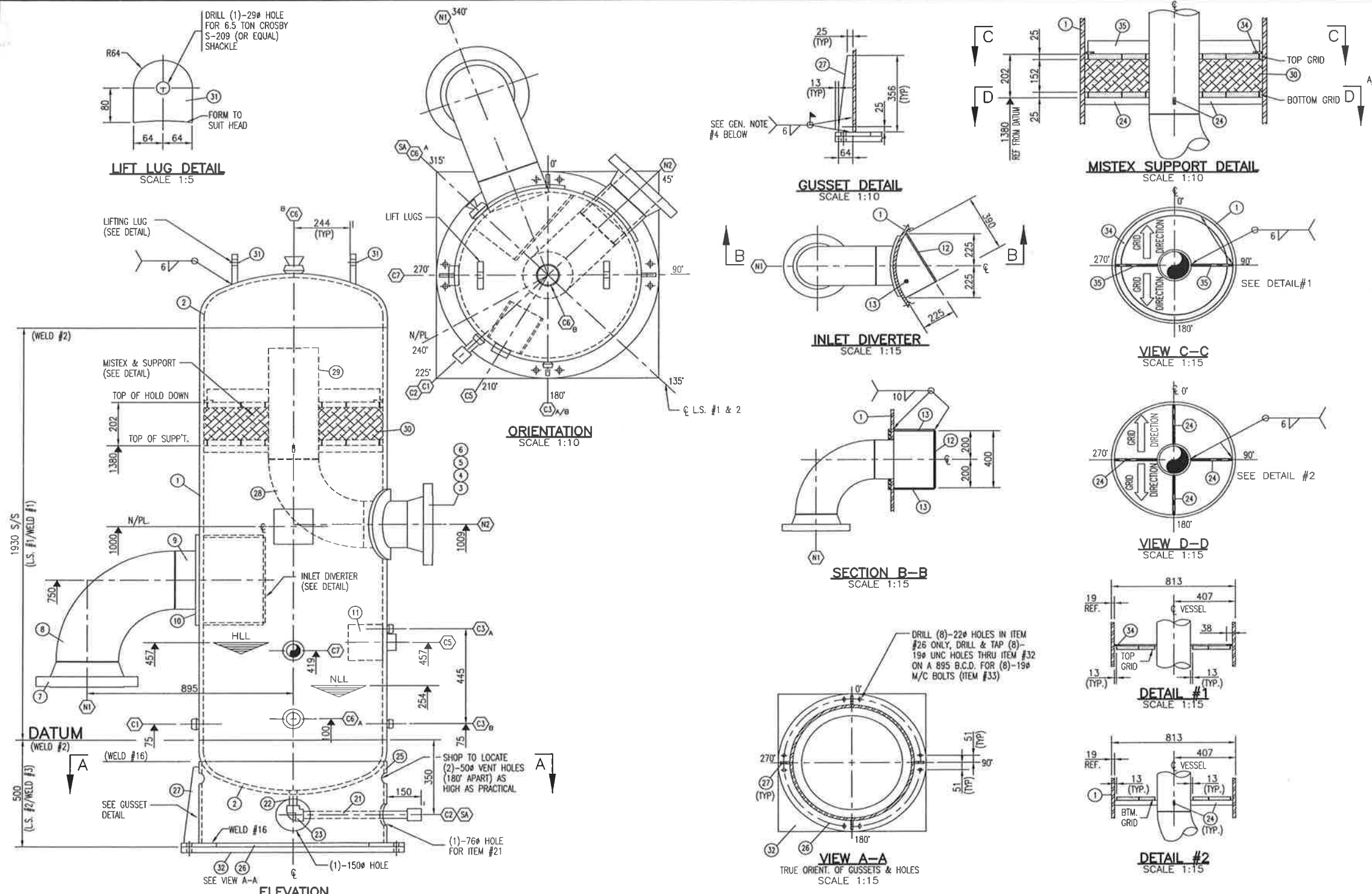


THIS DRAWING AND THE PROPERTY OF PROPAC SYSTEMS LTD., AND SHALL NOT BE DISCLOSED OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT



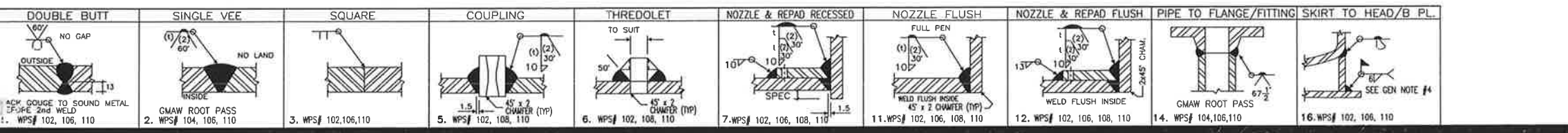
NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ.	EXT. PROJ.	PROJ.	WELD
N1	273	300#	RFWN	80	INLET	MIN	SPEC	200	12/14
N2	219	300#	RFWN	80	OUTLET	SPEC			7/14
C1	33	6000#	TOL	-	LCV-100	-	-	-	6
C2	33	6000#	CPLG	XXH	DRAIN	0	SPEC		11
C3	27	6000#	TOL	-	LG-100	-	-	-	6
C4									
C5	48	6000#	1/2 CPLG	NPT	LS-100	MIN	-	-	5
C6	60	6000#	TOL	-	INSPECTION w/PLUG	-	-	-	6
C6	60	6000#	TOL	-	INSPECTION/VENT w/PLUG	-	-	-	6
C7	60	6000#	1/2 CPLG	NPT	LC-100	MIN	-	-	5
SA	150	-	-	-	SKIRT ACCESS	-	-	-	-

BILL OF MATERIAL			DESCRIPTION	
1	1	SHELL: PLATE 19.05 THK x 1930 LG (ROLL TO 813 O/D)	SA-516-70N	
2	2	HEAD: PLATE 813 O/D x 19.05 NOM (17.48 MIN) 2:1 S.E. c/w 51 S.F.	SA-516-70N	
3	1	FLANGE: 219-300# RFWN SCH 80 BORE	SA-105N	
4	1	PIPE: 219 O/D x 12.7 WT x 186 LG (SMLS)	SA-106-B	
5	1	REPAD: 15.88 THK x 330 O/D x 222 I/D (ROLL TO 813 I/D)	SA-516-70N	
6	1	ELBOW: 219 O/D 90° L.R. SCH 80 BW (SMLS)	SA-234-WPB	
7	1	FLANGE: 273-300# RFWN SCH 80 BORE	SA-105N	
8	1	ELBOW: 273 O/D 90° L.R. SCH 80 BW (SMLS)	SA-234-WPB	
9	1	PIPE: 273 O/D x 15.09 WT x 176 LG (SMLS) (CTS)	SA-106-B	
10	1	REPAD: PLATE 15.88 THK x 425 O/D x 276 I/D (ROLL TO 813 I/D)	SA-516-70N	
11	1	PIPE: 168 O/D x 7.11 WT x 200 LG (SMLS)	SA-106-B	
12	1	PLATE: 10 THK x 390 WD x 400 LG	SA-516-70N	
13	2	PLATE: 10 THK x 225 WD x 390 LG (CTS)	SA-516-70N	
14	1	TOL: 60-6000# NPT ON A 813 O/D RUN	SA-105N	
15	1	TOL: 60-6000# NPT ON FLAT	SA-105N	
16	1	1/2 CPLG: 60-6000# NPT	SA-105N	
17	2	TOL: 27-6000# NPT ON A 813 O/D RUN	SA-105N	
18	1	1/2 CPLG: 48-6000# NPT	SA-105N	
19	1	CPLG: 33-6000# SW x NPT	SA-105N	
20	1	TOL: 33-6000# NPT ON A 813 O/D RUN	SA-105N	
21	1	PIPE: 33 O/D x 9.09 WT x 505 LG (CTS) (SMLS)	SA-106-B	
22	1	PIPE: 33 O/D x 9.09 WT x 103 LG (CTS) (SMLS)	SA-106-B	
23	1	ELBOW: 33-6000# 90° SW SCH XXH BORE	SA-105N	
24	4	FLAT BAR: 13 THK x 32 x 275 LG	G40.21M-300W	
25	1	PLATE: 12.7 THK x 430 LG (ROLL TO 813 O/D)	SA-516-70N	
26	1	BASEPLATE: 19 THK x 965 O/D x 660 I/D	SA-36	
27	4	PLATE: 13 THK x 64 WD x 356 LG (CTS)	SA-36	
28	1	NAMEPLATE c/w MOUNTING BRACKET	SS/SA-36	
29	1	PIPE: 219 O/D x 12.70 WT x 518 LG	SA-106B	
30	1	MISTEX: 152 THK x 775 O/D x 219 I/D x 144 Kg/CLUM c/w 3 x 25 x 749 O/D x 245 I/D 316LSS C.S. GRIDS TOP & BOTTOM IN 1 SECTION (NON REMOVABLE)		
31	2	PLATE: 25 THK x 128 WD x 144 LG (CTS)	SA-516-70N	
32	1	SKID PLATE: 25 THK x 965 SQ.	SA-36	
33	8	ZINC PLATED M/C BOLTS: 19# x 44 LG. c/w (1) FLAT WASHER EA.	SA-325	
34	1	RING PLATE: 10 THK x 772 O/D x 696 I/D	SA-36	
35	2	F/BAR: 10 THK x 51 x 275 LG	G40.21M-300W	

CAPACITY: 1.08 m<sup>3</sup>  
 WEIGHT EMPTY: 1842 kg  
 WEIGHT FULL OF WATER: 2922 kg  
 SURFACE PREPARATION: PNT-11  
 PRIMER:  
 FINISH PAINT:  
 INSULATION: NONE  
 MECHANICAL LOADINGS GOVERN AS PER UG22: YES NO  
 IMPACT TEST: YES PER UG22 AS FOLLOWS

SERIAL NO: 99420-101 CRN:  
 TAG NO: V-100 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<sup>M</sup> DESIGN METAL TEMP: -28 °C @ MAWP 4516 kPag  
 MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N



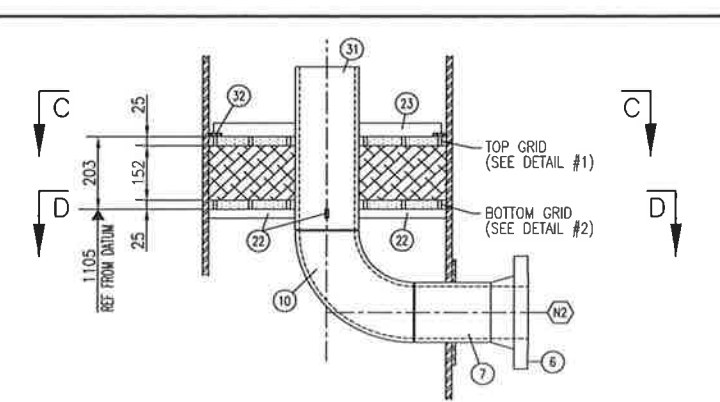
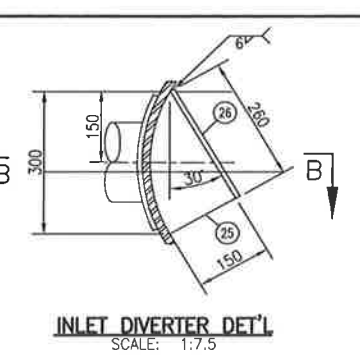
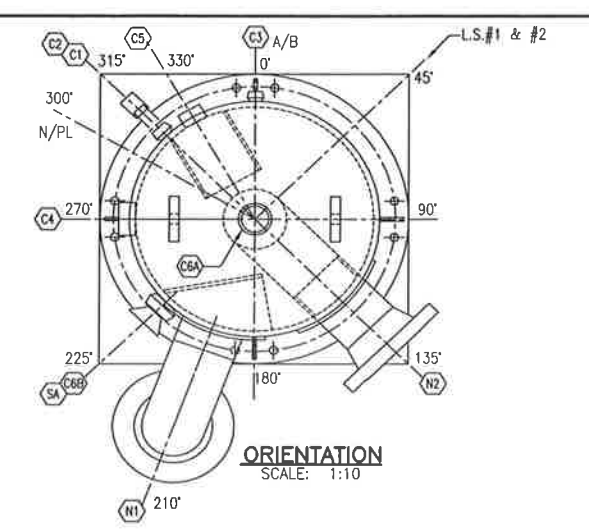
GENERAL NOTES		GENERAL NOTES	
1) DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.	4) VESSEL SHOP TO TACK WELD BASEPLATES & GUSSETS TO SKIRT. ASSEMBLY SHOP TO COMPLETE WELDING ON ASSEMBLY.		
2) SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPATTER. PRIOR TO MISTEX INSTALLATION & CLOSING OF VESSEL.	5) VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS.		
3) VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY.	6) HALF CPLGS. ITEMS #16 & 18 MUST HAVE A FULL BORE.		
	TAPER BORE TO CLEAR FLOAT. CLEAN THREADS AFTER WELDING.		

APPROVED		DRAWN	
MECH./STRUCT.	BY D. SMITH	DATE	00/04/05
ELECTRICAL	BY	DATE	CHECKED
PROJECT	BY M. IWANUK	DATE	00/05/10
DATE	00/05/10	SCALE	AS SHOWN

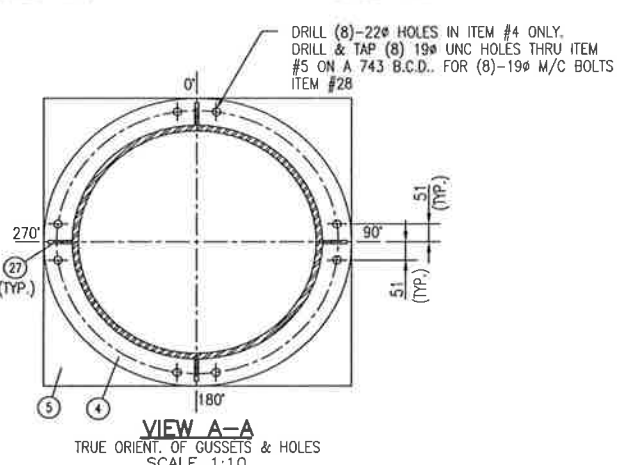
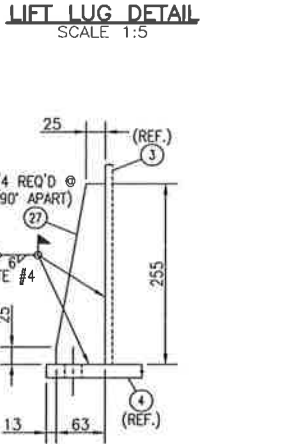
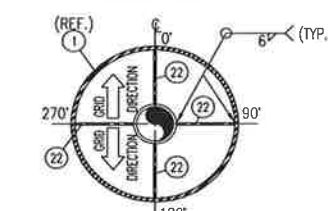
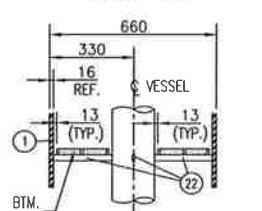
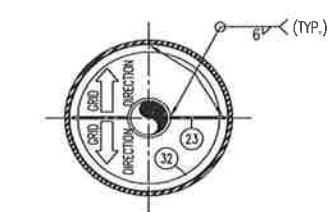
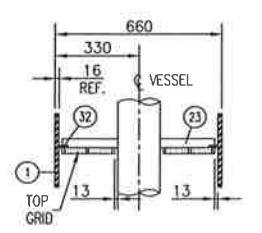
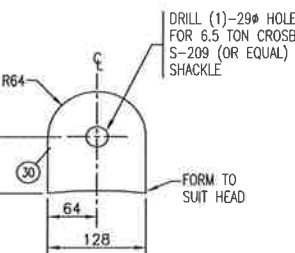
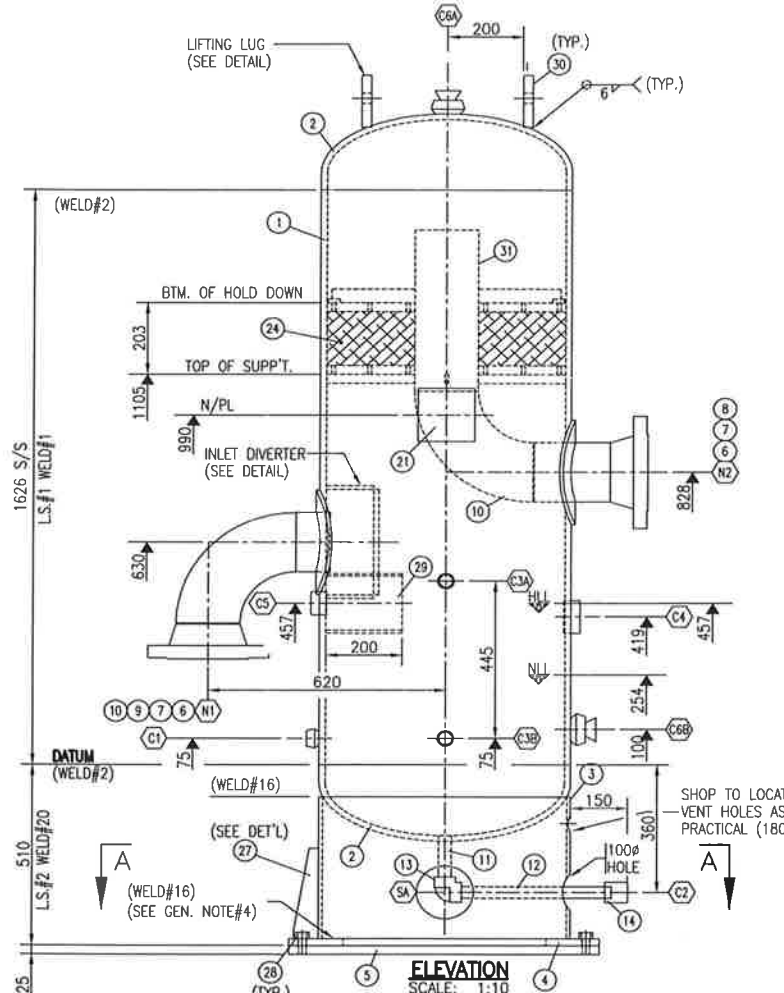
PRODUCTION IMPACT TEST REQ'D: YES NO	SHIP LOOSE: YES NO	SERVICE: HYDROCARBONS	LONG & CIRC. WELDS TYPE 1	QWP: 590.2	QCP: AQP-1050(S) AQP-1227(S)	TACK WELDS WPS# 101	PRESS. TO STRUCT. WELD WPS# 102, 106, 110
RADIOGRAPHY: LONG: FULL UNIT(S) CIRC: FULL UNIT(S) (INCLUDING ALL BUTT WELDS)							
P.W.H.T.: YES/NO MIN. TEMP: 593 °C, TIME: (1) hr (MIN) CORR. ALLOW: 3.20 mm							
<b>"SOUR SERVICE"</b>							

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

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



NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ.	EXT. PROJ.	WELD	
N1	168	300#	RFWN	XH	INLET	MIN.	SPEC.	8/14	
N2	168	300#	RFWN	XH	OUTLET	MIN.	SPEC.	200	7/14
C1	33	6000#	TOL	-	CONTROL VALVE CONN.	-	-	-	6
C2	33	6000#	CPLG	XXH	DRAIN	0	SPEC.	12/SW	6
C3	27	6000#	TOL	-	LG-110	-	-	-	6
C4	60	6000#	CPLG	HALF	LG-110	MIN.	-	-	4
C5	48	6000#	CPLG	HALF	LSH-110	MIN.	-	-	4
C6	60	6000#	TOL	-	INSPECTION/VENT C/W PLUG	-	-	-	6
C6	60	6000#	TOL	-	INSPECTION C/W PLUG	-	-	-	6
SA	150	-	-	-	SKIRT ACCESS OPENING	-	-	-	-



BILL OF MATERIAL									
ITEM	QUA	DESCRIPTION						SA	
1	1	SHELL PL: 15.88 THK X 1626 LG (ROLL TO 660 O/D)						SA-516-70N	
2	2	HEAD PL: 660 O/D X 15.88 THK NOM. (13.72 MIN.) 2:1 S.E. C/W 51 S.F.						SA-516-70N	
3	1	SKIRT PL: 9.53 THK X 440 LG (ROLL TO 660 O/D)						SA-516-70N	
4	1	BASE PL: 19.05 THK X 813 O/D X 533 I/D						SA-36	
5	1	SOLE PL: 25.4 THK X 813 SQ.						SA-36	
6	2	REPAD PL: 9.53 THK X 295 O/D X 172 I/D (ROLL TO 660 I/D)						SA-516-70N	
7	2	FLG: 168-300# RFWN XH BORE						SA-105N	
8	1	PIPE: 168 O/D X 10.97 WT X 197 LG SMLS						SA-106-B	
9	1	PIPE: 168 O/D X 10.97 WT X 113 LG SMLS (CTS)						SA-106-B	
10	2	ELBOW: 168 O/D X 90° L.R. XH SMLS BW						SA-234-WPB	
11	1	PIPE: 33 O/D X 9.09 WT X 150 LG SMLS (CTS)						SA-106-B	
12	1	PIPE: 33 O/D X 9.09 WT X 411 LG SMLS						SA-106-B	
13	1	ELBOW: 33-6000# X 90° SW XXH BORE						SA-105N	
14	1	CPLG: 33-6000# NPT X SW XXH BORE						SA-105N	
15	2	TOL: 27-6000# (ON A 660 O/D RUN)						SA-105N	
16	1	TOL: 33-6000# (ON A 660 O/D RUN)						SA-105N	
17	1	TOL: 60-6000# (ON A 660 O/D RUN) C/W PLUG						SA-105N	
18	1	TOL: 60-6000# (ON FLAT) C/W PLUG						SA-105N	
19	1	HALF CPLG: 48-6000# NPT						SA-105N	
20	1	HALF CPLG: 60-6000# NPT						SA-105N	
21	1	NAME PLATE C/W MOUNTING BRACKET						SS/SA-36	
22	4	F/BAR: 13 THK X 25 X 227 LG						G40.21M-300W	
23	2	F/BAR: 10 THK X 38 X 217 LG						G40.21M-300W	
24	1	MISTEX: 152 THK X 628 O/D X 168 I/D C/W 25 X 3 X 602 O/D X 194 I/D						316LSS	
25	2	PLATE: 10 THK X 150 WD X 260 LG (CTS)						SA-36	
26	1	PLATE: 10 THK X 260 WD X 300 LG						SA-36	
27	4	PLATE: 16 THK X 63 WD X 255 LG (CTS)						SA-36	
28	8	ZINC PLATED M/C BOLT: 19.05# X 44 LG c/w 1 FLAT WASHER EA.						SA-325	
29	1	PIPE: 168 O/D X 7.11 WT X 200 LG SMLS (CTS)						SA-106-B	
30	2	PLATE: 25.4 THK X 128 WD X 146 LG (CTS)						SA-36	
31	1	PIPE: 168 O/D X 10.97 WT X 452 LG (SMLS)						SA-106-B	
32	1	RING PLATE: 10 THK X 625 O/D X 561 I/D						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: 0.601 m<sup>3</sup>  
SURFACE AREA OF TUBES: N/A m<sup>2</sup>  
WEIGHT EMPTY: 1080 kg  
WEIGHT FULL OF WATER: 1681 kg  
SURFACE PREPARATION: PNT-11  
PRIMER: PNT-11  
FINISH PAINT: PNT-11  
INSULATION: NONE  
MECHANICAL LOADINGS GOVERNS AS PER UG 22:  NO

SERIAL NO: 99420-102 CRN:  
TAG NO: V-110 YEAR BUILT: 2000  
LSD #: -  
CODE: ASME SECT. VIII DIV I, '98, ADDENDA '99  
TEMA CLASS, N/A, ADDENDA N/A  
MAX. DESIGN PRESS: 4516 kPaG @ TEMP: 149 °C  
MIN. DESIGN PRESS: N/A kPaG  
HYDROTEST: VESSEL 5871 kPaG  
COIL N/A kPa  
MIN<sup>m</sup> DESIGN METAL TEMP: -28°C @ MAWP 4516 kPaG  
MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N  
RADIOGRAPHY: LONG L FULL UWI(a)  
CIRC: FULL UWI(c) (INCL. ALL BUTT WELDS)  
SHIP LOOSE:  NO  
SERVICE: SOUR GAS  
LONG & CIRC. WELDS TYPE 1  
QWP-590.2  
QCP-1050(S), AQP-1227(S)  
TACK WELDS: WPS 101  
PRESS. TO STRUCT: WPS 102,106,110

IMPACT TEST:  NO - PER UG20(r)

IMPACT TEST:  NO

1. WPS# 102,106,110	2. WPS# 104,106,110	4. WPS# 102,106,110	6. WPS# 102,106,110	7. WPS# 102,106,108,110	8. WPS# 102,106,108,110	12. WPS# 102,106,108,110	14. WPS# 104,106,110	16. WPS# 102,106,110	20. WPS# 102,106,110

GENERAL NOTES		GENERAL NOTES	
1. DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.	4. VESSEL SHOP TO TACK WELD BASEPLATES & GUSSETS TO SKIRT ASSEMBLY		
2. SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPLATTER. PRIOR TO MISTEX INSTALLATION & CLOSING OF VESSEL.	5. VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS		
3. VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY. TAPER BORE TO CLEAR FLOAT. CLEAN THREADS AFTER WELDING.	6. HALF CPLGS. ITEMS #19 & 20 MUST HAVE A FULL BORE.		
ISSUED FOR CONSTRUCTION		1	
No.		REVISION	
D. SMITH 00/05/10	M.I. S.W.		
BY DATE CKD ENG			

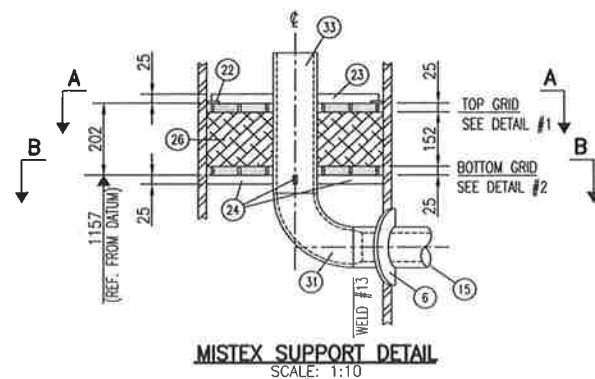
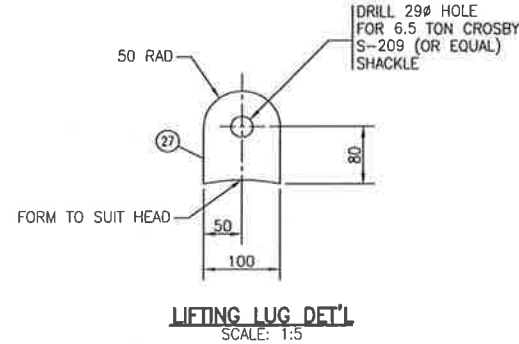
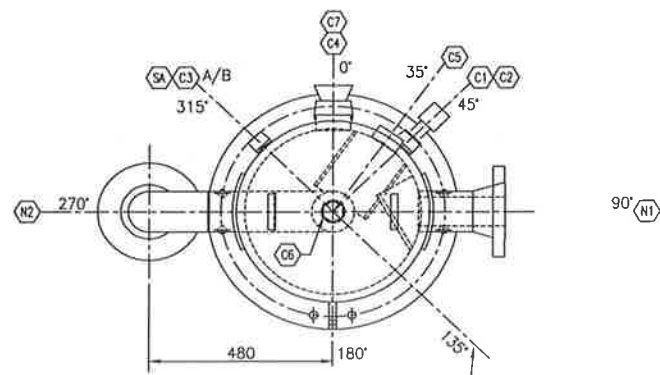
APPROVED	DRAWN
MECH/STRUCT.	BY D. SMITH
DATE	DATE 00/04/20
ELECTRICAL	CHECKED
DATE	BY M. IWANIUK
PROJECT	DATE 00/05/10
DATE	S. WARD
00/05/10	DATE
SCALE AS SHOWN	REV. 1

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

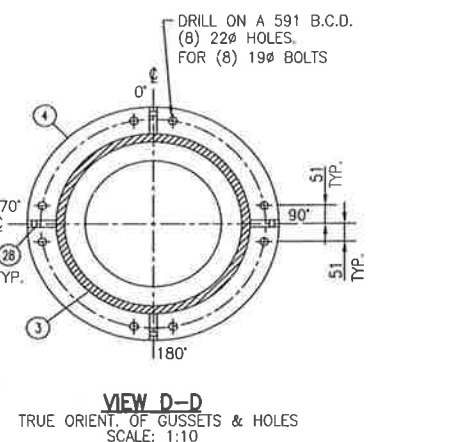
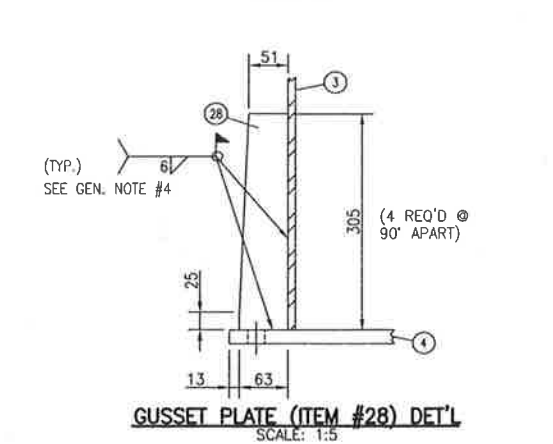
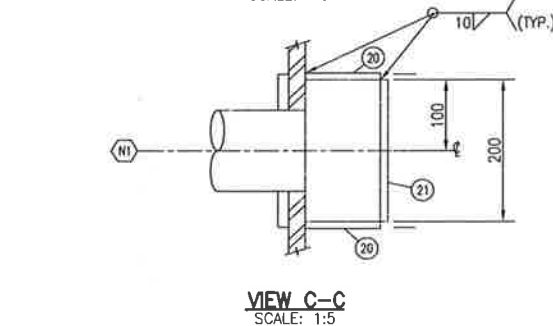
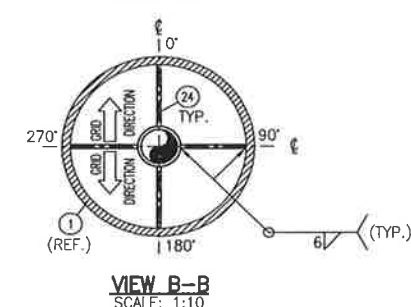
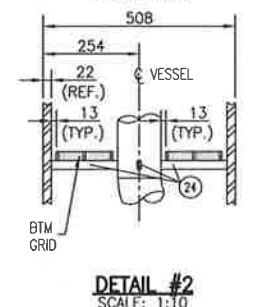
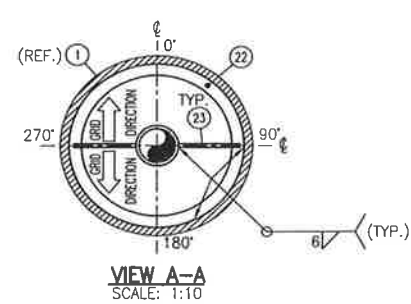
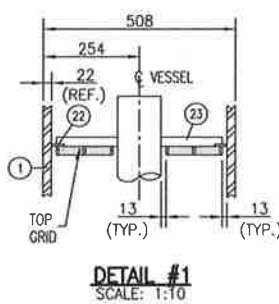
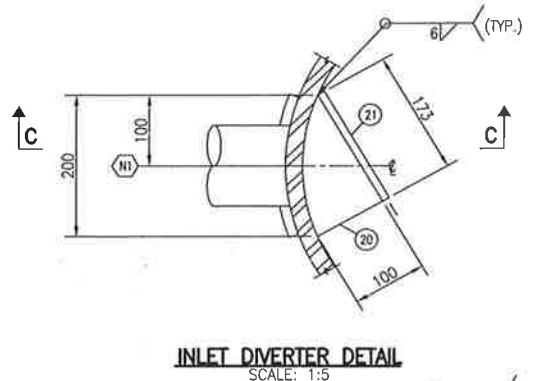
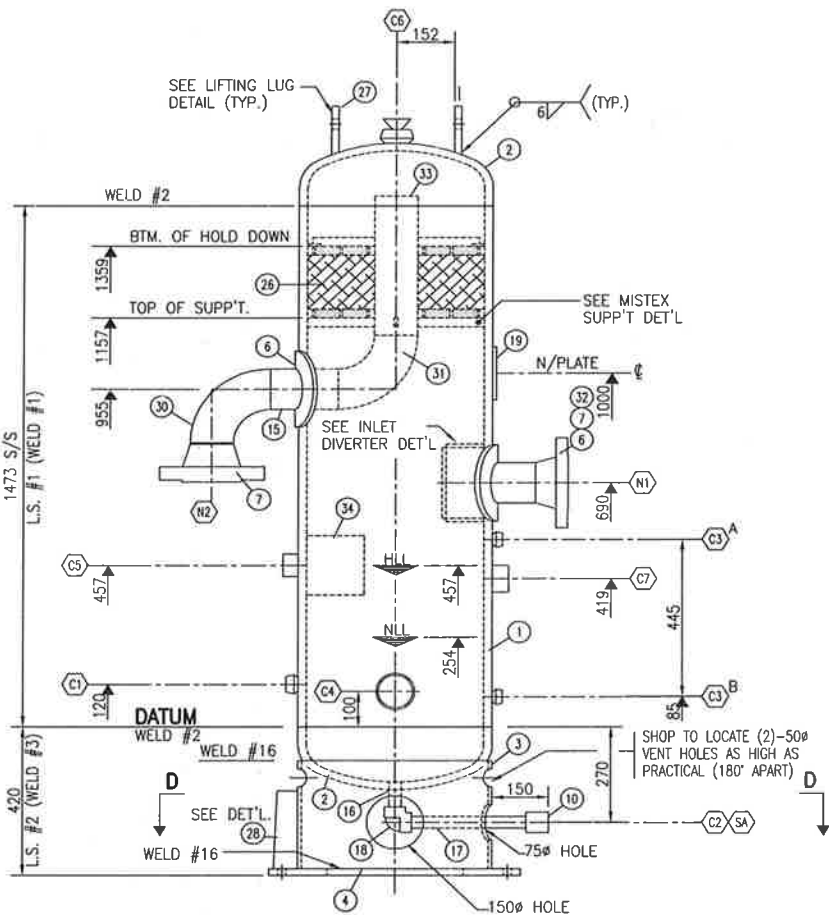
STOCK 1380 HP COMPRESSOR  
2ND STAGE INLET SCRUBBER  
660 O/D X 1626 S/S

