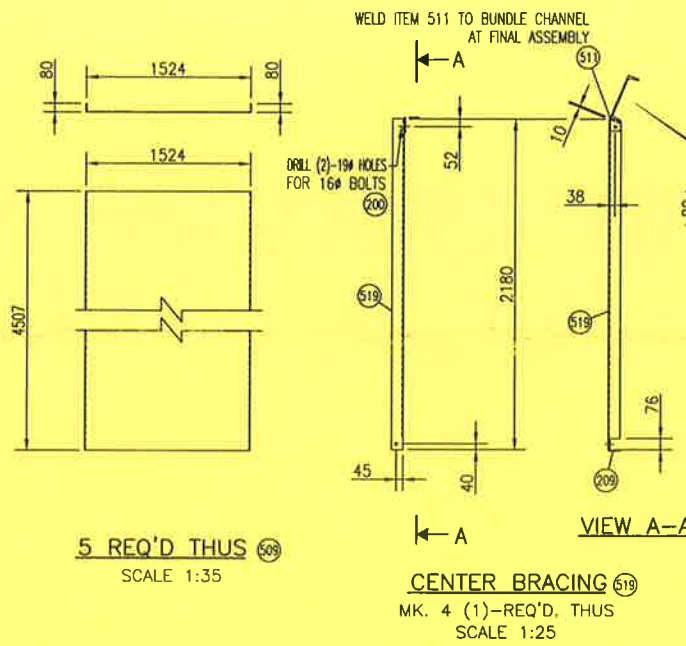


FRAME COPING DETAIL
(2) REQ'D THUS
SCALE N.T.S.

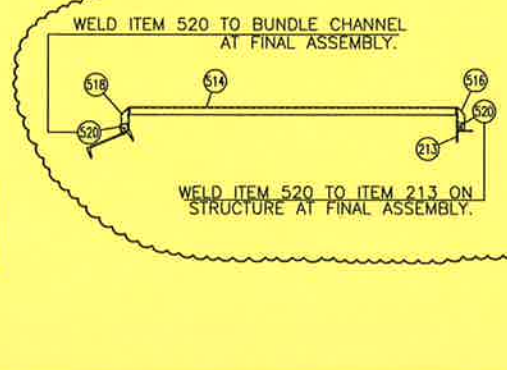
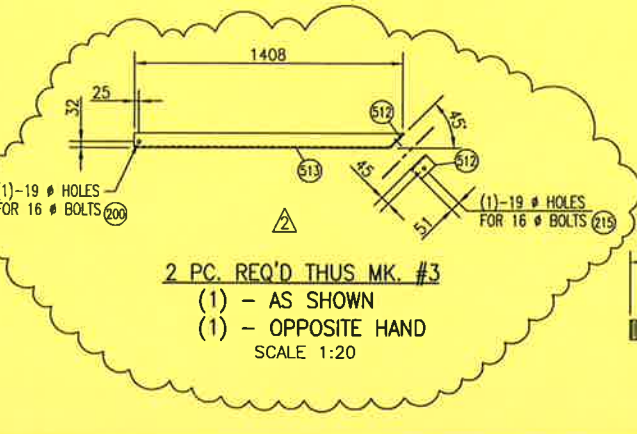
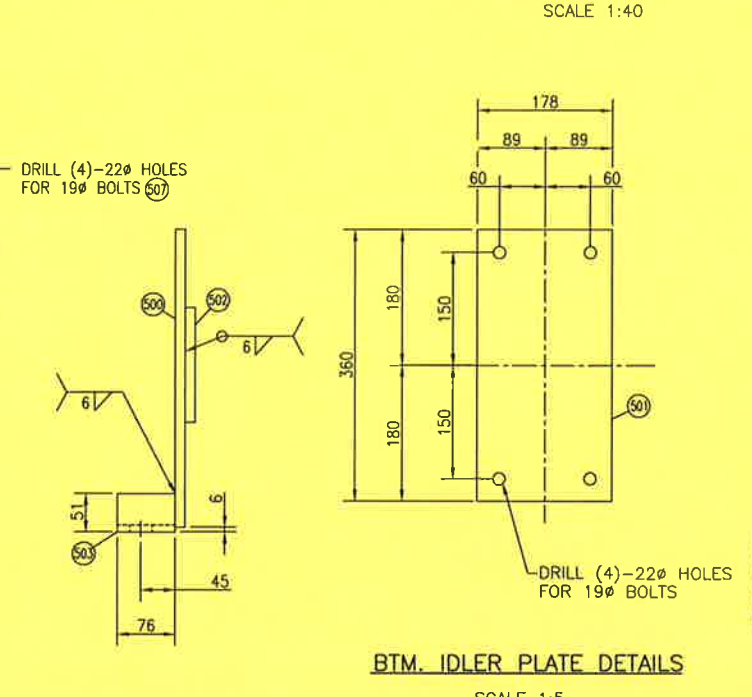
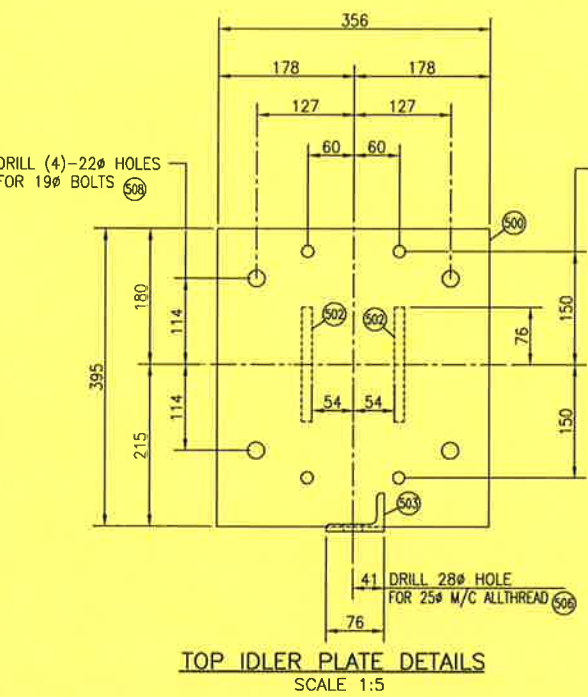
WEIGHT OF MATERIALS ON THIS PAGE APPROX. 1125 KG.

GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		PROJECT	
2	TRANSFERRED TO DWG.# D-FRM-00423-236 (SHT.4)	1	ISSUED FOR CONSTRUCTION	MECH./STRUCT.	S.ISAACS	BY	I.BRAGINSKY	1480 HP STOCK COMPRESSOR, M/N W 1480, 6HOS-3	PROPAK SYSTEMS LTD. 440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3
				DATE	00/05/12	DATE	00/05/08	AERIAL COOLER-STRUCTURAL DETAILS	
				ELECTRICAL		CHECKED		MDL.: 1-SV-1-156-312-F	
				DATE		BY	J.DELORME		
				PROJECT	P.CRAWFORD	DATE	00/05/12		
				DATE	00/05/12	SCALE	AS NOTED		

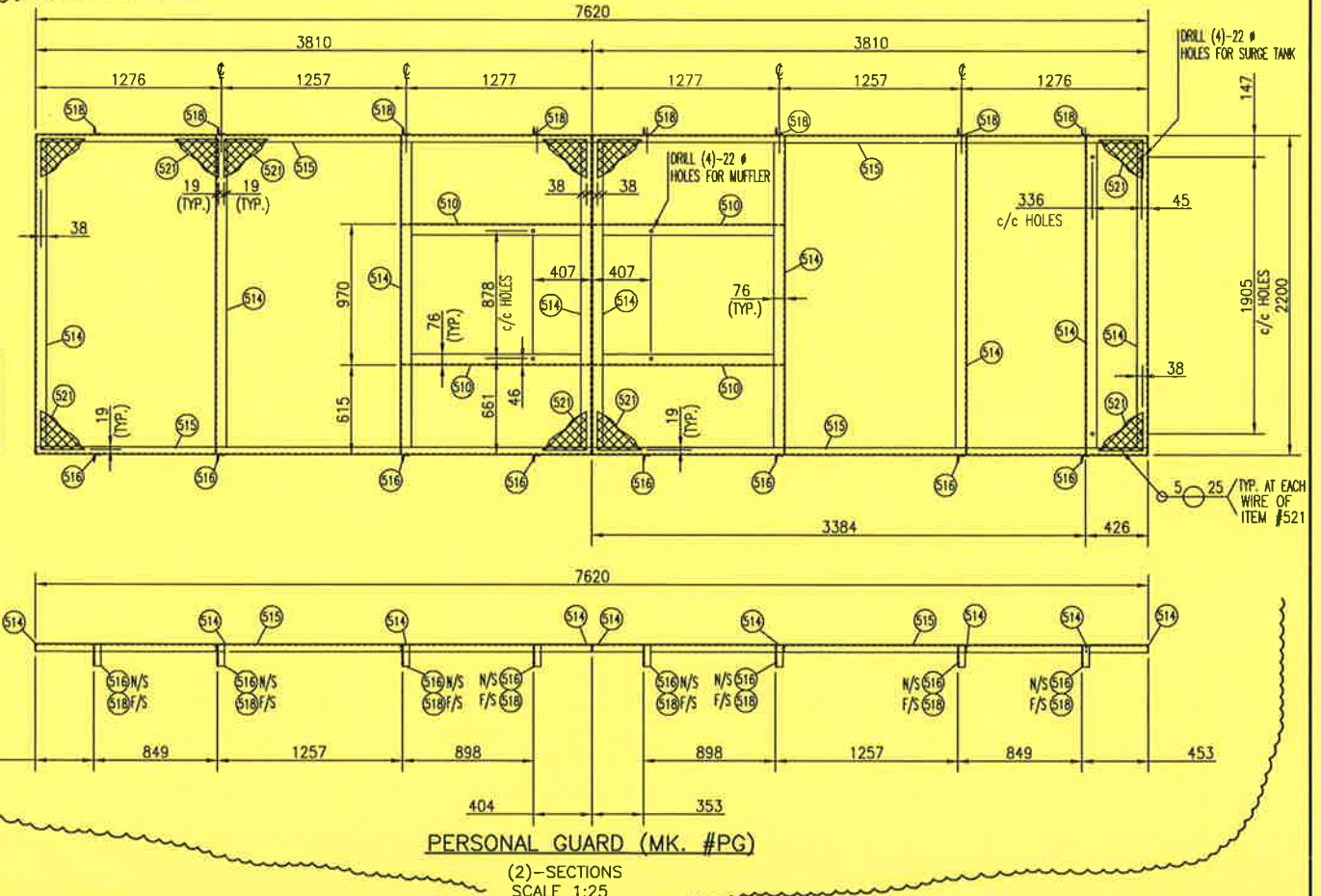
THIS DRAWING AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.



BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
500	1	PLATE: 19 THK. x 356 WD. x 395 LG.	SA-36
501	1	PLATE: 19 THK. x 178 WD. x 360 LG.	SA-36
502	2	1.3 SQUARE STOCK x 152	SA-36
503	1	ANGLE: 76 x 51 x 10 THK. x 76 LG.	G40.21M-300W
504	1	PLATE: 5 THK. x 2086 WD. x 5036 LG. (SEE DET'L MAKES TWO PCS)	SA-36
505	2	PRE-FORMED PLATE: 6 THK. x 2330 WD. x 4602 LG. (B.T.S. & C.T.S.) SEE DET'L	SA-36
506	1	M/C ALLTHREAD: 25# x 406 LG. c/w (2) HEX NUTS & (2) FLAT WASHERS	SA-325
507	4	M/C BOLT: 19# x 152 LG. c/w (1) HEX NUT, (1) WASHER & (1) LOCK WASHER EACH (ZINC. PL.)	SA-325
508	4	M/C BOLT: 19# x 83 LG. c/w (1) HEX NUT, (1) WASHER & (1) LOCK WASHER EACH (ZINC. PL.)	SA-325
509	5	PRE-FORMED C-SHAPE: 1524 DEEP x 80 WIDE LEFT & RIGHT FLG. x 5 THK. 4507 LG. (SEE DET'L)	SA-36
510	4	ANGLE: 76 x 51 x 6 THK. x 1302 LG.	G40.21M-300W
511	1	FLAT BAR: 10 THK. x 89 WD. x 68 LG. (C.T.S.) SEE DETAIL	G40.21M-300W
512	2	FLAT BAR: 6 THK. x 76 x 107 LG.	G40.21M-300W
513	2	ANGLE: 76 x 76 x 6 THK. x 1408 LG. (C.T.S.)	G40.21M-300W
514	9	ANGLE: 76 x 51 x 6 THK. x 2188 LG.	G40.21M-300W
515	4	ANGLE: 51 x 51 x 6 THK. x 3810 LG.	G40.21M-300W
516	8	ANGLE: 51 x 51 x 6 THK. x 152 LG. (SEE DETAIL)	G40.21M-300W
517			
518	8	ANGLE: 51 x 51 x 6 THK. x 175 LG. (SEE DETAIL)	G40.21M-300W
519	1	ANGLE: 76 x 76 x 6 THK. x 2180 LG.	G40.21M-300W
520	16	ANGLE: 51 x 51 x 6 THK. x 51 LG.	G40.21M-300W
521	6	SQ. MESH WIRE CLOTH: 25mm C/C x 3mm # x 1219 x 2438 LG. (C.T.S.)	SA-36
522	16	M/C BOLT: 13# x 38 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EACH (ZINC. PL.)	SA-325

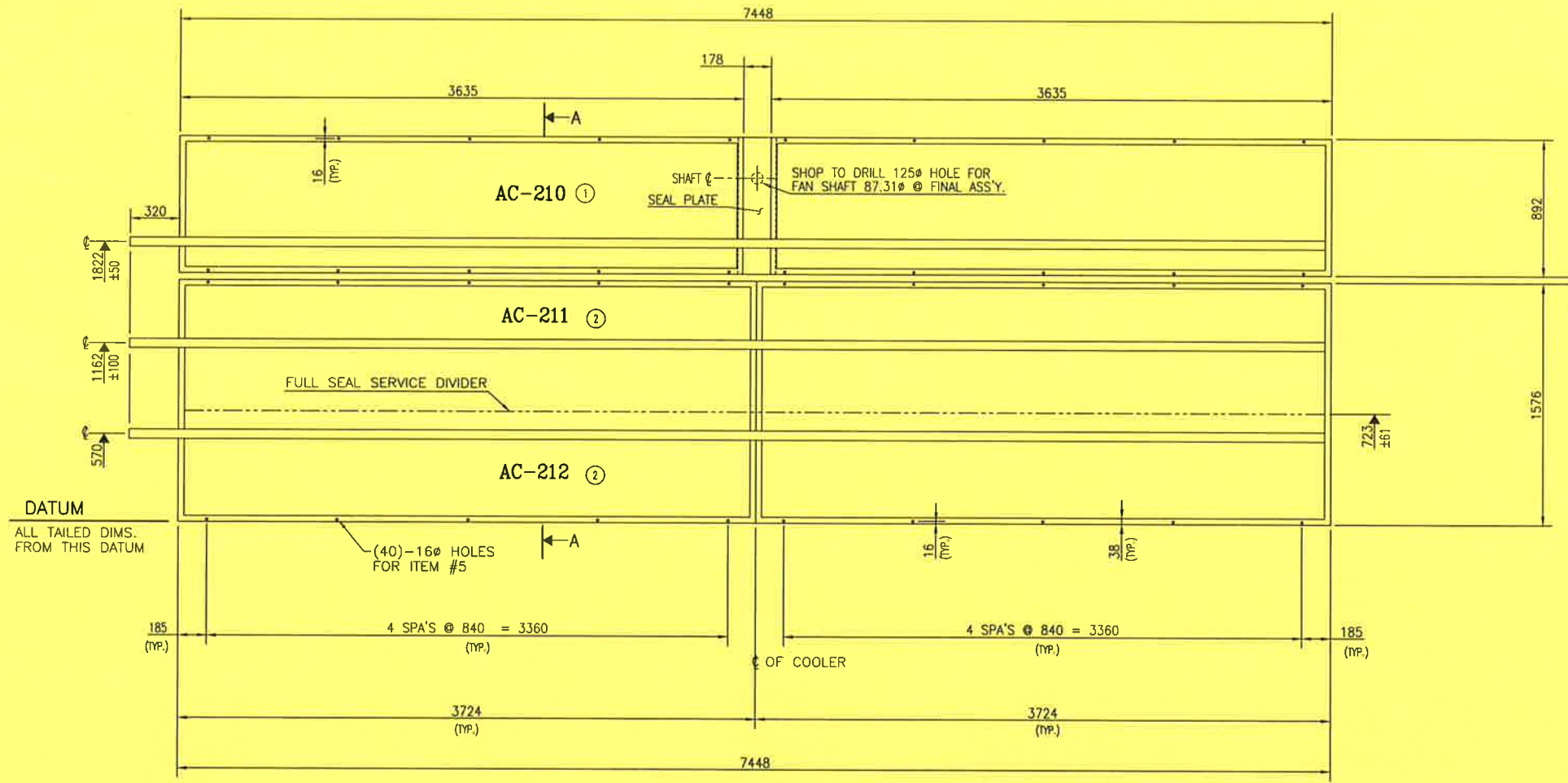


TRANSFER TO DWG.#
D-FRM-00423-236 (SHT. 5)



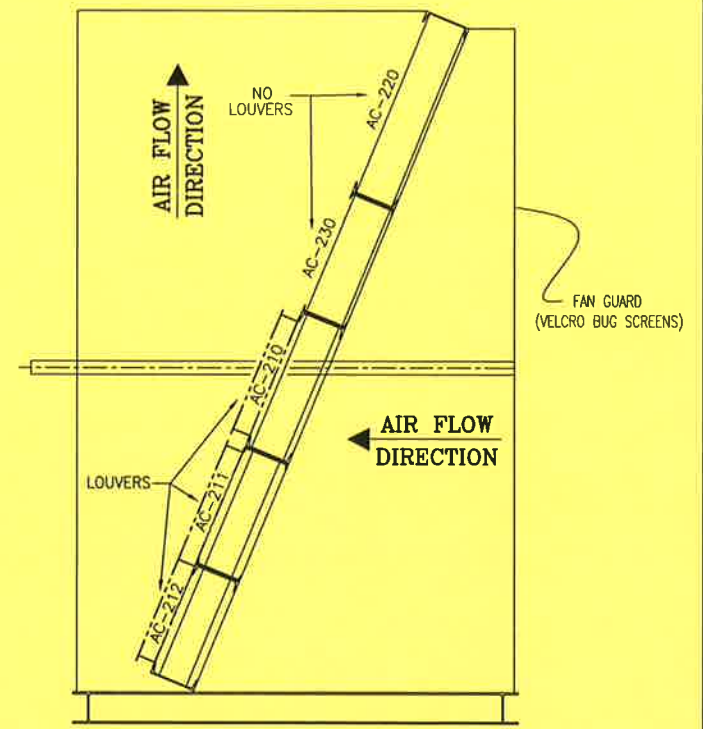
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DATE: 2000.10.05 11:39am FILE NAME: J:\jobs99\DWG\99404\Ctr-client changes\FRM-99404-236-05.dwg		1 ISSUED FOR CONSTRUCTION		1		MECH./STRUCT. S. ISAACS		BY I. BRAGINSKY		APACHE CANADA LTD.		440 East Lake Road,	
		2 CHG'D. DETAILS OF ITEM 513/ADDED ITEM 512/ PERSONAL GUARD TO BE TRANSFERRED TO JOB# 00423		2		DATE 00/05/15		DATE 00/05/09		1478 HP HAMBURG COMPRESSOR PACKAGE		Postal Bag #2	
		1		1		ELECTRICAL		CHECKED		AERIAL COOLER-STRUCTURE DETAILS		Airdrie, Alberta	
		1		1		DATE 00/05/12		BY D. PARTIBLE		MDL.: 1-SV-1-156-312-F		Canada T4B 2C3	
		1		1		DATE 00/05/15		DATE 00/05/12		DWG. No.:		D-FRM-99404-236 SHEET 5 OF 5	
		1		1		BY D.P.		SCALE AS NOTED		REV. 2			

TRANSFER TO DWG.# D-LBS-00423-238
▲



BUNDLE LOUVERS
(1) REQUIRED AS SHOWN
c/w EXTERNAL TORQUE TUBES
SCALE 1:20

SECTION 'A-A'
DIRECTION OF AIR FLOW
(N.T.S.)



COOLER CONFIGURATION
SCALE 1:25

BILL OF MATERIAL		DESCRIPTION
ITEM	QUA	
1		AC-210 LOUVERS c/w THE FOLLOWING:
2		892 WD x 3635 LG (1)-SECTION c/w (1) SEAL PLATE TO SUIT BETWEEN LOUVERS
		DRAWING: AS PER DRAWING D-LBS-99404-238
		GUARDS: NONE
		FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES
		DESIGN CODE: API 661 EDITION 1
1		CONTROLLER: AUTOMATIC ACTUATOR FOR AC-210 PROVIDED BY CHECO 100, 3-15 PSI SPRING RANGE (TO BE MOUNTED ON COOLER FRAME PLATE)
		AC-210 LOUVERS - FAIL OPEN
2		AC-211 & AC-212 LOUVERS c/w THE FOLLOWING:
2		1576 WD x 3274 LG (1)-SECTION c/w (1)-FULL SEAL SERVICE DIVIDER EACH SECTION
		DRAWING: AS PER DRAWING D-LBS-99404-238
		GUARDS: NONE
		FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES
		DESIGN CODE: API 661 EDITION 1
1		CONTROLLER: AUTOMATIC ACTUATOR FOR AC-211 & AC-212 PROVIDED BY CHECO 100, 3-15 PSI SPRING RANGE (TO BE MOUNTED ON COOLER FRAME PLATE)
		AC-211 & AC-212 LOUVERS - FAIL OPEN
5	40	M/C BOLTS: 13 Ø x 44 LG c/w (1) WASHER, LOCK WASHER & NUT EACH
		SA-325
FOR ALL LOUVERS:		
SITE CONDITIONS: MINIMUM AMBIENT -40 °F (-40 °C)		
DOCUMENTATION: 2 YEARS SPARE PARTS LIST		
5 COPIES LITERATURE		
DRAWINGS		
INSTALLATION INSTRUCTIONS		
6	20	10 Ø SHEET METAL SCREWS x 25 LG

THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

- LOUVERS TOTAL WEIGHT IS APPROX.: 325 KG.