DWG. No. D-SCR-99420-102

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



NOZZLE SCHEDULE						
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ. EXT. PROJ. WELD
N1	114	600#	RFWN	XXH	INLET	MIN. 200 8/14
N2	114	600#	RFWN	XXH	OUTLET	SPEC. SPEC. 7/14
C1	33	6000#	TOL	-	CONTROL VALVE CONN.	- - 6
C2	33	6000#	CPLG	XXH	DRAIN	0 SPEC. 11/SW
C3	27	6000#	TOL	-	LEVEL GAUGE (LG-120)	- - 6
C4	60	6000#	TOL	-	INSPECTION c/w PLUG	- - 6
C5	48	6000#	1/2 CPLG	-	LEVEL SWITCH HIGH (LSOH-120)	MIN. - - 4
C6	60	6000#	TOL	-	INSPECTION/VENT c/w PLUG	- - 6
C7	60	6000#	1/2 CPLG	-	LEVEL CONTROL (LC-120)	MIN. - - 4
SA	150	-	-	-	SKIRT ACCESS OPENING	- - -



BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	1	SHELL PLATE: 22.23 THK. x 1473 LG. (ROLL TO 508 O/D)
2	2	HEAD PLATE: 22.23 THK. NOM. (20.64 MIN.) x 508 O/D 2:1 c/w 51 S.F.
3	1	SKIRT PLATE: 10 THK. x 350 LG. (ROLL TO 508 O/D)
4	1	BASE PLATE: 19 THK. x 660 O/D x 356 I/D
5	-	-
6	2	REPAID PLATE: 9.53 THK. x 216 O/D x 117 I/D (ROLL TO 508 I/D)
7	2	FLANGE: 114-600# SCH XXH BORE
8	1	HALF CPLG: 60-6000# NPT
9	1	HALF CPLG: 48-6000# NPT
10	1	CPLG: 33-6000# SW x NPT
11	2	TOL: 27-6000# (ON A 508 O/D RUN)
12	1	TOL: 33-6000# (ON A 508 O/D RUN)
13	1	TOL: 60-6000# (ON A 508 O/D RUN) c/w PLUG
14	1	TOL: 60-6000# (ON FLAT) c/w PLUG
15	1	PIPE: 114 O/D x 17.12 W.T. x 170 LG.
16	1	PIPE: 33 O/D x 9.09 W.T. x 101 LG (CTS)
17	1	PIPE: 33 O/D x 9.09 W.T. x 333 LG.
18	1	ELBOW: 33-6000# SCH XXH BORE x 90° SW
19	1	NAMEPLATE c/w MOUNTING BRACKET
20	2	PLATE: 10 THK. x 100 WD. x 173 LG. (CTS)
21	1	PLATE: 10 THK. x 173 WD. x 200 LG. (CTS)
22	1	RING PLATE: 10 THK. x 461 O/D x 397 I/D
23	2	F/BAR: 10 THK. x 25 x 160 LG.
24	4	F/BAR: 10 THK. x 25 x 172 LG.
25	-	-
26	1	MISTEX: 152 THK. x 464 O/D x 114 I/D c/w 25 x 3 x 438 O/D x 140 I/D
27	2	GRID (TOP & BOTTOM) IN (1) SECTION (144 kg/cu. M)
28	4	PLATE: 19 THK. x 63 WD. x 305 LG. (CTS)
29	-	-
30	1	ELBOW: 114 O/D 90° LR SCH. XXH B.W.
31	1	ELBOW: 114 O/D 90° LR SCH. XXH B.W.
32	1	PIPE: 114 O/D x 17.12 W.T. x 146 LG.
33	1	PIPE: 114 O/D x 8.56 W.T. x 399 LG.
34	1	PIPE: 168 O/D x 7.11 W.T. x 200 LG. (CTS)

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: 0.293m<sup>3</sup>  
 SURFACE AREA OF TUBES: N/A m<sup>2</sup>  
 WEIGHT EMPTY: 816 kg  
 WEIGHT FULL OF WATER: 1109 kg  
 SURFACE PREPARATION: PNT-11  
 PRIMER:  
 FINISH PAINT:  
 INSULATION: NONE  
 MECHANICAL LOADINGS GOVERNS AS PER UG 22:  (NO)

SERIAL NO: 99420-103 CRN:  
 TAG NO: V-120 YEAR BUILT: 2000  
 LSD #: -  
 CODE:  
 ASME SECT. VIII DIV I, '98, ADDENDA '99  
 TEMA CLASS N/A, ADDENDA N/A  
 MAX. DESIGN PRESS: 9067 kPag @ TEMP: 149 °C  
 HYDROTEST:  
 VESSEL 11787 kPag  
 COIL N/A kPag  
 MIN<sup>m</sup> DESIGN METAL TEMP: -28 °C @ MAWP 9067 kPag  
 MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N  
 RADIOGRAPHY:  
 LONG-L FULL UW(c)  
 CIRC. FULL UW(c) (INCL. ALL BUTT WELD)

IMPACT TEST:  (NO) PER UG20(f)

PRODUCTION IMPACT TEST REQ'D:  (NO)

SHIP LOOSE:  (NO)  
 SERVICE: HYDROCARBONS  
 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

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

'SOUR SERVICE'

DOUBLE BUTT	SINGLE VEE	SQUARE	COUPLING	THREDOLET	NOZZLE & REPAID RECESSED	NOZZLE & REPAID FLUSH	NOZZLE FLUSH	TRANSITION WELD	PIPE TO FLANGE/FITTING	SKIRT TO HEAD/B.PL.
1. WPS# 102,106,110	2. WPS# 104,106,110	3. WPS# 102,106,110	4. WPS# 102,106,110	6. WPS# 102,108,110	7. WPS# 102,106,108,110	8. WPS# 102,106,108,110	11. WPS# 102,106,108,110	13. WPS# 104,106,110	14. WPS# 104,106,110	16. 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. PRIOR TO MISTEX INSTALLATION & CLOSING OF VESSEL.  
 3) VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY.

4) VESSEL SHOP TO TACK WELD BASEPLATES & GUSSETS TO SKIRT ASSEMBLY SHOP TO COMPLETE WELDING ON ASSEMBLY.  
 5) VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS.  
 6) HALF CPLGS. ITEMS #8 & 9 MUST HAVE A FULL BORE.  
 7) TAPER BORE TO CLEAR FLOAT. CLEAN THREADS AFTER WELDING.

GENERAL NOTES

DATE: 2000.05.10 8:15am FILE NAME: J:\jobs99\QW\99420\Comp\VS\SCR-99420-103.dwg

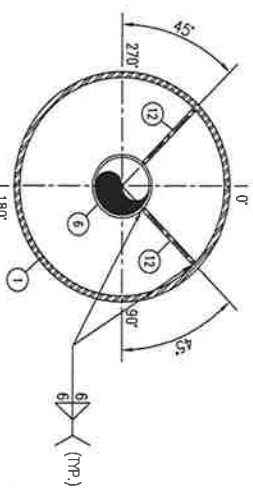
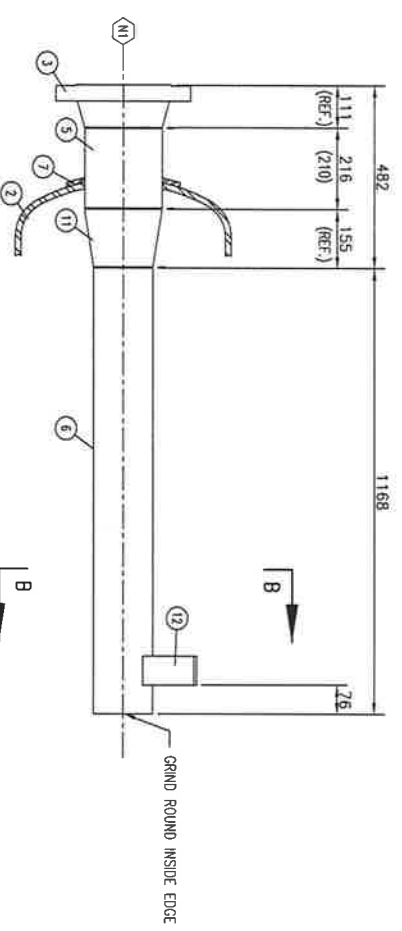
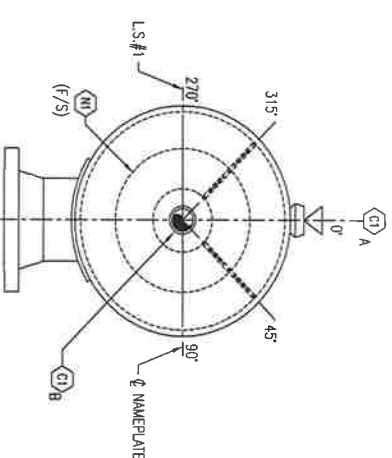
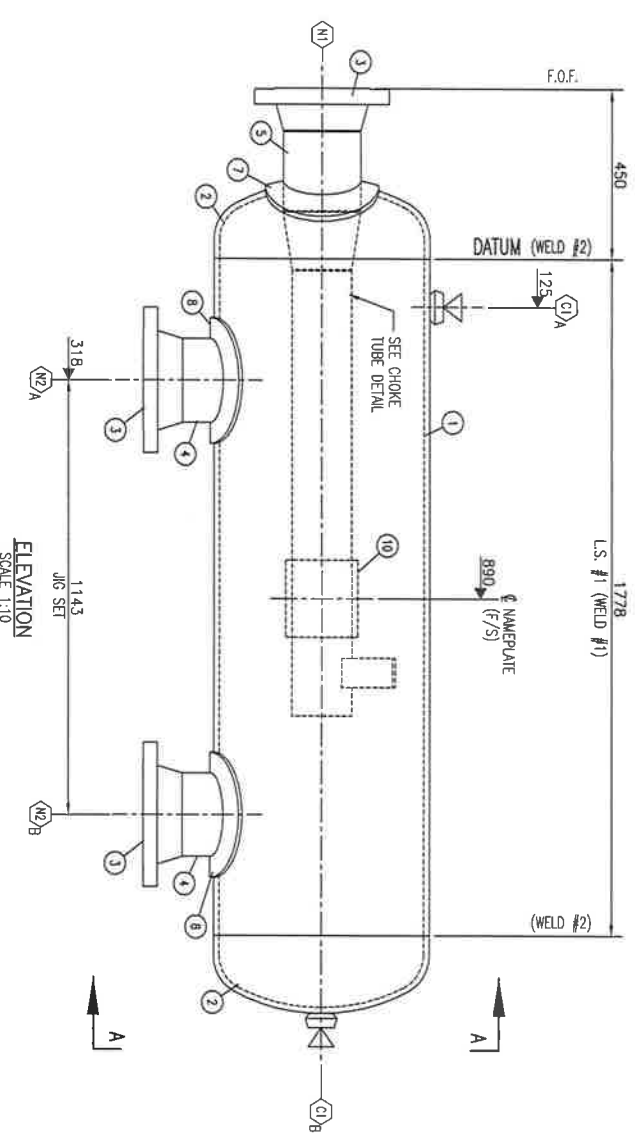
REVISION	BY	DATE	CKD	ENG
1	D. SMITH	00/05/10	M.J.	S.W.
ISSUED FOR CONSTRUCTION				

APPROVED	BY	DATE	SCALE
	D. SMITH	00/04/05	AS NOTED
DRAWN	BY	DATE	SCALE
	M. IWANIUK	00/05/10	AS NOTED

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

STOCK 1380 HP COMPRESSOR  
 STAGE-3 INLET SCRUBBER - SOUR GAS  
 508 O/D x 1473 S/S

DWG. No.: D-SCR-99420-103 REV. 1



NO.	DESCRIPTION	WPS#
1	DOUBLE BUTT	
2	SINGLE VEE	WPS# 104,106,110
3	THREDOLETT	
4	NOZZLE & REPAID RECESSED	WPS# 102,106,108
5	NOZZLE & REPAID FLUSH	WPS# 102,106,108,110
6	PIPE TO FLANGE/FITTING	WPS# 104,105,110

1. DO NOT PROJECT INTERNAL PROJECTION UNLESS SPECIFIED.  
 2. SANDBLAST INTERIORS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MIL SCALE AND WELD SPATTER.  
 3. VESSEL TO BE FLUSHED OUT AT HIGHEST AIR PRESS AND OILED INTERNALLY.  
 4. VESSEL OPENINGS TO BE SEALED FROM TO ANY SHIPMENTS TO OTHER SHIPS.

GENERAL NOTES

DATE: 2000.05.10 8:18am FILE NAME: J:\Jobs99\DWG\99420\Comp\VESL-BTL-99420-104.dwg

REVISION	NO.	ISSUED FOR CONSTRUCTION
	1	

BY	DATE	CKD	ENG
D. SMITH	00/05/10	WJ	S.W.

APPROVED	DATE	BY
	00/05/10	D. SMITH

MECH/STRUCT.	ELECTRICAL	PROJECT

DATE	BY	DATE	BY	SCALE
00/05/10	D. SMITH	00/05/10	D. SMITH	AS NOTED

DWG No.: D-BTL-99420-104

ITEM	QTY	DESCRIPTION	UNIT	SCALE
1	1	SHELL PLATE: 15.88 THK x 1778 LG (ROLLED TO 610 O/D)	SA-516-70N	6
2	1	HEAD PLATE: 15.88 NOM. (13.72 MIN) THK x 610 O/D, 2:1 SE. C/W 51 SF.	SA-516-70N	6
3	1	FLANGE: 219-309 BRWN SCH 40 BORE	SA-105N	6
4	2	PIPE: 219 0/D x 12.7 WT. x 152 LG (C/S)	SA-106-B	6
5	1	PIPE: 219 0/D x 210 LG	SA-106-B	6
6	1	PIPE: 168 0/D x 2.11 WT. x 1168 LG	SA-106-B	6
7	1	REPAID PLATE: 12.7 THK x 321 0/D x 222 L/D (C/S)	SA-516-70N	6
8	2	REPAID PLATE: 9.53 THK x 330 0/D x 222 L/D (C/S)	SA-516-70N	6
9	2	TOL. 60-60000 MET C/W PLUG (1) ON A 610 O/D RING (1)-FLAT	SA-105N	6
10	1	NAMEPLATE C/W MOUNTING BRACKET	SS/S3-S6	6
11	1	CONECTING REDUCER: 219 X 4 x 168 SCH 40 BRN (SUS3)	SA-234-WP8	6
12	2	F/BAR: 10 THK x 76 x 202 LG	SA-234-WP8	6

**PROPAK SYSTEMS LTD.**

STOCK 1360HP COMPRESSOR  
 STAGE-1 SUCTION BOTTLE  
 610mm O/D x 1778 mm S/S

PRODUCTION IMPACT TEST REQ'D: NO

SHIP LOOSE: YES

SERVICE: SOUR GAS  
 LONG & CIRC. WELDS TYPE 1  
 OWP: 590.2  
 CCP: ADP-1050 (S) ADP-1227 (S)  
 TACK WELDS WPS# 101  
 PRESS. TO STRUCT. WELD WPS# 102, 106, 110

CAPACITY: 0.54 m<sup>3</sup>  
 WEIGHT EMPTY: 797 kg  
 WEIGHT FULL OF WATER: 1337 kg  
 SURFACE PREPARATION: PNT-11  
 FINISH PAINT: PNT-11  
 INSULATION: NONE  
 MECHANICAL LOADINGS GOVERN AS PER UG22

SERIAL NO: 99420-104 CRN:  
 TAG NO: V-121 YEAR BUILT: 2000  
 LSD #: -  
 CODE: -  
 ASME SECT. VIII DIV I, '98, ADDENDA '99  
 MAX. DESIGN PRESS: 4.516 MPa @ TEMP: 149°C  
 HYDROTEST: 5871 KPa  
 MIN. DESIGN METAL TEMP: -28°C @ WAMP 4516 MPa  
 MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N

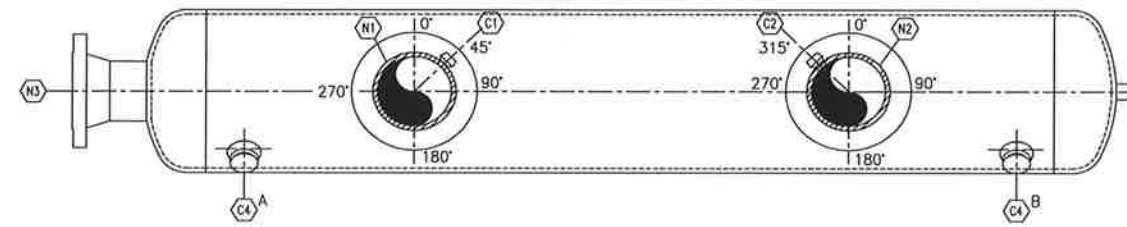
RADIOGRAPHY: NO

"SOUR SERVICE"

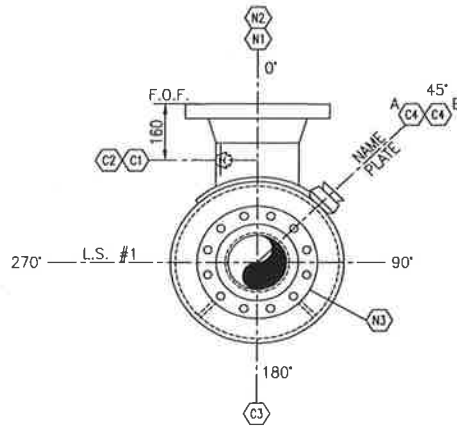
440 East Lake Road,  
 Postal Bdg #2  
 Airdrie, Alberta  
 Canada T4B 2C3

IF THIS DRAWING IS REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT

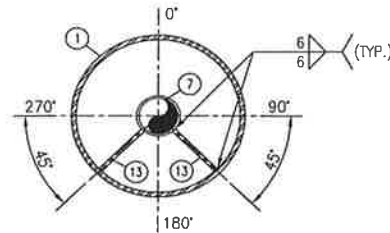
THIS DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD., AND SHALL NOT BE DISCLOSED



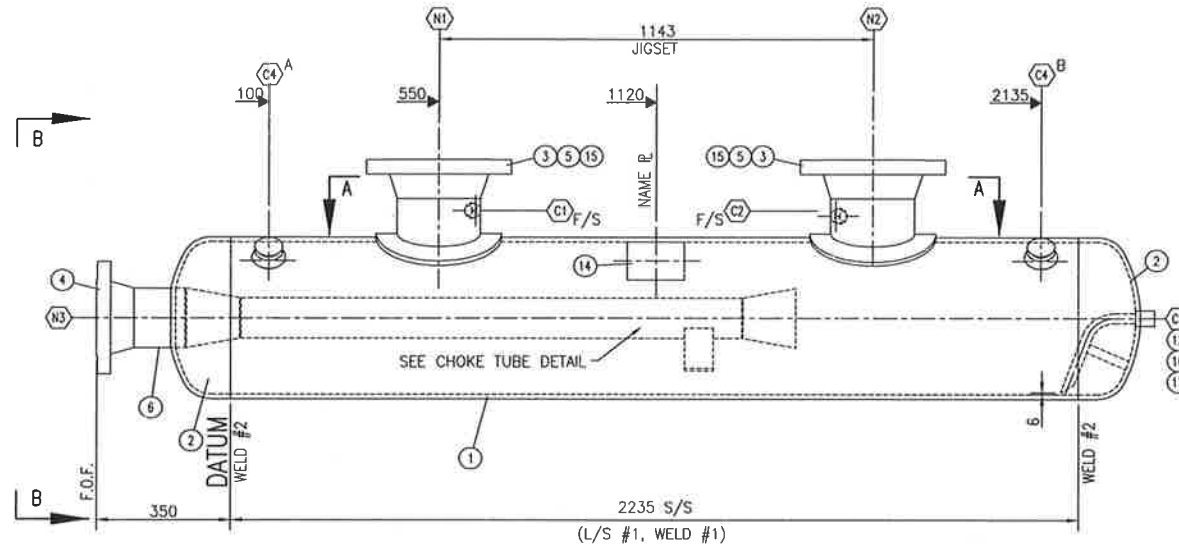
PLAN VIEW A-A  
SCALE 1:10



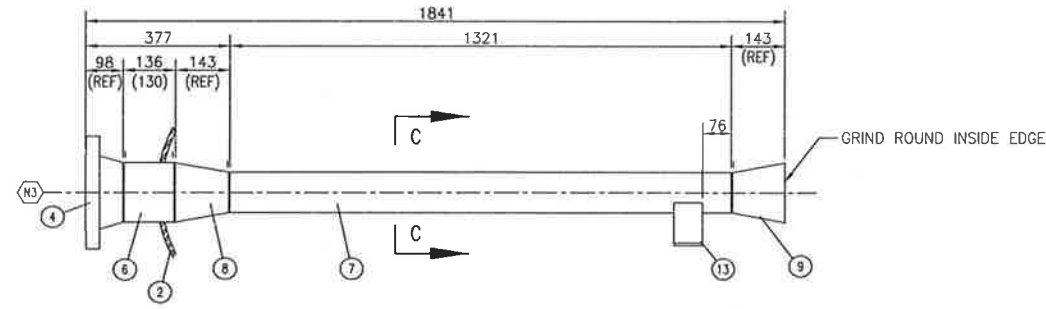
ORIENTATION B-B  
SCALE 1:10



VIEW C-C  
SCALE 1:10



ELEVATION VIEW  
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	8, 14	
N2	219	300#	RFWN	XH	INLET CYL #2	MIN	220	8, 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 1/D (ROLLED TO 457 1/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-G6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY: 0.364 m<sup>3</sup>

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

SURFACE PREPARATION: PNT-12

PRIMER:

FINISH PAINT:

INSULATION: NONE

MECHANICAL LOADINGS GOVERNS AS PER UG 22:  300

SERIAL NO: 99420-105 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 5781 kPag  
COIL N/A kPag  
MIN<sup>m</sup> DESIGN METAL TEMP: -28 °C @ MAWP 4447 kPag  
MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N  
RADIOGRAPHY:  
LONG<sup>L</sup> FULL UWH(a)  
CIRC: FULL UWH(a) (INCL. ALL BUTT WELDS)  
P.W.H.T.: YES MIN. TEMP: 593 °C, TIME: 1.0 h (MIN.)  
CORR. ALLOW: 3.2 mm

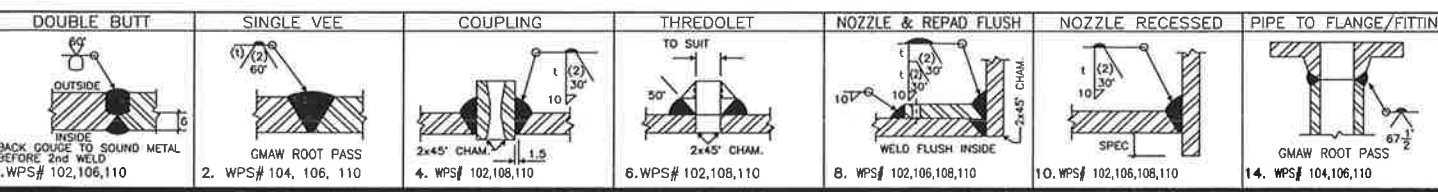
IMPACT TEST:  PER UG20(f)

PRODUCTION IMPACT TEST REQ'D:

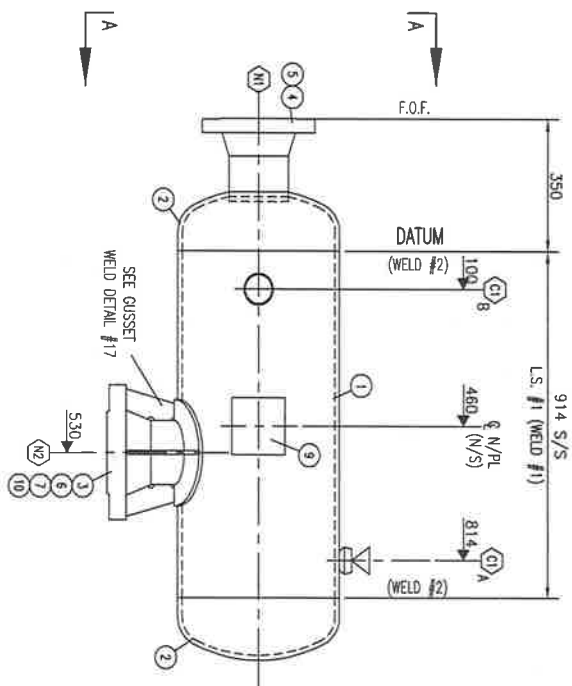
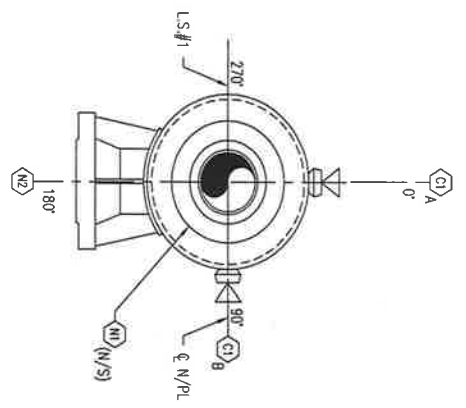
SHIP LOOSE:

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: WPS# 102 106 110

SOUR SERVICE



<p>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</p>		<p>GENERAL NOTES</p>		<p>1 ISSUED FOR CONSTRUCTION</p>		<p>D. SMITH 00/05/10 M.I. S.W.</p>		<p>APPROVED</p>		<p>DRAWN</p>		<p>PROPAC SYSTEMS LTD.</p>		<p>440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3</p>	
<p>DATE: 2000.05.10 8:20am FILE NAME: J:\jobs99\DWG\99420\Comp\VSL\BTL-99420-105.dwg</p>				<p>REVISION</p>		<p>BY DATE CKD ENG</p>		<p>MECH/STRUCT. DATE</p>		<p>BY DATE CHECKED</p>		<p>STOCK 1380 HP COMPRESSOR 1st STAGE DISCHARGE BOTTLE 457 O/D x 2235 S/S</p>		<p>DWG. No.: D-BTL-99420-105 REV. 1</p>	



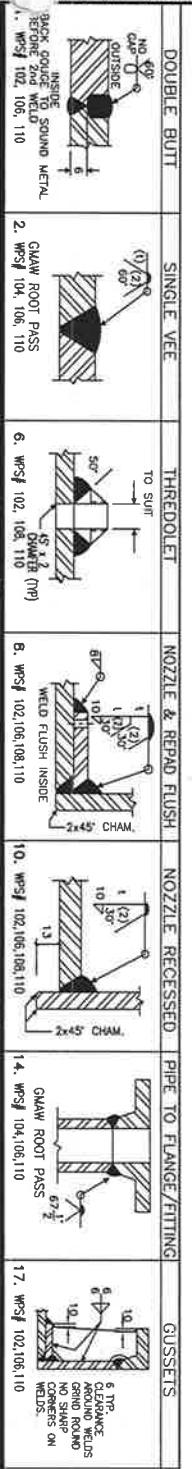
NOZZLE SCHEDULE					
MK	SIZE	RATING	FACING	SCH	SERVICE
N1	168	3000	BRWN	XXH	INLET PROCESS GAS
N2	168	6000	BRWN	XH	OUTLET PROCESS GAS
A					
C1	48	6000	10L	-	INSPECTION VENT c/w FLUG
C1	48	6000	10L	-	INSPECTION c/w FLUG

**BILL OF MATERIAL**

ITEM	QUA	DESCRIPTION
1	1	SHELL PLATE: 1270 THK. x 914 LG. (ROLLED TO 457 O/D)
2	2	HEAD PLATE: 457 O/D x 1270 NOM. (10.62 MIN.) THK. 2:1 SE. c/w 51 S.F.
3	1	FLANGE: 168-600/ BRWN XXH BORE
4	1	FLANGE: 168-300/ BRWN XXH BORE
5	1	PIPE: 168 O/D x 21.95 WT. x 125 LG.
6	1	PIPE: 168 O/D x 10.97 WT. x 131 LG. (CS)
7	1	REPAD PLATE: 9.53 THK. x 279 O/D x 171 LG. (ROLLED TO 457 LG)
8	2	TOU: 48-6000/ NPT c/w PLUG (ON 457 O/D RUN)
9	1	NAMEPLATE c/w MOUNTING BRACKET
10	4	PLATE: 10 THK. x 84 WD x 700 LG. (CS)

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

ELEVATION  
SCALE: 1:10



1) DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED  
 2) SANDBLAST INTERIORS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE LIME SCALE AND WELD SPATTER.  
 3) VESSEL TO BE BLASTED OUT AT HIGHEST AIR PRESS AND GROUND INTERNALLY  
 4) VESSEL OPENINGS TO BE SEALED PRIOR TO AIR SHIPPING TO OTHER SITES

GENERAL NOTES

DATE: 2000.05.10 8:23am FILE NAME: J:\Job999.DWG\99420\Comp\VS1\BTL-99420-106.dwg

GENERAL NOTES

1 ISSUED FOR CONSTRUCTION

REVISION

BY: D. SMITH DATE: 00/05/10

BY: W.I. DATE: 00/05/10

BY: S.W. DATE: 00/05/10

APPROVED		DRAWN	
MECH/STRUCT.	DATE	BY	ID. SMITH
ELECTRICAL	DATE	BY	M. MANIUK
PROJECT	DATE	BY	S. WARD

CAPACITY: 0.17 m<sup>3</sup>  
 WEIGHT EMPTY: 301 kg  
 WEIGHT FULL OF WATER: 471 kg  
 SURFACE PREPARATION: PNT-11  
 FINISH PAINT: PNT-11  
 MECHANICAL LOADINGS GIVEN AS PER UOZZ: [NO]  
 IMPACT TEST: [NO]

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

RADIOGRAPHY: [NO] (per UOZZ)

MIN. DESIGN METAL TEMP: -28°C @ MAMP 4516 RPog  
 MATERIAL: HEAD: SA-516-70N SHELL: SA-516-70N

MAX. DESIGN PRESS: 4516 RPog @ TEMP: 149°C  
 HYDROTEST: 5871 RPog  
 CORR. ALLOW: 3.20 mm

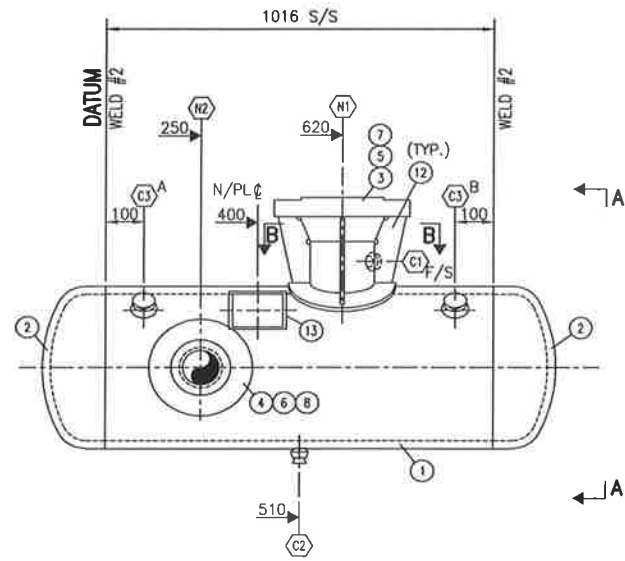
"SOUR SERVICE"

PROPAK SYSTEMS LTD.  
 STOCK 1380HP COMPRESSOR  
 STAGE-2 SUCTION BOTTLE  
 457mm O/D x 914 mm S/S

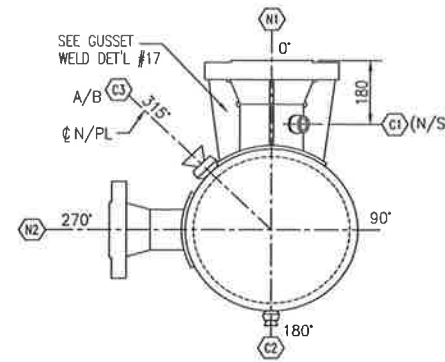
PROPAK  
 440 East Lake Road,  
 Postal Bg #2  
 Athlba, Alberta  
 Canada T4B 2C3

OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT

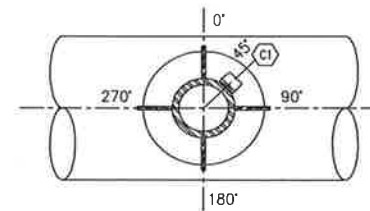
THIS DRAWING AND THE PROPERTY OF PROPAC SYSTEMS LTD., AND SHALL NOT BE DISCLOSED



**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 W.T. x 190 LG. SMLS SA-106-B
8	1	PIPE: 114 O/D x 17.12 W.T. 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 SS/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 m<sup>3</sup>  
SURFACE AREA OF TUBES: N/A m<sup>2</sup>  
WEIGHT EMPTY: 460 kg  
WEIGHT FULL OF WATER: 590 kg  
SURFACE PREPARATION: PNT-12  
PRIMER: PNT-12  
FINISH PAINT: NONE  
INSULATION: NONE  
MECHANICAL LOADINGS GOVERNS AS PER UG 22:  NO

IMPACT TEST: NO - PER UG20(f)

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

SERIAL NO: 99420-107 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<sup>m</sup> DESIGN METAL TEMP: -28 °C @ MAWP 8908 kPag  
MATERIAL: HEAD: SA-516-70N SHELL: SA-106B  
RADIOGRAPHY:  NO  
LONG - FULL UWM(c)  
CIRC: FULL UWM(c) (INCL. ALL BUTT WELDS)

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
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

GENERAL NOTES	GENERAL NOTES	1	ISSUED FOR CONSTRUCTION	D. SMITH 00/05/10	M.I.	S.W.
1) DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.		No.	REVISION	BY	DATE	CKD ENG
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.						

DATE: 2000.05.10 8:25am FILE NAME: J:\jobs99\DWG\99420\Comp\VSL\BTL-99420-107.dwg

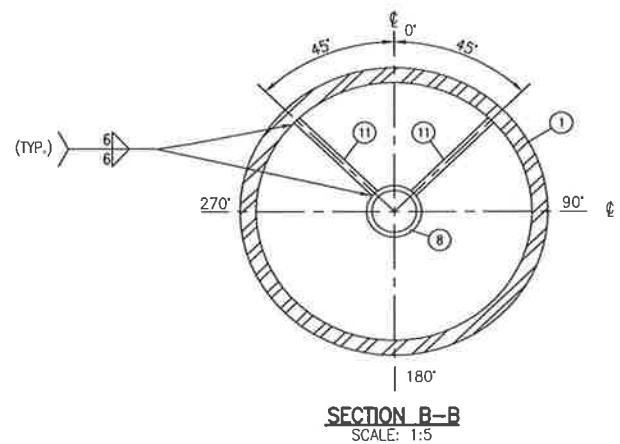
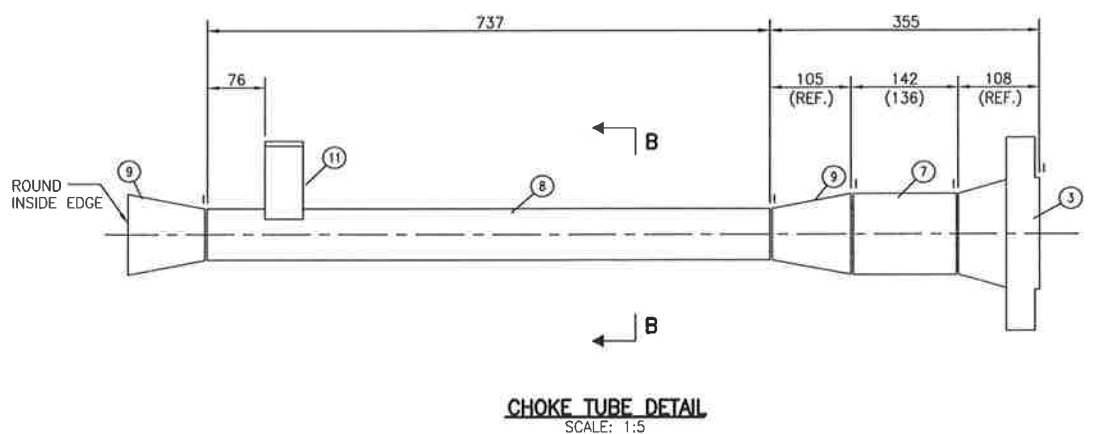
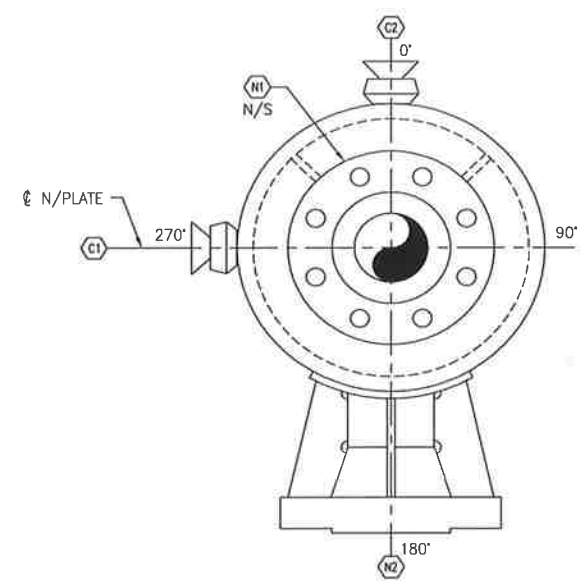
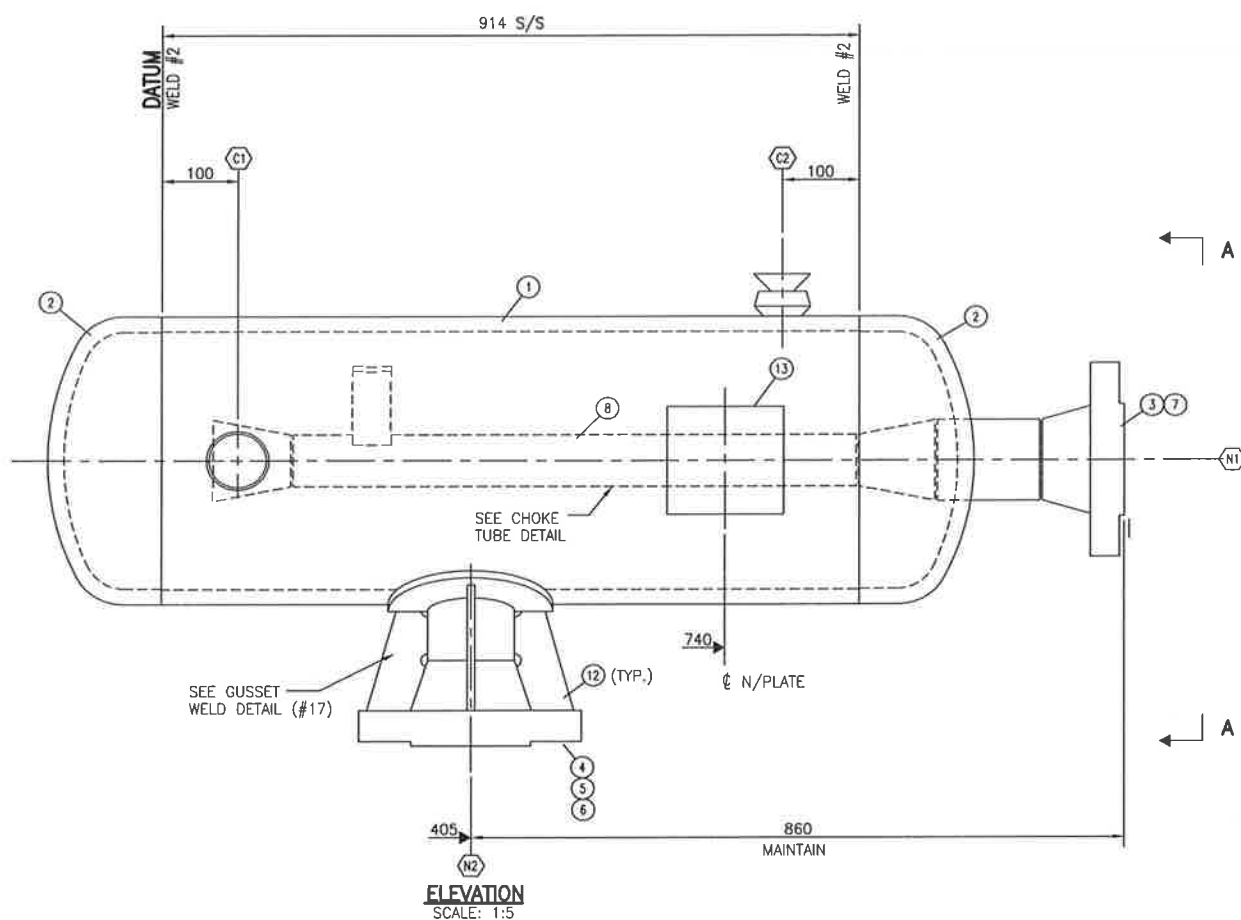
APPROVED		DRAWN	
MECH./STRUCT.	BY D. SMITH	DATE	00/04/11
ELECTRICAL	BY M. IWANIUK	DATE	00/05/10
PROJECT	S. WARD	DATE	00/05/10
DATE	00/05/10	SCALE	AS NOTED

PROPAC SYSTEMS LTD.  
1380 HP STOCK COMPRESSOR  
2ND STAGE DISCHARGE BOTTLE  
406mm O/D x 1016mm S/S  
DWG. No.: D-BTL-99420-107 REV. 1

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

THIS DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAG SYSTEMS LTD., AND SHALL NOT BE DISCLOSED

THIS DRAWING AND



NOZZLE SCHEDULE							
MK	SIZE	RATING	FACING	SCH	SERVICE	INT. PROJ.	EXT. PROJ.
N1	114	600#	RFWN	XXH	PROCESS INLET	SPEC 0	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) SMLS SA-106-B
7	1	PIPE: 114 O/D x 17.11 W.T. x 136 LG. (CTS) SMLS SA-106-B
8	1	PIPE: 73 O/D x 9.53 W.T. x 737 LG. SMLS SA-106-B
9	2	CONC. RED: 114 O/D x 73 O/D SCH XXH LE x SCH 160 SE BW SMLS 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. G40.21N-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 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: 0.12 m<sup>3</sup>  
 SURFACE AREA OF TUBES: N/A m<sup>2</sup>  
 WEIGHT EMPTY: 402 kg  
 WEIGHT FULL OF WATER: 522 kg  
 SURFACE PREPARATION:  
 PRIMER: PNT-11  
 FINISH PAINT: PNT-11  
 INSULATION: NONE  
 MECHANICAL LOADINGS GOVERNS AS PER UG 22: (NO)

SERIAL NO: 99420-108 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<sup>m</sup> DESIGN METAL TEMP: -28 °C @ MAWP 9067 kPag  
 MATERIAL: HEAD: SA-516-70N SHELL: SA-106-B  
 RADIOGRAPHY:  
 LONG - FULL UWI(a)  
 CIRC: FULL UWI(a) (INCL. ALL BUTT WELDS)

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

IMPACT TEST: NO - PER UG20(r)

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

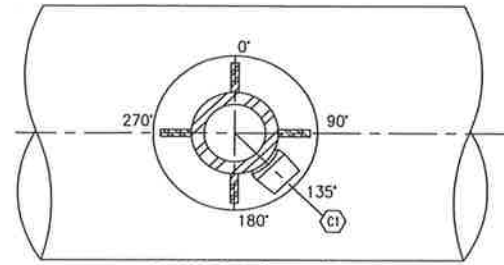
GENERAL NOTES		GENERAL NOTES	
1) DO NOT PROFILE INTERNAL PROJECTION UNLESS SPECIFIED.		1	ISSUED FOR CONSTRUCTION
2) SANDBLAST INTERNALS TO ENSURE THAT THE INSIDE SURFACE OF THE VESSEL IS FREE OF LOOSE MILL SCALE AND WELD SPLATTER.			
3) VESSEL TO BE FLUSHED OUT AT HYDROTEST, AIR DRIED AND OILED INTERNALLY.			
4) VESSEL OPENINGS TO BE SEALED PRIOR TO ANY SHIPPING TO OTHER SHOPS.			
DATE: 2000.05.10 8:28am	FILE NAME: J:\jobs99\DWG\99420\Comp\VSL\BTL-99420-108.dwg	No.	REVISION

APPROVED		DRAWN	
MECH./STRUCT.	BY D. SMITH	DATE	00/04/12
ELECTRICAL	BY	DATE	CHECKED
PROJECT	S. WARD	DATE	00/05/10
DATE	00/05/10	SCALE	AS NOTED

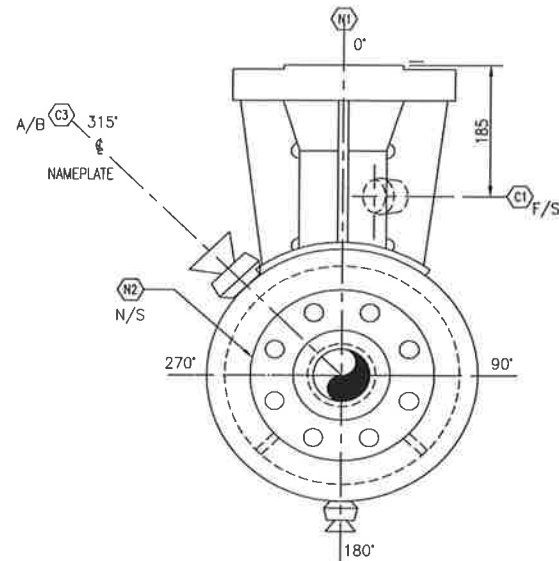
PROPAG SYSTEMS LTD.	
1380 HP STOCK COMPRESSOR	440 East Lake Road,
3RD STAGE SUCTION BOTTLE	Postal Bag #2
406mm O/D x 914mm S/S	Airdrie, Alberta
	Canada T4B 2C3
DWG. No.: D-BTL-99420-108	REV. 1



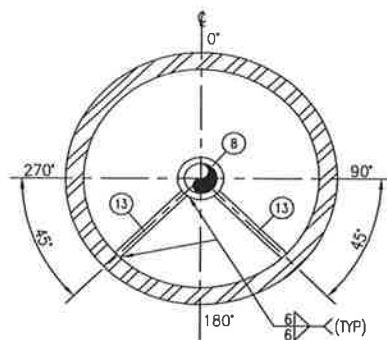
THIS DRAWING AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED OUTSIDE OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT



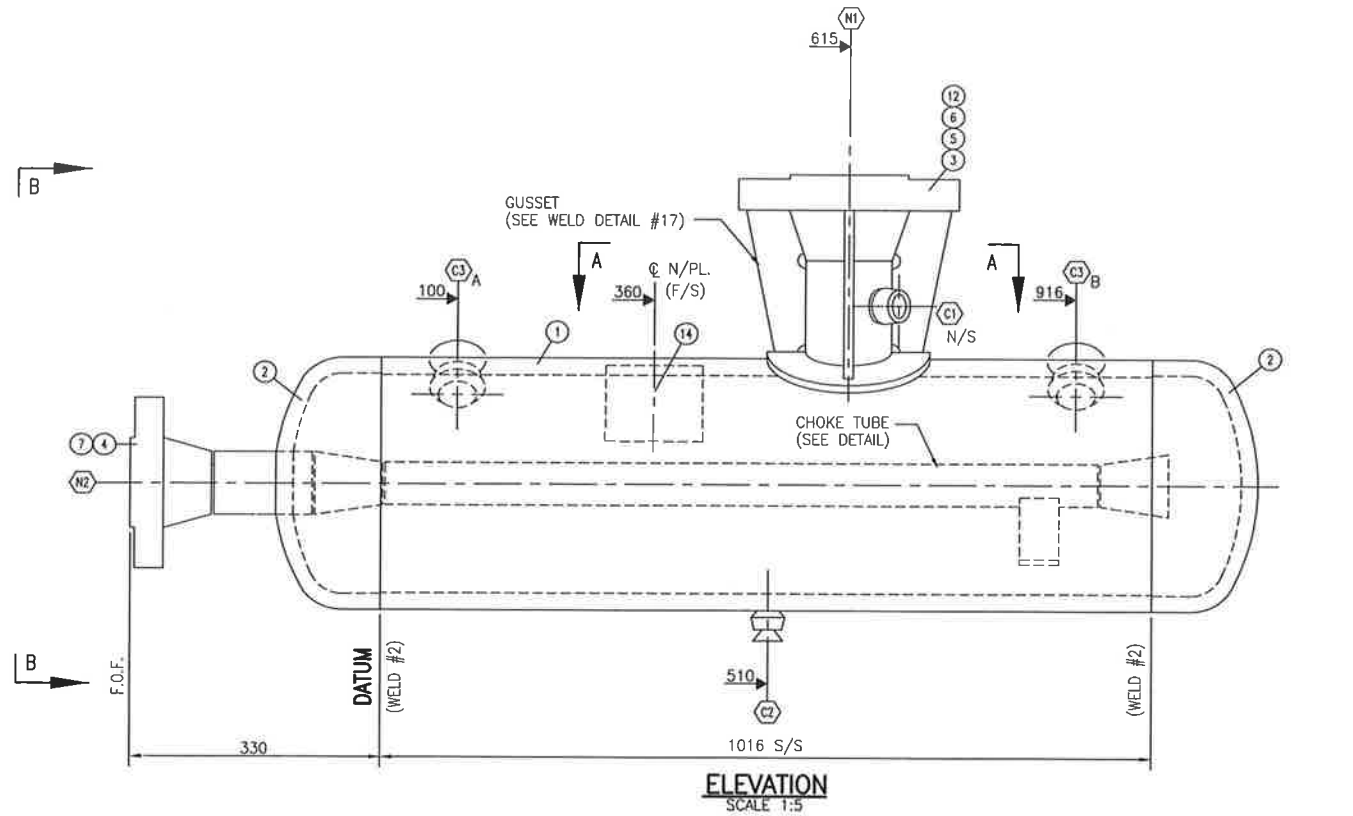
**SECTION 'A-A'**  
SCALE 1:5



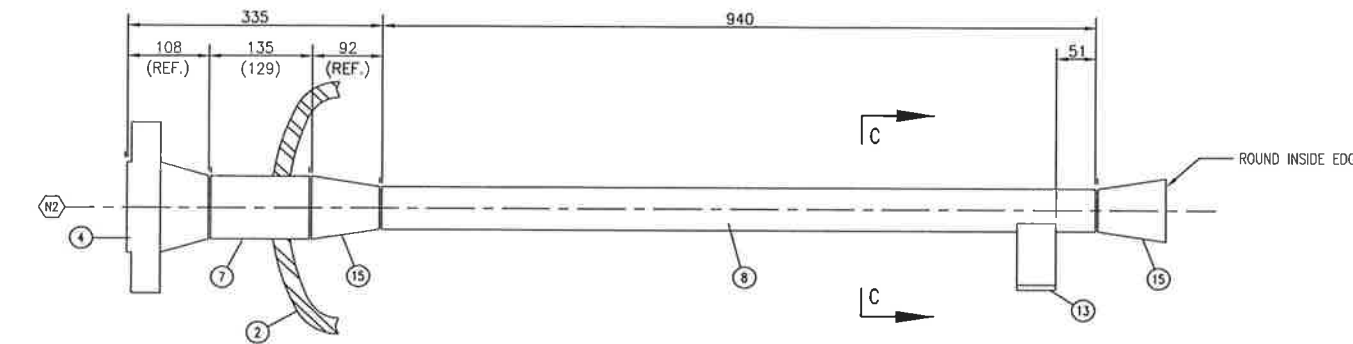
**ORIENTATION 'B-B'**  
SCALE 1:5



**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	

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 SE. 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-G6 for SA-106-B, SA-420-WPL6 for SA-234-WPB

CAPACITY: 0.091 m<sup>3</sup>  
SURFACE AREA OF TUBES: N/A m<sup>2</sup>  
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)

IMPACT TEST: NO - PER UG20(f)

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

SERIAL NO: 99420-109 CRN:  
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: 11377kPag @ TEMP: 176 °C

HYDROTEST:  
VESSEL 14790 kPag  
COIL N/A kPag  
MIN<sup>m</sup> DESIGN METAL TEMP: -28 °C @ MAWP 11377 kPag  
MATERIAL: HEAD: SA-516-70N SHELL: SA-106-B  
RADIOGRAPHY:  
LONG & FULL UWI(c)  
CIRC: FULL UWI(c) (INCL. ALL BUTT WELDS)

P.W.H.T.:  
YES, MIN. TEMP: 593 °C, TIME: 1h(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# 102,108,108,110	10. WPS# 102,108,108,110	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**

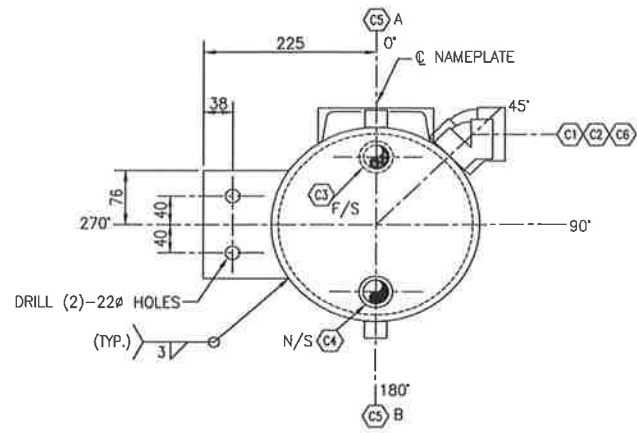
No.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	D. SMITH	00/05/10	M.L.	S.W.

APPROVED		DRAWN	
MECH./STRUCT.	BY	D. SMITH	
DATE	DATE	00/04/12	
ELECTRICAL	CHECKED		
DATE	BY	M. IWANIUK	
PROJECT	DATE	00/05/10	
DATE	SCALE	AS NOTED	

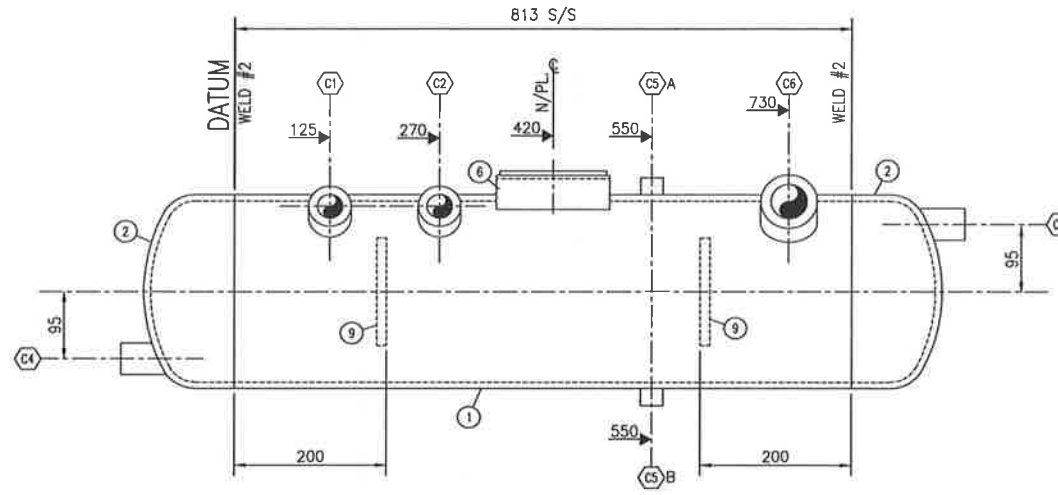
**PROPAC SYSTEMS LTD.**  
STOCK 1380 HP COMPRESSOR  
3RD STAGE DISCHARGE BOTTLE  
356mm O/D x 1016mm S/S

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

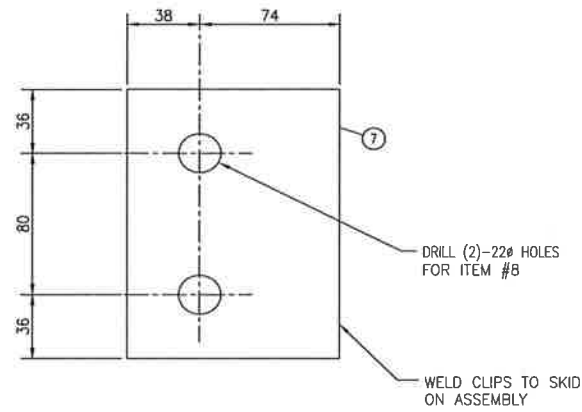
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAG SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT



**ORIENTATION**  
SCALE 1:5



**ELEVATION**  
SCALE 1:5



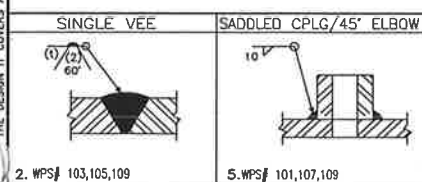
**MOUNTING CLIP DETAIL**  
SCALE 1:2 (2-REQ'D)

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

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 m<sup>3</sup>  
 WEIGHT EMPTY: 90 kg  
 WEIGHT FULL OF WATER: 140 kg  
 SURFACE PREPARATION:  
 PRIMER: PNT-11  
 FINISH PAINT: PNT-11  
 INSULATION: NONE  
 IMPACT TEST: NO  
 YES PER US04 AS FOLLOWS  
 NO PER US04(S) US02 US06  
 NO PER US04(S) US02 US06  
 NO PER US04(S) US02 US06  
 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

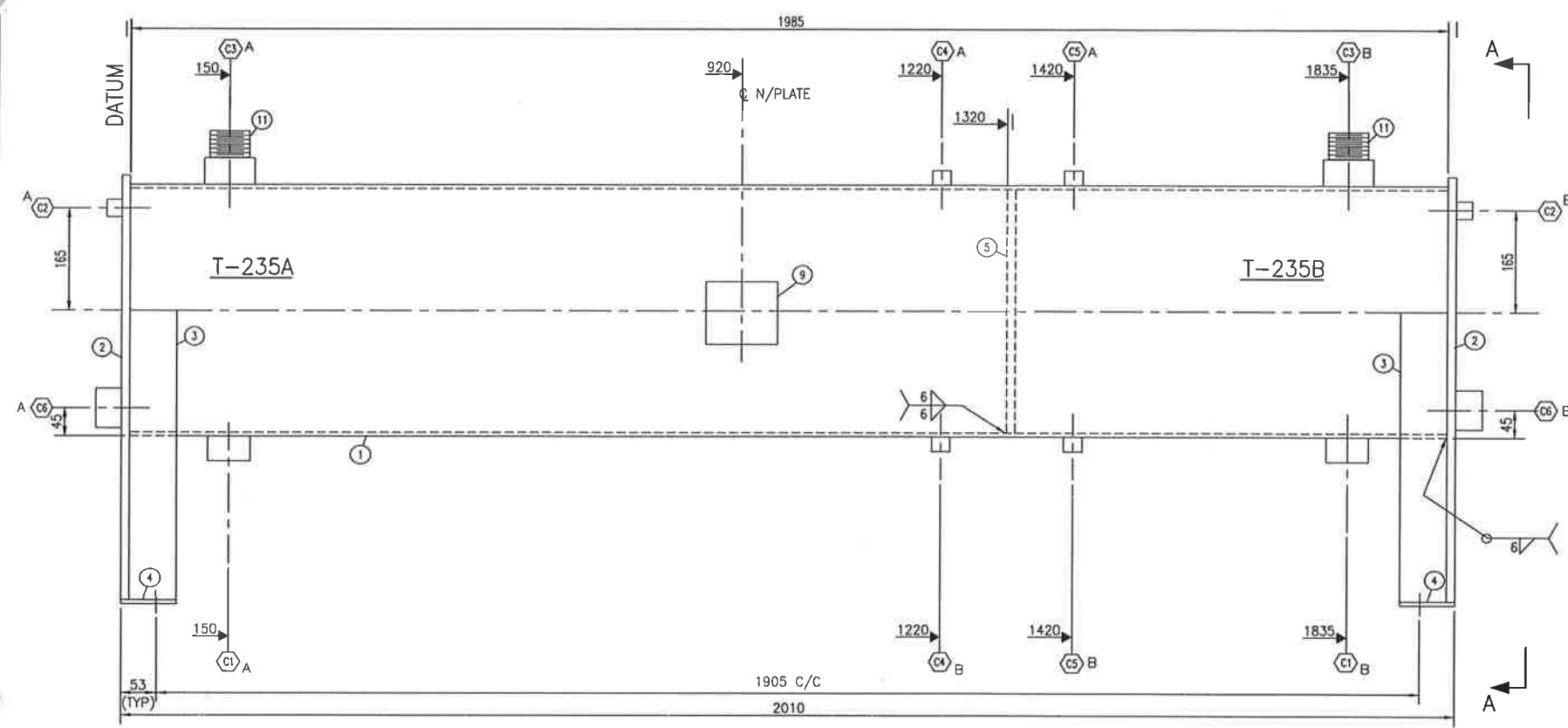
SERIAL NO: 99420-111 CRN: N/A  
 TAG NO: V-130 YEAR BUILT: 2000  
 LSD #: .  
 CODE: NON-CODE  
 MAX. DESIGN PRESS: 101 kPag @ TEMP. 149°C  
 HYDROTEST:  
 VESSEL 345 kPag  
 MIN<sup>m</sup> DESIGN METAL TEMP: -28 °C  
 MATERIAL: HEAD: SA-234-WPB SHELL: SMLS SA-106-B  
 RADIOGRAPHY:  
 LONG: N/A  
 CIRC: N/A  
 P.W.H.T.: [NO]  
 CORR. ALLOW: NONE  
 "SOUR SERVICE"



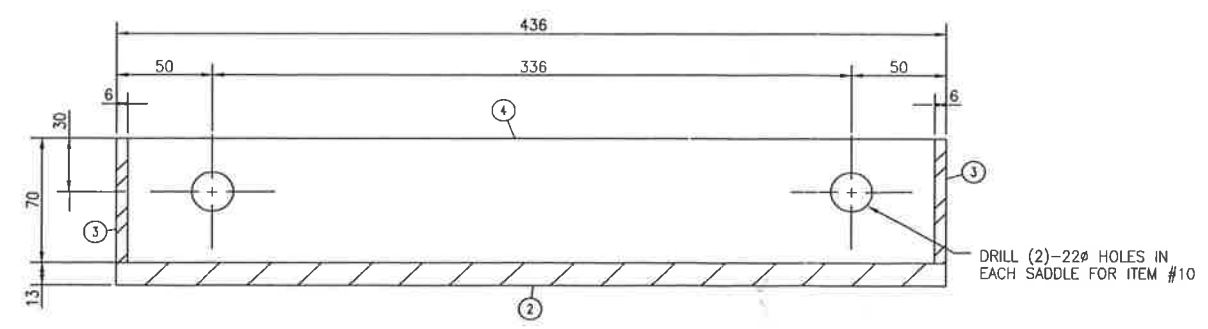
2. WPS# 103,105,109  
 5. WPS# 101,107,109

GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		PROPAG SYSTEMS LTD	
DATE: 2000.05.10 11:45am	FILE NAME: J:\jobs99\DWG\99420\Comp\VSL\POT-99420-111.dwg	1	ISSUED FOR CONSTRUCTION	D. SMITH	00/05/10	M.J.	S.W.	440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3	
		No.	REVISION	BY	DATE	CKD	ENG		
				MECH./STRUCT. DATE		BY DATE		STOCK 1380 HP COMPRESSOR PACKAGE PACKING VENT & DRAIN SEAL POT 273mm O/D x 813mm S/S	
				ELECTRICAL DATE		BY DATE		DWG. No.: D-POT-99420-111	
				PROJECT DATE		BY DATE		REV. 1	
				DATE 00/05/10		SCALE AS NOTED			

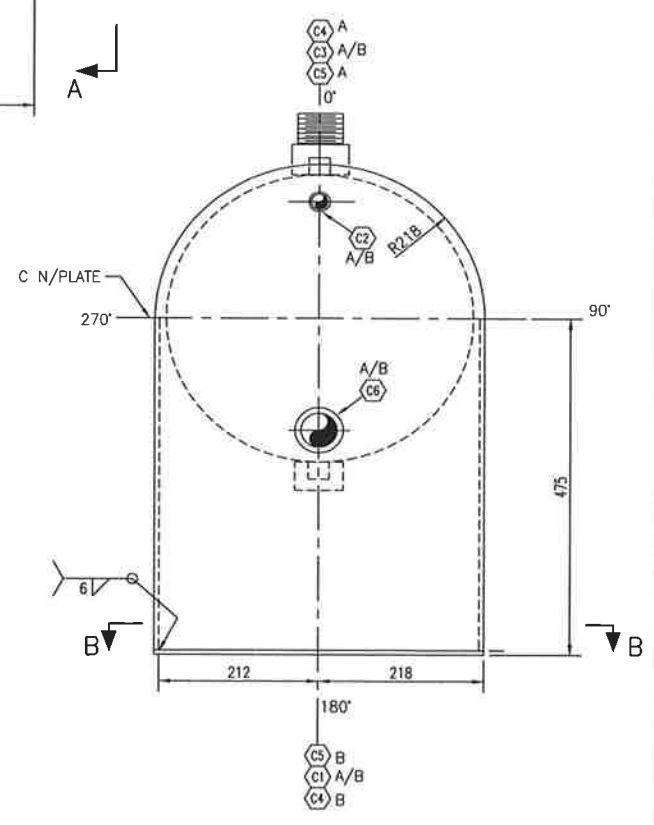
OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT



**ELEVATION**  
SCALE: 1:5



**VIEW 'B-B'**  
SCALE: 1:2



**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	-	LSL-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 m<sup>3</sup>  
T-235B: 0.079 m<sup>3</sup>

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

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

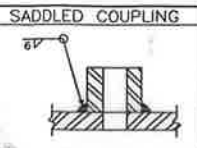
SERIAL NO: 99420-112 CRN: N/A  
TAG NO: T-235A/B YEAR BUILT: 2000  
LSD #: -  
CODE: **NON CODE**

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

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

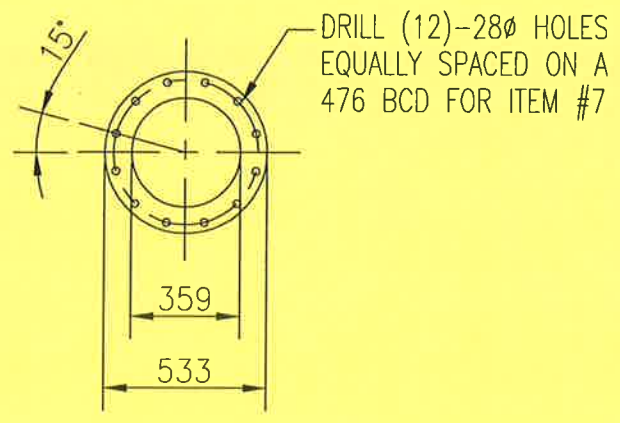


SI 101,107,109

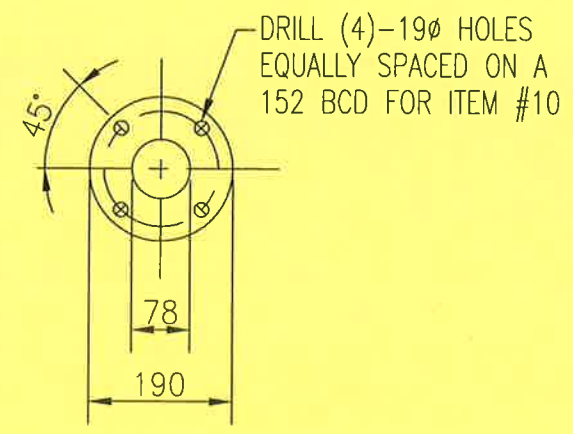
GENERAL NOTES		GENERAL NOTES		REVISION		APPROVED		DRAWN		PROPAK SYSTEMS LTD.	
DATE: 2000.05.10 11:45am FILE NAME: J:\jobs99\DWG\99420\Comp\VSL\TNK-99420-112.dwg		1 ISSUED FOR CONSTRUCTION		D. SMITH 00/05/10 M.L. S.W.		MECH./STRUCT. BY D. SMITH		DATE 00/04/28		1380 STOCK COMPRESSOR	
						ELECTRICAL CHECKED		DATE 00/05/10		JACKET WATER EXPANSION TANK	
						PROJECT S. WARD		DATE 00/05/10		406 O/D x 1985 LG.	
						DATE 00/05/10		SCALE AS NOTED		DWN. No.: D-TNK-99420-112	
										REV. 1	

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

THIS DRAWING AND 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.