GENERAL NOTES		GENERAL NOTES		REVISION		APPROVED		DRAWN	
3	TRANSFERRED TO JOB# 00423	1	ISSUED FOR CONSTRUCTION	BY	DATE	BY	DATE	BY	DATE
2	RE-ISSUED FOR CONSTRUCTION	2	ISSUED FOR CONSTRUCTION	J.D.	00/05/15	J.D.	00/05/15	I. BRAGINSKY	07/05/12
1	ISSUED FOR CONSTRUCTION	3	ISSUED FOR CONSTRUCTION	D. PARTIBLE	00/02/16	T.K.	00/05/15	P. CRAWFORD	00/05/15

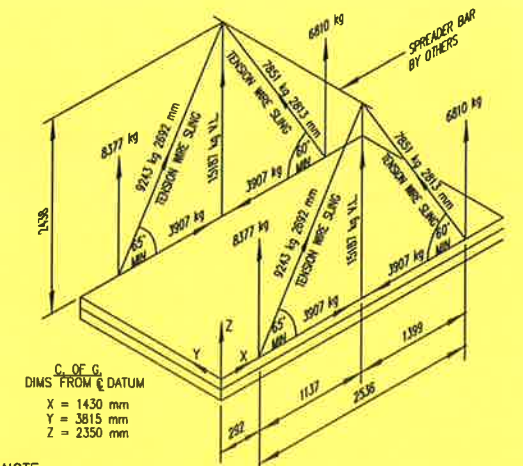
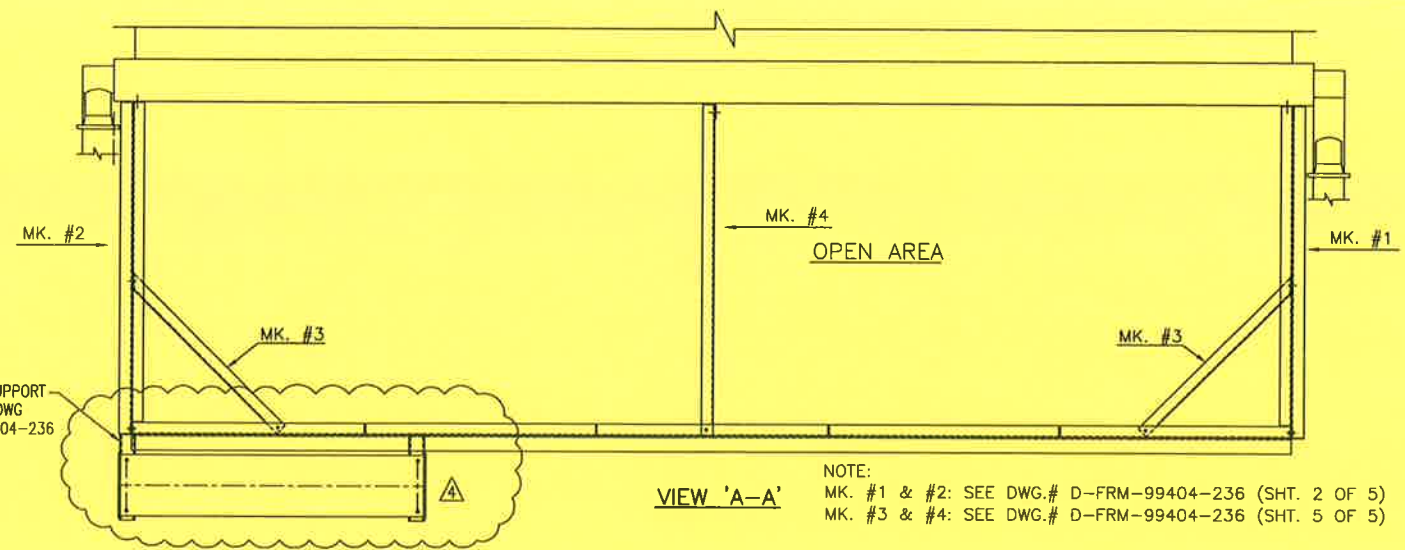
APPROVED		DRAWN	
MECH./STRUCT.	S. ISAACS	BY	I. BRAGINSKY
DATE	00/05/15	DATE	07/05/12
ELECTRICAL		CHECKED	
DATE		BY	J.D. FOR D.P.
PROJECT	P. CRAWFORD	DATE	00/05/15
DATE	00/05/15	SCALE	AS NOTED

PROPAK SYSTEMS LTD.
1480 HP STOCK COMPRESSOR, M/N W 1480, 6HOS-3
AERIAL COOLER-LOUVER DETAILS
MDL.: 1-SV-1-156-312-F

PROPAK
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

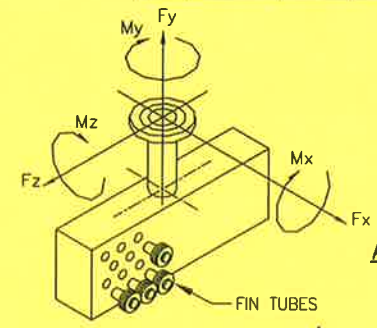
DWG. No.: D-LBS-99404-238 SHEET 1 OF 1 REV. 3

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MK	SIZE	RATING	FACING	SERVICE	ELEVATION
N1	168	150#	RFWN	EJW (AC-220) INLET	SPEC.
N2	168	150#	RFWN	EJW (AC-220) OUTLET	SPEC.
N3	89	150#	RFWN	AJW (AC-230) INLET	SPEC.
N4	89	150#	RFWN	AJW (AC-230) OUTLET	SPEC.
N5	168	600#	RFWN	1st STAGE INTERCOOLER (AC-210) INLET	SPEC.
N6	168	600#	RFWN	1st STAGE INTERCOOLER (AC-210) OUTLET	SPEC.
N7	114	900#	RFLWN	2nd STAGE INTERCOOLER (AC-211) INLET	SPEC.
N8	114	900#	RFLWN	2nd STAGE INTERCOOLER (AC-211) OUTLET	SPEC.
N9	114	1500#	RFLWN	3rd STAGE AFTERCOOLER (AC-212) INLET	SPEC.
N10	114	1500#	RFLWN	3rd STAGE AFTERCOOLER (AC-212) OUTLET	SPEC.

MAXIMUM ALLOWABLE 168 O/D NOZZLE LOADS		MAXIMUM ALLOWABLE 114 O/D NOZZLE LOADS	
Fx	1800 lb	Fx	1500 lb
Fy	2260 lb	Fy	1200 lb
Fz	2260 lb	Fz	1500 lb
Mx	3160 ft-lb	Mx	1200 ft-lb
My	4500 ft-lb	My	1800 ft-lb
Mz	2400 ft-lb	Mz	1200 ft-lb

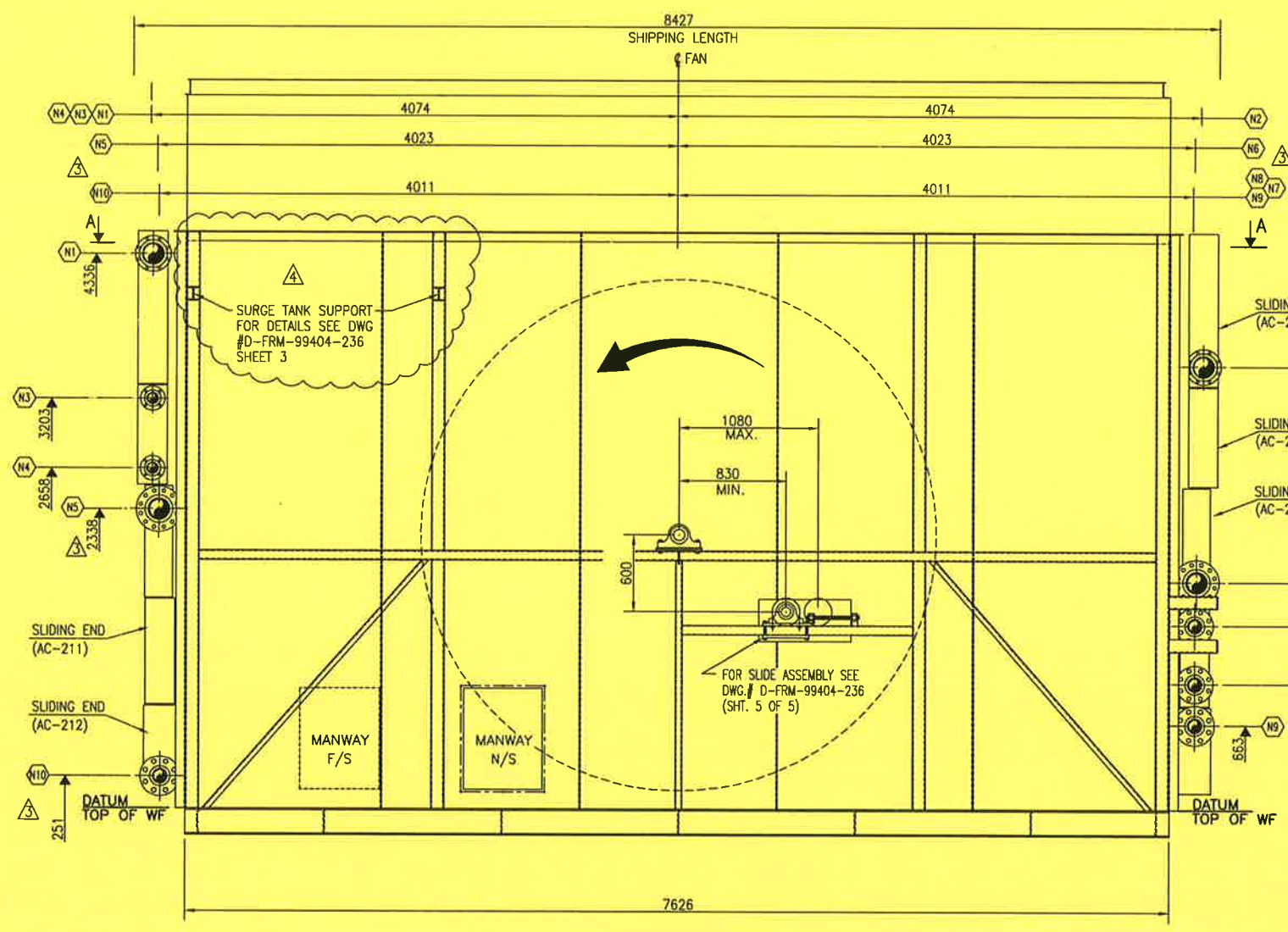


NOTE:
 WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
 LIFTING DIAGRAM WEIGHT: 20,250 KG. (WITHOUT IMPACT LOADING)
 INCLUDES: COOLER STRUCTURAL STEEL, BUNDLES & BUNDLE LOUVRES

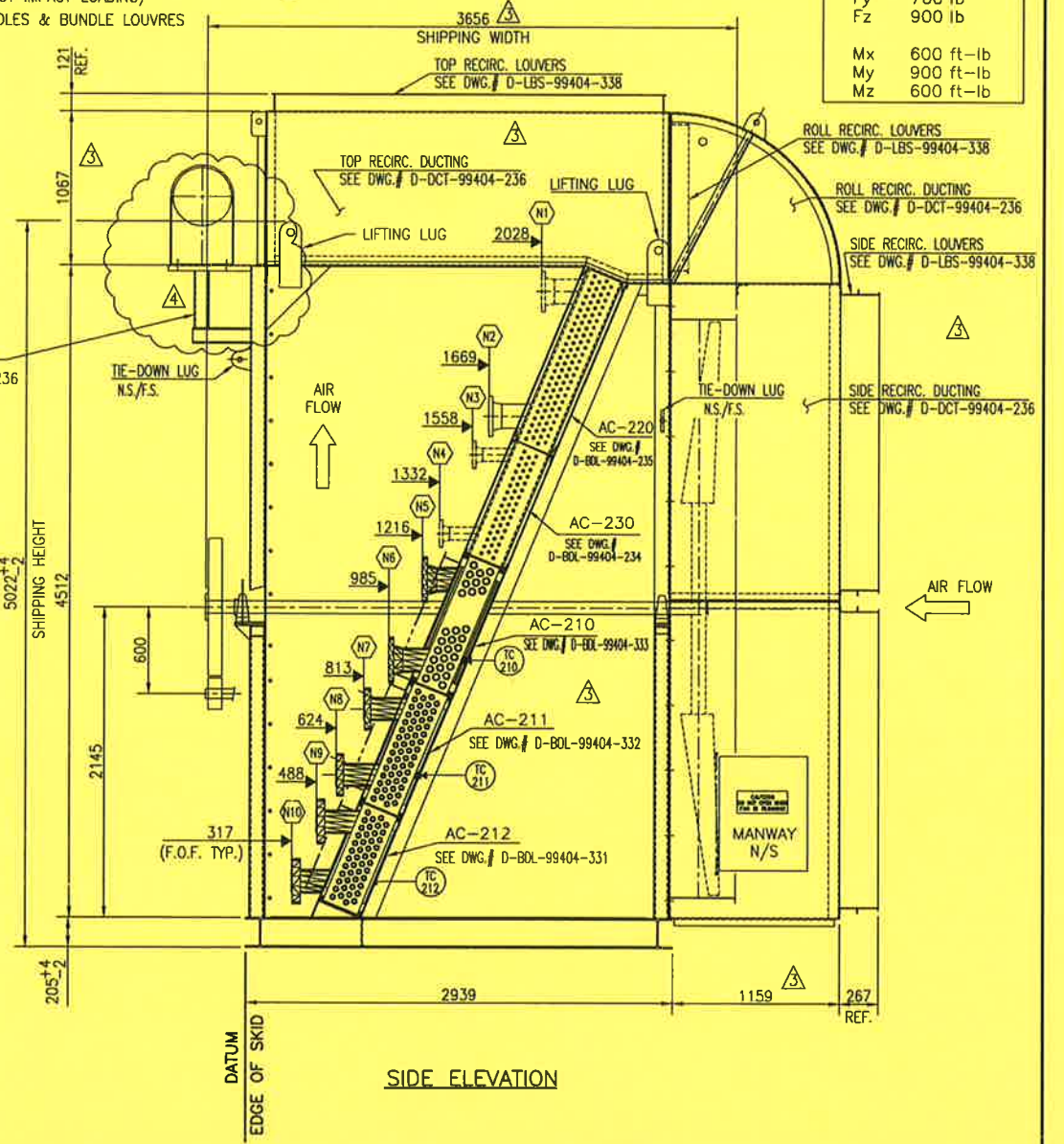
LIFTING DIAGRAM
 FOR COOLER ASSEMBLY
 AC-210/211/212/220/230

DURING FIELD INSTALLATION TACK WELDS, WHICH ARE LOCATED AT THE SLIDING END OF EACH BUNDLE AND WHICH ATTACH HEADER BOX T-BARS TO THE BUNDLE SIDE CHANNEL, MUST BE REMOVED. THESE WELDS WILL BE COLORED RED OR ORANGE.

FOR TANK SUPPORT DET'LS SEE DWG #D-FRM-99404-236 SHEET 3



DRIVE END VIEW



SIDE ELEVATION

- 1. TOTAL WEIGHT OF UNIT APPROX.: 25,000 KG
- 2. SHIP LOOSE WEIGHT: APPROX. 4750 KGS (DUCTING & RECIRC. LOUVRES)

GENERAL NOTES
 DATE: 2000.10.23 10:52am FILE NAME: J:\Jobs99\DWG\99404\Clr-client_changes\LYT-99404-238-01.dwg

No.	REVISION	BY	DATE	CKD	ENG
4	ADDED TANK SUPPORT	G. CHIN	04/02/03	DP	AW
3	ADDED DUCTING & RECIRC LOUVRES/REPLACED BUNDLES AC-210/211/212	I. BRAGINSKY	00/10/06	D.P.	G.R.
2	REMOVED FAN GUARD & MUFFLER SUPPORT/SHIPPING WIDTH WAS 4005	I. BRAGINSKY	00/05/17	J.D.	P.C.
1	ISSUED FOR CONSTRUCTION	D. PARRELE	00/02/17	TE FOR JD	TK

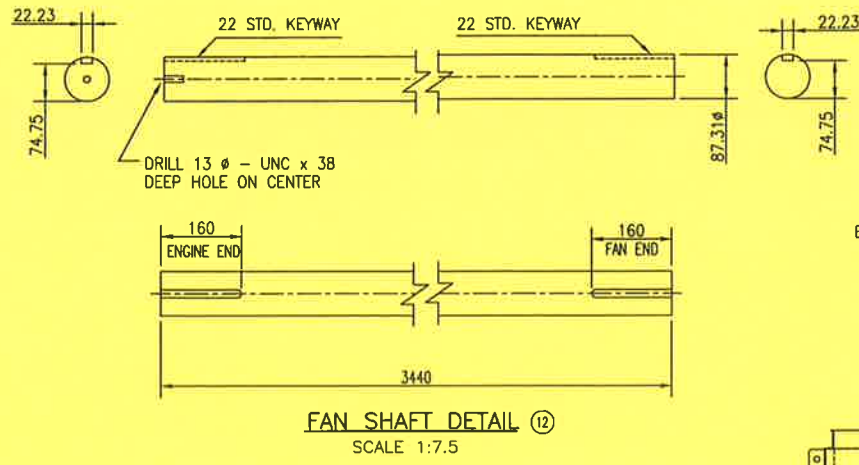
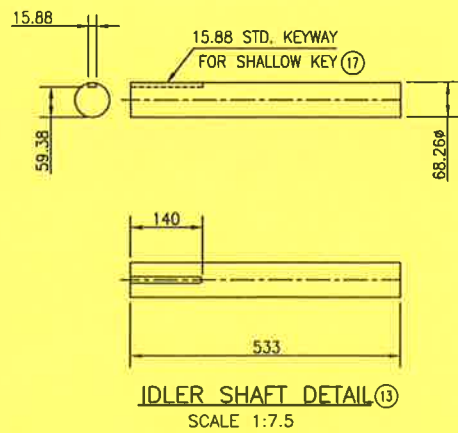
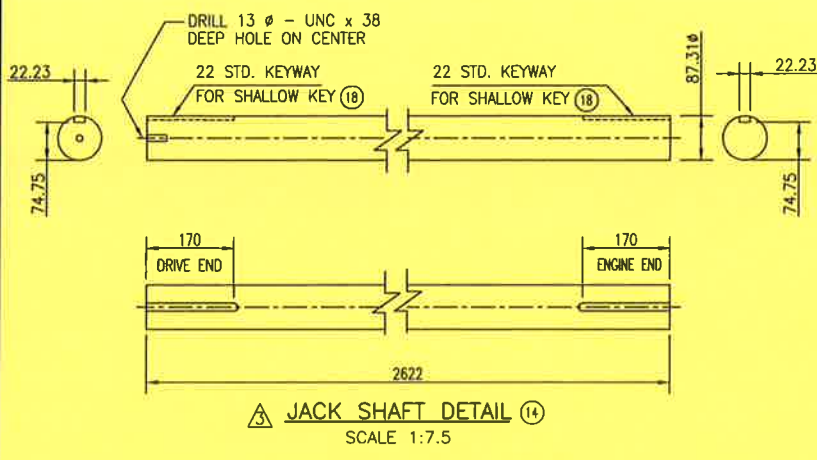
APPROVED		DRAWN	
MECH./STRUCT. SEWMS	BY I. BRAGINSKY	DATE 00/05/17	DATE 00/05/15
ELECTRICAL	CHECKED	BY J. DELORME	DATE 00/05/17
PROJECT P. CRAWFORD	DATE 00/05/17	SCALE 1:25	REV. 4

APACHE CANADA LTD.
 1478 HP HAMBURG COMPRESSOR PACKAGE
 AERIAL COOLER LAYOUT (AC-210/211/212/220/230)
 MDL: 1-SV-1-156-312-F (WAUKESHA L7042GL)