DETAIL ITEM #6  
SCALE 1:25

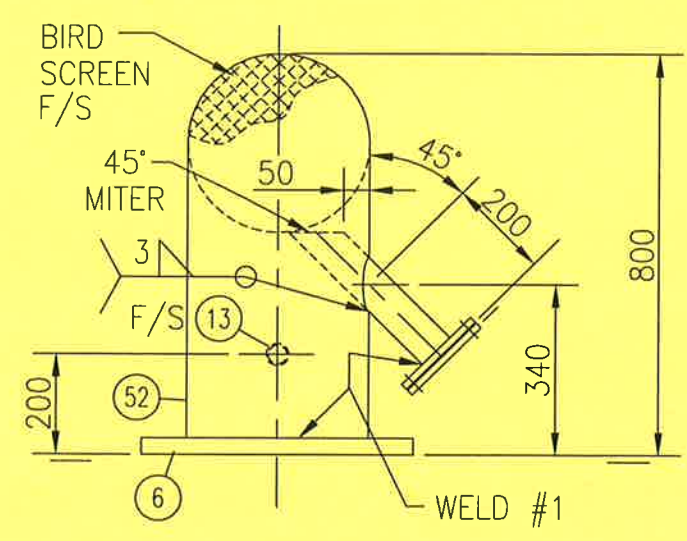


DETAIL ITEM #9  
SCALE 1:10 (2 REQUIRED)

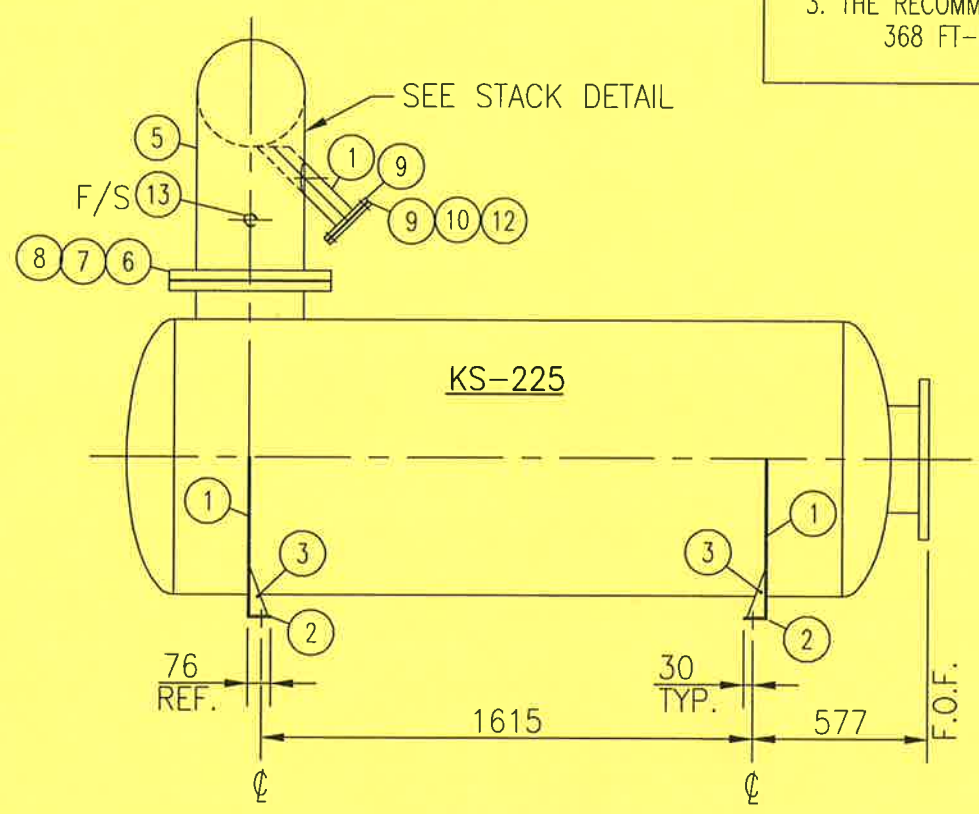
BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	2	PLATE: 6 THK. x 527 WD. x 914 LG. (CTS) SA-36
2	2	FLAT BAR: 6 THK. x 76 WD. x 914 LG. SA-36
3	2	PLATE: 6 THK. x 60 WD. x 160 LG. (ONE MAKES TWO) SA-36
4	4	BOLTS: 19Ø x 50 LG. c/w (1) HEXNUT & WASHER EACH (ZINC COATED) SA-325
5	1	PIPE: 356 O/D x 9.53 W.T. x 797 LG. ERW SA-53-B (MIN)
6	1	PLATE FLANGE: 13 THK. x 533 O/D x 359 I/D (SEE DETAIL) SA-36
7	12	BOLTS: 25Ø x 57 LG. c/w (1) HEX NUT EACH (ZINC COATED) SA-325
8	1	GASKET: 3 THK. x 533 O/D x 359 I/D c/w (12)-28Ø HOLES ON A 476 BCD GRAPHOIL GHE-3
9	2	PLATE FLANGE: 13 THK. x 190 O/D x 78 I/D (SEE DETAIL) SA-36
10	1	GASKET: 3 THK. x 190 O/D x 78 I/D c/w (4)-19Ø HOLES ON A 152 BCD GRAPHOIL GHE-3
11	1	TUBE: 76 O/D x 3.42 W.T. (10 GAUGE) x 400 LG. WELDED (CTS) C.S.
12	4	BOLTS: 16Ø x 51 LG. c/w (1) HEX NUT EACH (ZINC COATED) SA-325
13	1	TOL: 27-3000# (ON A 356 O/D RUN) SA-105

**GENERAL NOTES:**

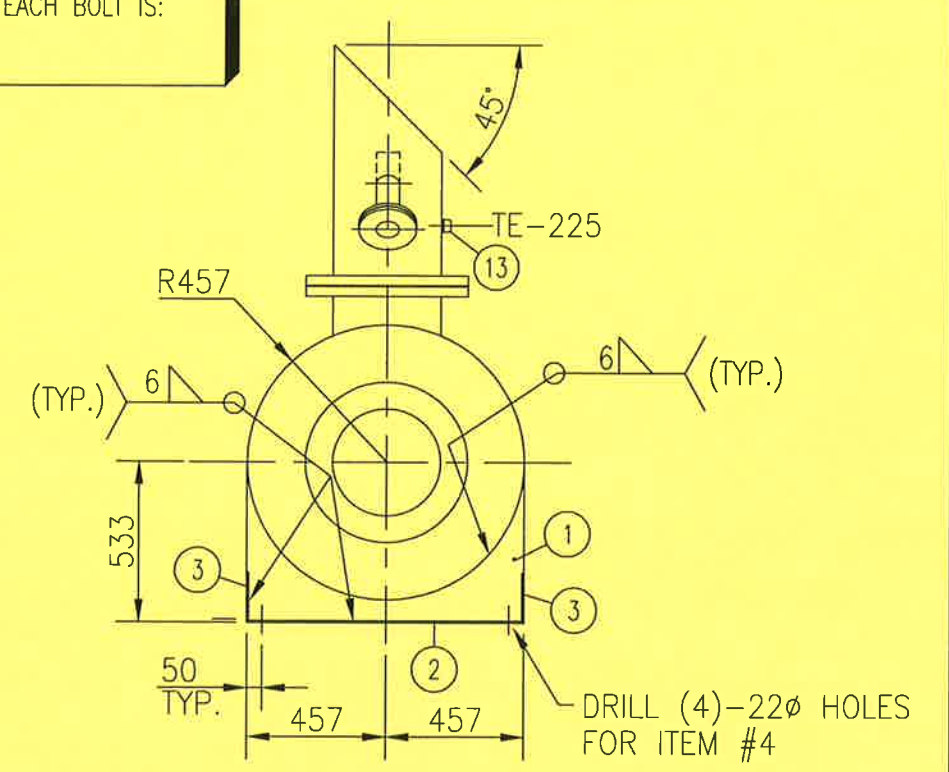
1. DRILL ALL MATING FLANGES TOGETHER
2. BOLT RING FLANGES TO THEIR MATES USING ALL BOLTS BEFORE WELDING.
3. THE RECOMMENDED TORQUE ON EACH BOLT IS: 368 FT-LBS.



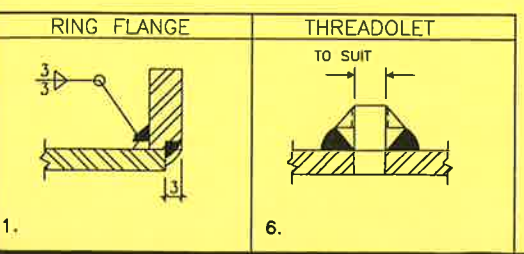
STACK DETAIL  
SCALE 1:15



ELEVATION  
SCALE 1:25



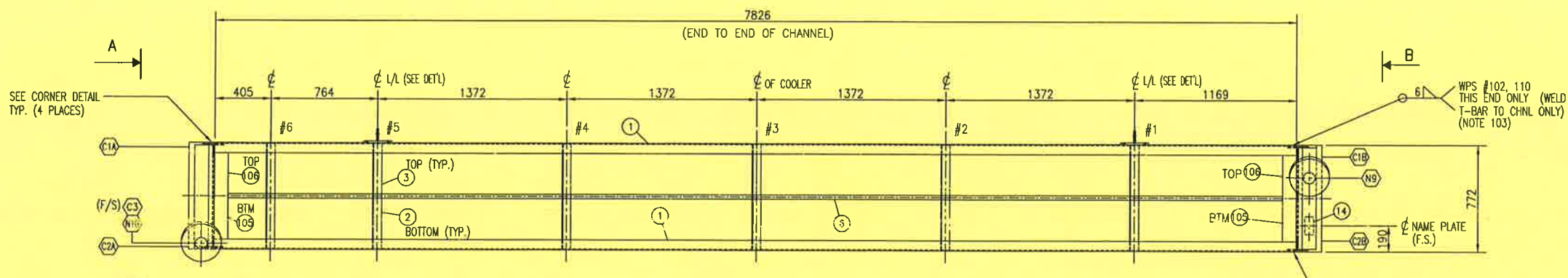
RIGHT SIDE VIEW  
SCALE 1:25



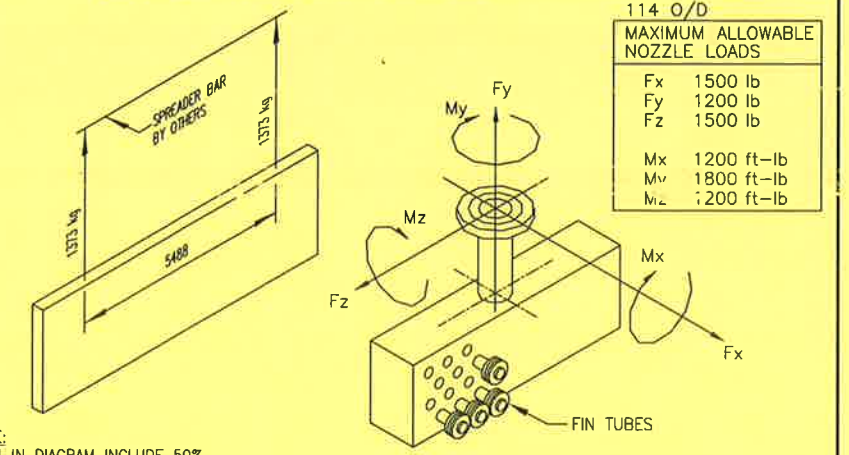
GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		MECH./STRUCT.		ELECTRICAL		PROJECT		DATE		SCALE		DWG. No.:		REV.	
1. ISSUED FOR CONSTRUCTION		1. ISSUED FOR CONSTRUCTION		S. FARWELL		S. FARWELL		00/06/08		00/06/07		S. FARWELL		00/06/08		AS NOTED		B-SPT-99420-110		1	
DATE: 2000.06.08 8:36am FILE NAME: J:\jobs99\DWG\99420\Comp\SKD\SPT-99420-114-01.dwg		No.		BY		DATE		CKD		ENG		DATE		SCALE		DWG. No.:		REV.		1	

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

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



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	SHDR PLUG	12UNF	VENT	-	-		
A/B	C2	29	SHDR PLUG	12UNF	DRAIN	-	-		
	C3	27	6000#	NPT	TC w/PLUG	-	1		



114 O/D	
MAXIMUM ALLOWABLE NOZZLE LOADS	
F <sub>x</sub>	1500 lb
F <sub>y</sub>	1200 lb
F <sub>z</sub>	1500 lb
M <sub>x</sub>	1200 ft-lb
M <sub>y</sub>	1800 ft-lb
M <sub>z</sub>	1200 ft-lb

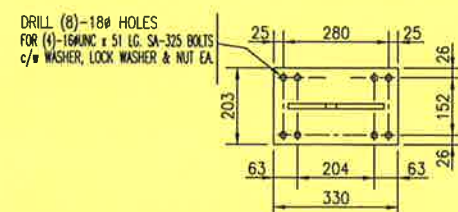
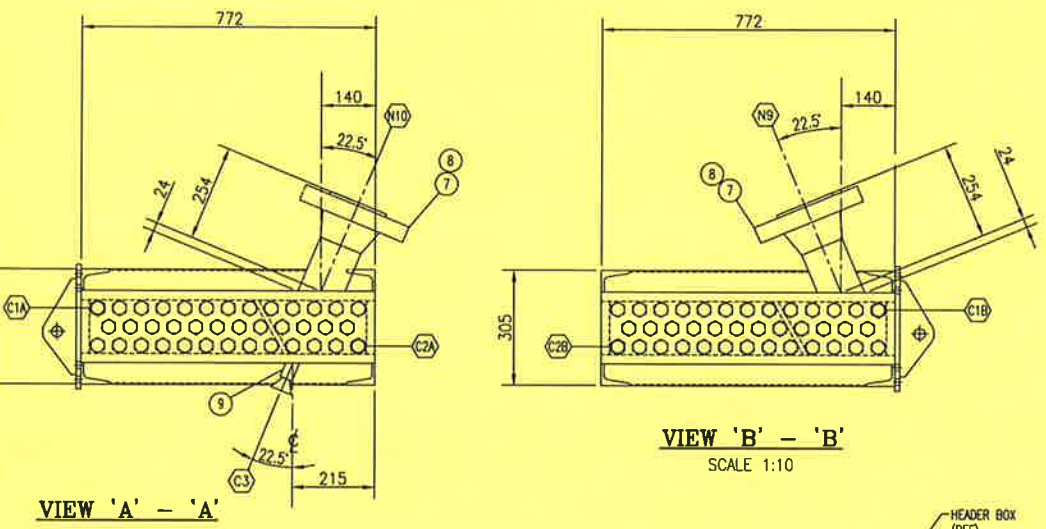
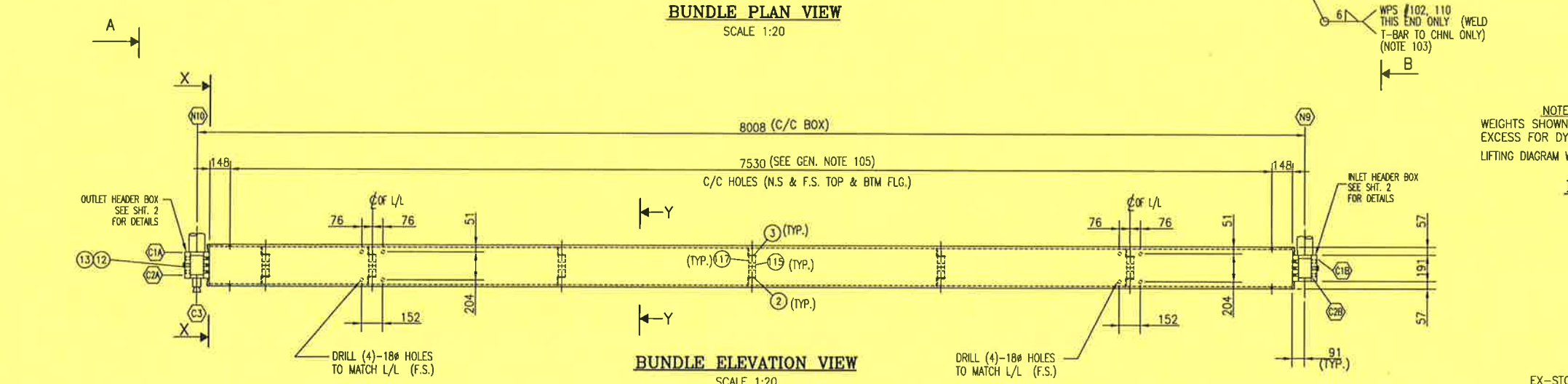
NOTE:  
WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING  
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 1830 KG

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

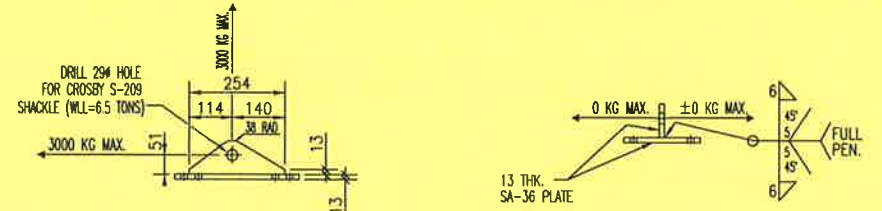
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
1	2	SIDE CHANNELS: C310 @ 31 kg/m x 7826 LG.	G40.21M-300W
2	6	BTM. TUBE SUP'T: L 64 x 64 x 6 THK. x 758 LG.	G40.21M-300W
3	6	TOP TUBE SUP'T: L 64 x 64 x 6 THK. x 746 LG.	G40.21M-300W
4			
5			
EX-STOCK-P	3B	TUBES (SMLS): 25ø x 14 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINUM FINNS SA-179 0.4 THK x 16 HIGH @ 394 FINNS/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			
EX-STOCK-P	P	76 GASKET: 35 (1 3/8") O/D x 29 (1 1/8") I/D x 1.58 (1/16") THK. MAX. BRN 110	C1010/20
13	76	HEX STEEL SHOULDER PLUG: 29 (1 1/8") ø - (12 UNF) x 25 (1") 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 <sup>3</sup>	SERIAL NO: 99420-231 CRN:	
SURFACE AREA OF TUBES INCLUDING FINNS:	508.36 m <sup>2</sup>	YEAR BUILT:	2000
WEIGHT EMPTY:	1830 kg	LSD NO.:	-
WEIGHT FULL OF WATER:	1953 kg	CODE:	
SURFACE PREPARATION:		ASME SECT VIII DIV I, '98, ADDENDA '99	
PRIMER:	PNT 12	MAX. DESIGN PRESSURE:	11377 kPag
FINISH PAINT:		DESIGN TEMP:	177 °C
INSULATION:	NONE	CORR. ALLOW:	3.18 mm
PRODUCTION IMPACT TEST REQ'D:		HYDROTEST:	17065 kPag
MECH LOADINGS GOVERN PER UG 22: NO		MINM DESIGN METAL TEMP:	-28 °C
IMPACT TEST: NO - PER UG20(1); UCS-66(c)		⊕ 11377 kPag	
		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)		MATERIAL HARDNESS AFTER STRESS-RELIEVING (INCLUDING WELD METAL AND HAZ) SHALL NOT EXCEED HRC-22	
TACK, PRES/STRUCT WELDS 102, 110		<b>SOUR SERVICE</b>	
STRUCT TO STRUCT WELDS 101, 109		TAG NO: AC-212	

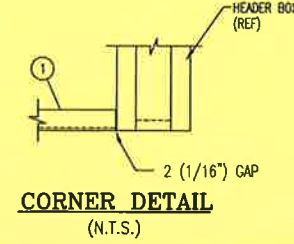


- NOTES:
- HOLES SPACED 204 APART ARE FOR 305 DEEP SIDE CHANNEL HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
  - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN LIFTING.
  - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".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



TRANSFER TO DWG.# D-BDL-00424-231 (SHT. 1)

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



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.
	107. COPIED FROM JOB #99404

GENERAL NOTES		REVISION		APPROVED		DRAWN	
No.				BY	DATE	BY	DATE
2	TRANSFER TO JOB #00424			G. CHIN	00/05/11	G. CHIN	00/04/27
1	ISSUED FOR CONSTRUCTION			G. CHIN	00/05/24	JD	PC

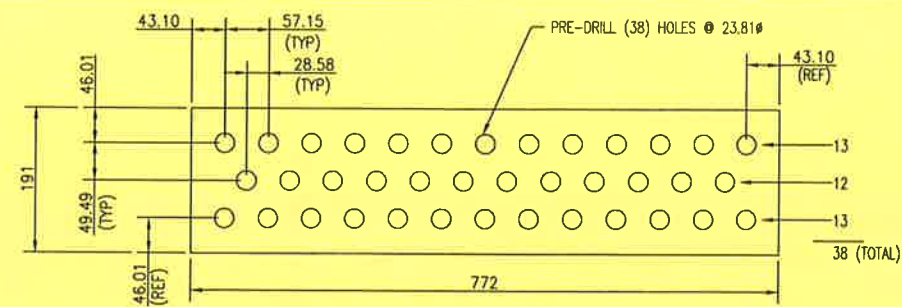
APPROVED		DRAWN	
MECH./STRUCT. IS. ISAACS	BY	G. CHIN	DATE
DATE 00/05/11	DATE	00/04/27	CHECKED
ELECTRICAL	BY	D. PARTBLE	DATE
DATE	DATE	00/05/11	SCALE
PROJECT P.CRAWFORD	DATE	AS NOTED	
DATE 00/05/24			

**PROPAK SYSTEMS LTD.**  
1380 HP STOCK COMPRESSOR, M/N W 1380, 6HOS-3  
3rd STAGE GAS AFTERCOOLER  
AC-212

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

DWG. No.: D- BDL-99420-231 SHT. 1 OF 2 REV. 2

THIS DRAWING 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.



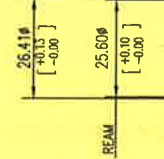
TUBESHEET/PLUGSHEET LAYOUT

SCALE 1:5

(101) (2)-TUBESHEETS REQUIRED (102) (2)-PLUGSHEETS REQUIRED

SHOP NOTE: EXPAND TUBES A MINIMUM OF 41mm FROM INSIDE FACE OF TUBESHEET

CHAMFER .79 x 45°



TUBESHEET HOLES

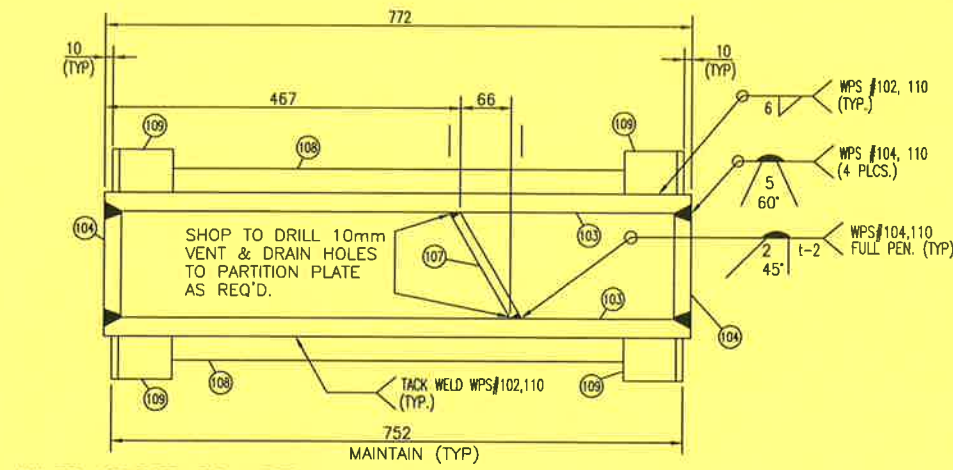
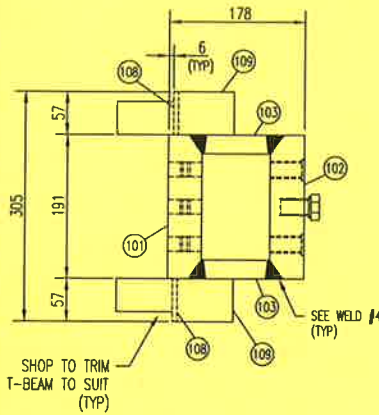
SCALE 1:1

PLUGSHEET HOLES

SCALE 1:1

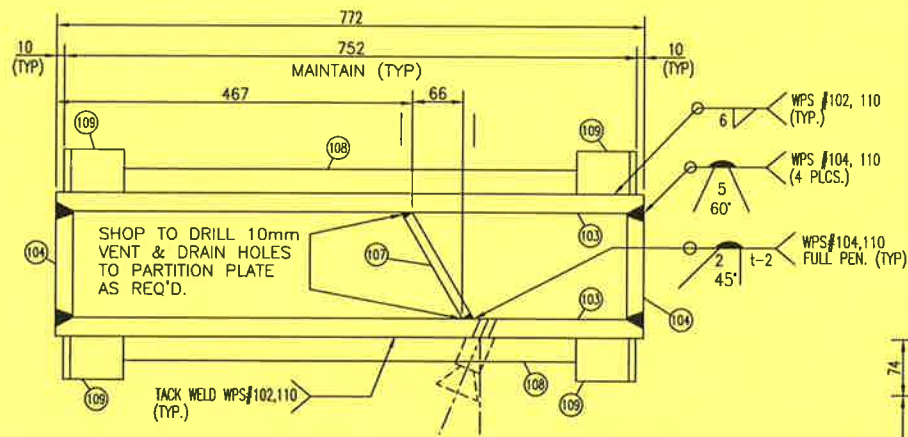
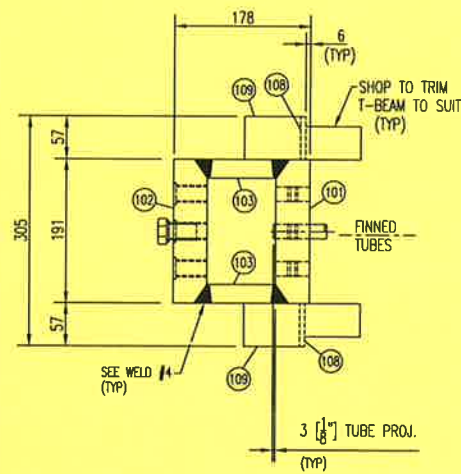
CORE DRILL 26.29 (1.035") Ø (TAP 1.125"-12 UNF 2B) RECOMMENDED INSTALLATION TORQUE ON EACH HEX HEAD SHOULDER PLUG: 300 FT-LB "KOPR-KOTE ANTI-SEIZE COMPOUND TO BE USED AS A THREAD LUBRICANT."

Table with columns: ITEM, QUA, DESCRIPTION, and SA. Lists materials like TUBESHEET PLATE, PLUGSHEET PLATE, AIR SEAL, etc.



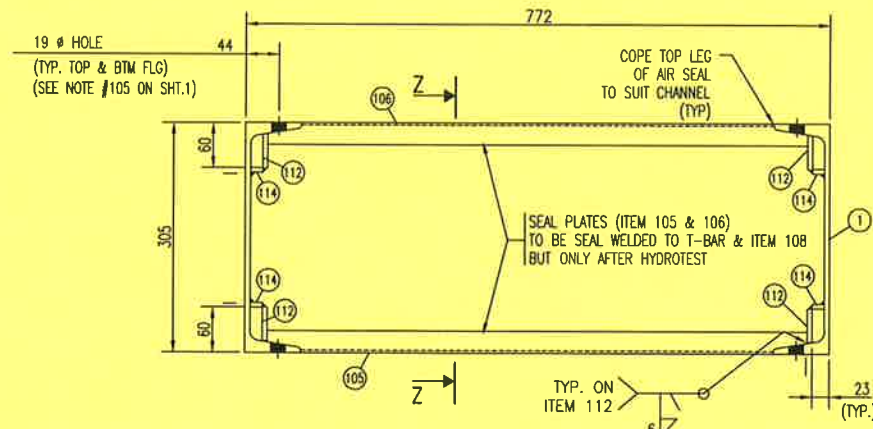
INLET HEADER BOX DETAIL (VIEWED FROM PLUG SIDE)

SCALE 1:5



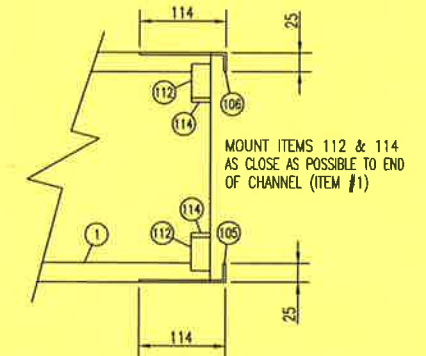
OUTLET HEADER BOX DETAIL (VIEWED FROM PLUG SIDE)

SCALE 1:5



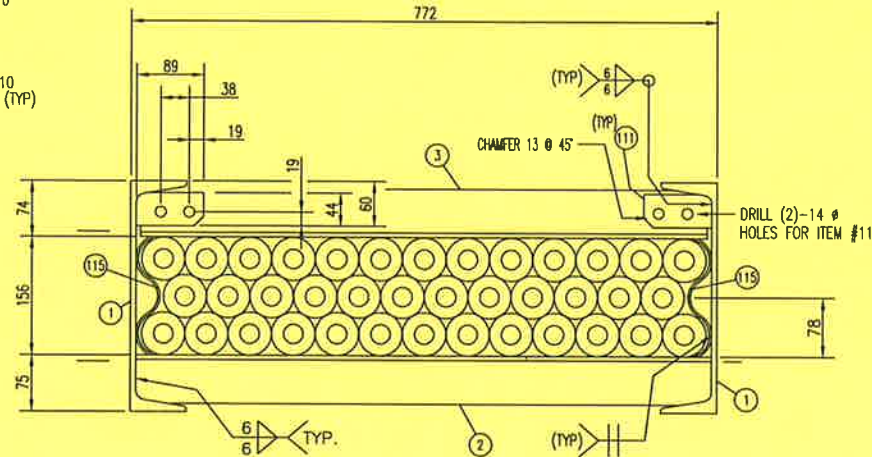
VIEW 'X'-X'

SCALE 1:5



SECTION 'Z-Z'

SCALE 1:5

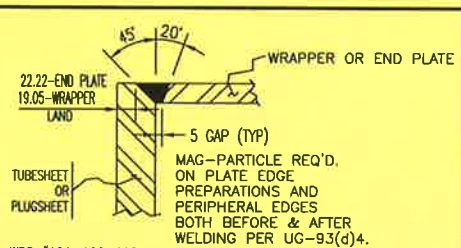


SECTION 'Y'-Y'

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



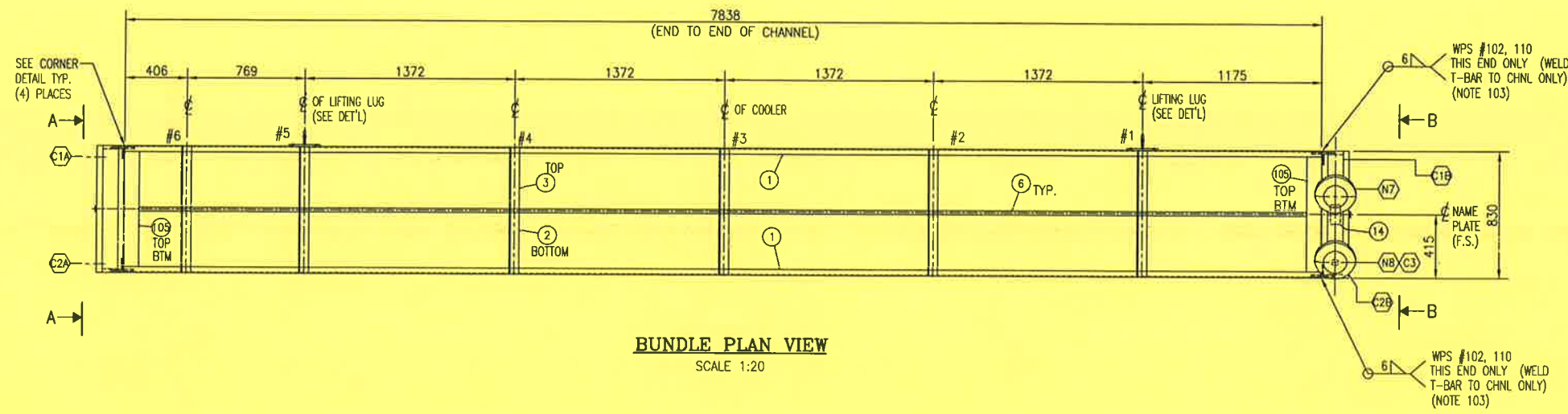
4. WPS #104, 106, 110

TRANSFER TO DWG.# D-BDL-00424-231 (SHT. 2)

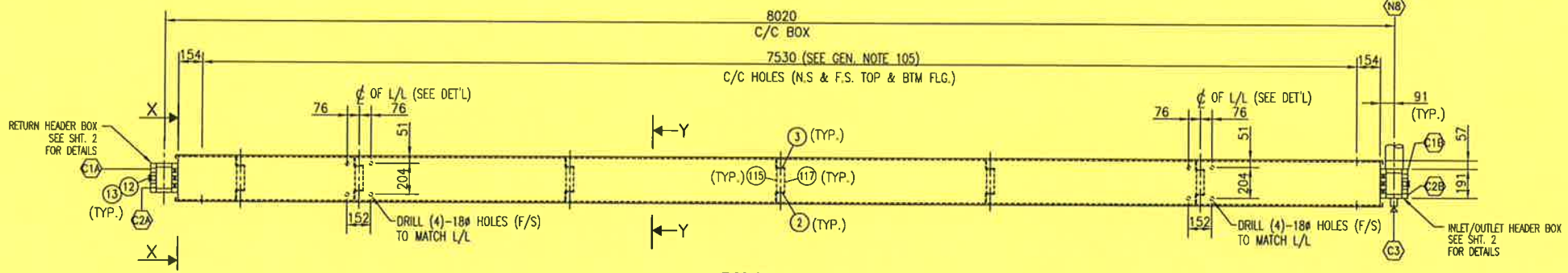
Table with columns: GENERAL NOTES, REVISION, APPROVED, DRAWN, CHECKED, DATE, PROJECT, SCALE, DWG. No., SHT. 2 OF 2, REV. 2.

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

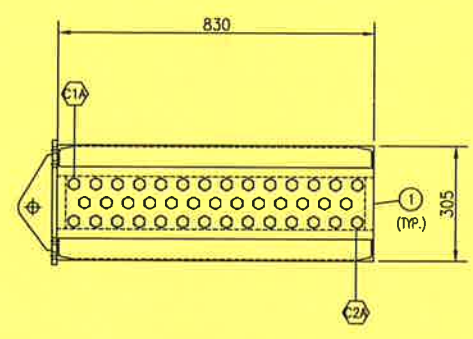
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



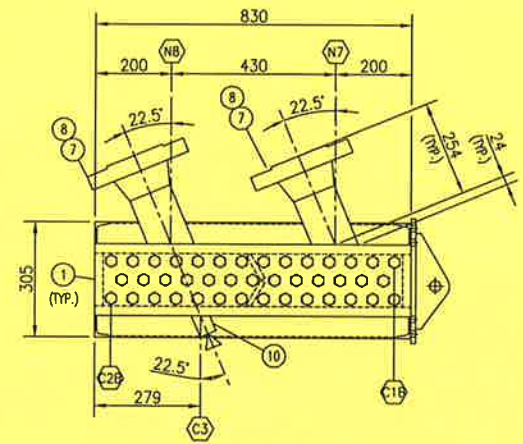
**BUNDLE PLAN VIEW**  
SCALE 1:20



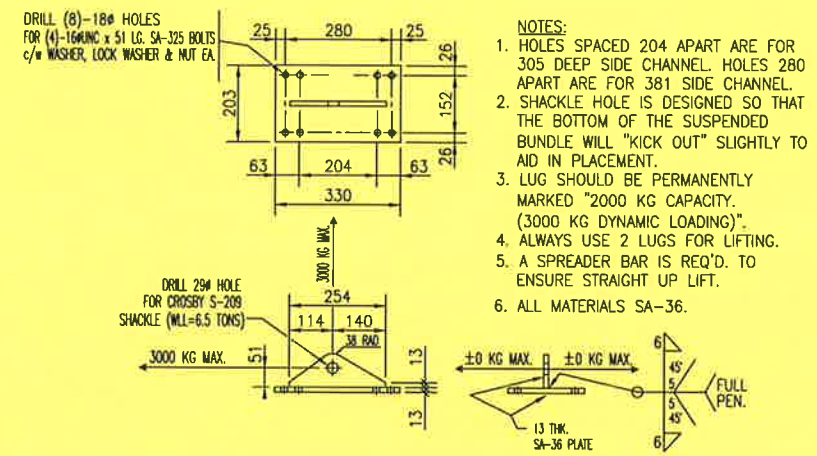
**BUNDLE ELEVATION VIEW**  
SCALE 1:20



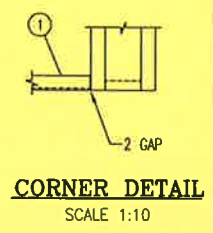
**VIEW 'A' - 'A'**  
SCALE 1:10



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

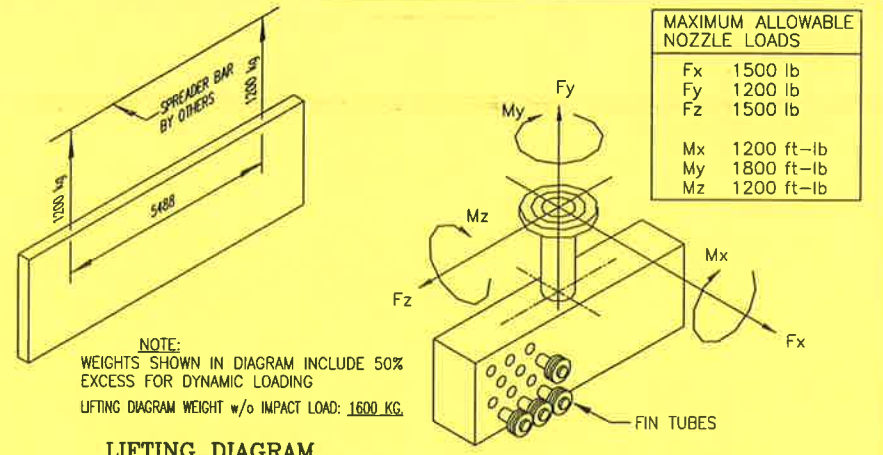


**REMOVABLE LIFTING LUG DETAIL (REUSABLE)**  
(2)-REQ'D.  
SCALE 1:10



**CORNER DETAIL**  
SCALE 1:10

NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	INLET	OUTLET	EXT. PROJ	WELD	
N7	114	600#	RFWN	XXH	INLET		254	2/3	
N8	114	600#	RFWN	XXH	OUTLET		254	2/3	
C1	29	SHDR PLUG	12UNF		VENT				
C2	29	SHDR PLUG	12UNF		DRAIN				
C3	27	6000	NPT		TC c/w PLUG				1



**LIFTING DIAGRAM**  
FOR AC-211

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	2	SIDE CHANNELS: MC310 @ 15.8 kg/m x 7838 LG. G40.21M-300W
2	6	BTM. TUBE SUP'T: L 64 x 64 x 6 THK x 820 LG. G40.21M-300W
3	6	TOP TUBE SUP'T: L 64 x 64 x 6 THK x 808 LG. G40.21M-300W
4		
5		
6	41	TUBES (SMLS): 25# x 14 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINUM FIN SA-179 0.4 THK x 16 HIGH @ 394 FINS/m, & 60mm STRIP BACK EACH END.
7	2	FLG: 114 - 600# RFWN SCH XXH BORE SA-105N
8	2	PIPE: (SMLS) 114 O/D x 17.12 W.T. x 195 LG (CTS) SA-106-B
9		
10	1	CPLG: 27 - 6000# NPT c/w PLUG SA-105N
11		
12	82	GASKET: 35 (1 3/8") O/D x 29 (1 1/8") I/D x 1.59 (1/16") THK. MAX. B/W 110 C1010/20
13	82	HEX STEEL SHOULDER PLUG: 29 (1 1/8") @ - (12 UNF) x 25 (1") LG. SA-105N
14	1	NAME PLATE c/w MOUNTING BRACKET SS/SA-36
15		

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:	0.136 m <sup>3</sup>	SERIAL NO: 99420-232 CRN:	YEAR BUILT: 2000
SURFACE AREA OF TUBES INCLUDING FINES:	549 m <sup>2</sup>	LSD NO.:	
WEIGHT EMPTY: (SEE NOTE #107)*	1600 kg	CODE:	ASME SECT VIII DIV I, '98, ADDENDA '99
WEIGHT FULL OF WATER:	1736 kg	MAX. DES. PRES.:	8908 kPag
SURFACE PREPARATION:		DESIGN TEMP:	176 °C
PRIMER:	PNT 12	CORR. ALLOW:	3.18 mm
FINISH PAINT:		HYDROTEST:	13362 kPag
INSULATION:	NONE	MDMT:	-28 °C
PROD. IMPACT TEST REQ'D:	NO		8908 kPag
MECH. LOADS GOV. PER UG22:	NO		
IMPACT TEST:	NO - PER UG20(f) UCS-66(a); UCS-66(c)	MATERIAL: HDR BOXES:	SA-516-70N
		TUBES:	(SMLS) SA-179
		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)			
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

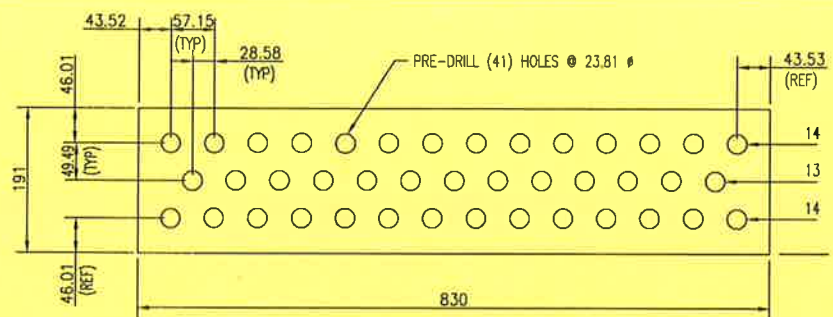
MATERIAL NOTES	
1	U.T. EXAMINATION REQUIRED IN STRICT ACCORDANCE WITH SA-435 ON A 51 mm (2") GRID AND SUPPLEMENTARY EXAMINATION TO SA-577.
2	MATERIAL HARDNESS AFTER STRESS-RELIEVING (INCLUDING WELD METAL & HAZ) SHALL NOT EXCEED HRC-22

TRANSFER TO DWG.# D-BDL-00424-232 (SHT. 1)

GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		PROPAC SYSTEMS LTD.	
101. ALL WELDING INCLUDING SLIDE T-BAR SHOULD BE COMPLETED, AND ALL PILOT HOLES SHOULD BE DRILLED BEFORE THE HEADER BOX IS STRESS-RELIEVED.	102. TUBE AND PLUG SHEET HOLES SHOULD BE FINISHED ONLY AFTER STRESS-RELIEVING. AFTER STRESS-RELIEVING, THERE SHOULD BE NO WELDING ON THE HEADER BOXES, THE INLET/OUTLET 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 RETURN HEADER BOX, IT SHOULD BE FREE TO SLIDE.	103. REMOVE ALL SHARP EDGES & BURRS.	104. ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.	105. MAG-PARTICLE REQUIRED ON PLATE EDGE PREPARATIONS AND PERIPHERAL EDGES BOTH BEFORE & AFTER WELDING PER UG-93(d)(4).	106. WEIGHT ACCOUNT FOR POSSIBLE CHANGE TO 14 BWG TUBES.	C. CHN	J.M.D.	J.D.	CLAUDE G.
107. DATE: 2000.10.05 1:43pm	FILE NAME: J:\Jobs99\DWG\99420\Cir\BDL-99420-232-01.dwg	108. COPIED FROM JOB #99404				00/05/11	00/04/27	STOCK 1380 HP COMPRESSOR, M/N W 1380, 6HOS-3 2nd STAGE INTERCOOLER AC-211	
DATE: 2000.10.05 1:43pm		FILE NAME: J:\Jobs99\DWG\99420\Cir\BDL-99420-232-01.dwg		NO. REVISION		DATE CKD ENG		DWG. No.: D-BDL-99420-232	
								SHT. 1 OF 2	

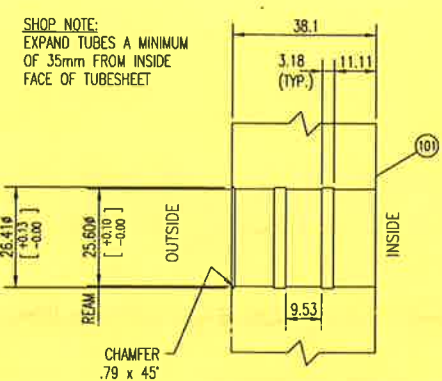
**PROPAC**  
440 East Lake Road,  
Postal Bag #2  
Airdrie, Alberta  
Canada T4B 2C3

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.

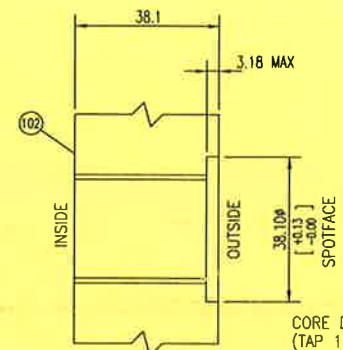


**TUBESHEET/PLUGSHEET LAYOUT**  
SCALE 1:5

- (101) (2)-TUBESHEETS REQUIRED
- (102) (2)-PLUGSHEETS REQUIRED



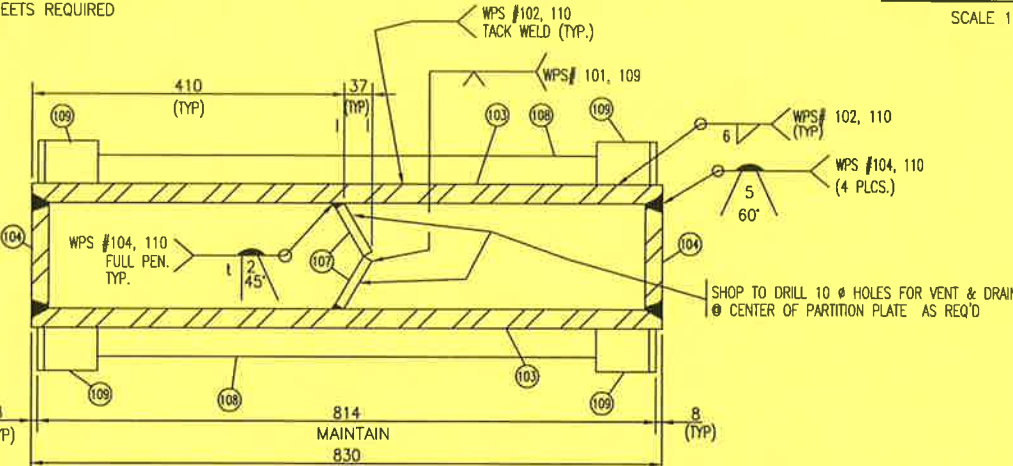
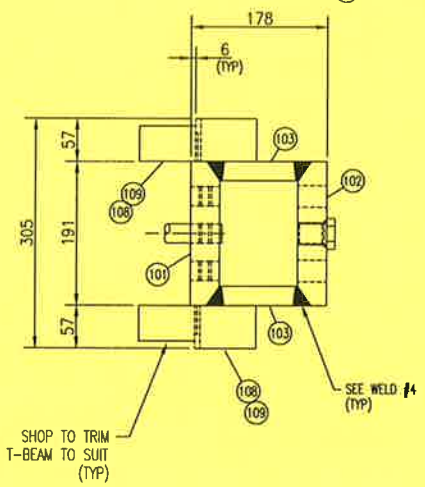
**TUBESHEET HOLES**  
SCALE 1:1



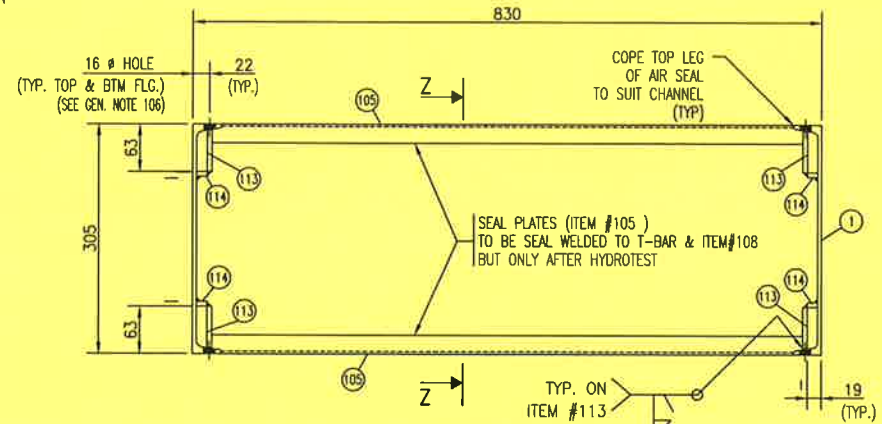
**PLUGSHEET HOLES**  
SCALE 1:1

CORE DRILL 26.29 (1.035") Ø  
(TAP 1 1/8"-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.\*

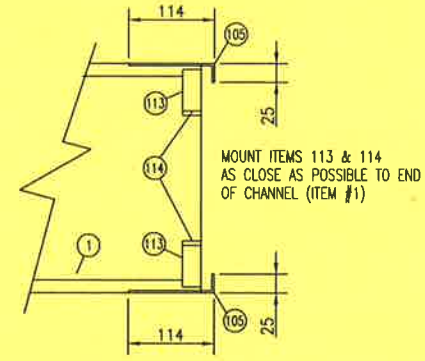
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
101	2	TUBESHEET - PLATE: 38.1 THK. x 191 DEEP x 830 LG. (C.T.S)	SA-516-70N
102	2	PLUGSHEET - PLATE: 38.1 THK. x 191 DEEP x 830 LG. (C.T.S)	SA-516-70N
103	4	PLATE: 25.4 THK. x 92 x 830 LG.	SA-516-70N
104	4	PLATE: 22.23 THK. x 92 x 130 LG. (C.T.S.)	SA-516-70N
105	4	AIR SEAL: PRE-FORMED ANGLE: 3 THK x 25 x 114 x 784 LG (SEE DETAIL)	SA-36
106			
107	2	PLATE: 13 THK. x 102 x 74 LG.	SA-516-70
108	4	FLAT BAR: 3 THK. x 38 x 653 LG.	G40.21M-300W
109	8	WT 75 x 15 kg/m x 57 LG.	SA-36
110			
111	12	FLAT BAR: 6 THK. x 89 x 51 LG.	G40.21M-300W
112			
113	4	FLAT BAR: 6 THK. x 25 x 55 LG.	G40.21M-300W
114	4	FLAT BAR: 6 THK. x 25 x 14 LG.	G40.21M-300W
115	12	FORMED SECTION: FLAT BAR 3 THK. x 51 x 300 LG. (F. & C.T.S.)	G40.21M-300W
116	24	M/C BOLTS 13 # UNC x 38 LG. c/w WASHER, LOCK WASHER & NUT EA. (ZINC PLATED)	SA-325
117	18	ALUMINUM WRAP: 38 WD x 24 Ga. x 1300 (C.T.S.)	ALUMINUM



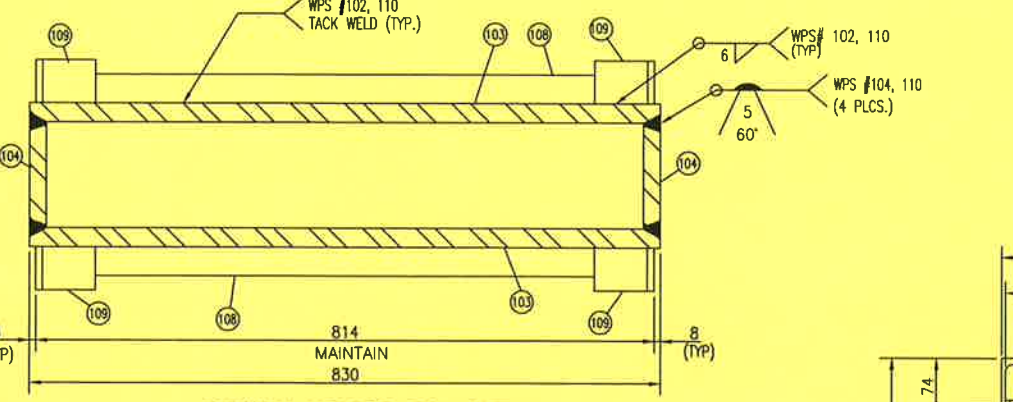
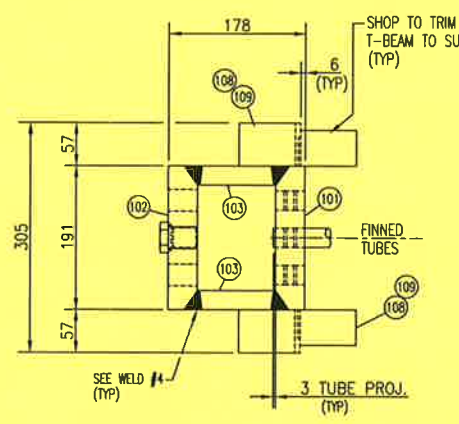
**INLET/OUTLET HEADER BOX DETAIL**  
(VIEWED FROM PLUG SIDE)  
SCALE 1:5



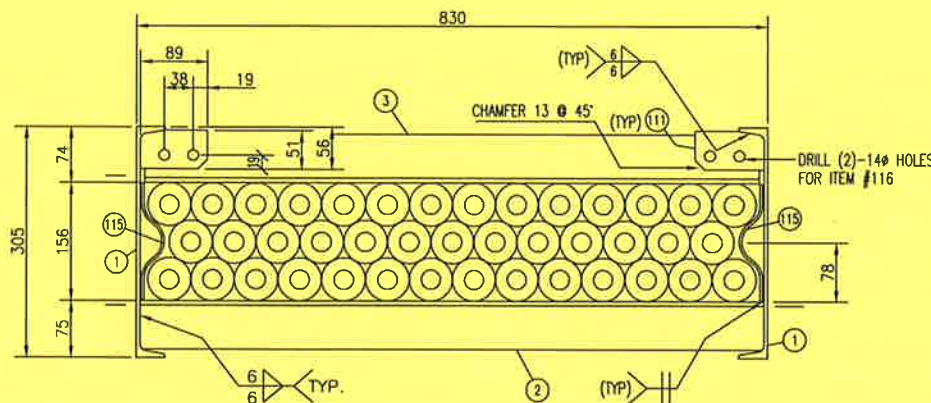
**VIEW 'X'-X'**  
SCALE 1:5



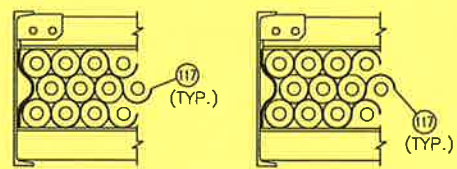
**SECTION 'Z-Z'**  
SCALE 1:5



**RETURN HEADER BOX DETAIL**  
SCALE 1:5



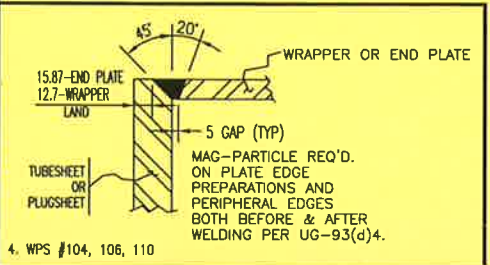
**SECTION 'Y'-Y'**  
SCALE 1:5



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

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

TRANSFR TO DWG.# D-BDL-00424-232 (SHT. 2)

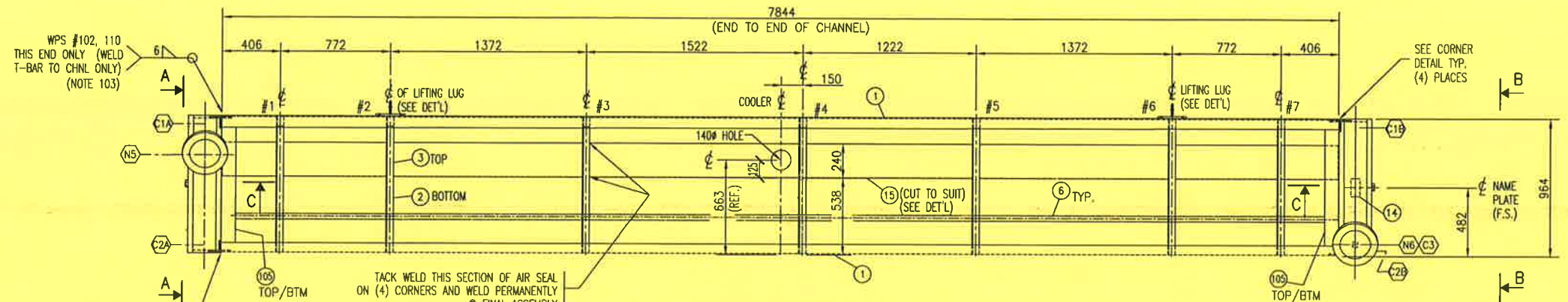


4. WPS #104, 106, 110

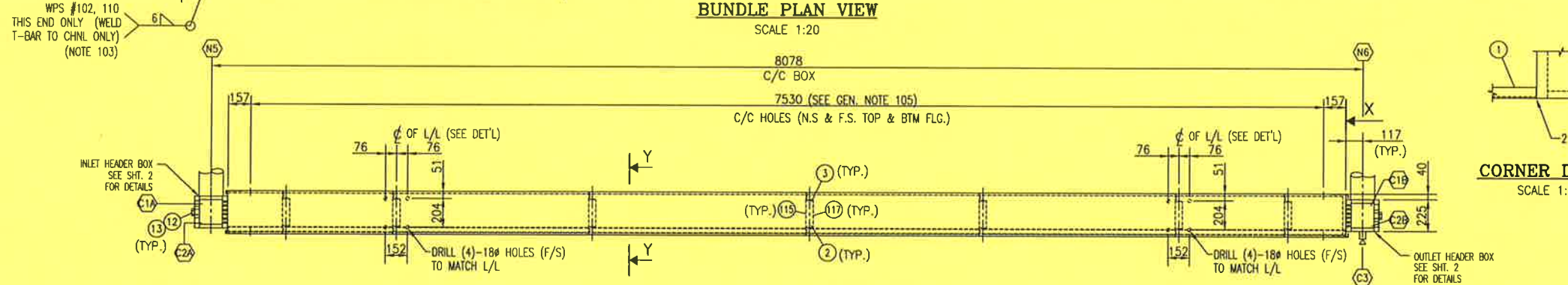
GENERAL NOTES		GENERAL NOTES		REVISION		APPROVED		DRAWN		PROPAC SYSTEMS LTD		DWG. No.: D-BDL-99420-232	SHT. 2 OF 2	REV. 2
- SEE SHT. 1 FOR GENERAL NOTES & MATERIAL NOTES		2 TRANSFER TO JOB #00424		G. CHIN		S. ISAACS		I.B./LLEE		440 East Lake Road,				
DATE: 2000.10.05 1:43pm FILE NAME: J:\jobs99\DWG\99420\Clr\BDL-99420-232-02.dwg		1 ISSUED FOR CONSTRUCTION		LLEE 06/05/24		00/05/11		00/04/27		Postal Bag #2		2nd STAGE INTERCOOLER	AC-211	
				BY DATE CKD ENG		DATE		DATE		J. DELORME				
										SCALE AS NOTED		REV. 2		



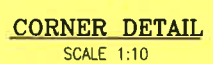
THIS DRAWING AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



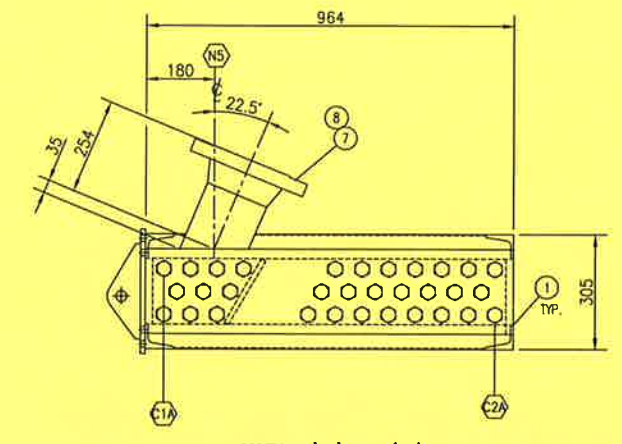
**BUNDLE PLAN VIEW**  
SCALE 1:20



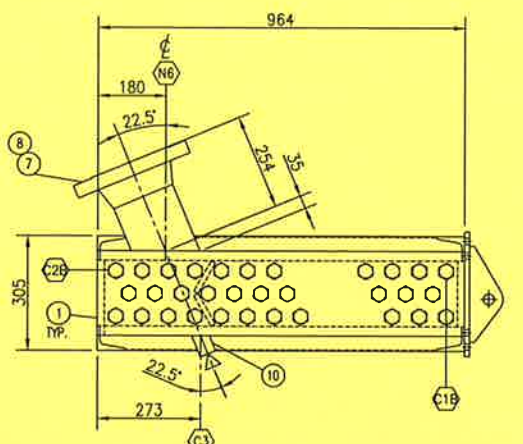
**BUNDLE ELEVATION VIEW**  
SCALE 1:20



**CORNER DETAIL**  
SCALE 1:10



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

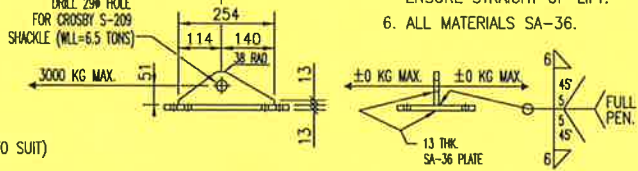


**VIEW 'B' - 'B'**  
SCALE 1:10

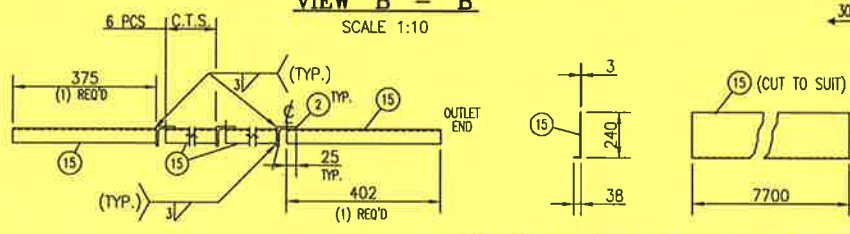
△ TRANSFER TO DWG.# D-BDL-00424-233 (SHT. 1)