PROPAK
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

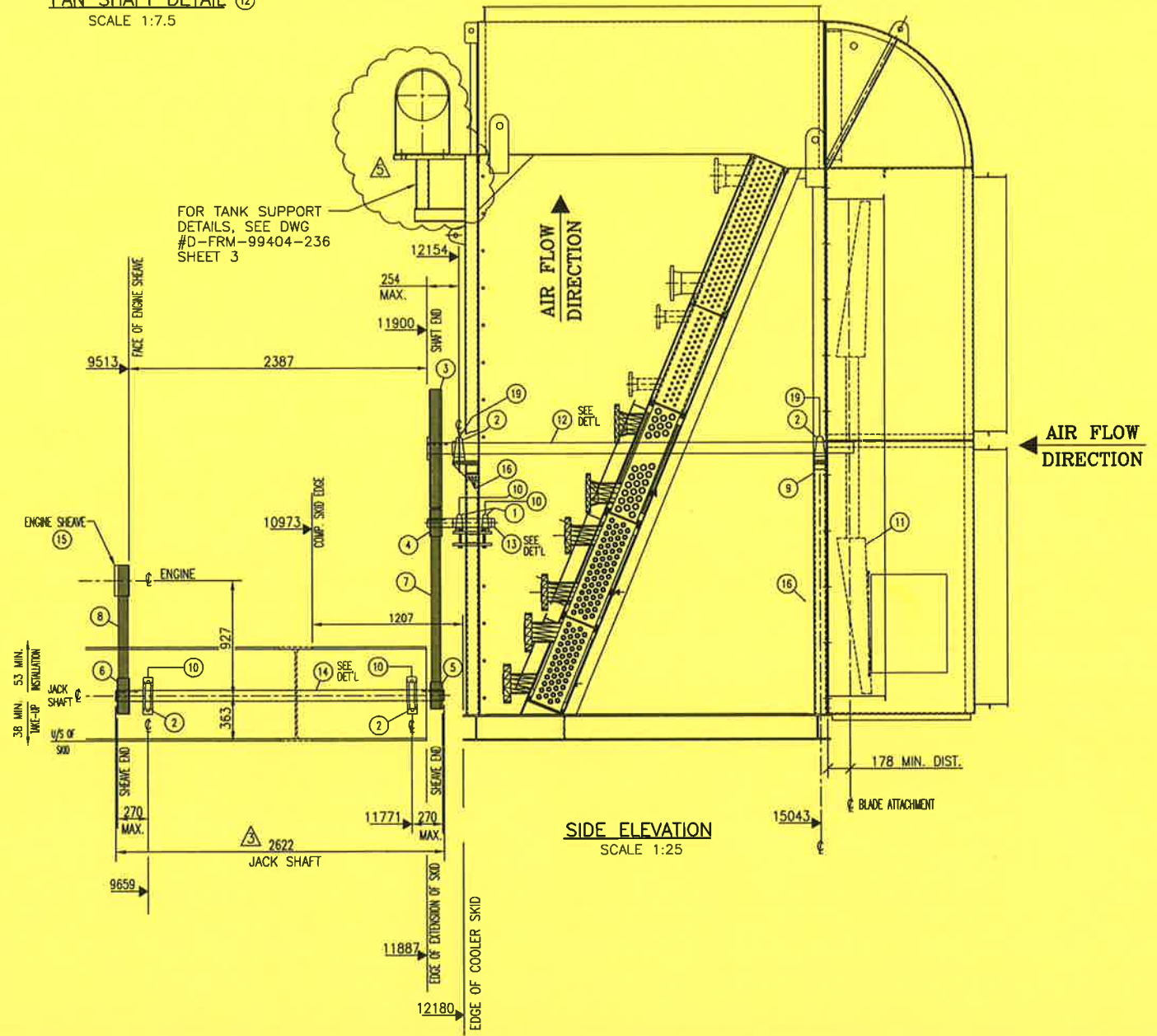
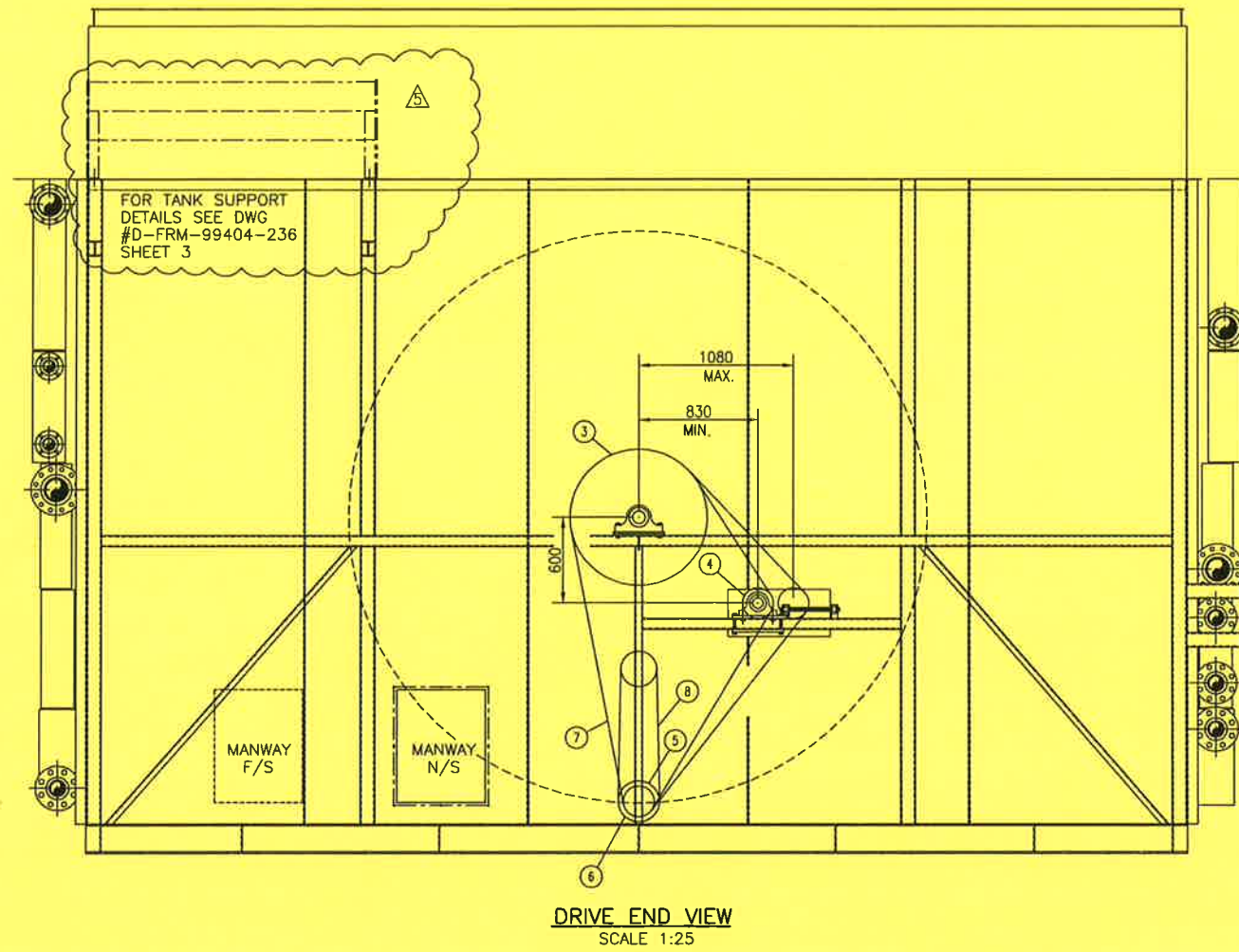
DWG. No.: D-LYT-99404-238 SHEET 1 OF 2

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BILL OF MATERIAL			DESCRIPTION
ITEM	QUA		
1	2	BEARING: 2 11/16" SERIES 215 IRON PILLOW BLOCK, SCM MEDIUM DUTY, PART #126820	DODGE
2	4	BEARING: 3 7/16" SERIES 218 IRON PILLOW BLOCK, SCM MEDIUM DUTY, PART #126823	DODGE
3	1	FAN SHWT SHEAVE: SV GROOVE PROFILE, SV-5-37.5-C3 c/w V TYPE BUSHING 3 7/16" (87.31mm) BORE STD. KEYWAY GATES	GATES
4	1	IDLER SHWT SHEAVE: SV GROOVE PROFILE, SV-5-8.5-A1 c/w E TYPE BUSHING 2 11/16" (68.26mm) BORE SHALLOW KEYWAY GATES	GATES
5	1	JACK SHWT SHEAVE (COOLER END): SV GROOVE PROFILE, SV-5-8.5-A1 c/w E TYPE BUSHING 3 7/16" (87.31mm) BORE SHALLOW KEYWAY GATES	GATES
6	1	JACK SHWT SHEAVE (ENGINE END): SV GROOVE PROFILE, SV-5-11.3-A1 c/w E TYPE BUSHING 3 7/16" (87.31mm) BORE SHALLOW KEYWAY GATES	GATES
7	1	V-BELTS: 5V-2500 (1) SET OF (5) MATCHED BANDED BELTS	GATES
8	1	V-BELTS: 5V-1060 (1) SET OF (5) MATCHED BANDED BELTS	GATES
9	1	VIBRATION SWITCH: VS2-EX, 24 VDC, CSA APPROVED, XP, CONTACTS OPEN ON HI	MURPHY
10	4	GREASE HOSE: 10.2 (1/8") NPT x 457 (18") LG., 3500 psi WORKING PRESSURE	LINCOLN DORWIN Q218 OR EQUIV.
11	1	13 FT. (3962) MOORE FAN: CLASS 5000-SERIES 60 ED c/w (11) BLADES, 12" (305mm) HUB O/D, OD BUSHING TYPE "J" 3 7/16" (87.31) BORE c/w 7/8" (22.22) STD. KEYWAY, 12.1° CLEVIS ANGLE, LEFT HAND BLADES WITH VT TIPS	
12	1	ROUND BAR: 87.31 Ø x 3440 LG. (SEE DETAIL, KEYWAYS REQUIRED MACHINING)	C1045-TC&P
13	1	ROUND BAR: 68.26 Ø x 533 LG. (SEE DETAIL, KEYWAYS REQUIRED MACHINING)	C1045-TC&P
14	1	ROUND BAR: 87.31 Ø x 2622 LG. (SEE DETAIL, KEYWAYS REQUIRED MACHINING)	C1045-TC&P
15	1	ENGINE SHEAVE: (6) 9.6 (244mm) PITCH DIA., SV SECT. GROOVES, 0.69 (18mm) GROOVE SPACING (REF.)	
16	4	SWAGelok TUBE FITTING: BULK HEAD FEMALE CONNECTION, PART# 400-71-2	
17	1	RECTANGULAR KEY: 15.88 x 11.11 x 140 LG.	C1045-TC&P
18	2	RECTANGULAR KEY: 22.23 x 15.88 x 140 LG.	C1045-TC&P
19	2	SWAGelok TUBE FITTING: ELBOW FOR FAN BEARING (MALE CONNECTION), PART# 400-2-2	

* - PURCHASED BY ENGINEERING



1. WEIGHT OF ASSEMBLY ITEMS: 625 KG.	
2. DATUM FOR ALL TAILED DIMENSIONS IS PER DWG D-SKD-99404-114A (SHT. 1)	
GENERAL NOTES	
DATE: 2000.10.23 10:55am	FILE NAME: J:\jobs99\DWG\99404\Cir-client changes\LYT-99404-238-02.dwg

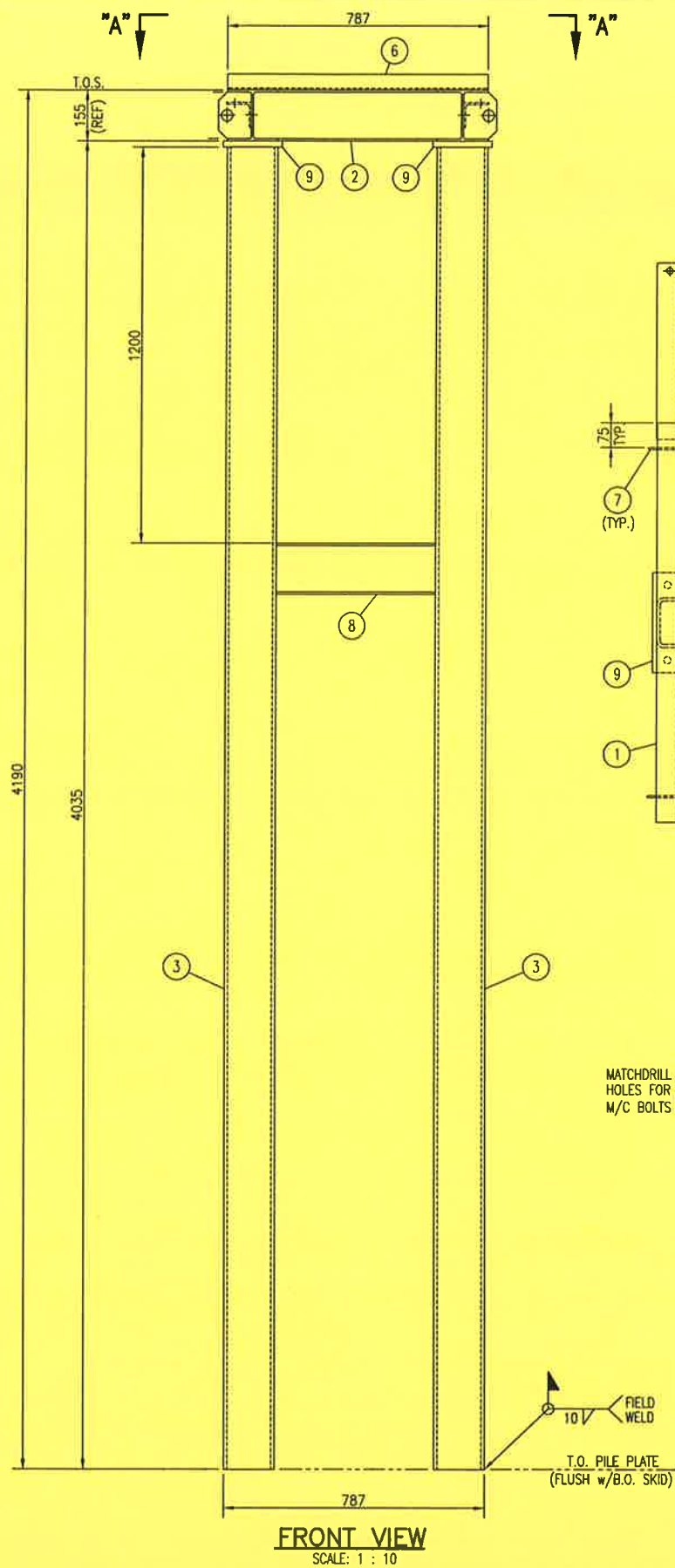
No.	REVISION	BY	DATE	CKD	ENG
5	ADDED TANK SUPPORT	G. CHIN	00/05/17	DP	SLW
4	ADDED DUCTING/ REPLACED BUNDLES AC-210/211/212	J. DELORME	00/10/06	D.P.	G.W.
3	ITEM #14 WAS 2640 LG	J. DELORME	00/06/16	T. EWING	P.M.L.C.
2	RE-ISSUED FOR CONSTRUCTION	J. DELORME	00/05/17	J.D.	P.C.
1	ISSUED FOR CONSTRUCTION	B. PRITCHEL	00/02/17	TE FOR JD	TK

APPROVED	BY	DRAWN
MECH./STRUCT. S. ISAACS	I. BRAGINSKY	I. BRAGINSKY
DATE: 00/05/17	DATE: 00/05/16	
ELECTRICAL	CHECKED	
DATE: 00/05/17	BY: J. DELORME	
PROJECT: P. CRAWFORD	DATE: 00/05/17	
DATE: 00/05/17	SCALE: AS NOTED	

APACHE CANADA LTD.	
1478 HP HAMBURG COMPRESSOR PACKAGE AERIAL COOLER LAYOUT (DRIVE ASSEMBLY) MDL: 1-SV-1-156-312-F	
DWG. No.: D-LYT-99404-238	SHEET 2 OF 2 REV. 5

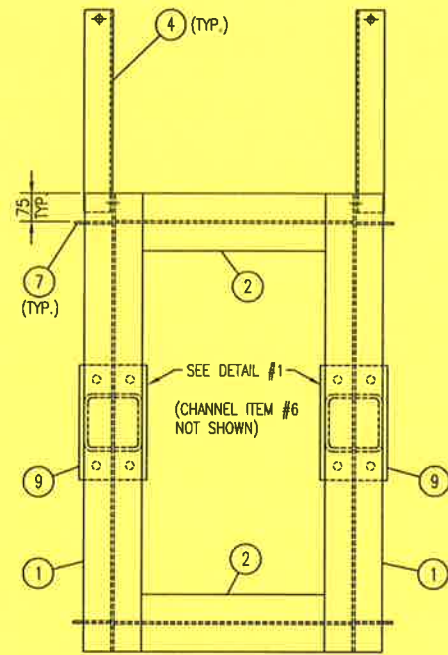
PROPAK
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

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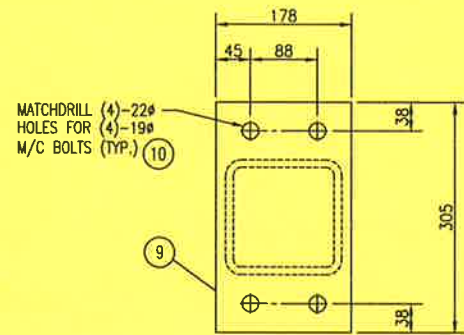


FRONT VIEW
SCALE: 1 : 10

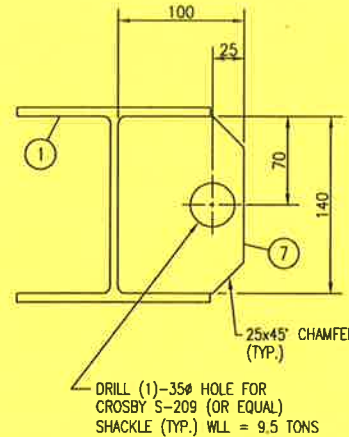
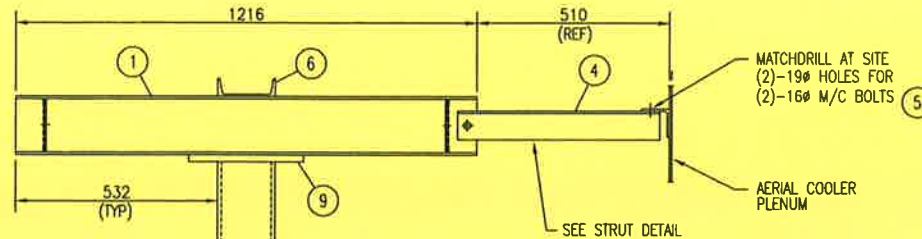
SIDE VIEW
SCALE: 1 : 10



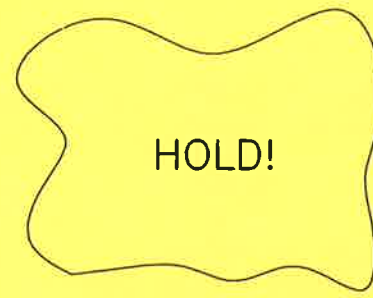
VIEW 'A-A'
SCALE: 1 : 10



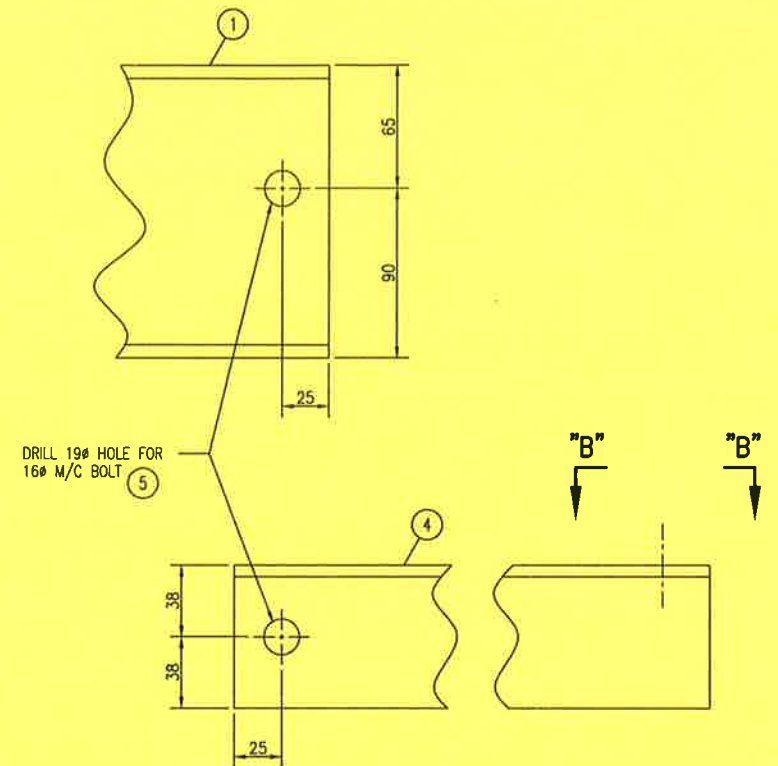
DETAIL #1
SCALE: 1 : 5



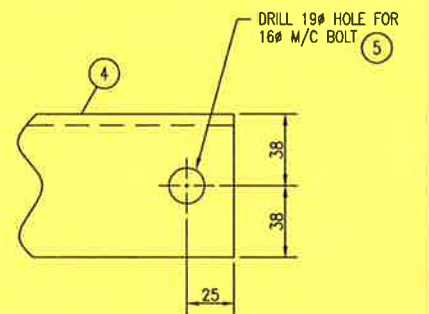
LIFTING LUG DETAIL
SCALE: 1 : 3



LIFTING DIAGRAM



STRUT DETAIL
SCALE: 1 : 2



VIEW 'B-B'
SCALE: 1 : 2

ITEM QUA		BILL OF MATERIAL DESCRIPTION	
1	2	W150 x 22 x 1216 LG.	G40.21M-300W
2	2	W150 x 22 x 629 LG.	G40.21M-300W
3	2	HSS: 152 x 152 x 9.5 THK. x 4016 LG.	G40.21M-350W
4	2	ANGLE: 76 x 76 x 6 THK. x 534 LG.	G40.21M-300W
5	4	M/C BOLTS: 16# x 38 LG. c/w (1) HEX. NUT EA. (ZINC COATED)	SA-325
6	1	CHANNEL: C150 x 12 x 787 LG.	G40.21M-300W
7	4	F/BAR: 6 THK. x 100 WD x 140 LG.	G40.21M-300W
8	1	W150 x 22 x 483 LG.	G40.21M-300W
9	2	PLATE: 19 THK. x 178 WD x 305 LG.	SA-36
10	8	M/C BOLTS: 19# x 54 LG. c/w (1) HEX. NUT EA. (ZINC COATED)	SA-325

- NOTES:**
1. STAND SUPPORT WEIGHT APPROX.: 505 kg.
 2. REMOVE ALL SHARP EDGES AND BURRS.
 3. CUT LENGTHS ARE EXACT WITH TOLERANCE +0/-3
 4. ALL DIMENSIONS ARE IN MILLIMETERS.
 5. WELDING SHALL BE PERFORMED USING E-7018 OR E-70-T SEMIAUTOMATIC ELECTRODES U.N.O.
 6. COPE MEMBERS TO SUIT.
 7. ALL WELDS TO BE 6 mm CONT. FILLET U.N.O.
 8. PAINT SPECS: PNT-11

DATE: 2000.10.25 10:00am FILE NAME: J:\jobs99\DWG\99404\Comp\Misc\SPT-99404-316-01.dwg