DRILL (8)-18mm HOLES FOR (4)-16mm x 51 LG. SA-325 BOLTS c/w WASHER, LOCK WASHER & NUT EA

- 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)-REQ'D.  
SCALE 1:10



**VIEW 'C' - 'C'**  
SCALE 1:10  
**SHAFT AIRSEAL ITEM #15 DETAIL**  
(MAKES 8 PCS. CUT TO SUIT)  
SCALE 1:20

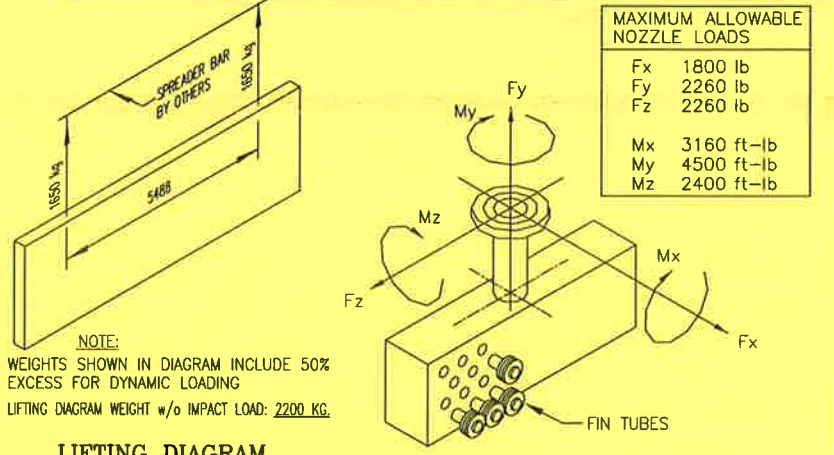
**SHOP NOTE:**  
WELD TO BTM. TUBE SUPPORTS (ITEM #2)

**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	-	-		
	C3	27	6000	NPT	TC c/w PLUG	-	1		

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



**LIFTING DIAGRAM**  
FOR AC-210

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	2	SIDE CHANNELS: C310 # 31 kg/m x 7844 LG.
2	7	BTM. TUBE SUP'T: L 51 x 51 x 6 THK. x 950 LG
3	7	TOP TUBE SUP'T: L 51 x 51 x 6 THK. x 938 LG
4		
5		
P 6	32	TUBES (SMLS): 38mm x 16 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINUM FINES SA-179 0.4 THK x 16 HIGH # 394 FINS/m, & 57mm STRIP BACK EACH END.
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 (C.T.S) 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 1.59 (1/16") THK. MAX. DPH 110 C1010/20
P 13	64	HDR STEEL SHOULDER PLUG: 41 (1 5/8") - (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. (C.T.S) 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 <sup>3</sup>	SERIAL NO:	99420-233	CRN:	
SURFACE AREA OF TUBES INCLUDING FINES:	564	m <sup>2</sup>	YEAR BUILT:	2000		
WEIGHT EMPTY: (SEE NOTE #106)	2200	kg	LSD NO.:	-		
WEIGHT FULL OF WATER:	2490	kg	CODE:	ASME SECT VIII DIV I, '98, ADDENDA '99		
SURFACE PREPARATION:			PRIMER:	PNT 12		
MAX. DES. PRES.:	4447	kPag	FINISH PAINT:	NONE		
DESIGN TEMP:	176	°C	INSULATION:			
CORR. ALLOW:	3.18	mm	PROD. IMPACT TEST REQ'D:	NO		
MDMT:	6670	kPag	MECH. LOADS GOV. PER UG22:	NO		
	-28	°C	IMPACT TEST:	NO - PER UG20(1) UCS-66(c); UCS-66(c)		
	4447	kPag	MATERIAL:	HDR BOXES: SA-516-70N TUBES: (SMLS) SA-179		
			RADIOGRAPHY:	N/A EXCEPT FULL ON FLG/PIPE WELDS ON NOZZLE		
SHIP LOOSE:	NO		P.W.H.T.:	YES		
SERVICE:	NATURAL GAS		MINIMUM TEMP:	584 °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. WPS# 104,106,110

**GENERAL NOTES**

- ALL WELDING INCLUDING SLIDE T-BAR SHOULD BE COMPLETED, AND ALL PILOT HOLES SHOULD BE DRILLED BEFORE THE HEADER BOX IS STRESS-RELIEVED.
- TUBE AND PLUG SHEET HOLES SHOULD BE FINISHED ONLY AFTER STRESS-RELIEVING.
- 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.
- REMOVE ALL SHARP EDGES & BURRS.
- ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE SHOULD BE DRILLED ON ASSEMBLY.
- WEIGHT ACCOUNT FOR POSSIBLE CHANGE TO 14 BWG TUBES.
- MAG-PARTICLE REQUIRED ON PLATE EDGE PREPARATIONS AND PERIPHERAL EDGES BOTH BEFORE & AFTER WELDING PER UG-93(c)4.

No.	REVISION	BY	DATE	CKD	ENG
2	TRANSFER TO JOB #00424	ILEE	00/10/06		
1	ISSUED FOR CONSTRUCTION	ILEE	00/05/24	JIM D.	PAUL C.

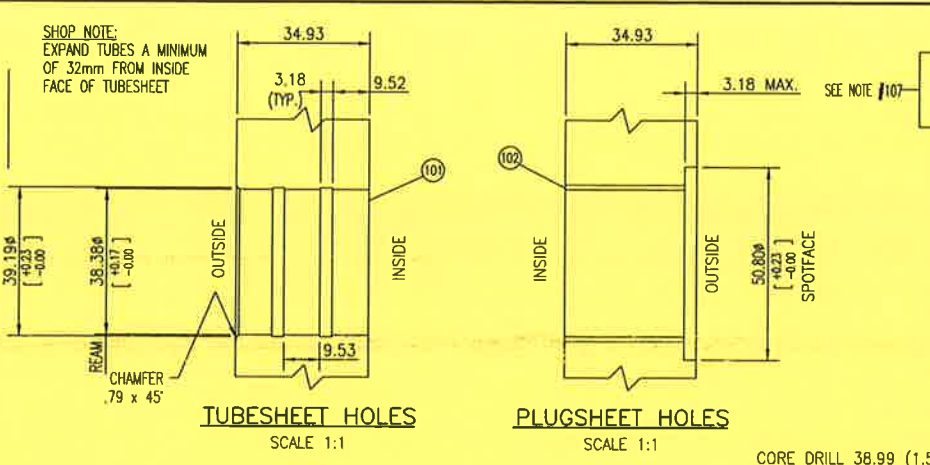
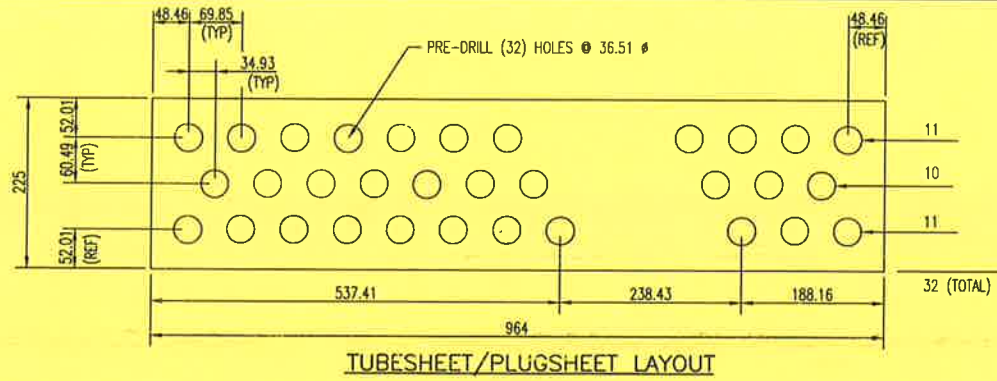
APPROVED	DRAWN
MECH./STRUCT. S. ISAACS	BY I.B. LEE
DATE 00/05/11	DATE 00/05/03
ELECTRICAL	CHECKED
DATE	BY J. DELORME
PROJECT P.CRAWFORD	DATE 00/05/11
DATE 00/05/24	

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

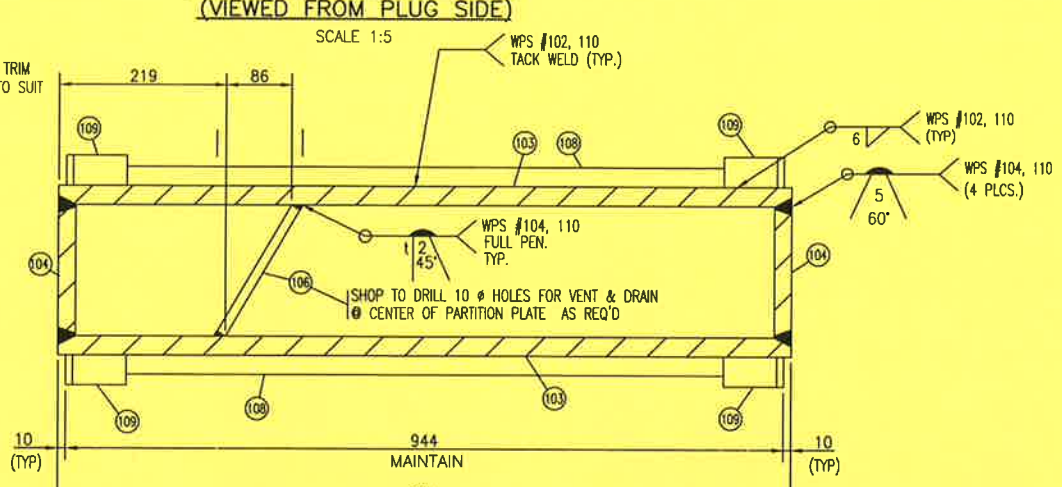
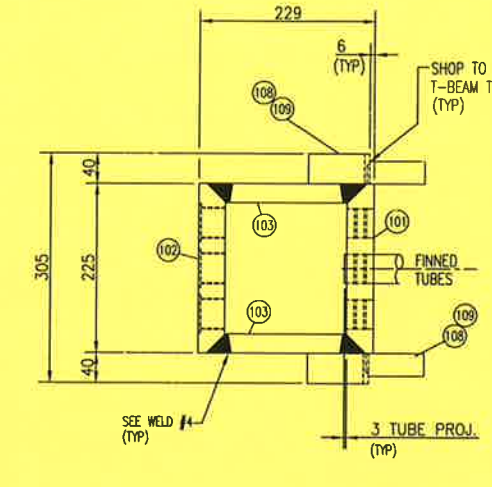
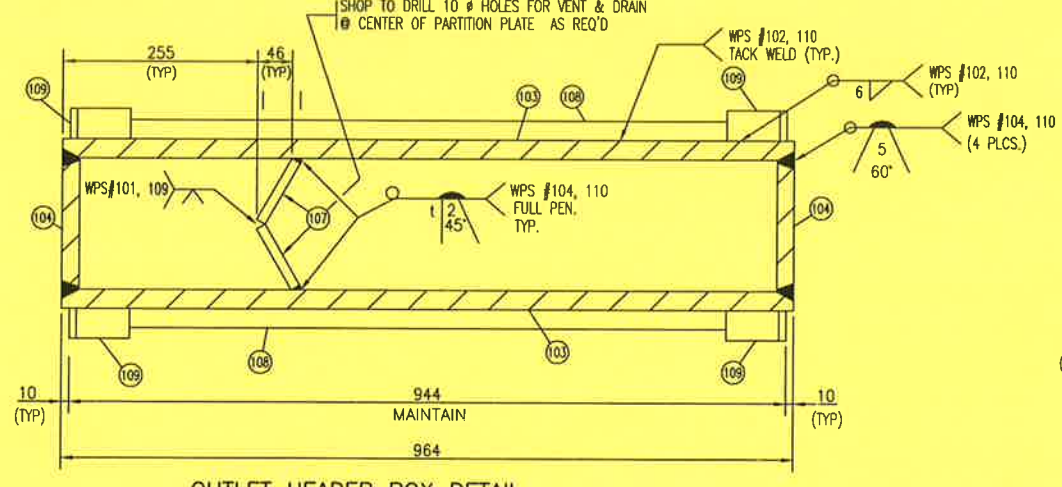
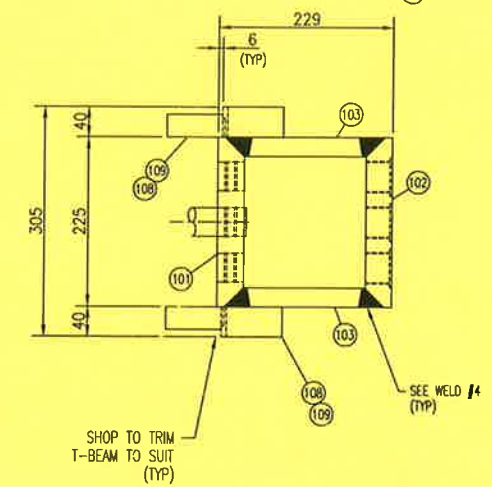
STOCK 1380 HP COMPRESSOR, M/N W 1380, 6HOS-3  
1st STAGE INTERCOOLER  
AC-210

DWG. No.: D-BDL-99420-233 SHT. 1 OF 2 REV. 2

THIS DRAWING AND 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.

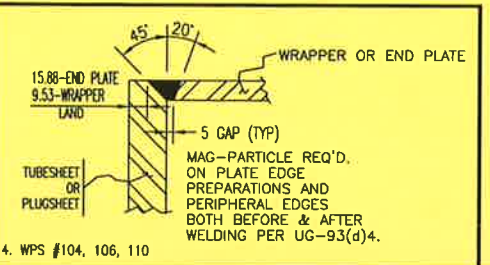
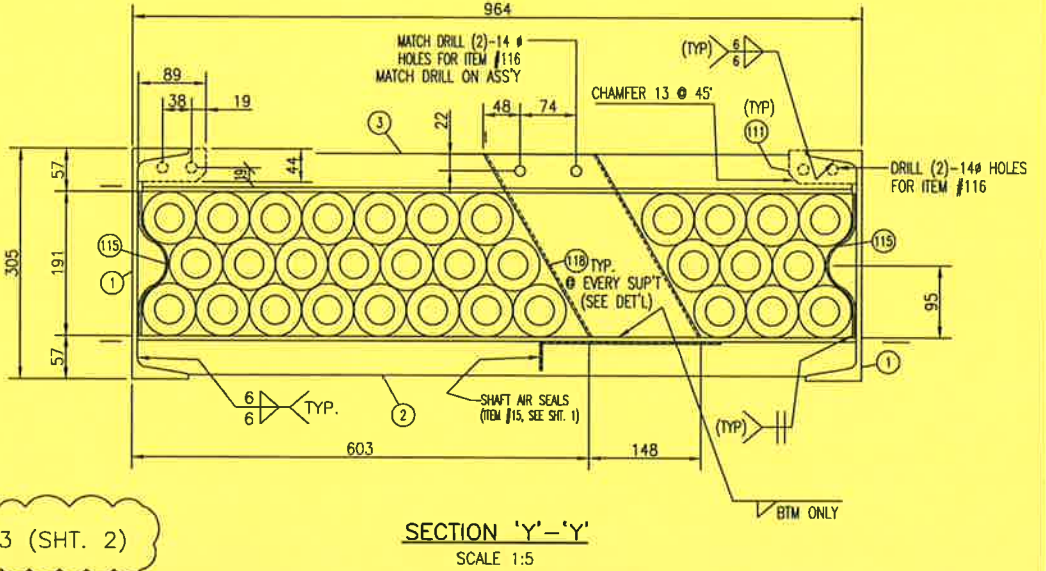
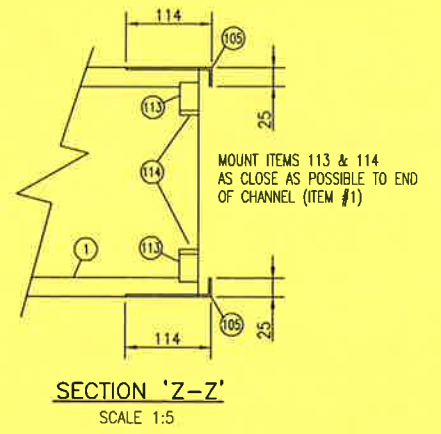
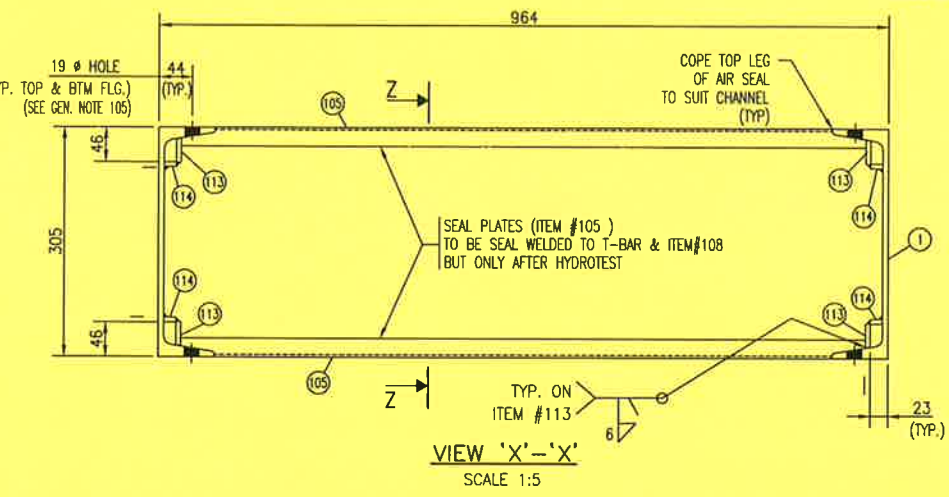
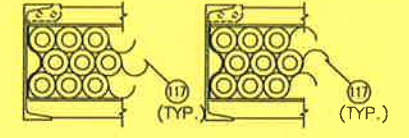


ITEM		QUA	DESCRIPTION	
P	101	2	TUBESHEET - PLATE: 34.93 THK. x 225 DEEP x 964 LG.	SA-516-70N
P	102	2	PLUGSHEET - PLATE: 34.93 THK. x 225 DEEP x 964 LG.	SA-516-70N
P	103	4	PLATE: 25.4 THK. x 149 x 964 LG.	SA-516-70N
P	104	4	PLATE: 19.05 THK. x 149 x 165 LG.	SA-516-70N
STOCK	105	4	AIR SEAL: PRE-FORMED ANGLE: 3 THK x 25 x 114 x 914 LG (SEE DETAIL)	SA-36
	106	1	PLATE: 13 THK. x 159 x 194 LG.	SA-516-70
	107	2	PLATE: 13 THK. x 159 x 93 LG.	SA-516-70
	108	4	FLAT BAR: 3 THK. x 25 x 783 LG.	G40.21M-300W
	109	8	WT 75 x 15 kg/m x 40 LG.	SA-36
	110			
	111	14	FLAT BAR: 6 THK. x 89 x 44 LG.	G40.21M-300W
	112			
	113	4	FLAT BAR: 6 THK. x 25 x 31 LG.	G40.21M-300W
	114	4	FLAT BAR: 6 THK. x 25 x 16 LG.	G40.21M-300W
	115	14	FORMED SECTION: FLAT BAR 3 THK. x 51 x 300 LG. (F. & C.T.S.)	G40.21M-300W
	116	42	M/C BOLTS 13 # UNC x 38 LG. c/w WASHER, LOCK WASHER & NUT EA. (ZINC PLATED)	SA-325
	117	21	ALUMINUM WRAP: 38 WD x 24 Ga. x 1400 (C.T.S.)	ALUMINUM
	118	1	PRE-FORMED CHNL: 128 DEEP x 51 WIDE TOP & BTM FLG. x 3 THK. x 2027 LG. (C.T.S.)	SA-36



**SHOP NOTE:**  
BEFORE GROOVING TUBE HOLES OR WELDING HEADER BOXES CHECK THAT ORIENTATION OF TUBE SHEET & PLUG SHEET ARE OPPOSITE HAND IN THE TWO BOXES. (SEE VIEW 'A-A' & 'B-B') THIS IS NECESSARY BECAUSE TUBES MUST RUN FROM ONE TO THE OTHER IN A CONSISTENT PATTERN.

CORE DRILL 38.99 (1.535") Ø (TAP 1 5/8"-12 UN 2B)  
RECOMMENDED INSTALLATION TORQUE ON EACH HEX HEAD SHOULDER PLUG: 940 FT-LB  
\*KOPR-KOTE ANTI-SEIZE COMPOUND TO BE USED AS A THREAD LUBRICANT.\*

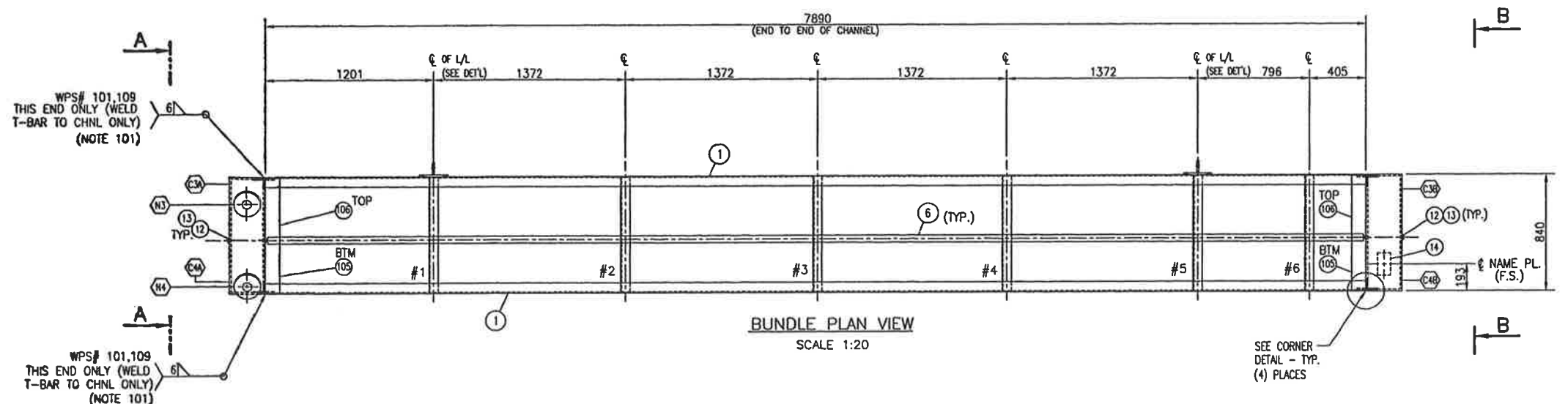


TRANSFER TO DWG.# D-BDL-00424-233 (SHT. 2)

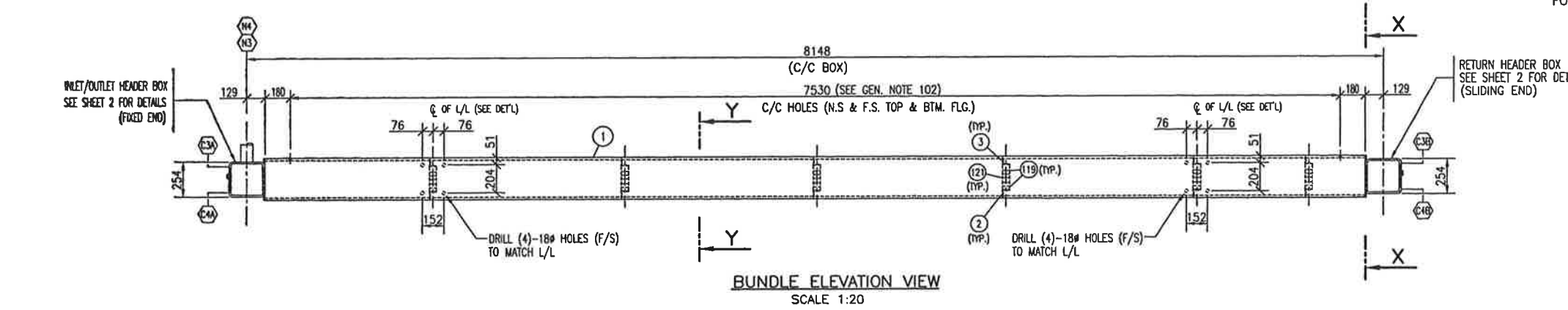
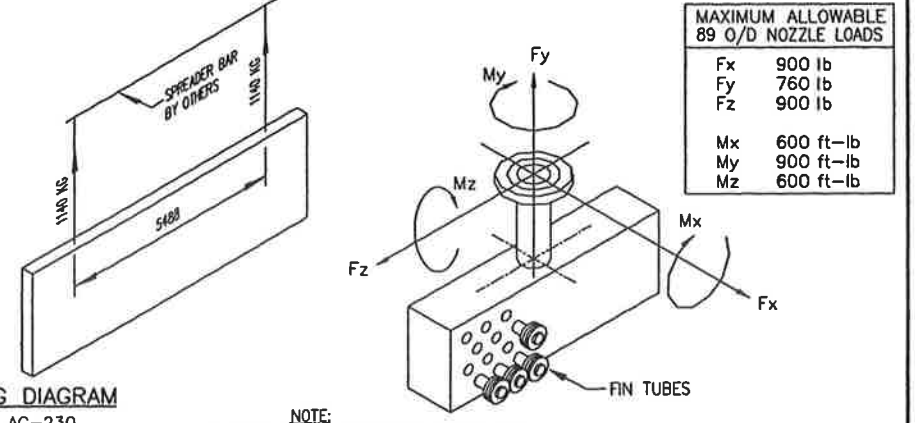
GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		PROJECT	
- SEE SHT. 1 FOR GENERAL NOTES & MATERIAL NOTES		2 TRANSFER TO JOB #00424		MECH./STRUCT. S. ISAACS		BY I.B./J.LEE		PROPAC SYSTEMS LTD.	
DATE: 2000.10.06 10:50am FILE NAME: J:\jobs99\DWG\99420\Cir\BDL-99420-233-02.dwg		1 ISSUED FOR CONSTRUCTION		DATE 00/05/11		DATE 00/05/01		STOCK 1380 HP COMPRESSOR, M/N W 1380, 6HOS-3	
				ELECTRICAL		CHECKED		1st STAGE INTERCOOLER	
				DATE		BY J. DELORME		AC-210	
				PROJECT P.CRAWFORD		DATE 00/05/11		DWG. No.: D-BDL-99420-233	
				DATE 00/05/24		SCALE AS NOTED		SHT. 2 OF 2	
				BY LLEE 00/10/06				REV. 2	
				LLEE 00/05/24 JIM D. PAUL C.					
				CKD					
				ENG					

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

THIS DRAWING 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.

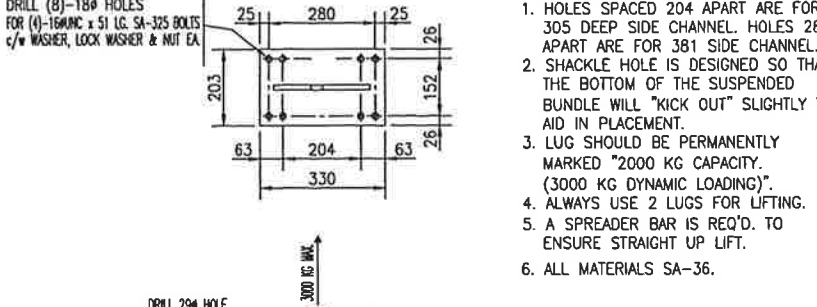
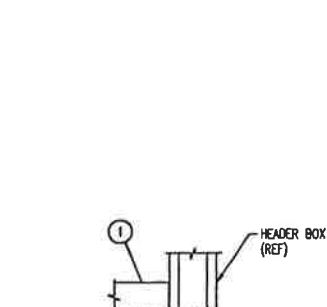
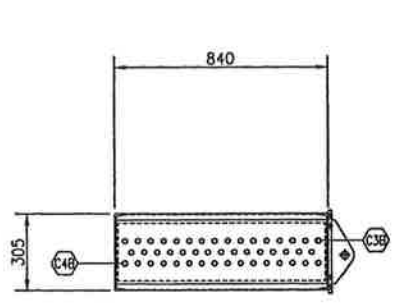
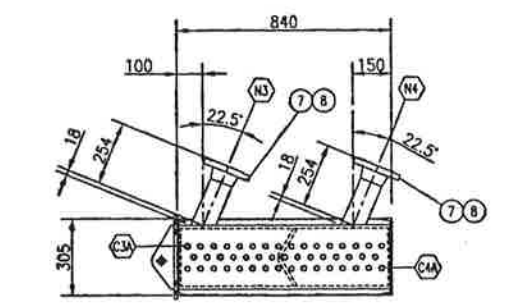


NOZZLE SCHEDULE									
MK	SIZE	RATING	FACING	SCH	SERVICE	EXT. PROJ	WELD		
N3	89	150#	RFWN	160	A/W INLET (AC-230)	254	2/3		
N4	89	150#	RFWN	160	A/W OUTLET (AC-230)	254	2/3		
A/B	C3	22	SHLR. RUG	14 UNF	VENT	-	-		
A/B	C4	22	SHLR. RUG	14 UNF	DRAIN	-	-		



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

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	2	SIDE CHANNELS: MC310 @ 15.8 kg/m x 7890 LG
2	6	BTM. TUBE SUP'T: L 51 x 51 x 6 THK. x 830 LG
3	6	TOP TUBE SUP'T: L 51 x 51 x 6 THK. x 818 LG
4		
5		
6	47	TUBES (WELDED): 19# x 16 B.W.G. W.T x 7925 LG c/w L-TENSION ALUMINUM FINES SA-214 ERW
7	2	PIPE: (SMLS) 89 O/D x 11.13 W.T. x 227 LG (C.T.S.)
8	2	FLG: 89 - 150# RFWN SCH 160 BORE
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. BFN 110)
13	94	HEX STEEL SHOULDER PLUG: 22 (7/8") - (14 UNF) x 19 (3/4") LG.
14	2	NAME PLATE c/w MOUNTING BRACKET
15		
16		
17		
18		

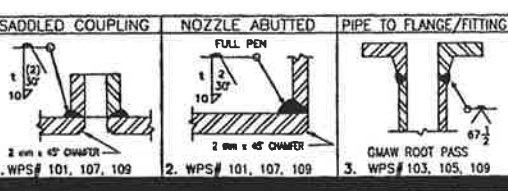


- NOTES:
- HOLES SPACED 204 APART ARE FOR 305 DEEP SIDE CHANNEL. HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
  - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
  - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY". (3000 KG DYNAMIC LOADING).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

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 <sup>3</sup>	SERIAL NO: 99420-234 CRN:	
SURFACE AREA OF TUBES INCLUDING FINES:	534.43 m <sup>2</sup>	YEAR BUILT:	2000
WEIGHT EMPTY: (SEE NOTE 103)	1520 kg	LSD NO.:	-
WEIGHT FULL OF WATER:	1676 kg	CODE:	NON-CODE
SURFACE PREPARATION:		MAX. DES. PRES.:	97 kPag
PRIMER:	PNT 11	DESIGN TEMP.:	149 °C
FINISH PAINT:	NONE	CORR. ALLOW.:	0 mm
INSULATION:		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:	°C
QWP: 590.2		MAX TIME:	hr
QCP: AQP-1050(S) : AQP-1227(S)			
TACK, PRES/STRUCT WELDS 101, 109			
STRUCT TO STRUCT WELDS 101, 109			

TAG NO: AC-230



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.

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.

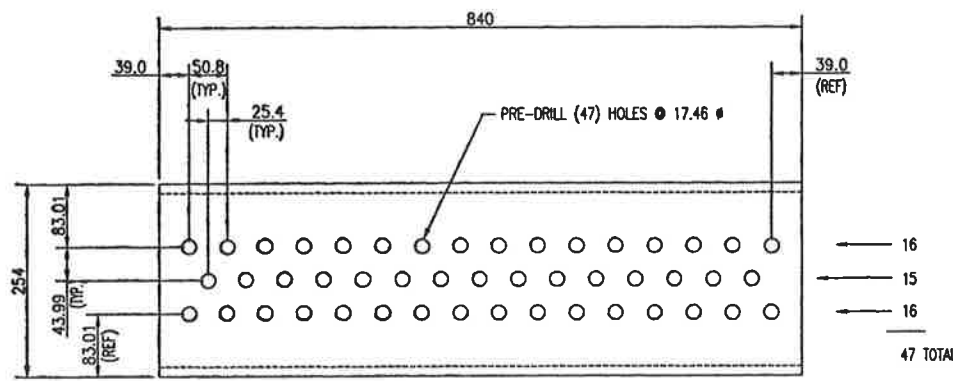
104. REMOVE ALL SHARP EDGES & BURRS.

105. COPIED FROM JOB #99404

GENERAL NOTES		GENERAL NOTES	
1	ISSUED FOR CONSTRUCTION	G. CHIN	00/05/24
No.	REVISION	BY	DATE
		CKD	ENG

APPROVED	DRAWN	PROPAC SYSTEMS LTD.	
MECH./STRUCT. S. ISAACS	BY G. CHIN	440 East Lake Road,	
DATE 00/05/11	DATE 00/05/02	Postal Bag #2	
ELECTRICAL	CHECKED	Airdrie, Alberta	
DATE	BY D. PARTILLE	Canada T4B 2C3	
PROJECT P.CRAWFORD	DATE 00/05/11	STOCK 1380 HP COMPRESSOR, M/N W 1380, 6HOS-3	
DATE 00/05/24	SCALE AS NOTED	AUX. JACKET WATER	
		AC-230	
		DWG. No.: D-BDL-99420-234	
		SHT. 1 OF 2	

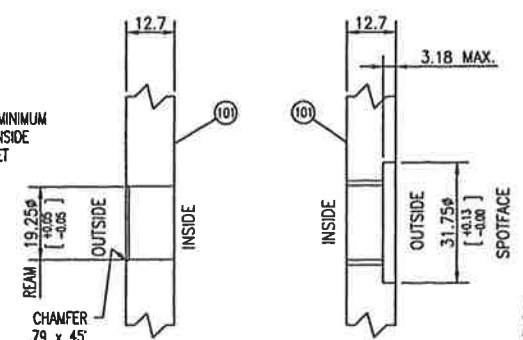
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE, WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.



**TUBESHEET/PLUGSHEET LAYOUT**

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

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

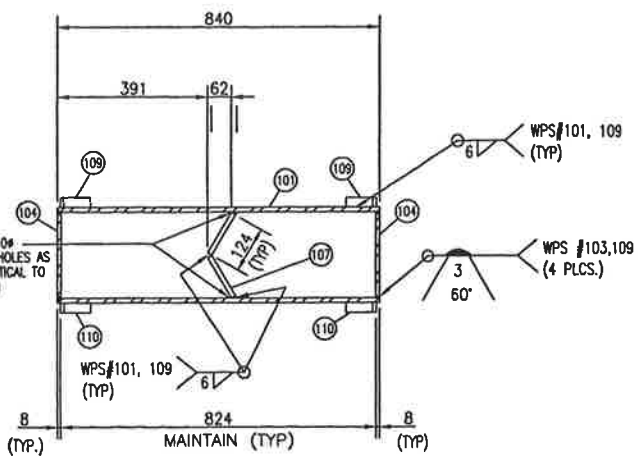
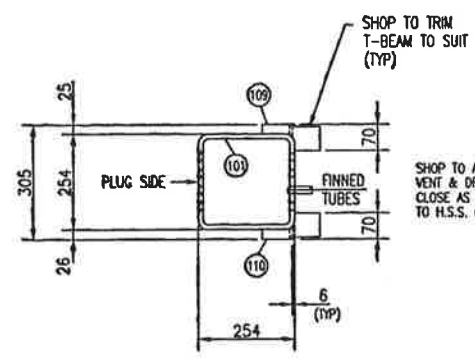


**TUBESHEET HOLES**      **PLUGSHEET HOLES**

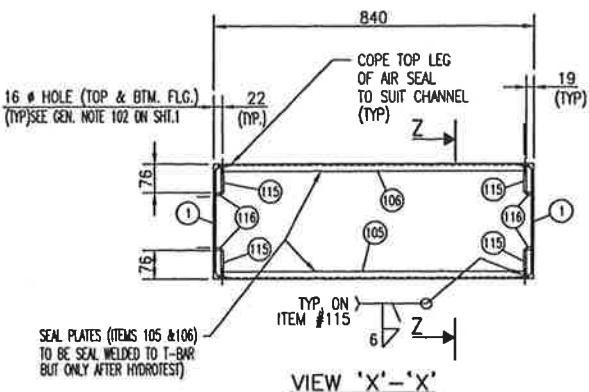
SCALE 1:1      SCALE 1:1

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-NOTE ANTI-SEIZE COMPOUND TO BE USED AS A THREAD LUBRICANT.

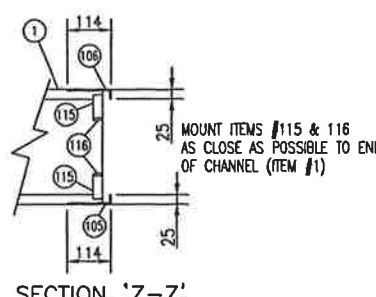
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
EX-STOCK-P	101	2	HSS: 12.7 THK. x 254 x 254 x 840 LG. G40.21M-350W(A-500C)
	102		
	103		
STOCK	104	4	PLATE: 9.53 THK. x 223 SQ. (C.T.S.) SA-516-70
	105	2	BTM. AIR SEAL: PRE-FORMED ANGLE 3 THK x 25 x 114 x 800 LG. SA-36
	106	2	TOP AIR SEAL: PRE-FORMED ANGLE 3 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	W/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



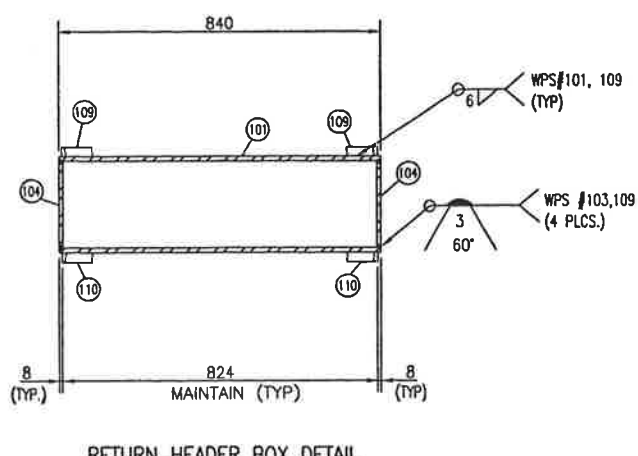
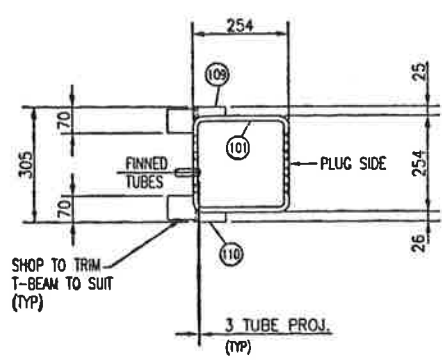
**VIEW 'X'-'X'**  
 SCALE 1:10



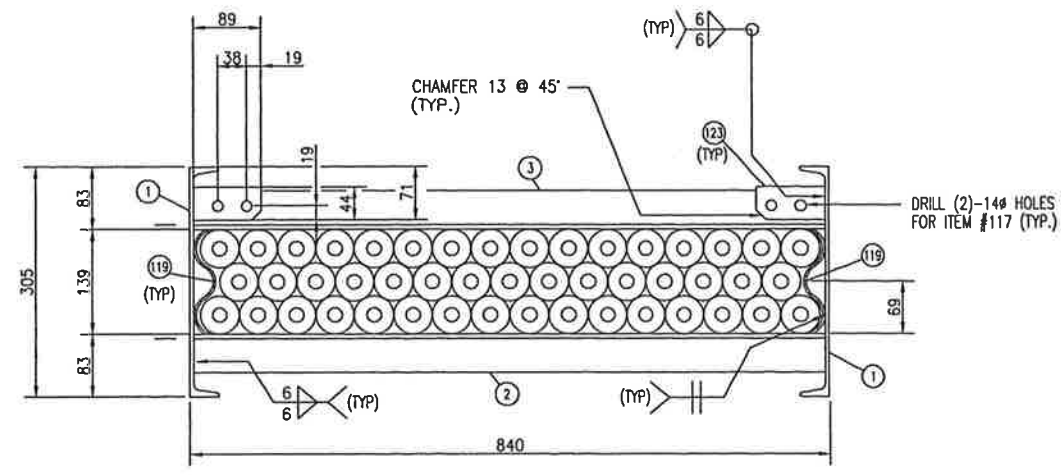
**SECTION 'Z'-'Z'**  
 SCALE 1:10

**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

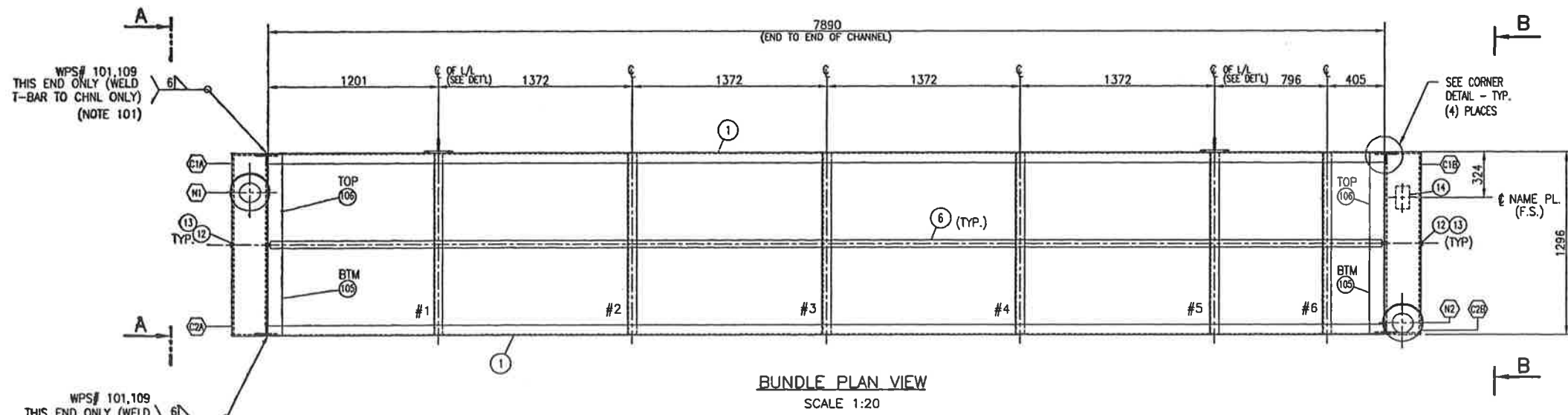


**SECTION 'Y'-'Y'**  
 SCALE 1:5

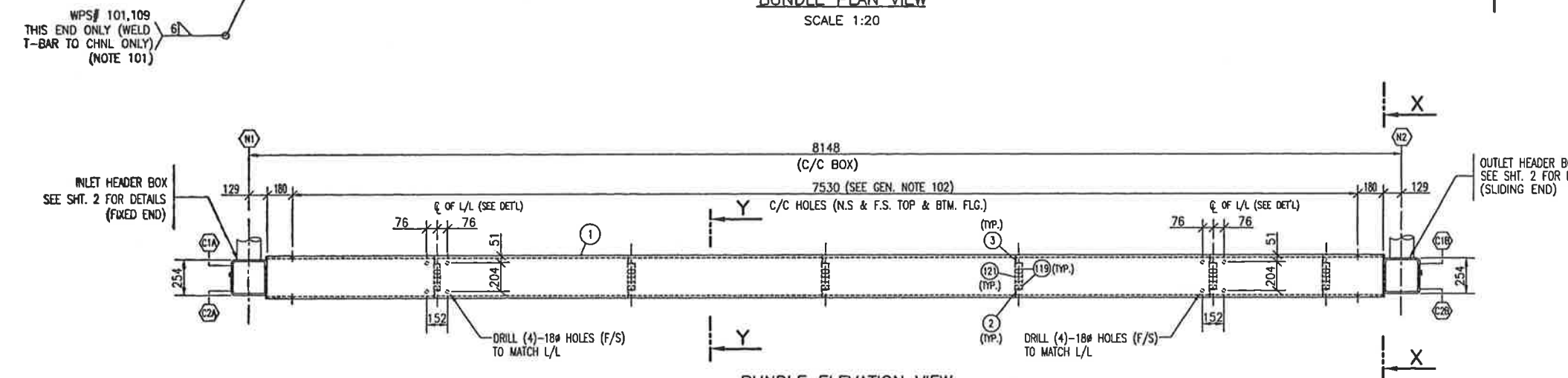
- SEE SHT. 1 FOR GENERAL NOTES												APPROVED				DRAWN				PROPAK SYSTEMS LTD.			
												MECH./STRUCT. S. ISAACS				BY G. CHIN				440 East Lake Road,			
												DATE 00/05/11				DATE 00/05/02				Postal Bag #2			
												ELECTRICAL				CHECKED				Stock 1380 HP COMPRESSOR, M/N W 1380, 6HOS-3			
												DATE				BY D. PARTIBLE				AUX. JACKET WATER			
												PROJECT P.CRAWFOR				DATE 00/05/11				Canada T4B 2C3			
												DATE 00/05/24				SCALE AS NOTED				DWG. No.: D-BDL-99420-234			
GENERAL NOTES				GENERAL NOTES				1				ISSUED FOR CONSTRUCTION				G. CHIN 00/05/24				SHT. 2 OF 2			
DATE: 2000.05.24 2:42pm				FILE NAME: J:\jobs99\DWG\99420\Cir\BDL-99420-234-02.dwg				No.				REVISION				BY DATE CKD ENG				REV: 1			

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

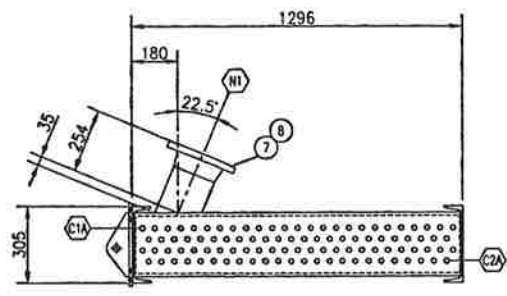
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.



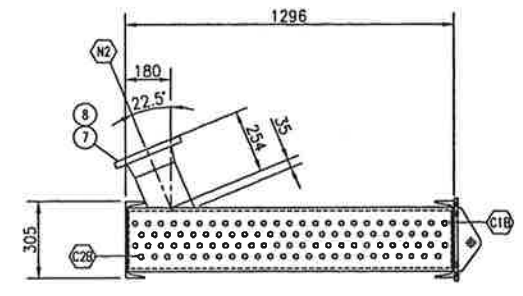
**BUNDLE PLAN VIEW**  
SCALE 1:20



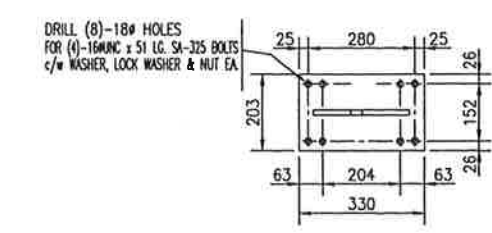
**BUNDLE ELEVATION VIEW**  
SCALE 1:20



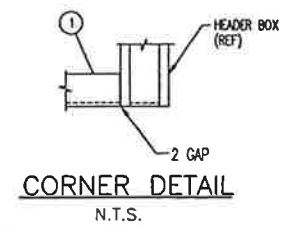
**VIEW 'A-A'**  
SCALE 1:15



**VIEW 'B-B'**  
SCALE 1:15

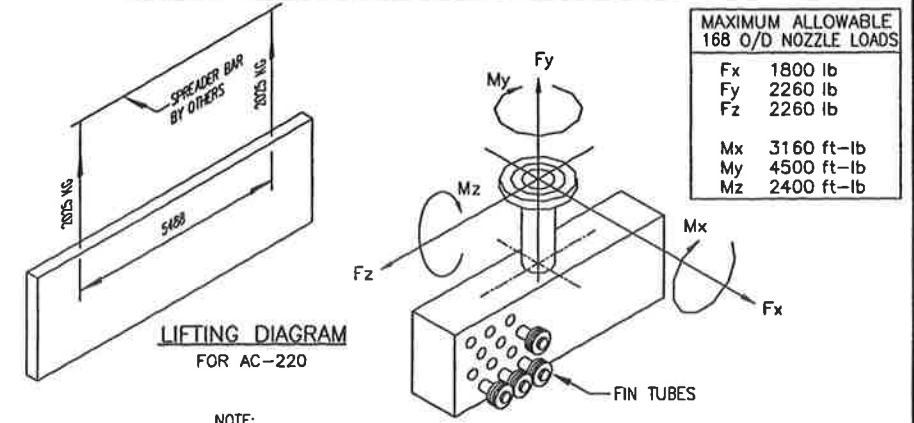


**REMOVABLE LIFTING LUG DETAIL**  
(REUSABLE)  
(2)-REQ'D.  
SCALE 1:10



**CORNER DETAIL**  
N.T.S.

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	SLDR PLUG	14 UNF	VENT	-
A/B	C2	22	SLDR PLUG	14 UNF	DRAIN	-



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

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

BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
1	2	SIDE CHANNELS: C310 @ 31 kg/m x 7890 LG
2	6	BTM. TUBE SUPT: L 64 x 64 x 6 THK. x 1282 LG
3	6	TOP TUBE SUPT: L 51 x 51 x 6 THK. x 1270 LG
4		
5		
6	98	TUBES (WELDED): 19# x 16 B.W.G. W.T x 7925 LG c/w L-TENSION ALUMINUM FINES 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 1.59 (1/16" THK. (MAX. BHN 110)
13	196	HEX STEEL SHOULDER PLUG: 22 (7/8" # - (14 UNF ) x 19 (3/4" LG.
14	1	NAME PLATE c/w MOUNTING BRACKET
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 <sup>3</sup>	SERIAL NO: 99420-235 CRN:	
SURFACE AREA OF TUBES INCLUDING FINES:	1114.34 m <sup>2</sup>	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	HYDROTEST:	518 kPag
PRODUCTION IMPACT TEST REQ'D:	NO	MDMT:	-28 °C
MECH LOADINGS GOVERN PER UG 22: NO		IMPACT TEST:	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			hr
OCP: AQP-1050(S) : AQP-1227(S)			
TACK, PRES/STRUCT WELDS 101, 109			
STRUCT TO STRUCT WELDS 101, 109			

TAG NO: AC-220

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

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.  
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.  
104. REMOVE ALL SHARP EDGES & BURRS.  
105. COPIED FROM JOB #99404

GENERAL NOTES		GENERAL NOTES	
1	ISSUED FOR CONSTRUCTION	G. CHIN	00/05/24
No.	REVISION	BY	DATE
		CKD	ENG

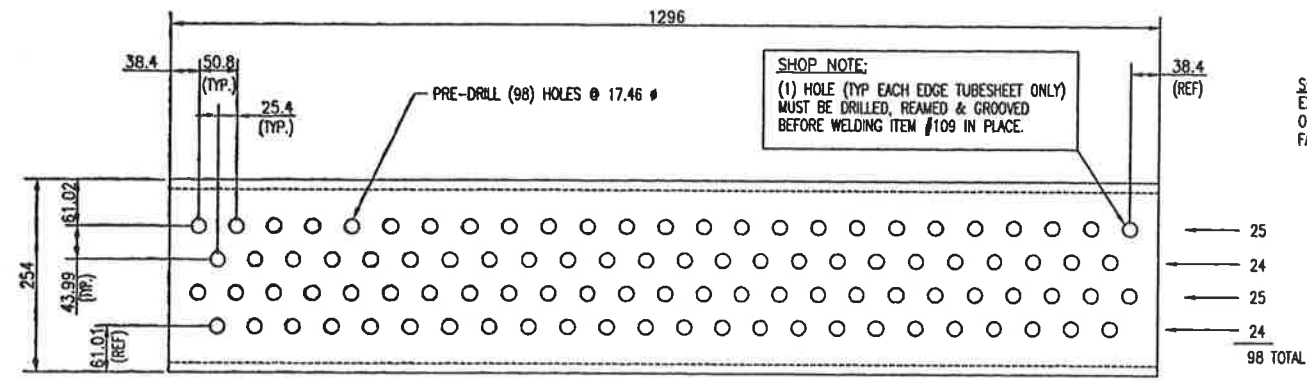
APPROVED		DRAWN	
MECH/STRUCT. S. ISAACS	BY	G. CHIN	
DATE 00/05/11	DATE	00/05/02	
ELECTRICAL	CHECKED		
DATE	BY	L. LEE	
PROJECT P. CRAWFORD	DATE	00/05/11	
DATE 00/05/24	SCALE	AS NOTED	

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

STOCK 1380 HP COMPRESSOR, M/N W 1380, 6HOS-3 ENGINE JACKET WATER AC-220

DWG. No.: D-BDL-99420-235 SHT. 1 OF 2 REV. 1

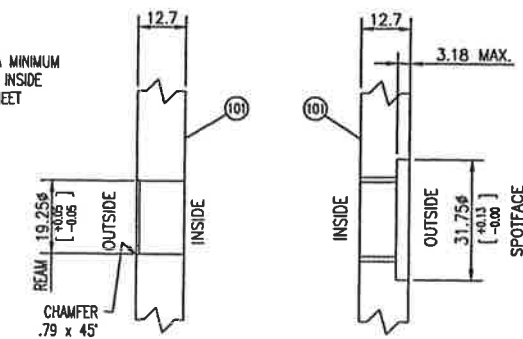
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



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

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

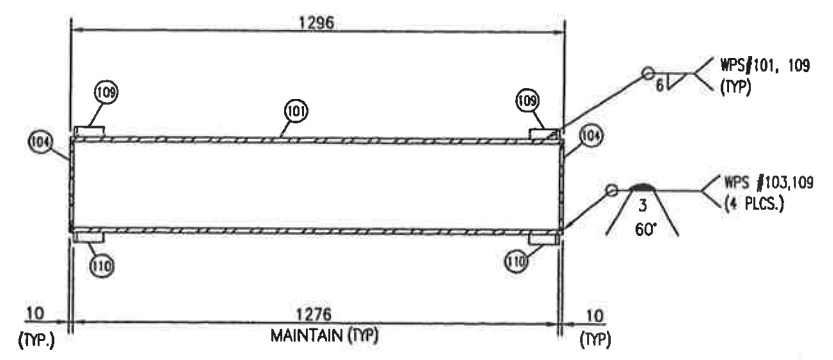
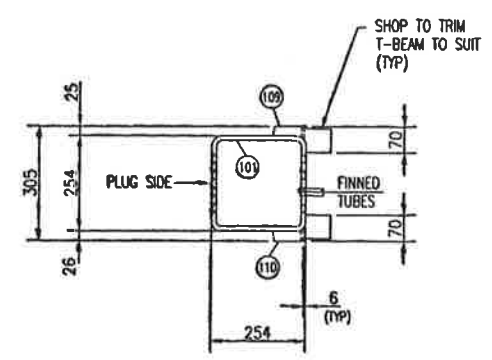
**SHOP NOTE:**  
EXPAND TUBES A MINIMUM OF 10mm FROM INSIDE FACE OF TUBESHEET



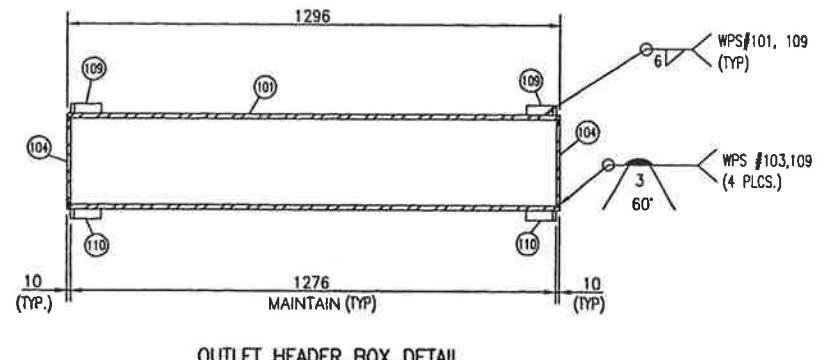
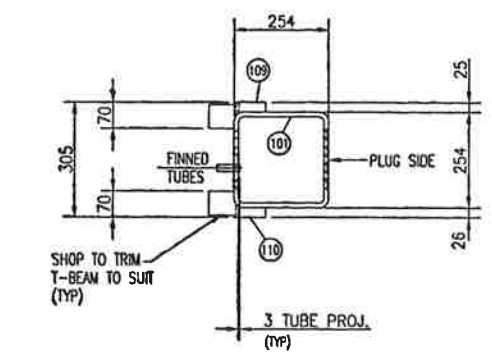
**TUBESHEET HOLES** SCALE 1:1  
**PLUGSHEET HOLES** SCALE 1:1

**NOTE:** CORE DRILL 20.27± (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.

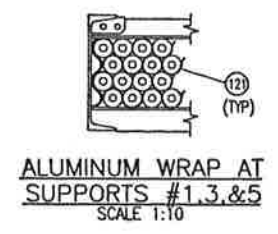
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
EX-STOCK-P	101	2	HSS: 12.7 THK. x 254 x 254 x 1296 LG. G40.21M-350W(A-500C)
	102		
	103		
STOCK	104	4	PLATE: 9.53 THK. x 223 SQ. (C.T.S.) SA-516-70
	105	2	BTM. AIR SEAL: PRE-FORMED ANGLE 3 THK x 25 x 114 x 1246 LG. SA-36
	106	2	TOP AIR SEAL: PRE-FORMED ANGLE 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



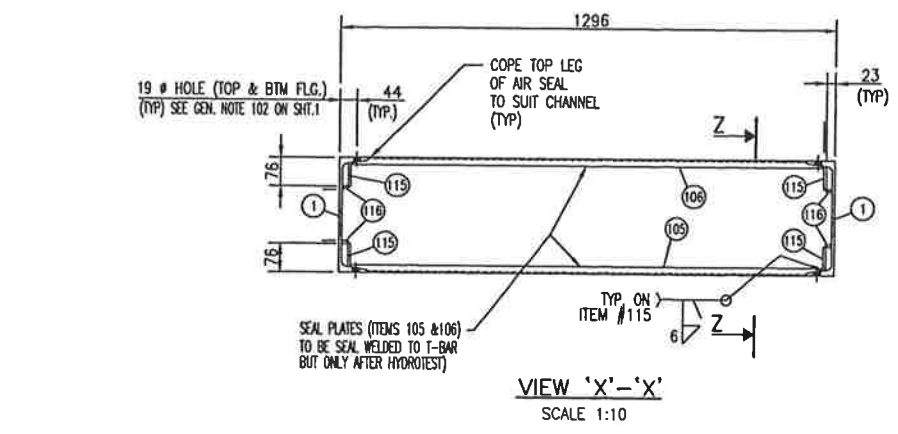
**OUTLET HEADER BOX DETAIL**  
SCALE 1:10



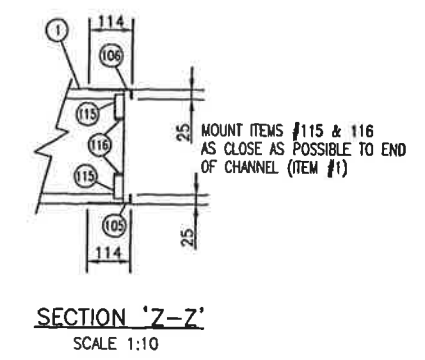
**ALUMINUM WRAP AT SUPPORTS #1, 3, & 5**  
SCALE 1:10



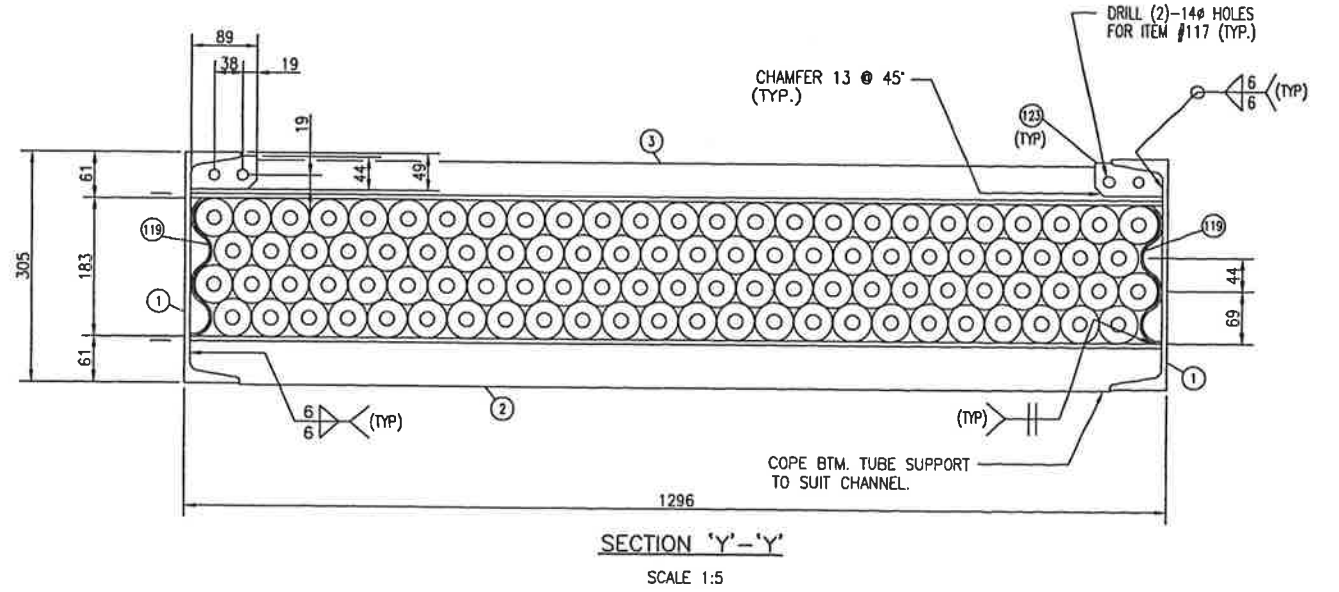
**ALUMINUM WRAP AT SUPPORT #2, 4 & 6**  
SCALE 1:10



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



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



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

- SEE SHIT. 1 FOR GENERAL NOTES

DATE: 2000.05.24 2:39pm FILE NAME: J:\jobs99\DWG\99420\c1r\BDL-99420-235-02.dwg

GENERAL NOTES

GENERAL NOTES

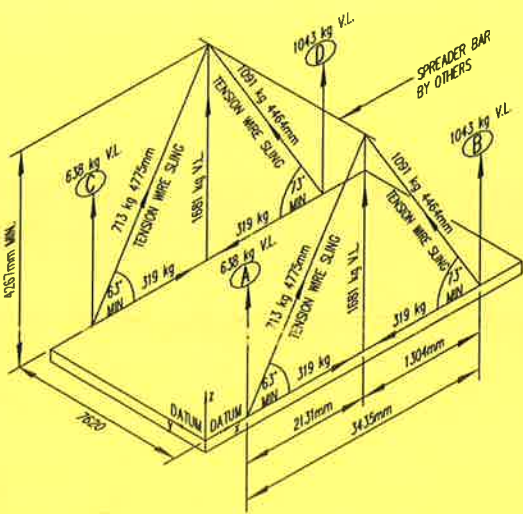
No.	1	ISSUED FOR CONSTRUCTION	G. CHIN	00/05/24	JD	PC
REVISION			BY	DATE	CKD	ENG

APPROVED	MECH./STRUCT. S. ISAACS	BY	G. CHIN
DATE	00/05/11	DATE	00/05/02
ELECTRICAL		BY	CHECKED
DATE		BY	L. LEE
PROJECT	P.CRAWFORD	DATE	00/05/11
DATE	00/05/24	SCALE	AS NOTED

PROPAC SYSTEMS LTD.  
STOCK 1380 HP COMPRESSOR, M/N W 1380, 6HOS-3  
ENGINE JACKET WATER  
AC-220  
DWG. No.: D-BDL-99420-235 SHT. 2 OF 2 REV. 1

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

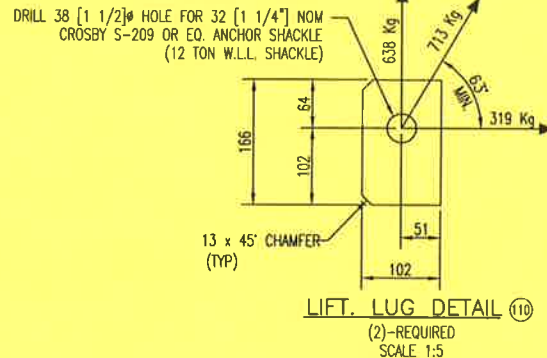
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAG SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAG.