1 ISSUED FOR CONSTRUCTION
No. REVISION

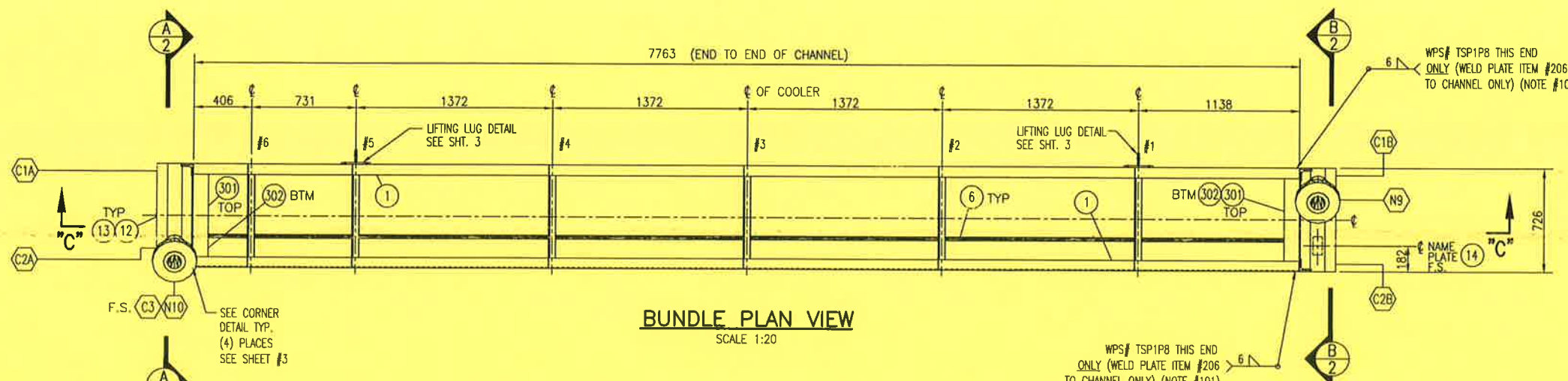
PHIL R. 00/10/25
BY DATE CRD ENG

APPROVED
MECH./STRUCT. BY PHIL R.
DATE 00/10/17
ELECTRICAL CHECKED
DATE BY G. ZAVALA
PROJECT DATE 00/10/25
DATE

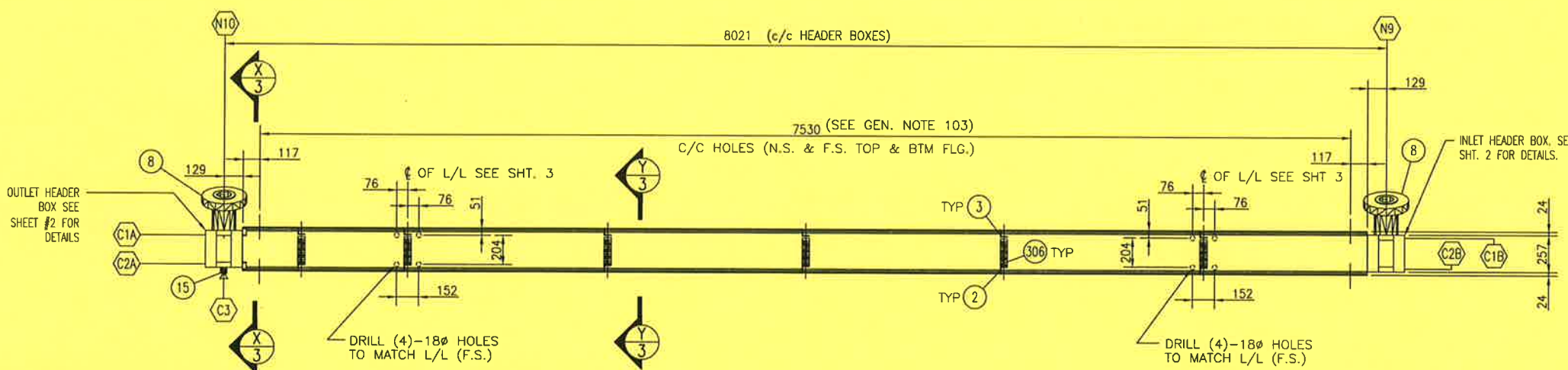
APACHE CANADA LIMITED
1478 HP HAMBURG COMPRESSOR PACKAGE
STAND SUPPORT
FOR KS-225
DWG. No.: D-SPT-99404-316
REV. 1

PROPAK
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

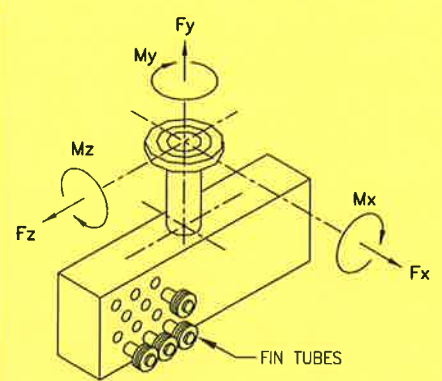
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



BUNDLE PLAN VIEW
SCALE 1:20

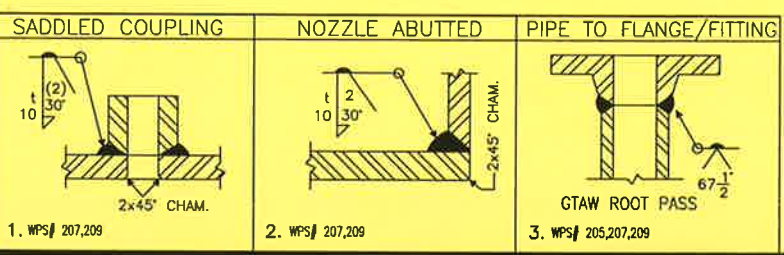


BUNDLE ELEVATION SECTION 'C - C'
SCALE 1:20



114# NOZZLES

MAXIMUM ALLOWABLE NOZZLE LOADS	
Fx	1500 lb
Fy	1200 lb
Fz	1500 lb
Mx	1200 ft-lb
My	1800 ft-lb
Mz	1200 ft-lb



MATERIAL NOTES:

22 U.T. SCAN IN STRICT ACCORDANCE WITH SA-435 ON A 51mm GRID, FOLLOWED BY AN EXAMINATION TO SA-577

NOZZLE SCHEDULE

MK	SIZE	RATING	FACING	SCH	SERVICE	EXT. PROJ	WELD
N9	114	1500#	RFLWN	30 W.T.	3rd STG. AFTERCOOLER INLET	SPEC	2
N10	114	1500#	RFLWN	30 W.T.	3rd STG. AFTERCOOLER OUTLET	SPEC	2
C1	29	SHLDR PLUG	12 UNF	-	VENT	-	-
C2	29	SHLDR PLUG	12 UNF	-	DRAIN	-	-
C3	27	6000#	NPT	-	TC w/ PLUG	-	1

* PURCHASED BY ENGINEERING

BILL OF MATERIAL

ITEM	QUA	DESCRIPTION	
1	2	SIDE CHANNELS: C310@31 kg/m x 7763 LONG	G40.21M-300W
2	6	BTM. TUBE SUP'T: L51 x 51 x 6.4 THK. x 711 LONG	G40.21M-300W
3	6	TOP TUBE SUP'T: L51 x 51 x 6.4 THK. x 711 LONG	G40.21M-300W
4			
5			
* P 6	46	TUBES (WELDED): 25φ x 14 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINIUM FINES	
		0.4 THK x 16 HIGH @ 394 FINS/m & 98mm STRIP BACK EACH END	SA-249-TP304
7			
P 8	2	FLG: 114 - 1500# RFLWN x 162 O/D x 102 I/D x 305 LG	SA-182-F304L
9			
10			
11			
P 12	92	GASKET: 35 (1 3/8") O/D x 29 (1 1/8") ID x 1.59 (1 1/16") THK	304SS
		MAX BHN 110	
P 13	92	HEX STEEL SHLDR. PLUG: 29 (1 1/8") φ - (12 UNF) x 51 (2") LG	SA-182-F304
14	1	NAME PLATE c/w MOUNTING BRACKET	SS/SA-36
15	1	CPLG: 27 - 6000# NPT c/w PLUG	SA-182-F304L
16			

NOTE:

MANUFACTURERS SPECS
 QCP: AQP-1050(S), AQP-1227(S)
 WPR: WP-590.2
 SERVICE: NATURAL GAS

MECHANICAL LOADING GOVERNS PER UG 22: NO PRODUCTION IMPACT TEST REQ'D: NO

IMPACT TESTING:
 NO -PER UHA-51(d)(1)(d)

CAPACITY: 0.153 m³
TUBE S.A. INCL. FINES: 610.37 m²

WEIGHT EMPTY: 2500 kg
WEIGHT FULL OF WATER: 2653 kg

PAINT SPEC: (NON-STAINLESS PARTS) PNT-11

INSULATION: NONE
SHIP LOOSE: NO
TACK & PRESS. TO STRUCT WELDS: WPS#207
STRUCT TO STRUCT WELDS: 101, 109

MANUFACTURER SPECS
 SERIAL NO: 99404-331 CRN: -
 YEAR BUILT: 2000
 LSD #: -
 CODE: -

ASME SECT. VIII DIV I, '98, ADDENDA '99

DESIGN PRESSURE: 11377 kPag
DESIGN TEMPERATURE: 176 °C
M.D.M.T.: -28.8°C @ 11377 kPag
HYDROTEST PRESSURE: 17065 kPag
MATERIAL: TUBES: SA-249-TP304 (WELDED)
HEADER: SA-240-304L
RADIOGRAPHY: N/A
PWHT: MIN TEMP/TIME: NO
CORR. ALLOWANCE: 3.18 mm
"SOUR SERVICE"
 TAG NO: AC-212

GENERAL NOTES	GENERAL NOTES
101. THE INLET HEADER BOX CAN BE WELDED TO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE PLATE (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE OUTLET HEADER BOX, IT SHOULD BE FREE TO SLIDE.	104. ALTERNATE GASKET: DOUBLE-JACKETED NON-ASBESTOS FILLED 304SS SAME DIMENSIONS AS ITEM #12
102. REMOVE ALL SHARP EDGES AND BURRS.	105. LIQUID PENETRANT TEST REQUIRED ON PLATE & PERIPHERAL EDGE PREPARATIONS BOTH BEFORE & AFTER WELDING PER UG-93(d)4.
103. ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.	

REVISION	BY	DATE	CKD	ENG
1	G. CHIN	23/06		NP

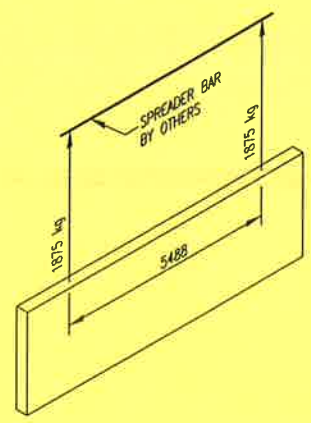
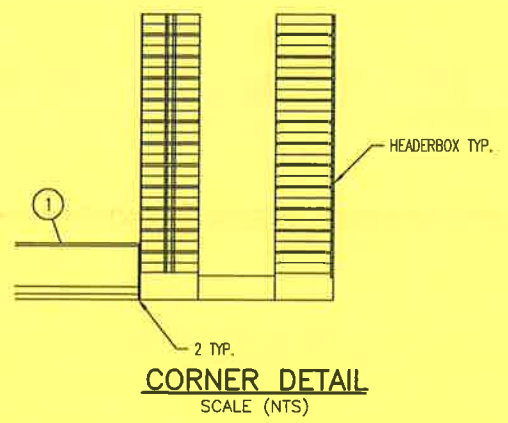
APPROVED	DRAWN
MECH./STRUCT. <i>[Signature]</i>	BY G. CHIN
DATE 23/06	DATE 00/09/29
ELECTRICAL	CHECKED
DATE	BY
PROJECT	DATE 22/06/06
DATE	SCALE AS NOTED

APACHE CANADA LIMITED
 1478 HP HAMBURG COMPRESSOR PACKAGE
 3rd STAGE AFTERCOOLER
 AC-212

PROPAC
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

DWG. No.: D-BDL-99404-331 SHT. 1 OF 4 REV. 1
 SHT. 4 IS B SIZE 11" x 17"

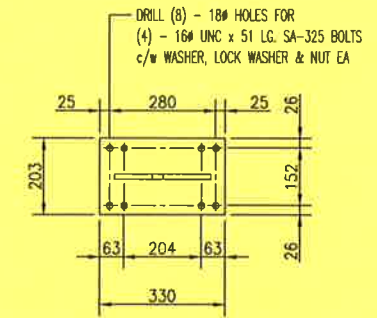
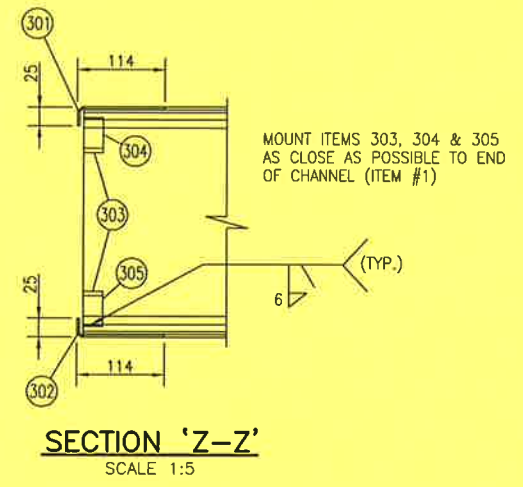
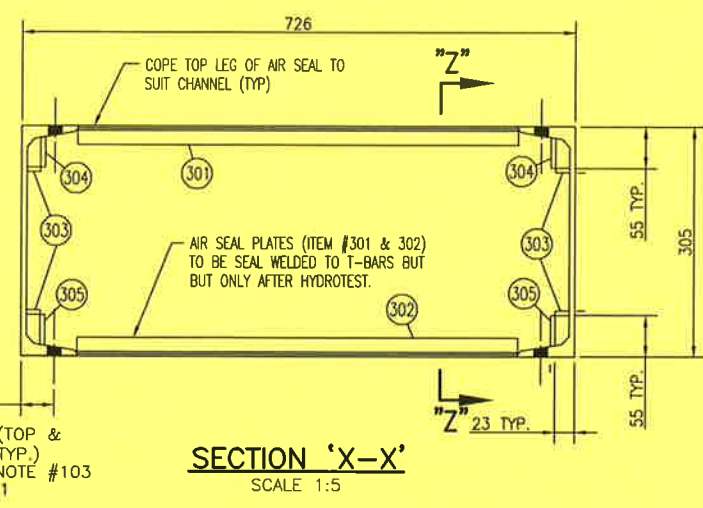
TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.
 THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



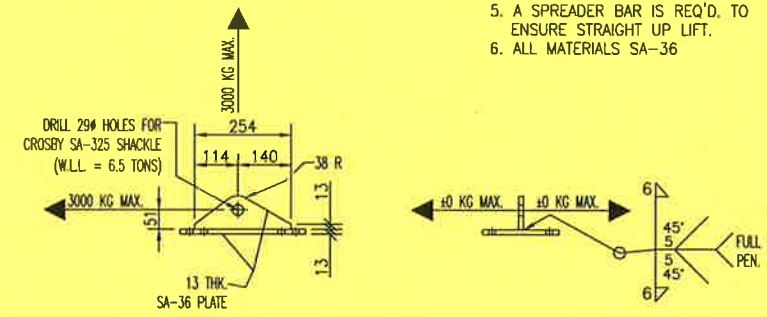
NOTE: WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
 LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2500 kg

LIFTING DIAGRAM
FOR AC-212

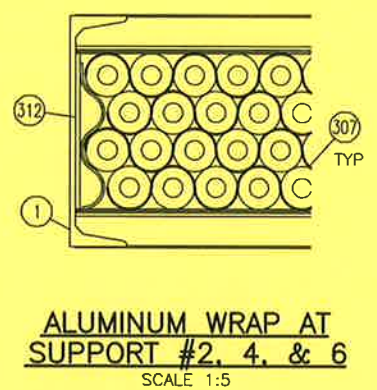
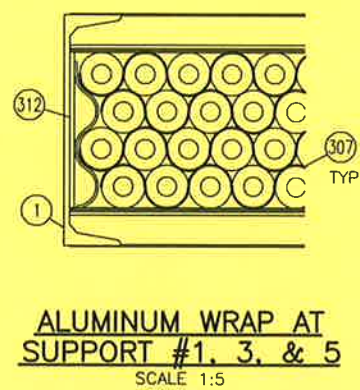
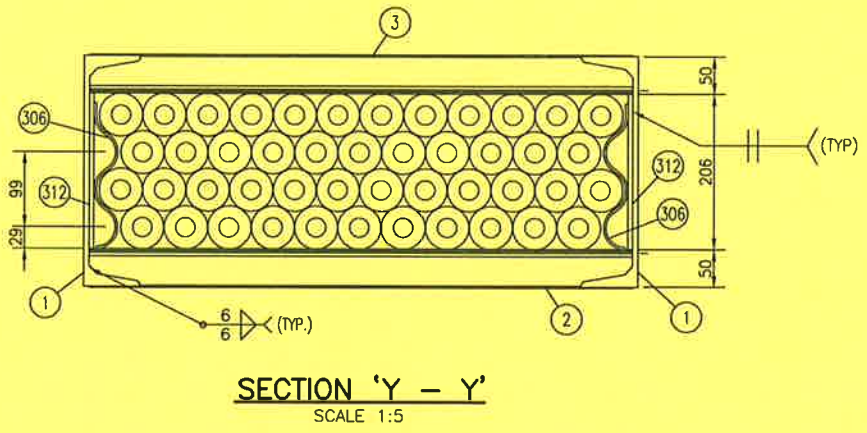
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
301	2	TOP AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 682 LONG	SA-36
302	2	BTM. AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 682 LONG	SA-36
303	4	FLAT BAR: 6 THK. x 25 WD x 16 LONG	G40.21M-300W
304	2	FLAT BAR: 6 THK. x 25 WD x 42 LONG	G40.21M-300W
305	2	FLAT BAR: 6 THK. x 25 WD x 42 LONG	G40.21M-300W
306	12	FORMED SECTION: FLAT BAR - 3 THK. x 51 WD. x 400 LG (F. & C.T.S.)	G40.21M-300W
307	24	ALUMINUM WRAP: 38 WD. x 24 BWG x 1100 LONG CTS	ALUMINUM
308			
309			
310			
311			
312	12	FLAT BAR: 6 THK. x 102 WD x 206 LG. (SHOP CHECK THICKNESS)	G40.21M-300W



- NOTES:
- HOLES SPACED 204 APART ARE FOR 305 DEEP SIDE CHANNEL. HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
 - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
 - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".
 - ALWAYS USE 2 LUGS FOR LIFTING.
 - A SPREADER BAR IS REQ'D. TO ENSURE STRAIGHT UP LIFT.
 - ALL MATERIALS SA-36



REMOVABLE LIFTING LUG DETAIL
(REUSABLE)
(2) - REQUIRED
SCALE 1:10



19# HOLE (TOP & BTM. FLG. TYP.) SEE GEN. NOTE #103 ON SHEET 1

GENERAL NOTES	
1	ISSUED FOR CONSTRUCTION

GENERAL NOTES	
No.	REVISION
BY	DATE
CKD	ENG

APPROVED		DRAWN	
MECH./STRUCT.	BY	G. CHIN	DATE
DATE	CHECKED	00/09/29	
ELECTRICAL	BY		
DATE	CHECKED		
PROJECT	DATE	02/10/06	
DATE	SCALE	AS NOTED	

APACHE CANADA LIMITED	
1478 HP HAMBURG COMPRESSOR PACKAGE	
3rd STAGE AFTERCOOLER	
AC-212	
DWG. No.:	D-BDL-99404-331
SHT. 3 OF 4	REV. 1
SHT. 4 IS B SIZE 11" x 17"	

PROPAC
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

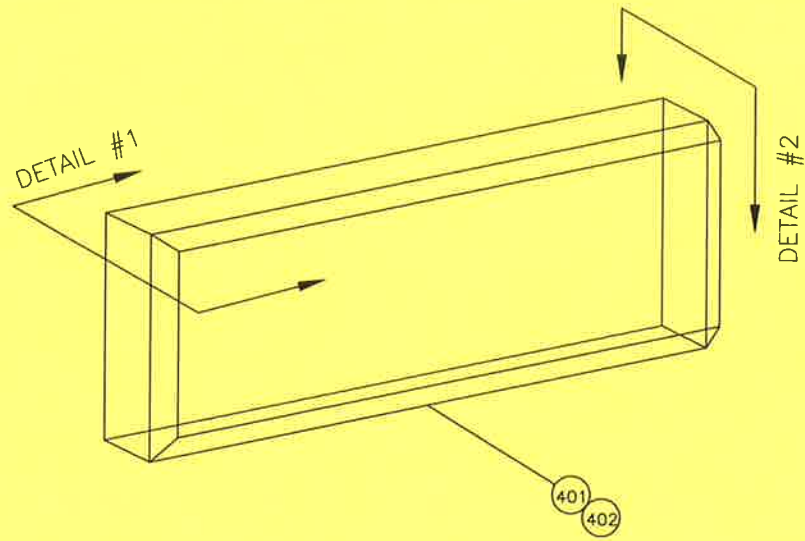
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

MATERIAL NOTES

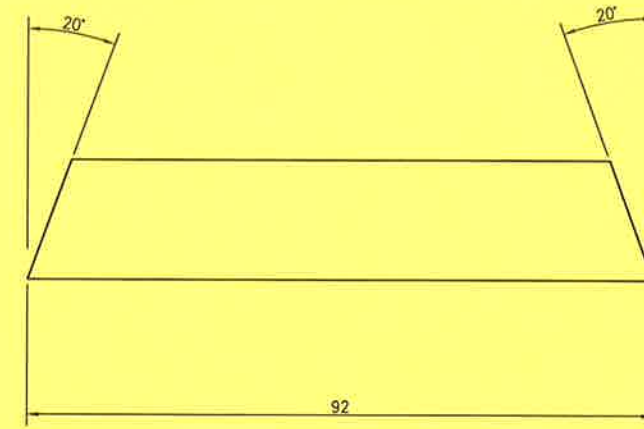
22 U.T. SCAN IN STRICT ACCORDANCE WITH SA-435 ON A 51mm GRID, FOLLOWED BY AN XAMINATION TO SA-577.

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
401	2	H.B. TUBESHEET - PLATE: 76.2 THK. x 257 x 726 LG. (THESE PLATES MUST BE BEVELLED ON 4 SIDES, SEE DETAIL #1 FOR LONG EDGES, DETAIL 2 FOR SHORT EDGES) (DIMENSIONS IN FINISHED CONDITION) SA-240-304L
402	2	H.B. PLUGSHEET - PLATE: 76.2 THK. x 257 x 726 LG. (THESE PLATES MUST BE BEVELLED ON 4 SIDES, SEE DETAIL #1 FOR LONG EDGES, DETAIL 2 FOR SHORT EDGES) (DIMENSIONS IN FINISHED CONDITION) SA-240-304L
403	4	WRAPPER PLATE: 34.93 THK. x 92 x 726 LG. (THESE PLATES MUST BE PRE-BEVELLED ALONG THE TWO LONGEST SIDES @ 20°, SEE DETAIL 3) (DIMENSIONS IN FINISHED CONDITION) SA-240-304L
404	4	END PLATE: 31.75 THK. x 92 x 177 LG. (THESE PLATES MUST BE PRE-BEVELLED ALONG THE TWO LONGEST SIDES @ 20°, SEE DETAIL 3) (DIMENSIONS IN FINISHED CONDITION) SA-240-304L

SEE NOTE 105



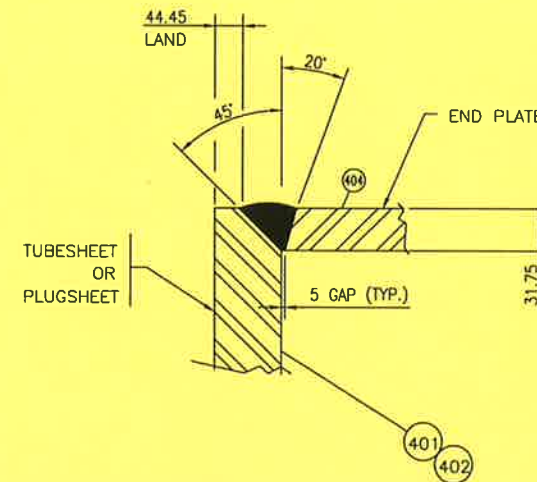
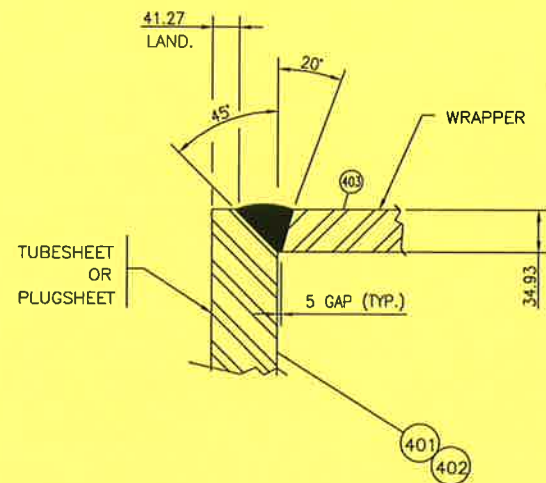
HEADER BOX



DETAIL #3

DETAIL #1 (TYP. BEVEL-TUBE/PLUGSHEET-LONG EDGES)

DETAIL #2 (TYP. BEVEL-TUBE/PLUGSHEET - SHORT EDGES)



105. LIQUID PENETRANT TEST REQ'D ON PLATE & PERIPHERAL EDGE PREPARATIONS BOTH BEFORE & AFTER WELDING PER UG-93(d)4

DATE: 2000.10.06 9:41am FILE NAME: J:\jobs99\DWG\99404\Cir-client changes\BDL-99404-331-04.dwg

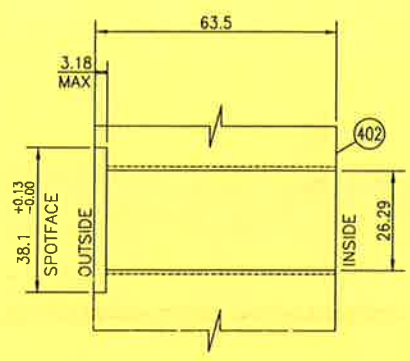
GENERAL NOTES		GENERAL NOTES	
1	ISSUED FOR CONSTRUCTION	J.M.D	00/10/06
		BY	DATE
		CKD	ENG

APPROVED		DRAWN	
MECH./STRUCT.	BY	J. DELORME	DATE
DATE	00/09/22	CHECKED	
ELECTRICAL	BY	ADENOR	DATE
DATE	00/10/06	SCALE	N.T.S.

APACHE CANADA LIMITED	
1478 HP HAMBURG COMPRESSOR PACKAGE	
STAGE 3 AFTERCOOLER	
HEADER BOX BEVELLING DETAILS (AC-212)	
DWG. No.:	B-BDL-99404-331
SHT.	4 OF 4
REV.	1

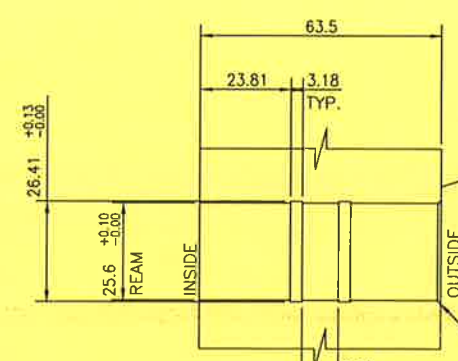
PROPAK
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

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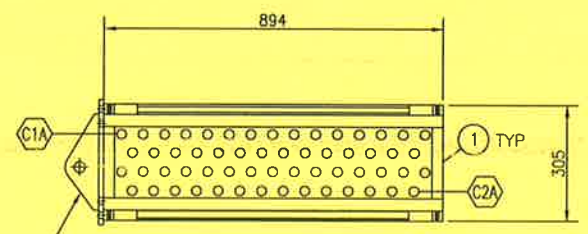
PLUGSHEET HOLES
SCALE 1:1

NOTE: CORE DRILL 26.29 (1.035") ϕ
(TAP 1 1/8"-12 UNF 2B)
RECOMMENDED INSTALLATION TORQUE ON EACH
HEX HEAD SHOULDER PLUG 250 FT-LB
"NICKEL-BASED, ANTI-SEIZE COMPOUND TO BE
USED AS A THREAD LUBRICANT."

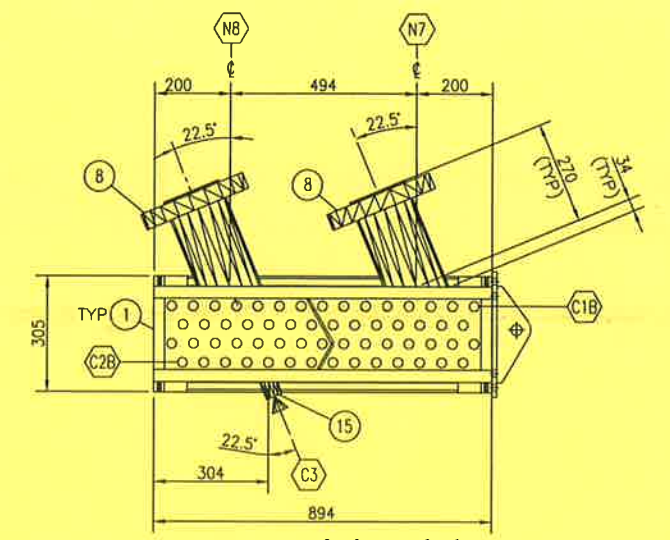


TUBESHEET HOLES
SCALE 1:1

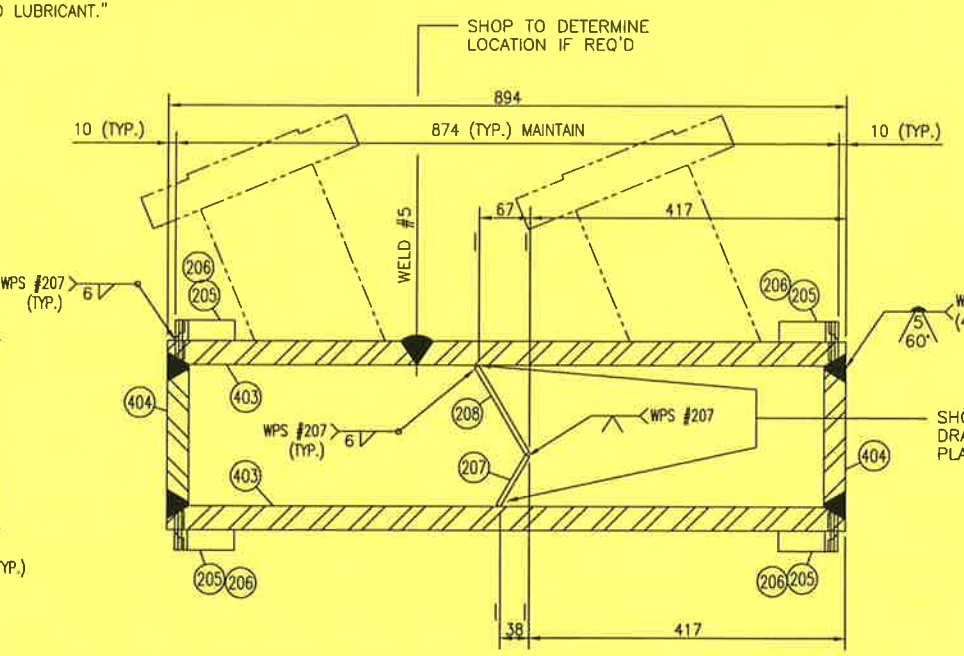
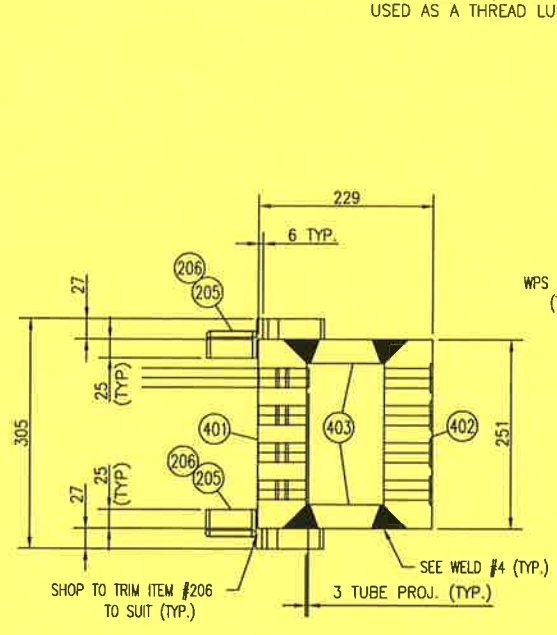
SHOP NOTE: EXPAND TUBES A MINIMUM
OF 61mm. FROM INSIDE FACE OF
TUBESHEET



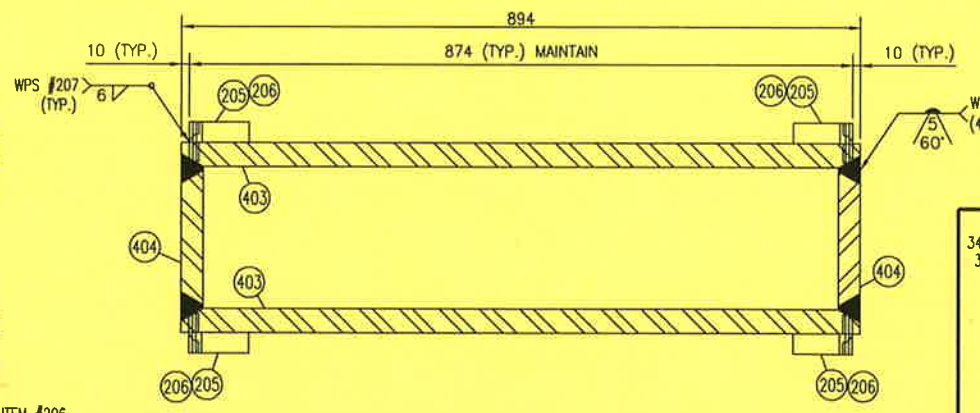
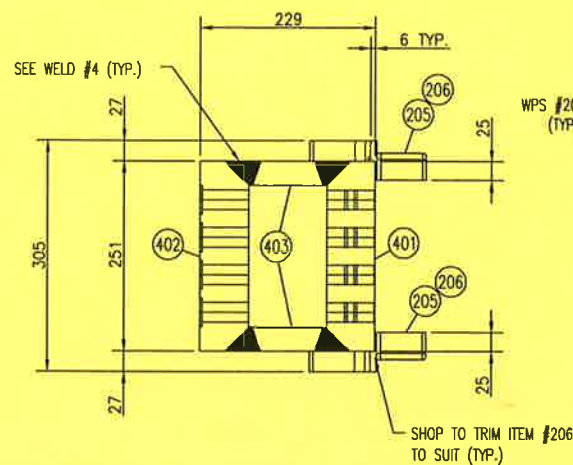
SECTION 'A' - 'A'
SCALE 1:10



SECTION 'B' - 'B'
SCALE 1:10

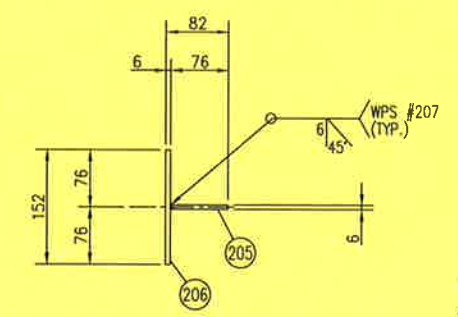


INLET/OUTLET HEADER BOX DETAIL
(VIEWED FROM PLUG SIDE)
SCALE 1:5

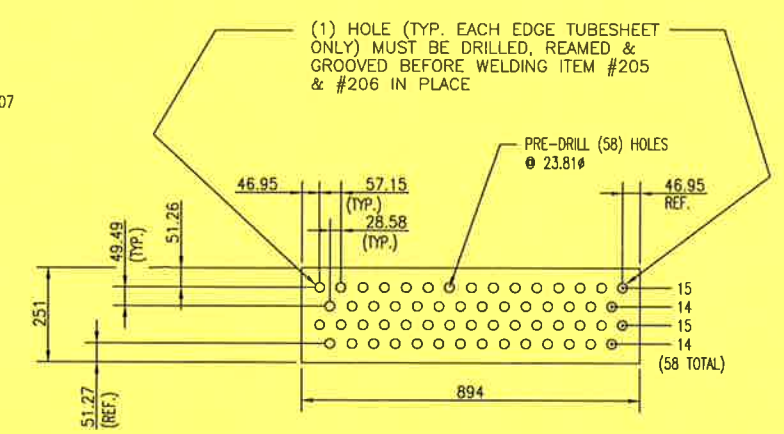


RETURN HEADER BOX DETAIL
(VIEWED FROM TUBE SIDE)
SCALE 1:5

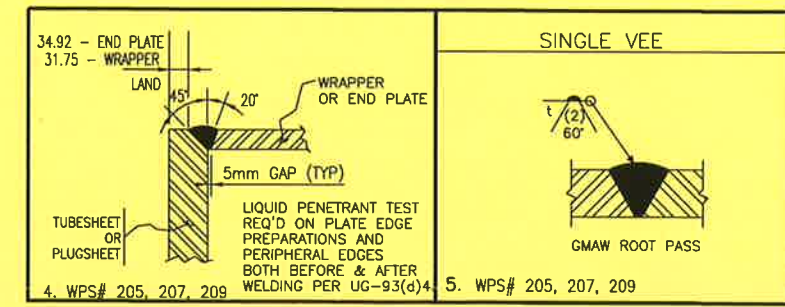
LIFTING LUG (SEE
SHT. 3 FOR DETAILS)
(TYP.)



ITEMS #205 & #206 DETAIL
(8) - REQUIRED
SCALE 1:5



TUBESHEET/PLUGSHEET LAYOUT
SCALE 1:10



4. WPS# 205, 207, 209
5. WPS# 205, 207, 209

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
201			
202			
203			
204			
P 205	8	PLATE: 6 THK x 76 WD x 52 LG	SA-204-304L
P 206	8	PLATE: 6 THK x 152 WD x 52 LG	SA-204-304L
P 207	1	PLATE: 6 THK x 76 WD x 102 LG	SA-204-304L
P 208	1	PLATE: 6 THK x 133 WD x 102 LG	SA-204-304L

SEE SHIT 1 FOR GENERAL NOTES & MATERIAL NOTES

DATE	BY	DATE	CKD	ENG
2000.10.06 10:36am	G. CHIN	20/10/04		

NO.	REVISION
1	ISSUED FOR CONSTRUCTION

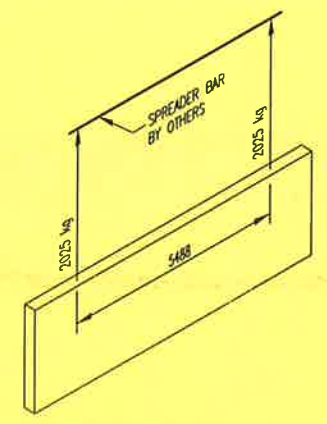
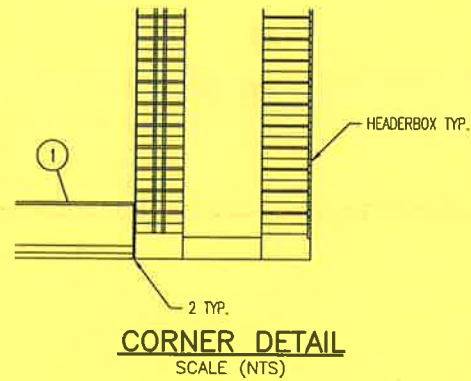
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MECH./STRUCT. <i>[Signature]</i>	BY G. CHIN
DATE 20/10/04	DATE 00/10/04
ELECTRICAL <i>[Signature]</i>	CHECKED
DATE	BY <i>[Signature]</i>
PROJECT	DATE 20/10/06
DATE	SCALE AS NOTED

APACHE CANADA LIMITED
1478 HP HAMBURG COMPRESSOR PACKAGE
2nd STAGE INTERCOOLER
AC-211

PROPAK
440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3

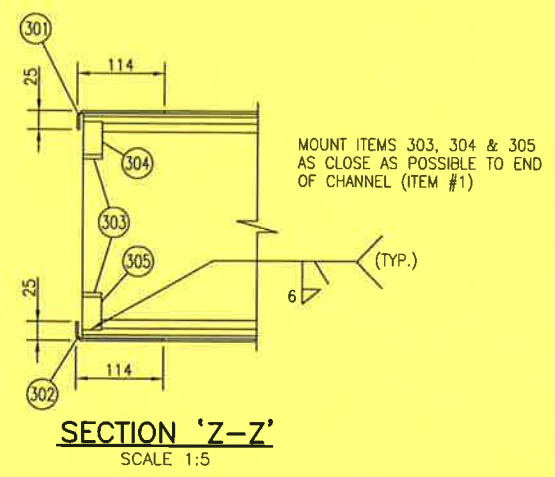
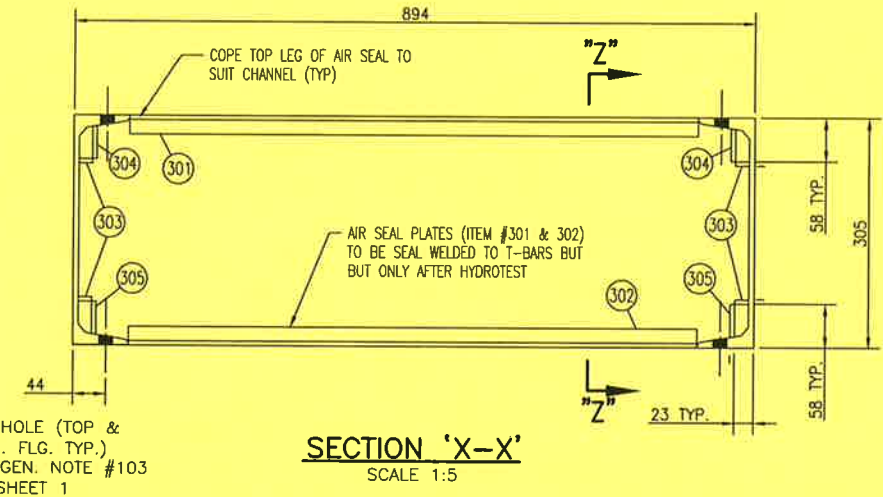
DWG. No.: D-BDL-99404-332 SHIT. 2 OF 4 REV. 1
SHT. 4 IS B-SIZE 11" x 17"

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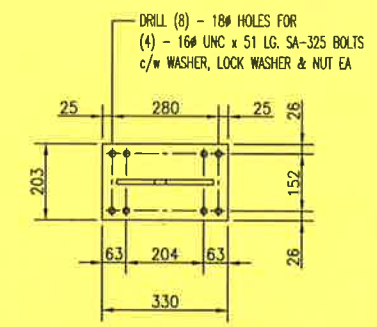
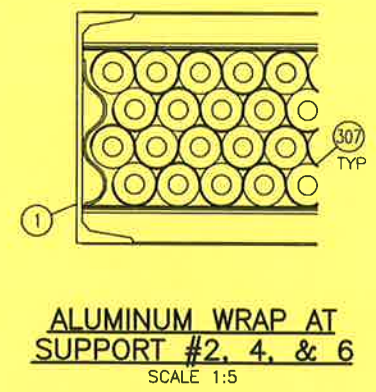
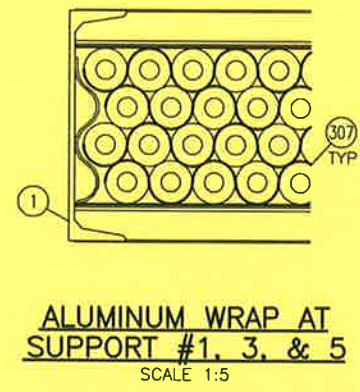
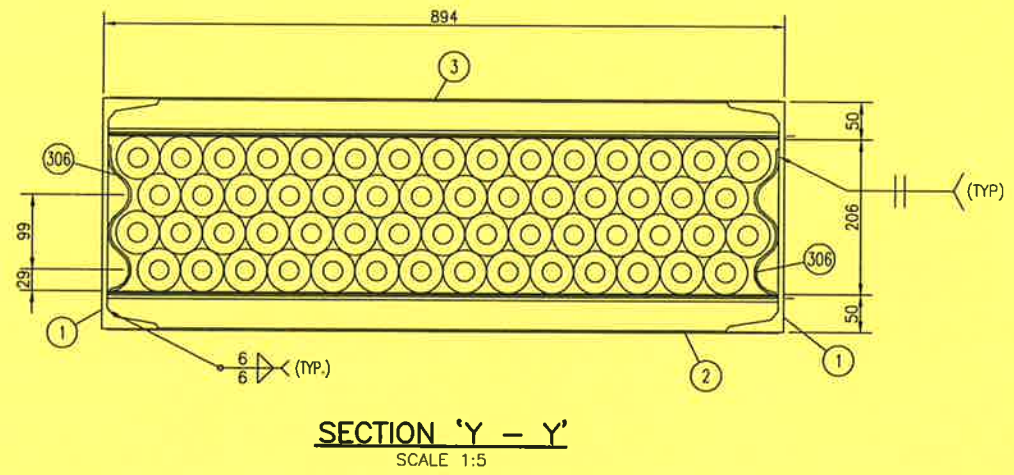


NOTE: WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2700 kg

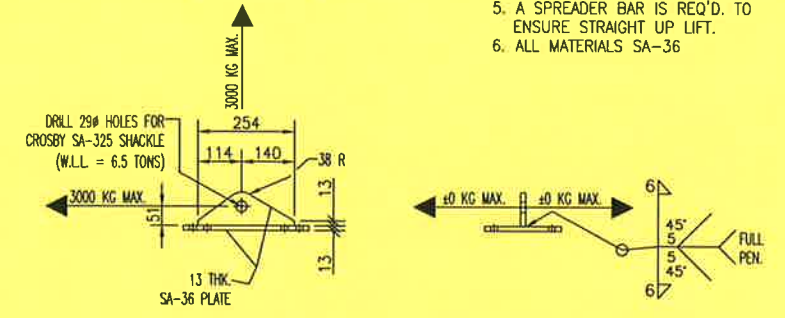
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
301	2	TOP AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 852 LONG	SA-36
302	2	BTM. AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 852 LONG	SA-36
303	4	FLAT BAR: 6 THK. x 25 WD x 16 LONG	G40.21M-300W
304	2	FLAT BAR: 6 THK. x 25 WD x 43 LONG	G40.21M-300W
305	2	FLAT BAR: 6 THK. x 25 WD x 43 LONG	G40.21M-300W
306	12	FORMED SECTION: FLAT BAR - 3 THK. x 51 WD. x 400 LG (F & CTS)	G40.21M-300W
307	24	ALUMINUM WRAP: 38 WD. x 24 BWG x 1400 LONG CTS	ALUMINUM
308			
309			
310			
311			
312			



19Ø HOLE (TOP & BTM. FLG. TYP.)
SEE GEN. NOTE #103 ON SHEET 1



- NOTES:
- HOLES SPACED 204 APART ARE FOR 305 DEEP SIDE CHANNEL. HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
 - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
 - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".
 - ALWAYS USE 2 LUGS FOR LIFTING.
 - A SPREADER BAR IS REQ'D. TO ENSURE STRAIGHT UP LIFT.
 - ALL MATERIALS SA-36



SEE SHIT 1 FOR GENERAL NOTES & MATERIAL NOTES

DATE: 2000.10.06 10:36am FILE NAME: J:\jobs99\DWG\99404\Clr-client changes\BDL-99404-332-01.dwg

NO.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	G. CHIN	02/10/04	JL	MP

APPROVED		DRAWN	
MECH./STRUCT.	BY G. CHIN	DATE	00/10/04
ELECTRICAL	CHECKED	DATE	02/10/06
PROJECT	BY JL	DATE	02/10/06
DATE	SCALE	AS NOTED	

APACHE CANADA LIMITED
1478 HP HAMBURG COMPRESSOR PACKAGE
2nd STAGE INTERCOOLER
AC-211
DWG. No.: D-BDL-99404-332 SHT. 3 OF 4 REV. 1
SHT. 4 IS 8-SIZE 11" x 17"

PROPAK
440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

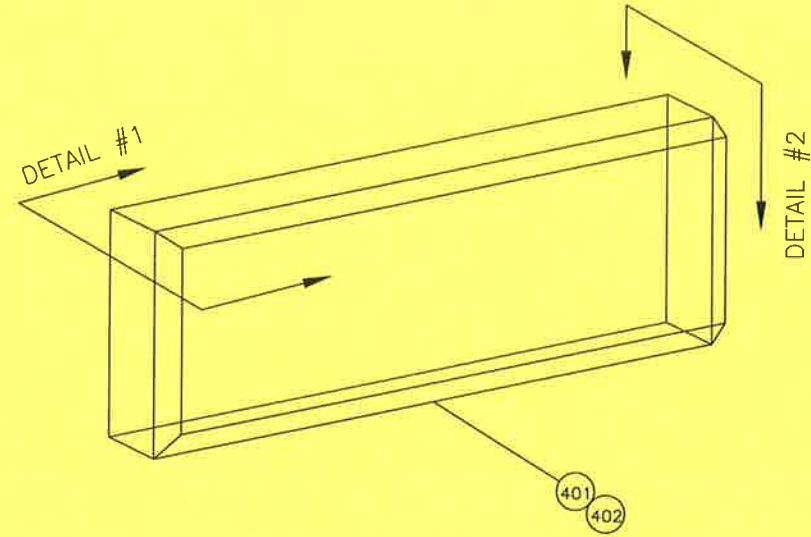
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MATERIAL NOTES

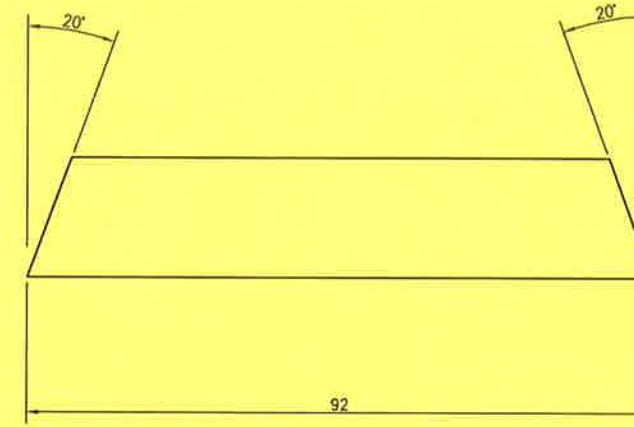
22 U.T. SCAN IN STRICT ACCORDANCE WITH SA-435 ON A 51mm GRID, FOLLOWED BY AN EXAMINATION TO SA-577.

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
401	2	H.B. TUBESHEET - PLATE: 63.5 THK. x 251 x 894 LG. (THESE PLATES MUST BE BEVELLED ON 4 SIDES, SEE DETAIL #1 FOR LONG EDGES, DETAIL 2 FOR SHORT EDGES) (DIMENSIONS IN FINISHED CONDITION)
402	2	H.B. PLUGSHEET - PLATE: 63.5 THK. x 251 x 894 LG. (THESE PLATES MUST BE BEVELLED ON 4 SIDES, SEE DETAIL #1 FOR LONG EDGES, DETAIL 2 FOR SHORT EDGES) (DIMENSIONS IN FINISHED CONDITION)
403	4	WRAPPER PLATE: 31.75 THK. x 92 x 894 LG. (THESE PLATES MUST BE PRE-BEVELLED ALONG THE TWO LONGEST SIDES @ 20°, SEE DETAIL 3) (DIMENSIONS IN FINISHED CONDITION)
404	4	END PLATE: 28.58 THK. x 92 x 177 LG. (THESE PLATES MUST BE PRE-BEVELLED ALONG THE TWO LONGEST SIDES @ 20°, SEE DETAIL 3) (DIMENSIONS IN FINISHED CONDITION)

SEE NOTE 105



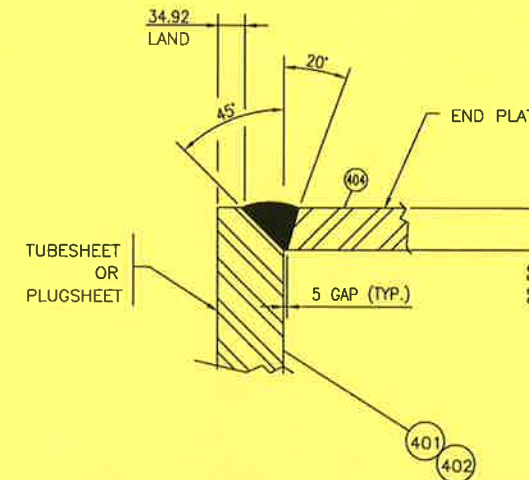
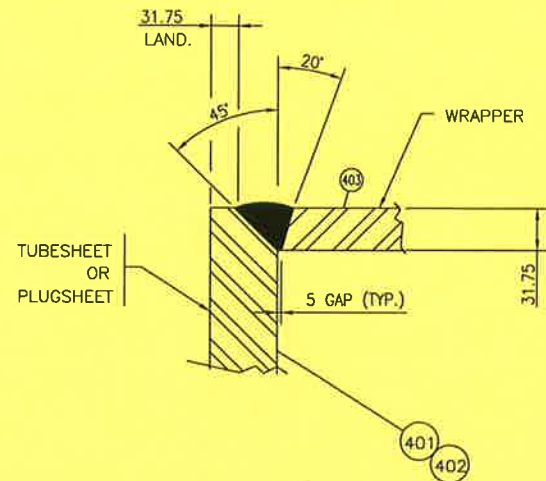
HEADER BOX



DETAIL #3

DETAIL #1 (TYP. BEVEL-TUBE/PLUGSHEET-LONG EDGES)

DETAIL #2 (TYP. BEVEL-TUBE/PLUGSHEET - SHORT EDGES)



105. LIQUID PENETRANT TEST REQ'D ON PLATE & PERIPHERAL EDGE PREPARATIONS BOTH BEFORE AND AFTER WELDING PER UG-93(d)4.

DATE: 2000.10.06 10:07am FILE NAME: J:\jobs99\DWG\99404\Cir-client changes\BDL-99404-332-04.dwg

1 ISSUED FOR CONSTRUCTION

J.M.D 00/10/06

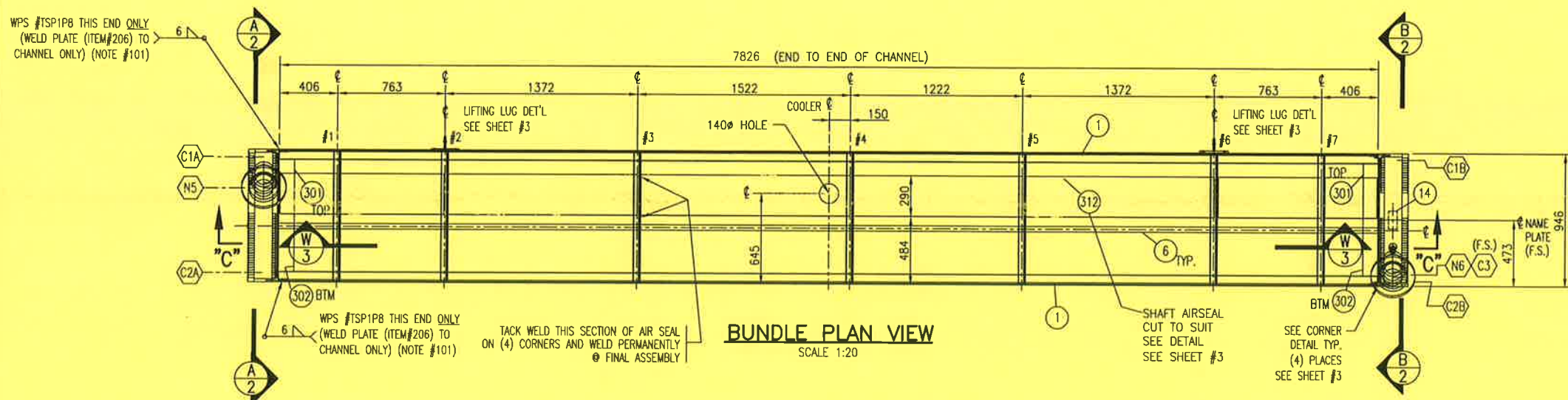
APPROVED	DRAWN
MECH./STRUCT. <i>[Signature]</i>	BY J. DELORME
DATE	DATE 00/09/22
ELECTRICAL	CHECKED
DATE	BY <i>[Signature]</i>
PROJECT	DATE 00/10/06
DATE	SCALE N.T.S.

APACHE CANADA LIMITED
 1478 HP HAMBURG COMPRESSOR PACKAGE
 STAGE 2 AFTERCOOLER
 HEADER BOX BEVELLING DETAILS (AC-211)

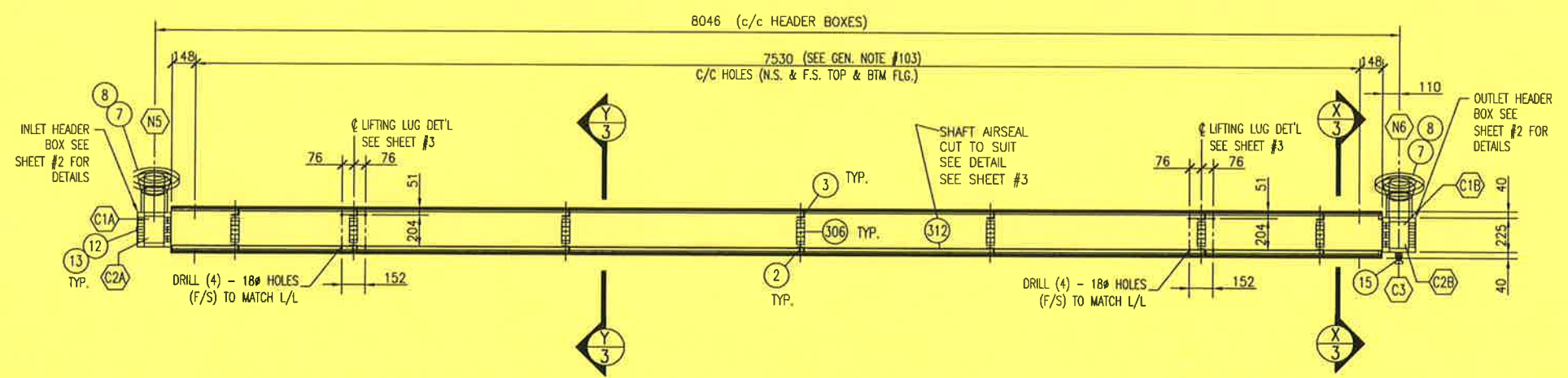
PROPAK
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

DWG. No.: B-BDL-99404-332 SHT. 4 OF 4 REV. 1

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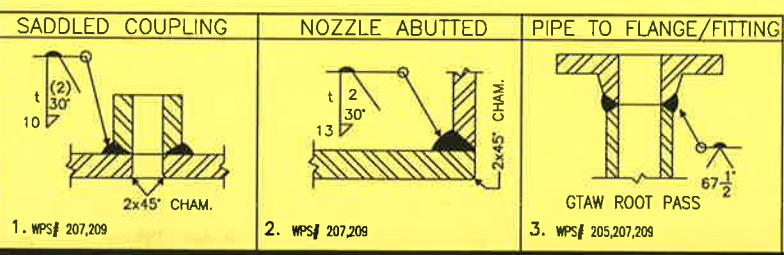
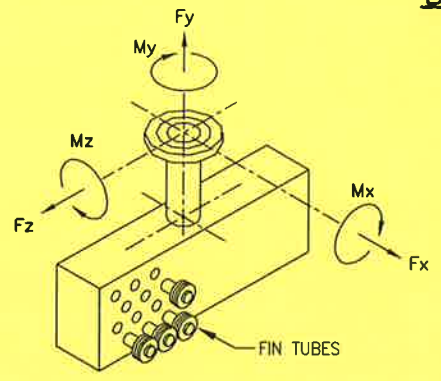
BUNDLE PLAN VIEW
SCALE 1:20



BUNDLE ELEVATION SECTION 'C - C'
SCALE 1:20

168 NOZZLES

MAXIMUM ALLOWABLE NOZZLE LOADS	
Fx	1800 lb
Fy	2260 lb
Fz	2260 lb
Mx	3160 ft-lb
My	4500 ft-lb
Mz	2400 ft-lb



MATERIAL NOTES

U.T. SCAN IN STRICT ACCORDANCE WITH SA-435 ON A 51 MM GRID, FOLLOWED BY AN EXAMINATION TO SA-577.

NOZZLE SCHEDULE

MK	SIZE	RATING	FACING	SCH	SERVICE	EXT. PROJ	WELD
N5	168	600#	RFWN	160	1st STAGE INTERCOOLER INLET	254	2/3
N6	168	600#	RFWN	160	1st STAGE INTERCOOLER OUTLET	254	2/3
C1	41	SHLDR PLUG	12UN	-	VENT	-	-
C2	41	SHLDR PLUG	12UN	-	DRAIN	-	-
C3	27	6000#	NPT	-	TC c/w PLUG	-	1

* PURCHASED BY ENGINEERING

BILL OF MATERIAL

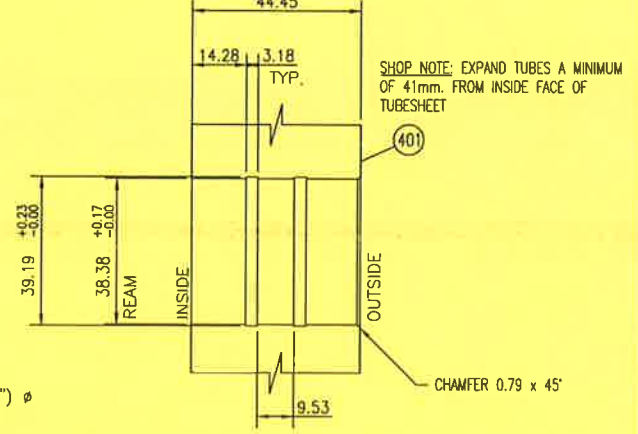
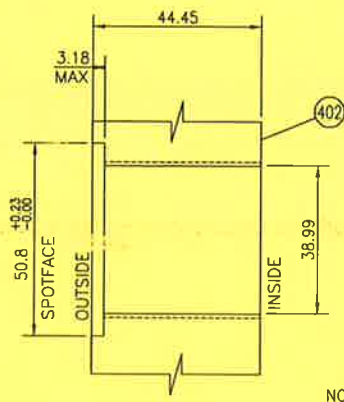
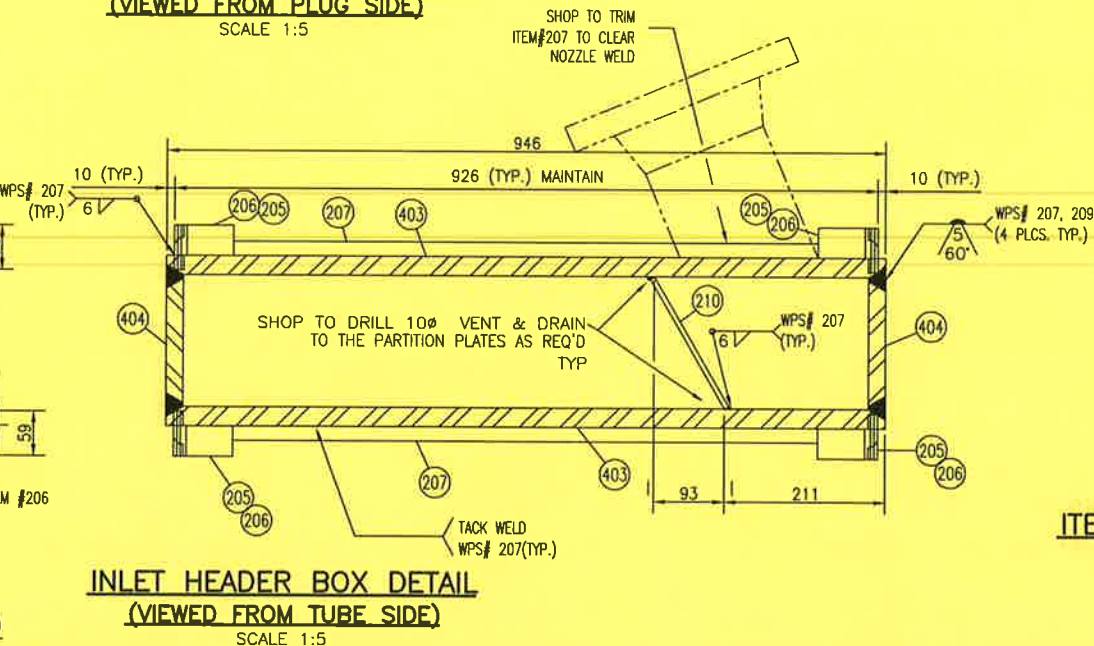
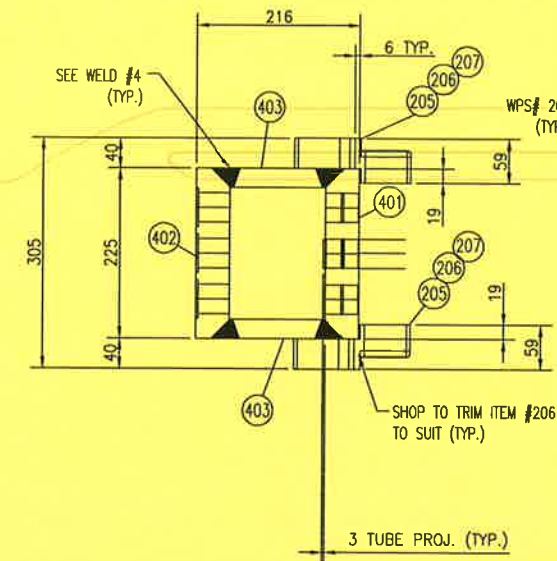
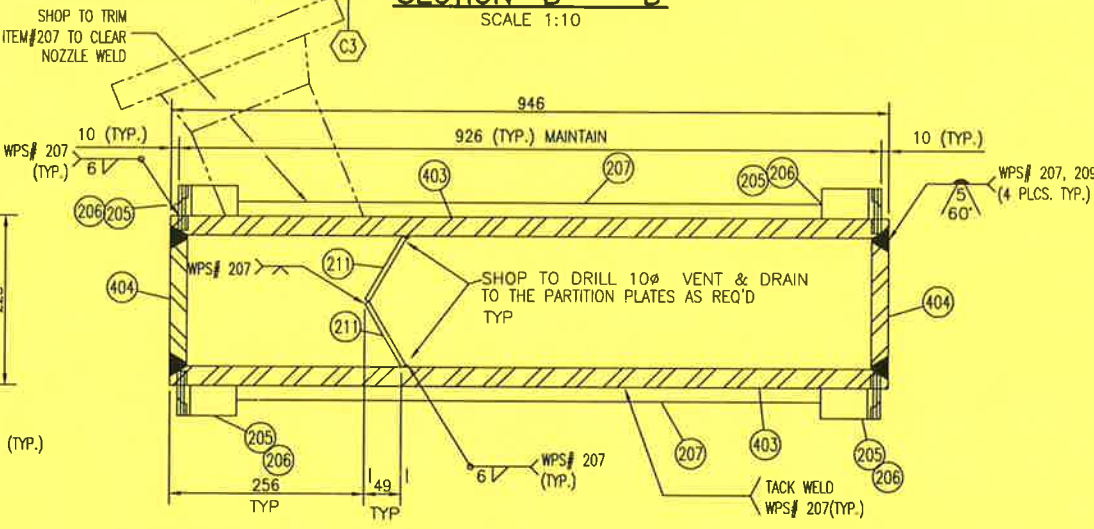
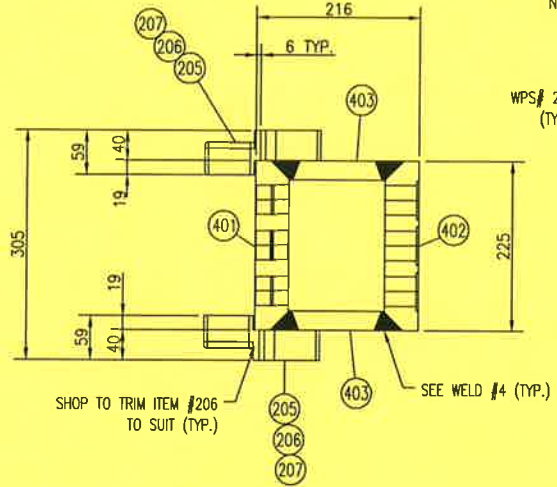
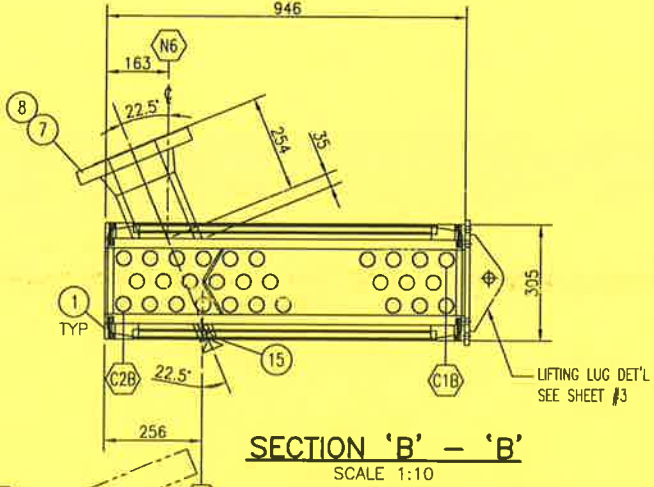
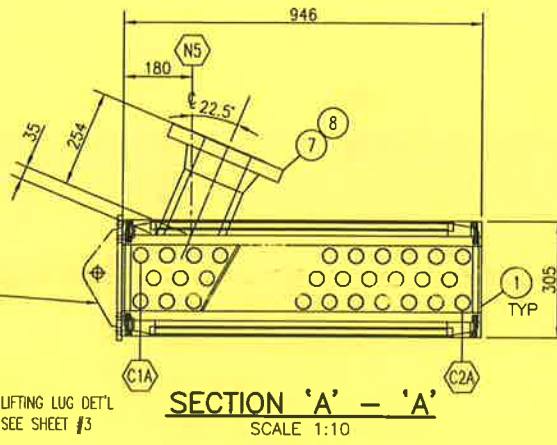
ITEM	QUA	DESCRIPTION	
1	2	SIDE CHANNELS: C310@31 kg/m x 7826 LONG	G40.21M-300W
2	7	BTM. TUBE SUP'T: L51 x 51 x 6.4 THK. x 932 LONG	G40.21M-300W
3	7	TOP TUBE SUP'T: L51 x 51 x 6.4 THK. x 920 LONG	G40.21M-300W
4			
5			
6	29	TUBES (WELDED): 38# x 16 B.W.G. W.T. x 7925 LG. c/w L-TENSION ALUMINIUM FINS	
		0.4 THK x 16 HIGH @ 394 FINS/m & 67mm STRIP BACK EACH END	SA-249-TP304
7	2	PIPE: 168 O/D x 18.26 W.T. x 215 LG (SMLS)	SA-312-TP304L
8	2	FLG: 168 - 600# RFWN SCH 160 BORE	SA-182-F304L
9			
10			
11			
12	58	GASKET: 48 (1 7/8") O/D x 41 (1 5/8") ID x 1.59 (1 1/16") THK	304SS
		MAX BHN 110	
13	58	HEX STEEL SHOULDER PLUG: 41 (1 5/8") # - (12 UN) x 32 (1 1/4") LG	SA-182-F304
14	1	NAME PLATE c/w MOUNTING BRACKET	SS/SA-36
15	1	CPLG: 27 - 6000# NPS c/w PLUG	SA-182-F304L
16			

NOTE:

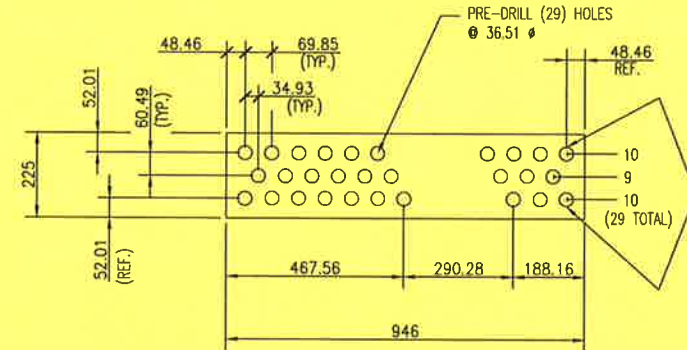
MANUFACTURERS SPECS		SERIAL NO: 99404-333 CRN: -	
QCP:	AQP-1050(S), AQP-1227(S)	YEAR BUILT:	2000
WPR:	WP-590.2	LSD #:	-
SERVICE:	NATURAL GAS	CODE:	-
MECHANICAL LOADING GOVERNS PER UG 22:	NO	ASME SECT. VIII DIV I, '98 , ADDENDA '99	
PRODUCTION IMPACT TEST REQ'D:	NO	DESIGN PRESSURE:	4447 kPag
IMPACT TESTING:		DESIGN TEMPERATURE:	176°C
NO - PER UHA-51(d)(1)(a)		M.D.M.T.:	-28.8°C @ 4447 kPag
		HYDROTEST PRESSURE:	6670 kPag
CAPACITY:	0.248 m ³	MATERIAL:	TUBES: SA-249-TP304 (WELDED)
WEIGHT EMPTY:	2000 kg	HEADER:	SA-240-304L
WEIGHT FULL OF WATER:	2248 kg	RADIOGRAPHY:	N/A EXCEPT FULL UW11(a) ON FLG TO PIPE OF NOZ
TUBE S.A. INCL FINS:	509.71 m ²	PWHT: MIN TEMP/TIME:	NO
PAINT SPEC: (NON-STAINLESS PARTS):	PNT-11	CORR. ALLOWANCE:	3.18 mm
INSULATION:	NONE	"SOUR SERVICE"	TAG NO: AC-210
SHIP LOOSE:	NO		
TACK & PRESS. TO STRUCT WELDS:	207		
STRUCT TO STRUCT WELDS:	101, 109		

101. THE INLET HEADER BOX CAN BE WELDED TO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE PLATE (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE OUTLET HEADER BOX. IT SHOULD BE FREE TO SLIDE.	104. ALTERNATE GASKET: DOUBLE-JACKETED NON-ASBESTOS FILLED 304SS SAME DIMENSIONS AS ITEM #12.	105. LIQUID PENETRANT TEST REQUIRED ON PLATE EDGE PREPARATIONS AND PERIPHERAL EDGES BOTH BEFORE & AFTER WELDING PER UG-93(d).4.	APPROVED MECH./STRUCT. DATE: 00/10/06 ELECTRICAL DATE: 00/10/06 PROJECT DATE: 00/10/06	DRAWN BY: I.LEE CHECKED BY: I.LEE DATE: 00/10/06	ISSUED FOR CONSTRUCTION	BY: I.LEE DATE: 00/10/06 CKD: [Signature] ENG: [Signature]	APACHE CANADA LIMITED 1478 HP HAMBURG COMPRESSOR PACKAGE 1st STAGE INTERCOOLER AC-210	PROPAC 440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3
<p>GENERAL NOTES</p> <p>DATE: 2000.10.06 9:23am FILE NAME: J:\jobs99\DWG\99404\Clr-client changes\BDL-99404-333-01.dwg</p>			<p>REVISION</p> <p>1 ISSUED FOR CONSTRUCTION</p>		<p>SCALE AS NOTED</p> <p>DWG. No.: D-BDL-99404-333 SHT. 1 OF 4 REV. 1</p>			

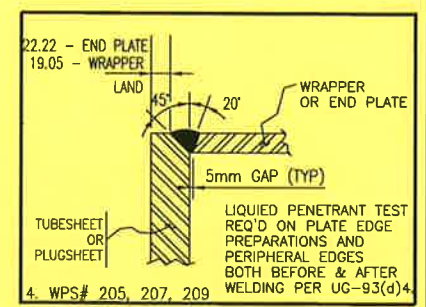
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NOTE: CORE DRILL 38.99 (1.535") ϕ (TAP 1 5/8"-12 UN 2B)
 RECOMMENDED INSTALLATION TORQUE ON EACH HEX HEAD SHOULDER PLUG 800 FT-LB
 "NICKEL-BASED, ANTI-SEIZE COMPOUND TO BE USED AS A THREAD LUBRICANT."

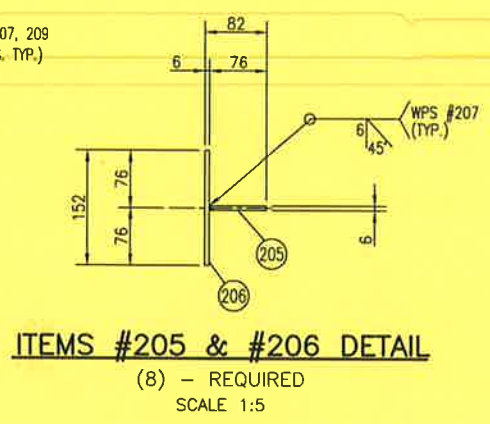


(2) HOLE (TYP. EACH EDGE TUBESHEET ONLY) MUST BE DRILLED, REAMED & GROOVED BEFORE WELDING ITEM # 205 & 206 IN PLACE



BILL OF MATERIAL

ITEM	QUA	DESCRIPTION
201		
202		
203		
204		
P 205	8	PLATE: 6 THK. x 76 WD x 59 LONG SA-240-304L
P 206	8	PLATE: 6 THK. x 152 WD x 59 LONG SA-240-304L
P 207	4	PLATE: 6 THK. x 19 WD x 760 LONG SA-240-304L
208		
209		
P 210	1	PLATE: 6 THK. x 127 WD x 198 LONG SA-240-304L
P 211	2	PLATE: 6 THK. x 127 WD x 97 LONG SA-240-304L



SEE SHT 1 FOR GENERAL NOTES & MATERIAL NOTES

GENERAL NOTES
1 ISSUED FOR CONSTRUCTION

GENERAL NOTES
1 ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	CKD	ENG
1	ILEE	00/10/06	W	W

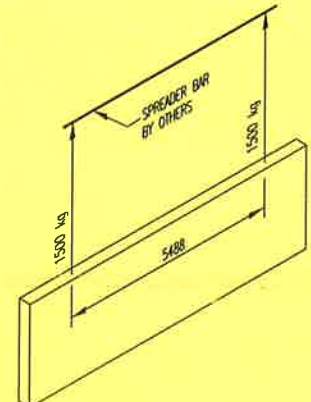
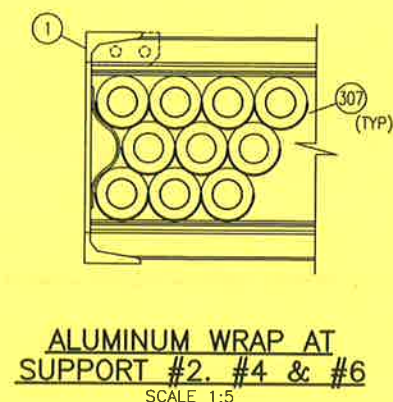
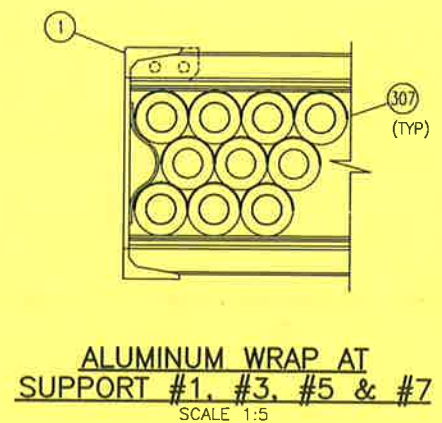
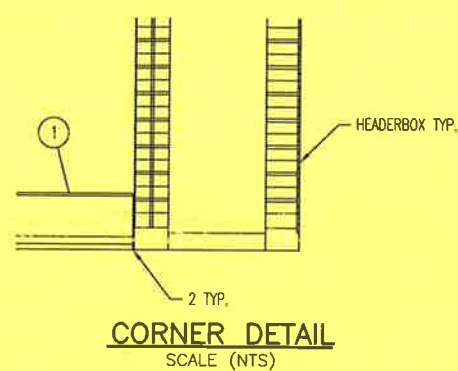
APPROVED	BY	DATE	DRAWN	BY	DATE
	ILEE	00/09/28		ILEE	00/09/28

APACHE CANADA LIMITED
 1478 HP HAMBURG COMPRESSOR PACKAGE
 1st STAGE INTERCOOLER
 AC-210

PROPAK
 440 East Lake Road,
 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3

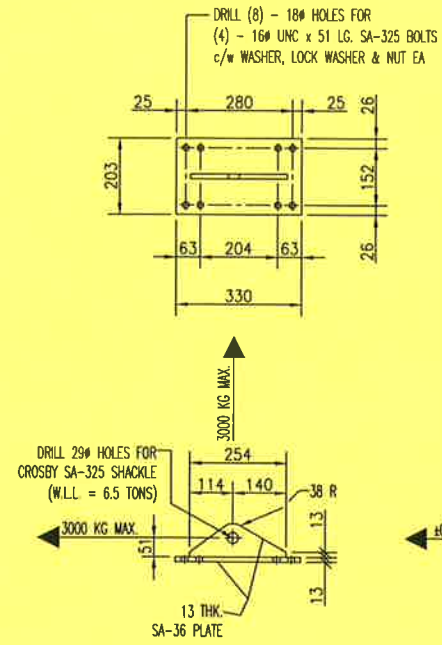
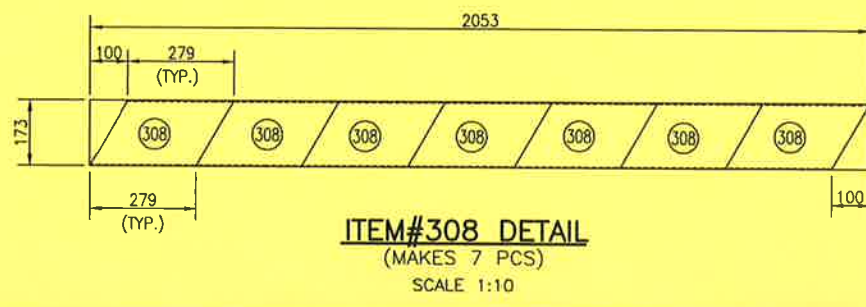
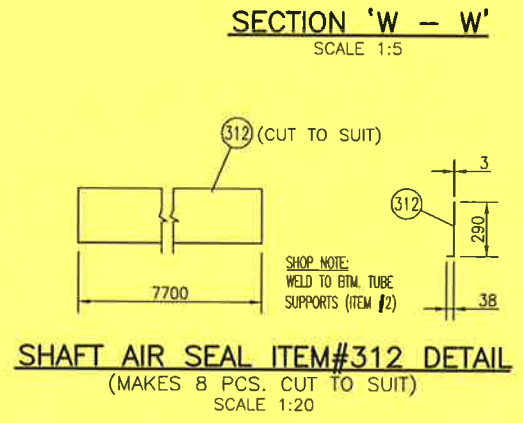
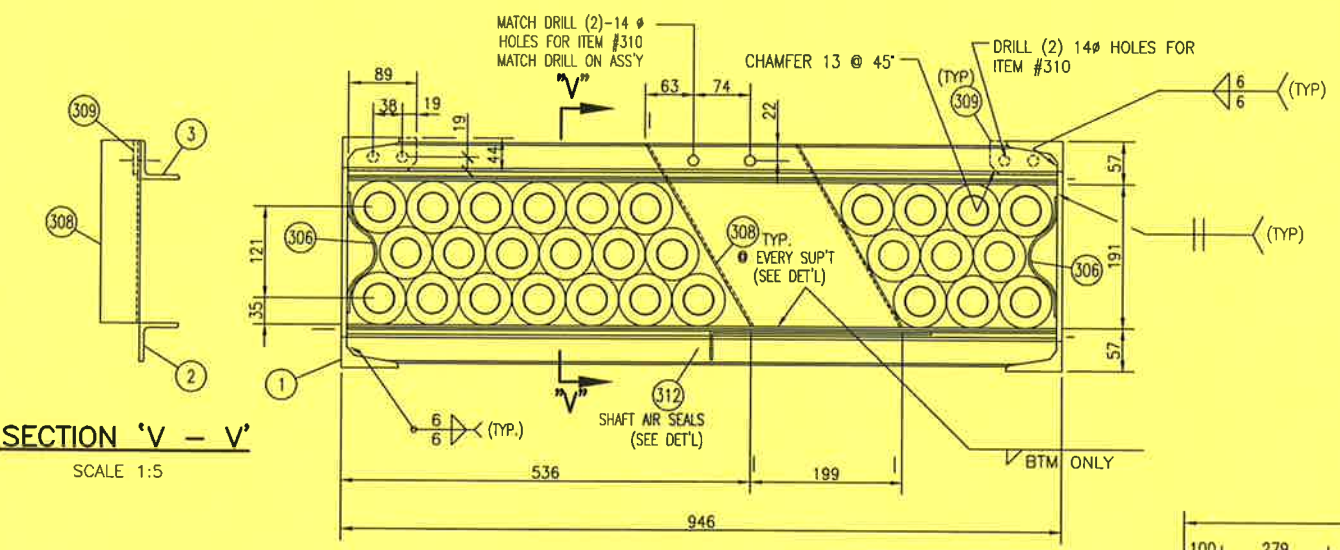
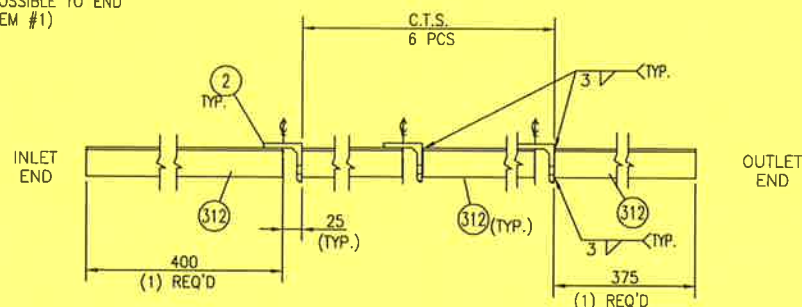
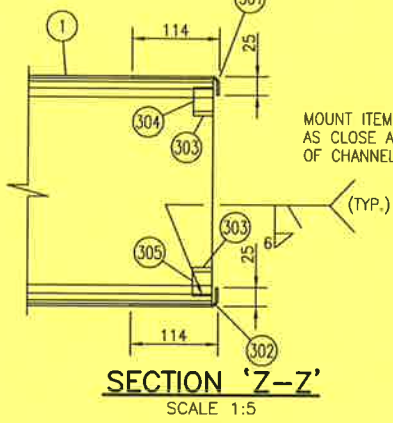
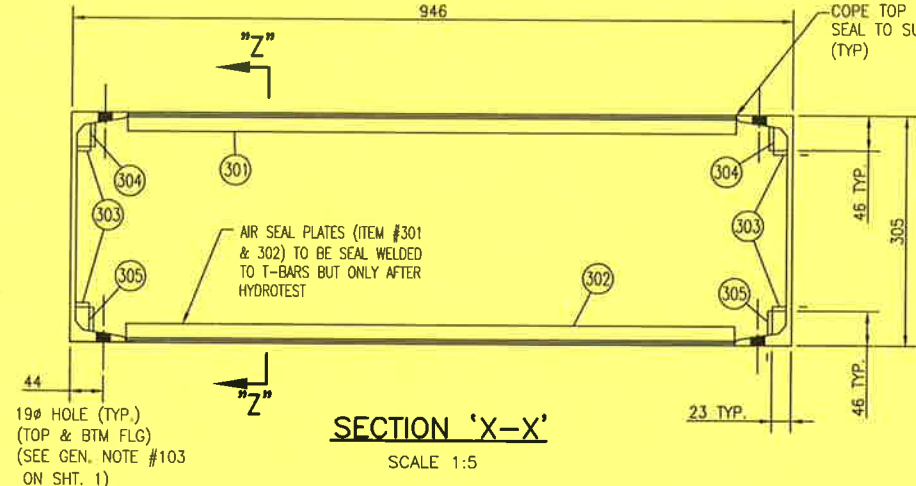
DWG. No.: D-BDL-99404-333 SHT. 2 OF 4 REV. 1
 SHT. 4 IS B-SIZE 11" x 17"

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NOTE: WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2000 kg

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
301	2	TOP AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 902 LONG	SA-36
302	2	BTM. AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 902 LONG	SA-36
303	4	FLAT BAR: 6 THK. x 25 WD x 16 LONG	G40.21M-300W
304	2	FLAT BAR: 6 THK. x 25 WD x 33 LONG	G40.21M-300W
305	2	FLAT BAR: 6 THK. x 25 WD x 33 LONG	G40.21M-300W
306	14	FORMED SECTION: FLAT BAR - 3 THK. x 51 WD. x 300 LONG (F. & C.T.S)	G40.21M-300W
307	21	ALUMINUM WRAP: 38 WD. x 24 BWG x 1200 LONG CTS	ALUMINUM
308	1	PRE-FORMED CHNL: 173 DEEP x 51 WIDE TOP & BTM FLG. x 3 THK. x 2053 LG. (C.T.S)	SA-36
309	14	FLAT BAR: 6 THK. x 89 x 44 LG.	G40.21M-300W
310	42	M/C BOLTS 13 # UNC x 38 LG. c/w WASHER, LOCK WASHER & NUT EA. (ZINC COATED)	SA-325
311			
312	1	SHAFT AIRSEAL: FORMED ANGLE PL.: 3 THK. x 290 x 38 x 7700 LG. (C.T.S)	SA-36



- NOTES:
- HOLES SPACED 204 APART ARE FOR 305 DEEP SIDE CHANNEL. HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
 - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
 - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".
 - ALWAYS USE 2 LUGS FOR LIFTING.
 - A SPREADER BAR IS REQ'D. TO ENSURE STRAIGHT UP LIFT.
 - ALL MATERIALS SA-36

SEE SHT 1 FOR GENERAL NOTES & MATERIAL NOTES

GENERAL NOTES

DATE: 2000.10.06 9:23am FILE NAME: J:\jobs99\DWG\99404\Cir-client changes\BDL-99404-333-01.dwg

No.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	ILEE	00/10/06		

APPROVED	DRAWN
MECH./STRUCT. <i>[Signature]</i>	BY I. LEE
DATE 00/10/06	DATE 00/09/28
ELECTRICAL	CHECKED
DATE	BY <i>[Signature]</i>
PROJECT	DATE 00/10/06
DATE	SCALE AS NOTED

APACHE CANADA LIMITED

1478 HP HAMBURG COMPRESSOR PACKAGE
1st STAGE INTERCOOLER
AC-210

DWG. No.: D-BDL-99404-333 SHT. 3 OF 4 REV. 1
SHT. 4 IS B-SIZE 11" x 17"

PROPAK

440 East Lake Road,
Postal Bag #2
Airdrie, Alberta
Canada T4B 2C3

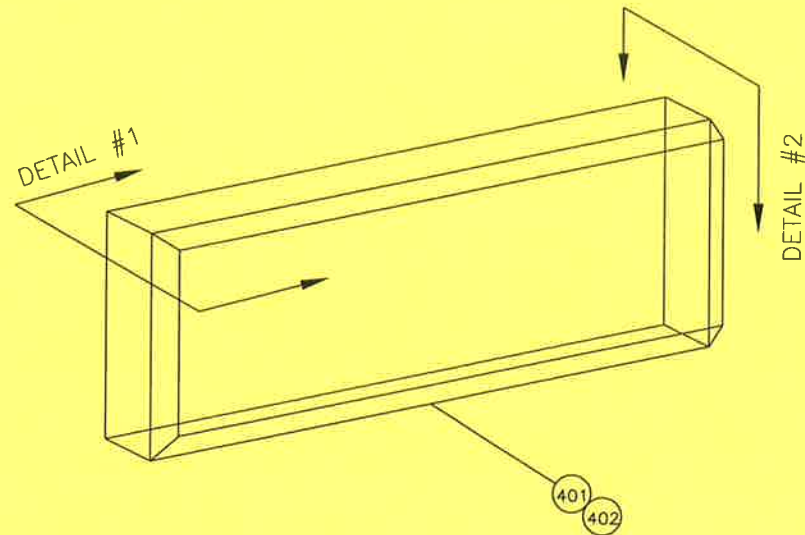
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

MATERIAL NOTES

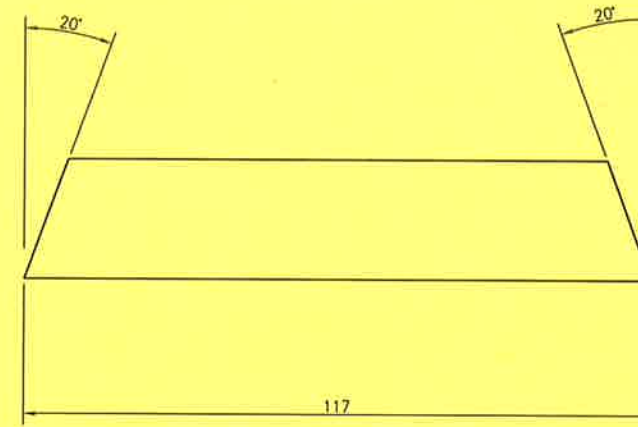
22 U.T. SCAN REQ'D. IN STRICT ACCORDANCE WITH SA-435 ON A 50mm GRID, FOLLOWED BY SUPPLEMENTARY EXAMINATION TO SA-577.

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
401	2	H.B. TUBESHEET - PLATE: 44.45 THK. x 225 x 946 LG. (THESE PLATES MUST BE BEVELLED ON 4 SIDES, SEE DETAIL #1 FOR LONG EDGES, DETAIL 2 FOR SHORT EDGES) (DIMENSIONS IN FINISHED CONDITION)
402	2	H.B. PLUGSHEET - PLATE: 44.45 THK. x 225 x 946 LG. (THESE PLATES MUST BE BEVELLED ON 4 SIDES, SEE DETAIL #1 FOR LONG EDGES, DETAIL 2 FOR SHORT EDGES) (DIMENSIONS IN FINISHED CONDITION)
403	4	WRAPPER PLATE: 25.4 THK. x 117 x 946 LG. (THESE PLATES MUST BE PRE-BEVELLED ALONG THE TWO LONGEST SIDES @ 20°, SEE DETAIL 3) (DIMENSIONS IN FINISHED CONDITION)
404	4	END PLATE: 22.23 THK. x 117 x 165 LG. (THESE PLATES MUST BE PRE-BEVELLED ALONG THE TWO LONGEST SIDES @ 20°, SEE DETAIL 3) (DIMENSIONS IN FINISHED CONDITION)

SEE NOTE #105



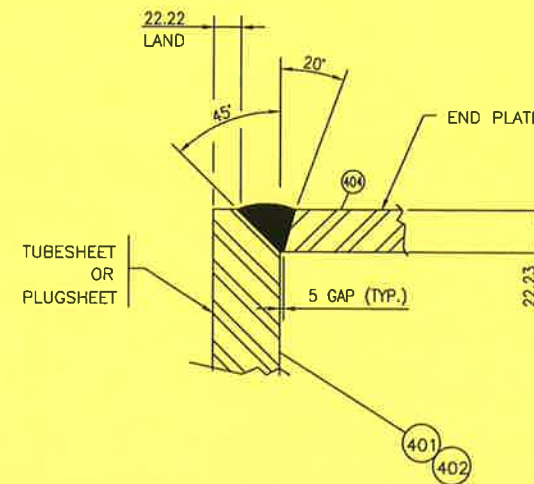
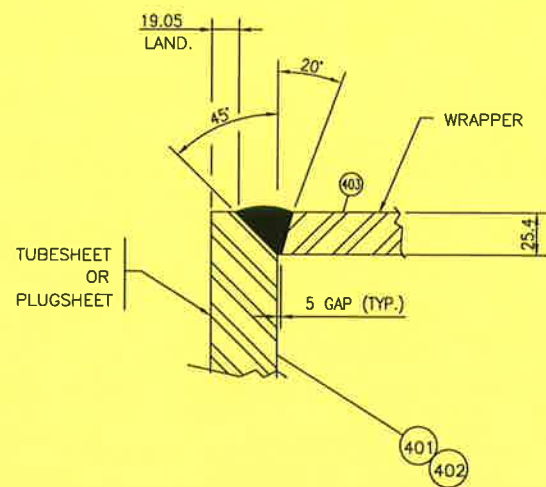
HEADER BOX



DETAIL #3

DETAIL #1 (TYP. BEVEL-TUBE/PLUGSHEET-LONG EDGES)

DETAIL #2 (TYP. BEVEL-TUBE/PLUGSHEET - SHORT EDGES)



105. LIQUID PENETRANT TEST REQUIRED ON PLATE EDGE PREPARATIONS AND PERIPHERAL EDGES BOTH BEFORE & AFTER WELDING PER UG-93(d)(4).

DATE: 2000.10.06 9:54am FILE NAME: J:\jobs99\DWG\99404\Cir-client changes\BDL-99404-333-04.dwg

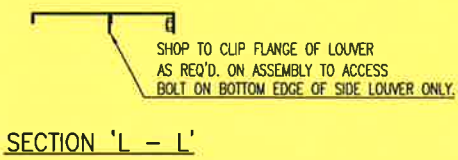
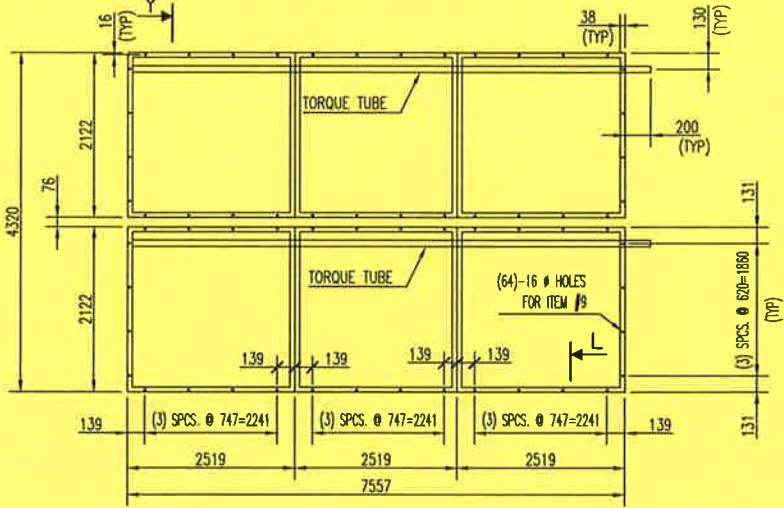
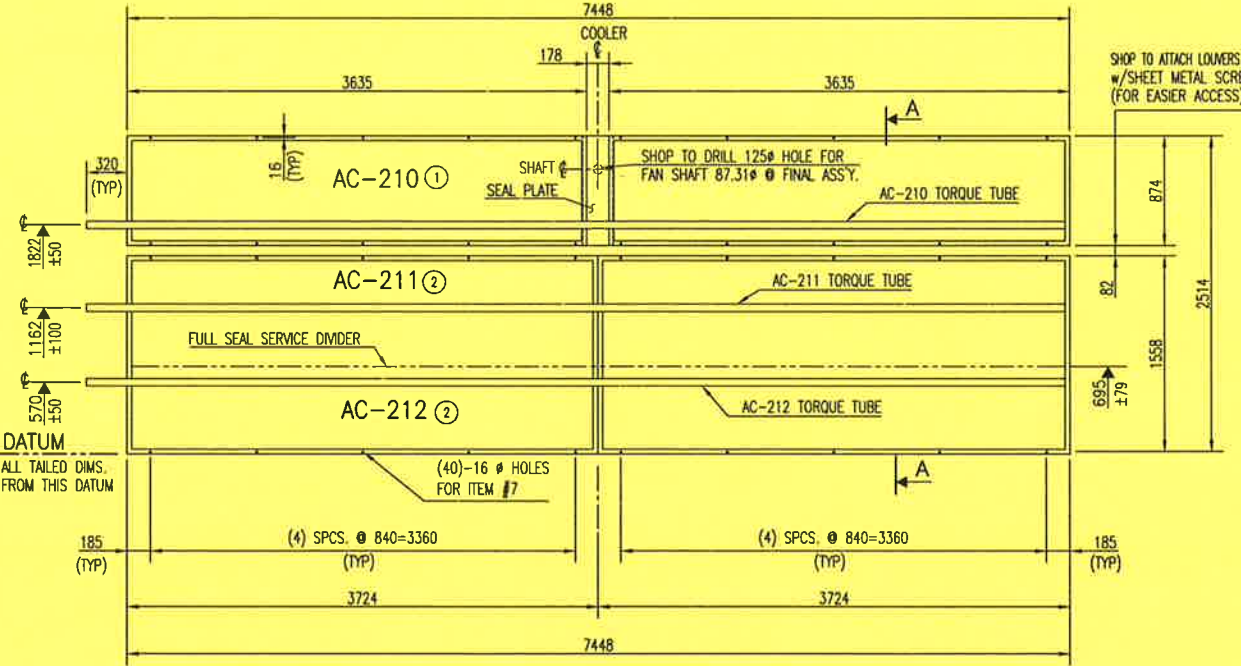
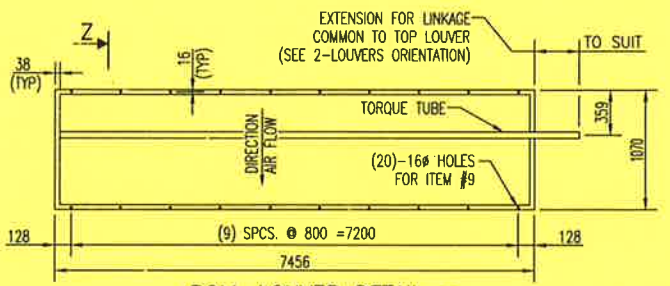
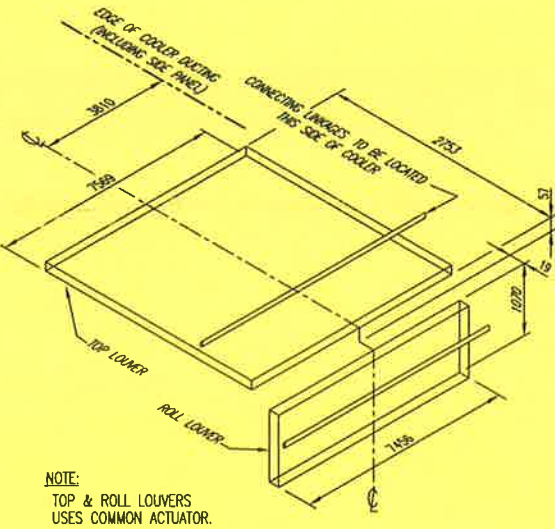
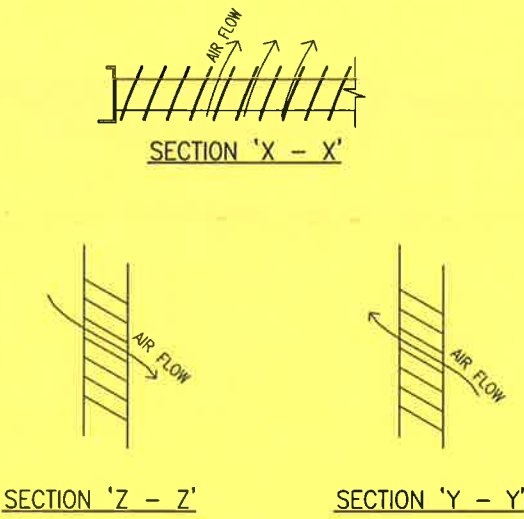
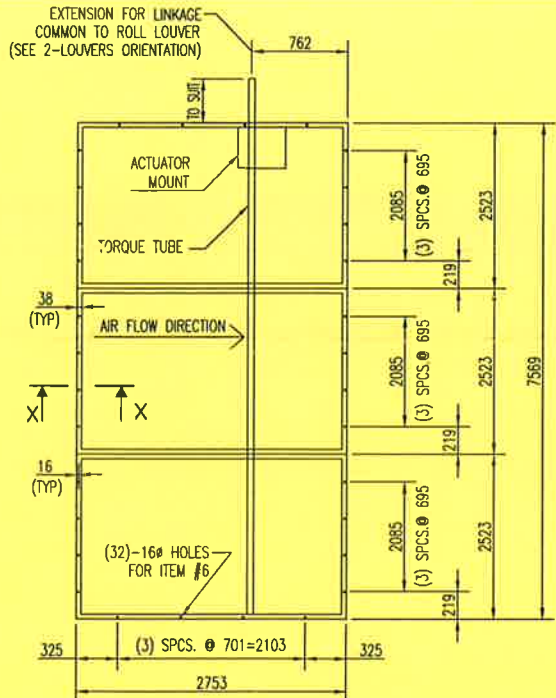
No.	REVISION	BY	DATE	CHKD	ENG
1	ISSUED FOR CONSTRUCTION	J.M.D.	00/10/06	J.P.	M.D.

APPROVED		DRAWN	
MECH./STRUCT.	BY	J. DELORME	DATE
DATE	02/10/06	00/09/22	
ELECTRICAL	CHECKED		
DATE	BY	J. DELORME	DATE
PROJECT	DATE	00/10/06	
DATE	SCALE	N.T.S.	

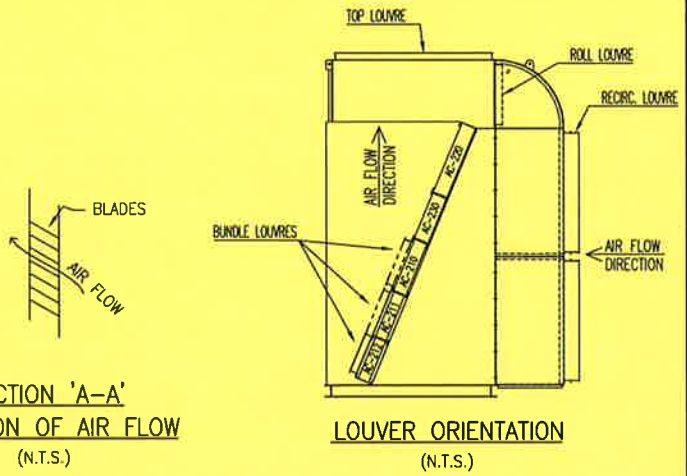
APACHE CANADA LIMITED
 1478 HP HAMBURG COMPRESSOR PACKAGE
 1st STAGE INTERCOOLER
 HEADER BOX BEVELLING DETAILS (AC-210)
 DWG. No.: B-BDL-99404-333 SHT. 4 OF 4 REV. 1

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BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1		AC-210 LOUVERS c/w THE FOLLOWING:
2		874 WD x 3635 LG (1)-SECTION c/w (1) SEAL PLATE TO SUIT BETWEEN LOUVERS
		DRAWING: AS PER DRAWING D-LBS-99404-338
		GUARDS: NONE
		FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES
		DESIGN CODE: API 661 EDITION 1
1		CONTROLLER: AUTOMATIC ACTUATOR FOR AC-210 PROVIDED BY CHECO 100, 3-15 PSI SPRING RANGE (TO BE MOUNTED ON COOLER FRAME PLATE)
		AC-210 LOUVERS - FAIL CLOSE
2		AC-211 & AC-212 LOUVERS c/w THE FOLLOWING:
2		1558 WD x 3724 LG (1)-SECTION c/w (1)-FULL SEAL SERVICE DIVIDER EACH SECTION
		DRAWING: AS PER DRAWING D-LBS-99404-338
		GUARDS: NONE
		FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES
		DESIGN CODE: API 661 EDITION 1
2		CONTROLLER: AUTOMATIC ACTUATOR FOR AC-211 & AC-212 PROVIDED BY CHECO 100, 3-15 PSI SPRING RANGE (TO BE MOUNTED ON COOLER FRAME PLATE)
		AC-211 & AC-212 LOUVERS - FAIL CLOSE
3		LOUVERS c/w THE FOLLOWING:
3		2753 WD x 2523 LG (1)-SECTION (TOP LOUVER)
		DRAWING: AS PER DRAWING D-LBS-99404-338
		GUARDS: BUILT-IN INTERNAL HAIL GUARD
		FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES
		DESIGN CODE: API 661 EDITION 1
1		CONTROLLER: AUTOMATIC ACTUATOR (FAIL CLOSE) CHECO #800, 6-30 PSI SPRING RANGE PROVIDED BY CHECO COMMON w/ ITEM #4
4		LOUVERS c/w THE FOLLOWING:
1		7456 WD x 1070 LG (1)-SECTION (ROLL LOUVER)
		DRAWING: AS PER DRAWING D-LBS-99404-338
		GUARDS: NONE
		FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES
		DESIGN CODE: API 661 EDITION 1
		CONTROLLER: AUTOMATIC ACTUATOR-COMMON w/ ITEM #3 (FAIL OPEN)
5		LOUVERS c/w THE FOLLOWING:
6		2122 WD x 2519 LG (1)-SECTION (RECIRC LOUVER)
		DRAWING: AS PER DRAWING D-LBS-99404-338
		GUARDS: BUILT-IN EXTERNAL BUGSCREEN
		FRAME: 267 (10 1/2") DEEP w/ INTERNAL TORQUE TUBES
		DESIGN CODE: API 661 EDITION 1
2		CONTROLLER: MANUAL OPERATOR w/ (1)-1000 LG. LINKAGE AND (1)-3000 LG. LINKAGE
6	32	HILTI PINS: 10 x 38 c/w (1) WASHER, LOCK WASHER & NUT EACH ASTM C-90 N-TYPE 1
7	40	M/C BOLTS: 13 x 44 LG. c/w (1) WASHER, LOCK WASHER & NUT EACH (ZINC PLATED) SA-325
8	20	10# SHEET METAL SCREWS x 25 LG.
9	84	M/C BOLTS: 13 x 38 LG. c/w (1) WASHER, LOCK WASHER & NUT EACH (ZINC PLATED) SA-325
		FOR ALL LOUVERS:
		SITE CONDITIONS: MINIMUM AMBIENT -40 °F (-40 °C)
		DOCUMENTATION: 2 YEARS SPARE PARTS LIST
		5 COPIES LITERATURE
		DRAWINGS
		INSTALLATION INSTRUCTIONS
10	1	SET OF CONNECTING RODS LG.=2000mm, TO CONTROL THE COMBINED ACTIONS OF TOP & ROLL LOUVERS



1. LOUVERS TOTAL WEIGHT IS APPROX.: 1290 KG.

GENERAL NOTES
 DATE: 2000.10.06 11:38am FILE NAME: J:\jobs99\DWG\99404\Ctr-client changes\LBS-99404-338-01.dwg

GENERAL NOTES
 1 ISSUED FOR CONSTRUCTION

No.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	BRAGINSKY	10/10/04	ABP	A.W.

APPROVED		DRAWN	
MECH./STRUCT.	BY I.BRAGINSKY	DATE	10/10/04
ELECTRICAL	BY	CHECKED	
PROJECT	BY	DATE	10/10/04
DATE	10/10/04	SCALE	AS NOTED

APACHE CANADA LTD.
 1478 HP HAMBURG COMPRESSOR PACKAGE
 AERIAL COOLER-LOUVER DETAILS
 MDL: 1SV1-156-312-F
 DWG. No.: D-LBS-99404-338 SHEET 1 OF 1 REV. 1

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 Postal Bag #2
 Airdrie, Alberta
 Canada T4B 2C3