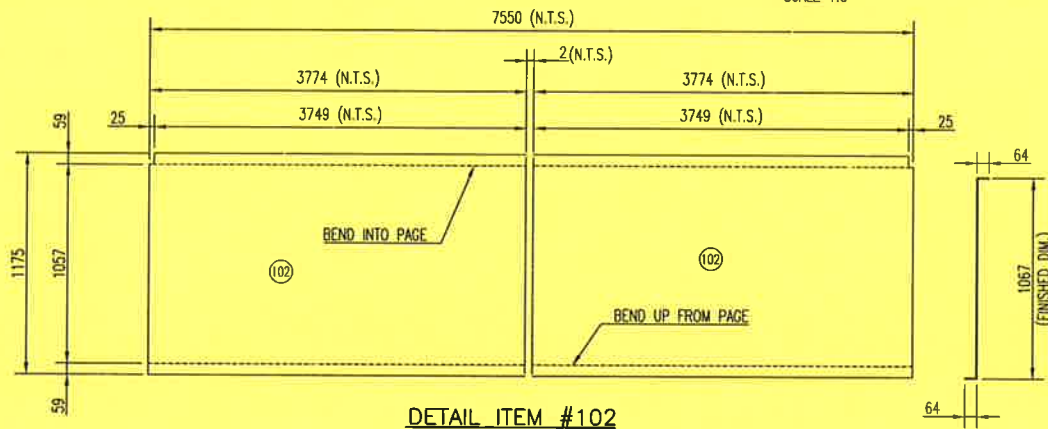
NOTE:  
WEIGHTS SHOWN INCLUDE 50% EXCESS FOR DYNAMIC LOADING  
WEIGHT: 2240 kg  
LIFT WEIGHT INCLUDES:  
TOP RECIRC. DUCTING  
RECIRC. & ROLL LOUVRES  
ROLL RECIRC. DUCTING

C. OF G.  
DIMS FROM DATUM  
X = 2080 mm  
Y = 3810 mm  
Z = 525 mm

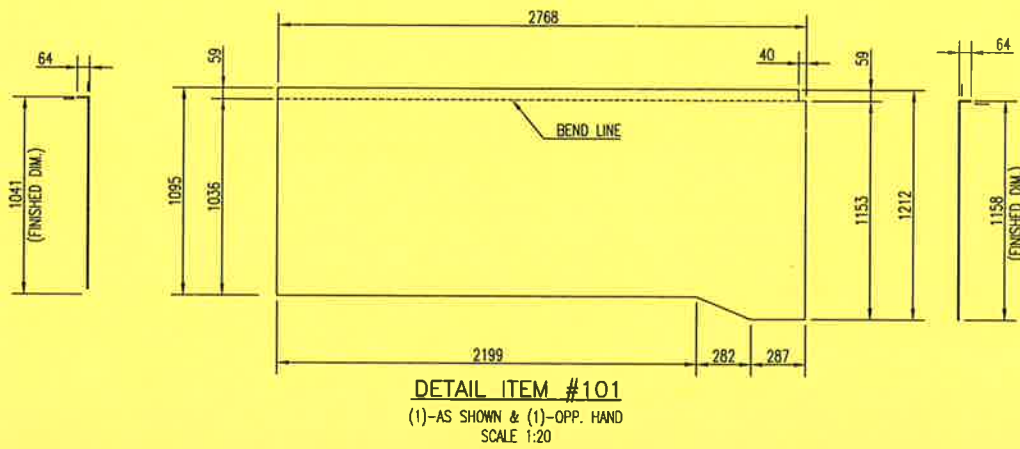
**LIFTING DIAGRAM**  
RECIRC. & ROLL DUCTING



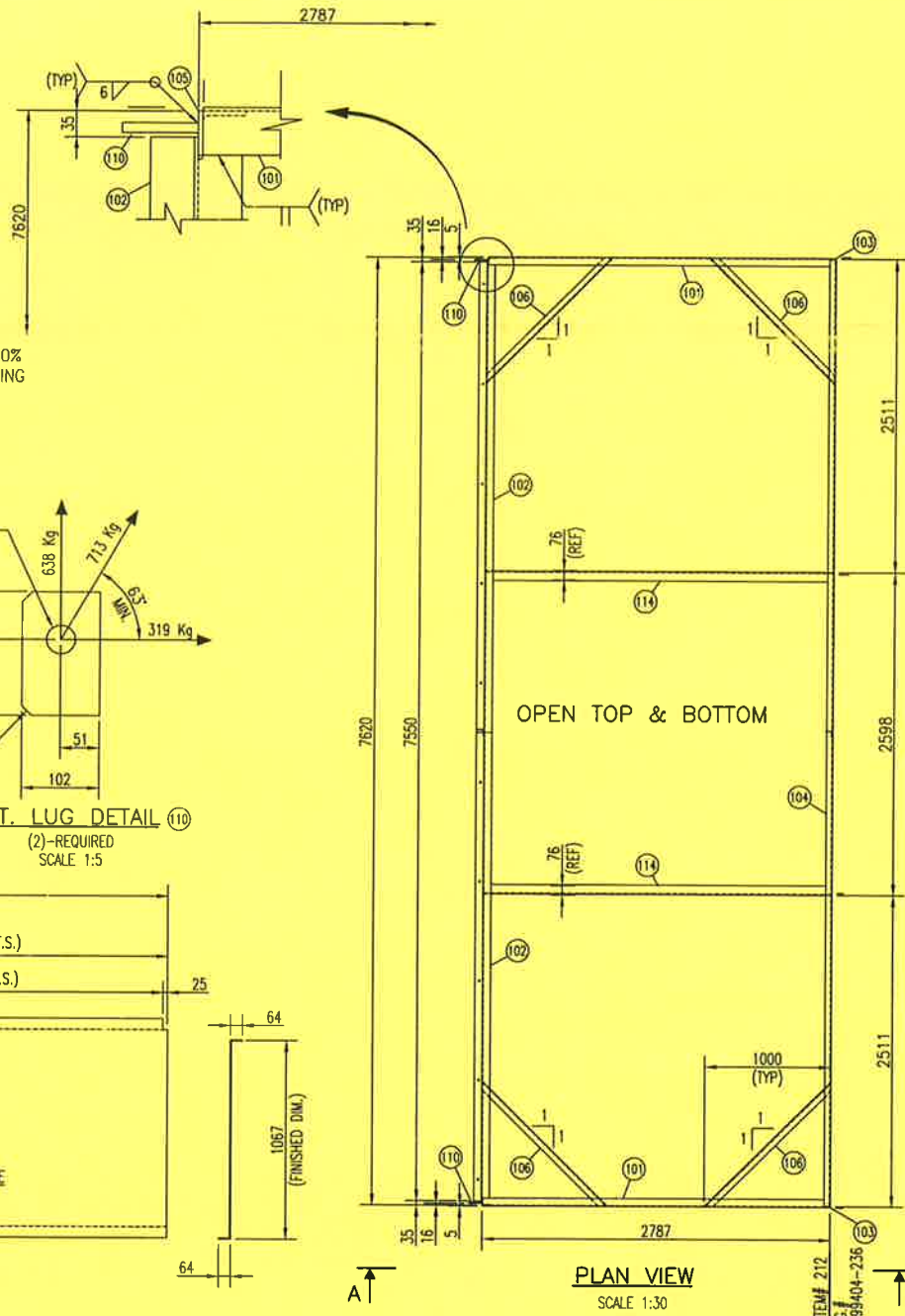
**LIFT LUG DETAIL (10)**  
(2)-REQUIRED  
SCALE 1:5



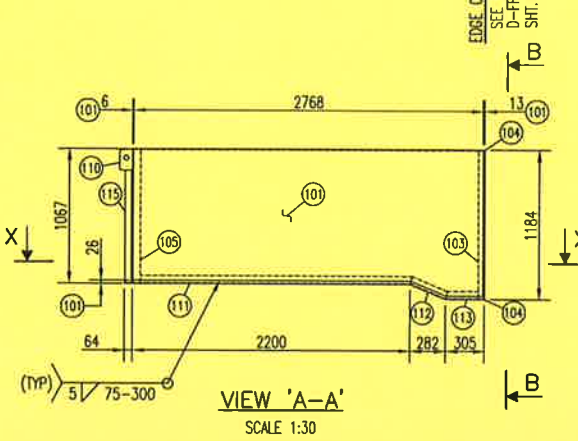
**DETAIL ITEM #102**  
SCALE 1:20



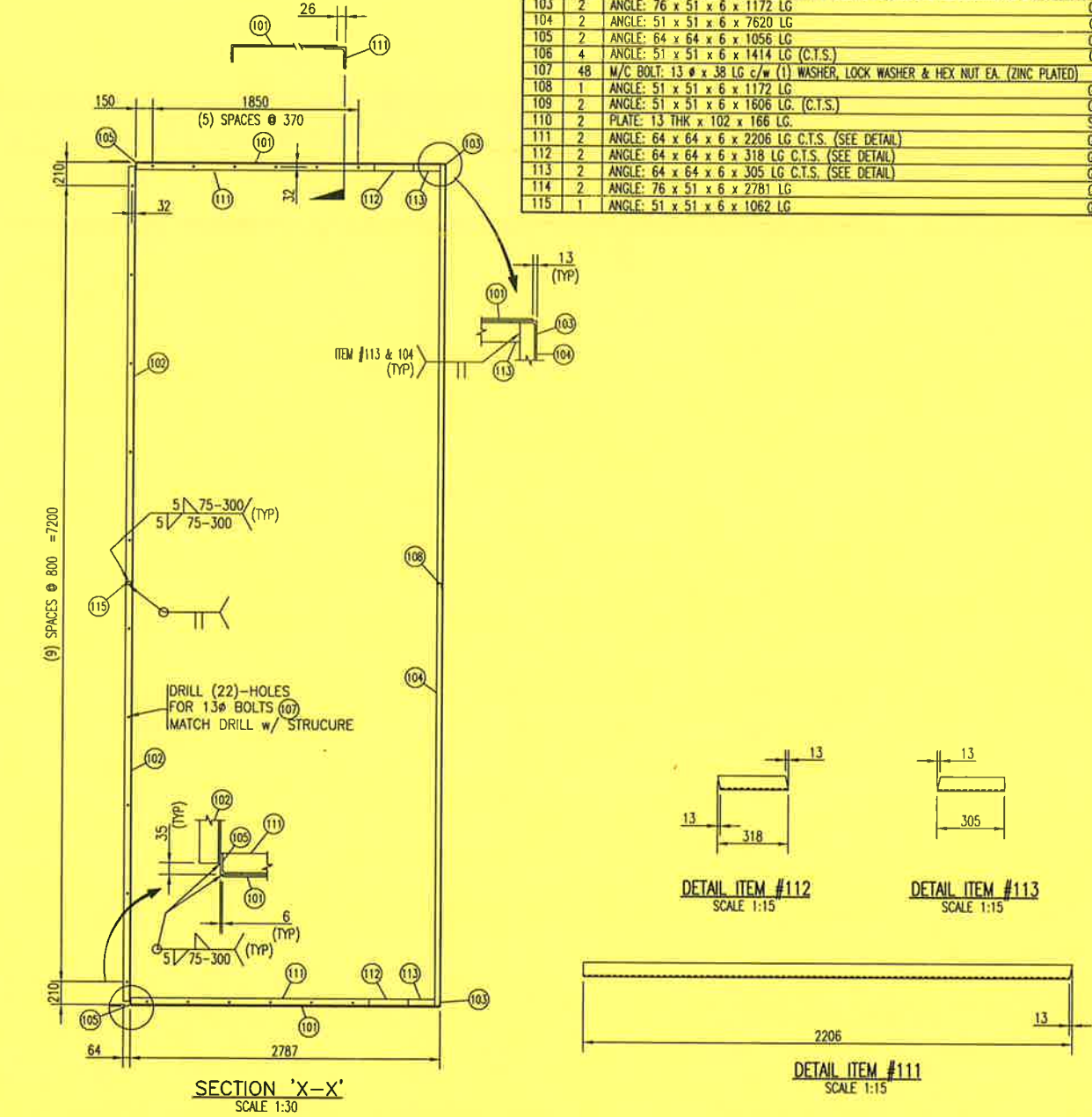
**DETAIL ITEM #101**  
(1)-AS SHOWN & (1)-OPP. HAND  
SCALE 1:20



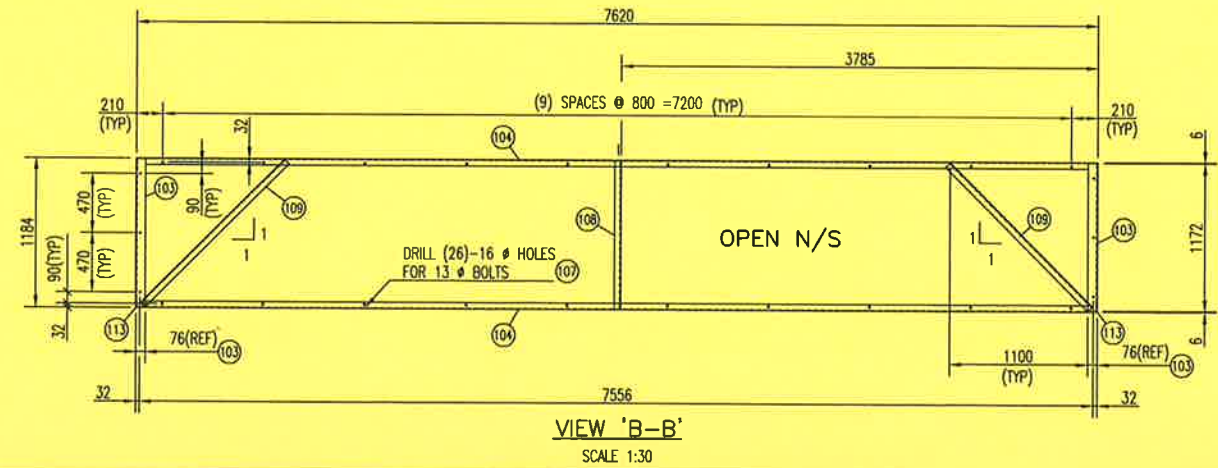
**PLAN VIEW**  
SCALE 1:30



**VIEW 'A-A'**  
SCALE 1:30

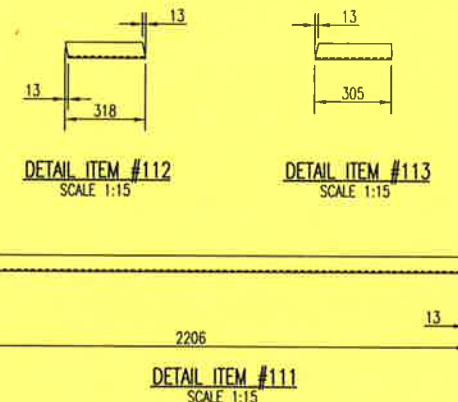


**SECTION 'X-X'**  
SCALE 1:30



**VIEW 'B-B'**  
SCALE 1:30

BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
101	2	PRE-FORMED ANGLE: PLATE 5 THK x 1212 x 2768 LG. (B.T.S. & C.T.S.) SEE DETAIL	SA-36
102	2	PRE-FORMED Z: PLATE 1067 x 64 TOP & BOTTOM FLG. x 5 THK x 3774 LG. C.T.S. (SEE DETAIL)	SA-36
103	2	ANGLE: 76 x 51 x 6 x 1172 LG	G40.21M-300W
104	2	ANGLE: 51 x 51 x 6 x 7620 LG	G40.21M-300W
105	2	ANGLE: 64 x 64 x 6 x 1056 LG	G40.21M-300W
106	4	ANGLE: 51 x 51 x 6 x 1414 LG (C.T.S.)	G40.21M-300W
107	48	M/C BOLT: 13 # x 38 LG c/w (1) WASHER, LOCK WASHER & HEX NUT EA. (ZINC PLATED)	SA-325
108	1	ANGLE: 51 x 51 x 6 x 1172 LG	G40.21M-300W
109	2	ANGLE: 51 x 51 x 6 x 1606 LG. (C.T.S.)	G40.21M-300W
110	2	PLATE: 13 THK x 102 x 166 LG.	SA-36
111	2	ANGLE: 64 x 64 x 6 x 2206 LG C.T.S. (SEE DETAIL)	G40.21M-300W
112	2	ANGLE: 64 x 64 x 6 x 318 LG C.T.S. (SEE DETAIL)	G40.21M-300W
113	2	ANGLE: 64 x 64 x 6 x 305 LG C.T.S. (SEE DETAIL)	G40.21M-300W
114	2	ANGLE: 76 x 51 x 6 x 2781 LG	G40.21M-300W
115	1	ANGLE: 51 x 51 x 6 x 1062 LG	G40.21M-300W



GENERAL NOTES		GENERAL NOTES	
1. ALL DIMENSIONS ARE IN METRIC.	7. ALL WELDS TO BE 6 mm CONT. FILLET WELD U.N.O.	1	ISSUED FOR CONSTRUCTION
2. CUT LENGTHS ARE EXACT c/w TOL. +0/-3 mm.	8. TOP RECIRC. DUCTING WEIGHT IS APPROX.: 970 KGS		
3. SHOP TO COPE ALL MEMBERS TO SUIT.	9. SURFACE PREP:		
4. DRILL ALL HOLES - DO NOT FLAME CUT.	PRIMER: } PNT 1		
5. E-7018-1 OR E-7X-TX SEMI AUTO ELECTRODES TO BE USED.	PAINT: }		
6. REMOVE ALL SHARP EDGES AND BURRS.			

NO.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	IBRAGINSKY	00/10/10	DP	JLW

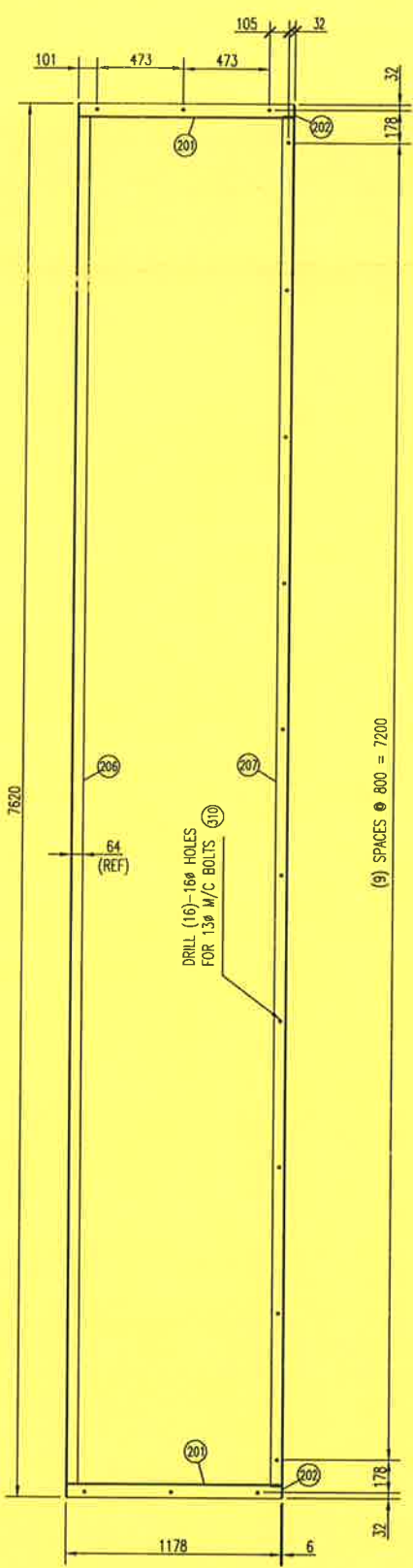
APPROVED		DRAWN	
MECH./STRUCT.	BY	I. BRAGINSKY	
DATE	DATE	00/09/28	
ELECTRICAL	CHECKED		
DATE	BY	D. PARTIEN	
PROJECT	DATE	00/10/10	
DATE	SCALE	AS NOTED	

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

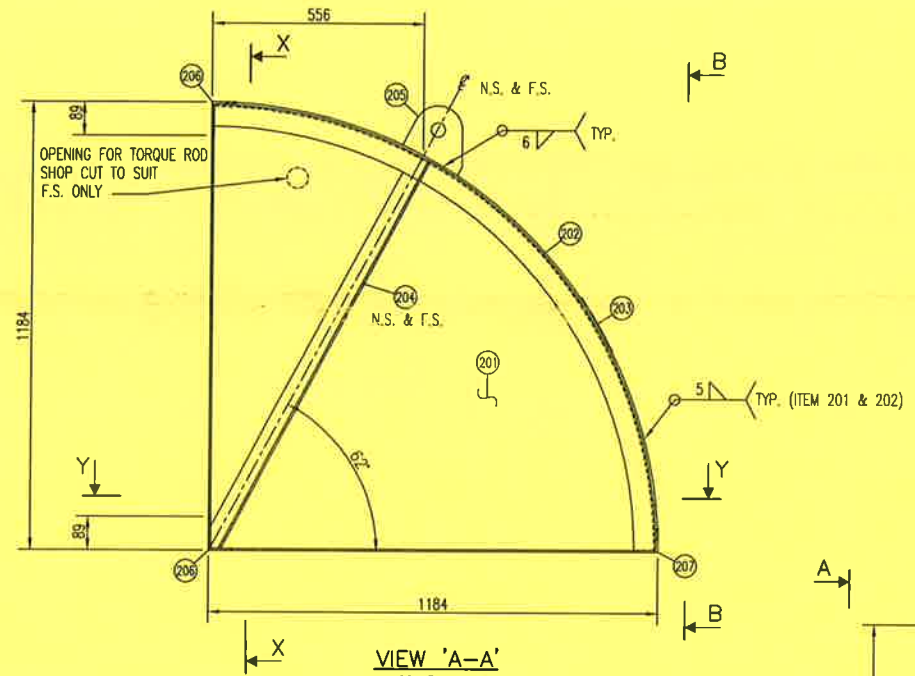
**PROPAG**  
440 East Lake Road,  
Postal Bag #2  
Airdrie, Alberta  
Canada T4B 2C3

DWG. No.: D-DCT-99420-236 SHT. 1 OF 3 REV. 1

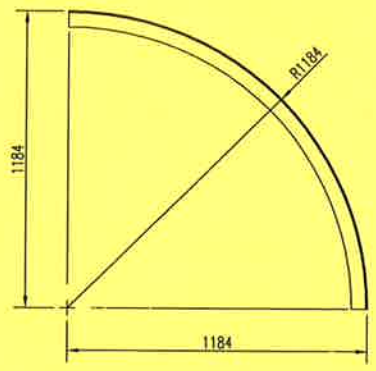
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.



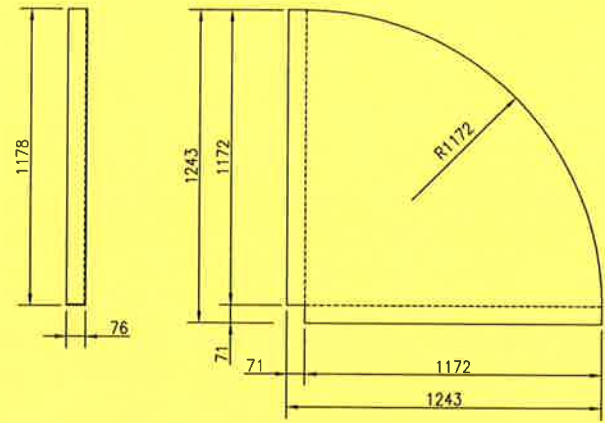
**SECTION 'Y-Y'**  
SCALE: 1:20



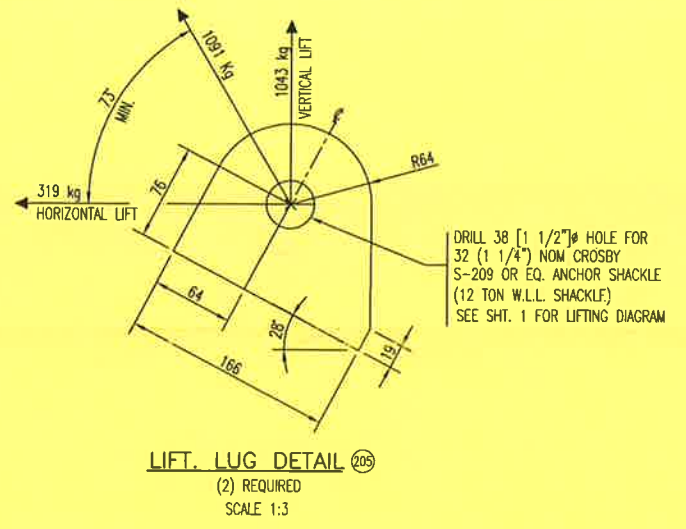
**VIEW 'A-A'**  
SCALE: 1:10



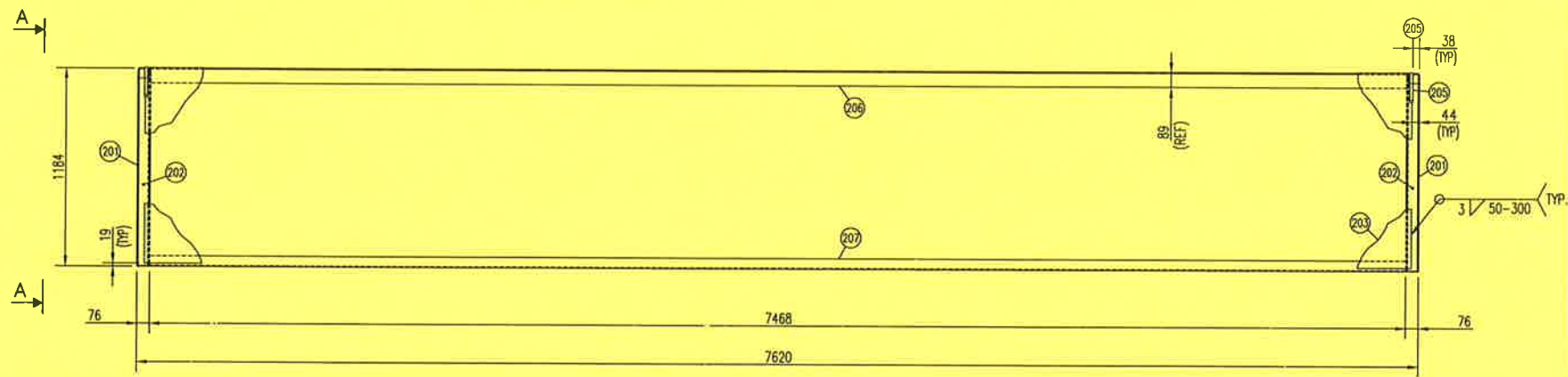
**ITEM #202 DETAIL**  
(1) REQUIRED AS SHOWN  
(1) REQUIRED OPPOSITE HAND  
SCALE: 1:15



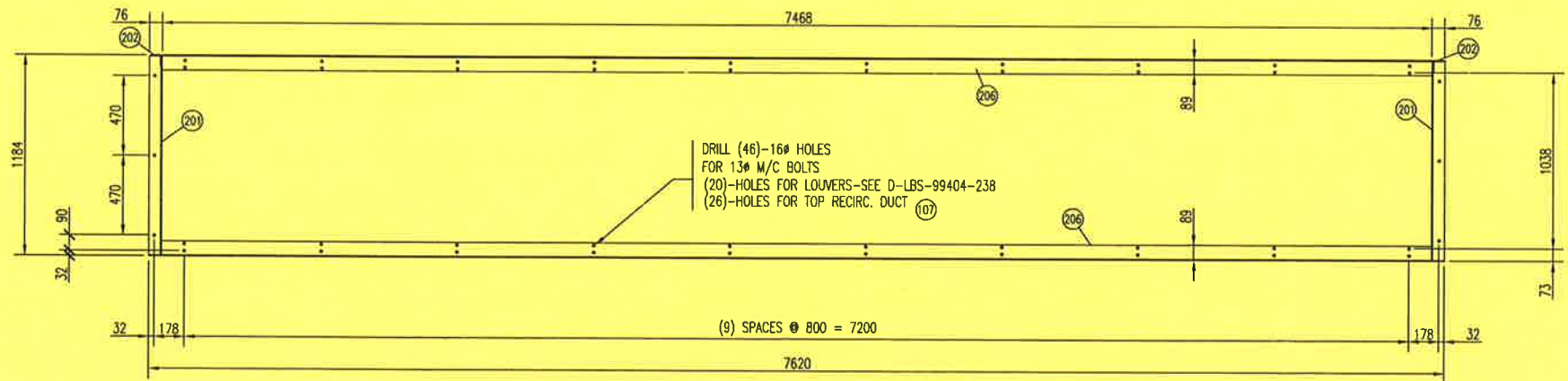
**ITEM #201 DETAIL**  
(1) REQUIRED AS SHOWN  
(1) REQUIRED OPPOSITE HAND  
SCALE: 1:15



**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  
DATE: 2000.10.10 8:17am FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\DCT-99420-236-02.dwg

No.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	IBRAGINSKY	00/10/10	OP	LSL

APPROVED		DRAWN	
MECH./STRUCT.	BY: [Signature]	BY: I. BRAGINSKY	
DATE: 02/10/10	DATE: 00/09/29	CHECKED:	
ELECTRICAL	BY: D. PARTIBLE	DATE: 00/10/10	
DATE: 02/10/10	SCALE: AS NOTED		

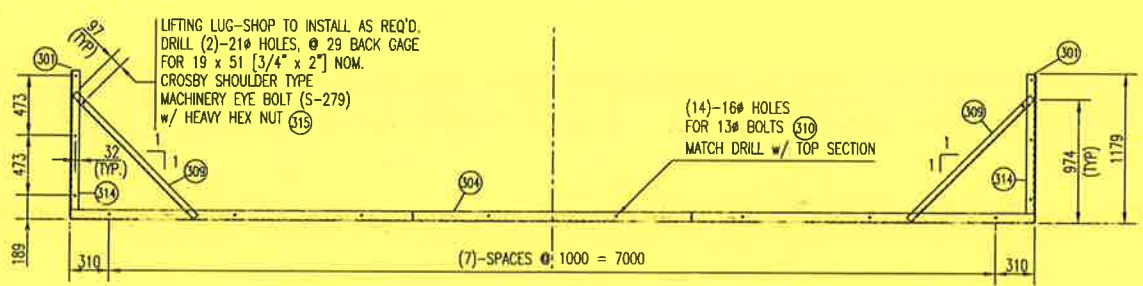
**APACHE CANADA LTD.**  
1478 HP HAMBURG COMPRESSOR PACKAGE  
AERIAL COOLER-ROLL RECIRC. DUCTING  
MDL: 1SV1-156-312-F

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

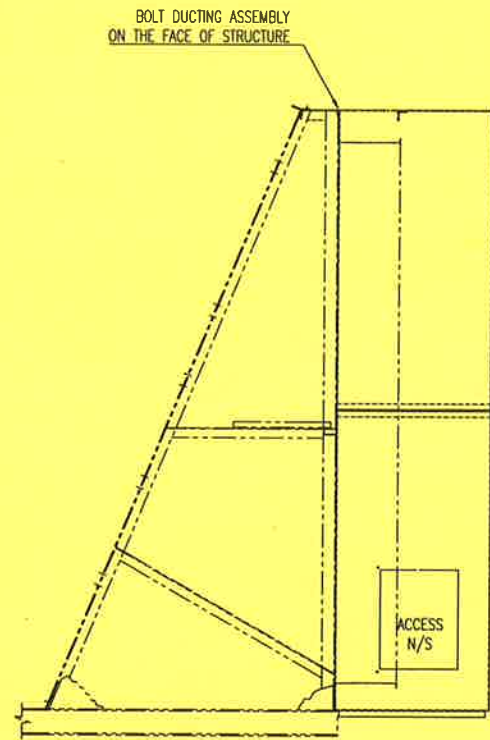
DWG. No.: D-DCT-99420-236 SHT. 2 OF 3 REV. 1



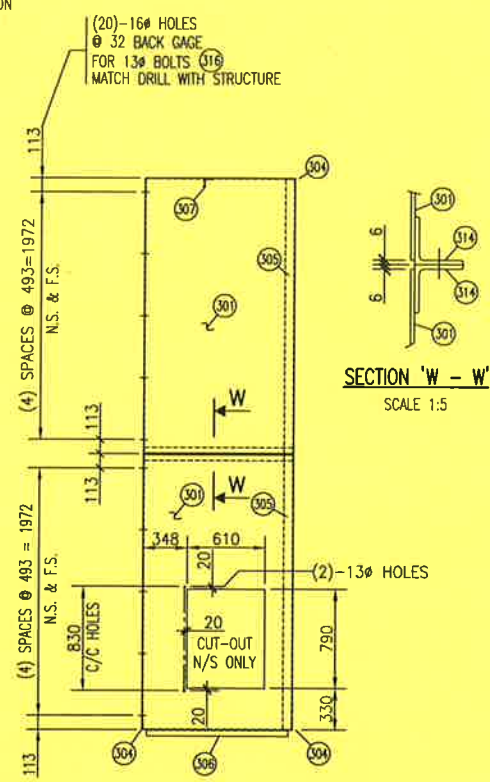
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



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

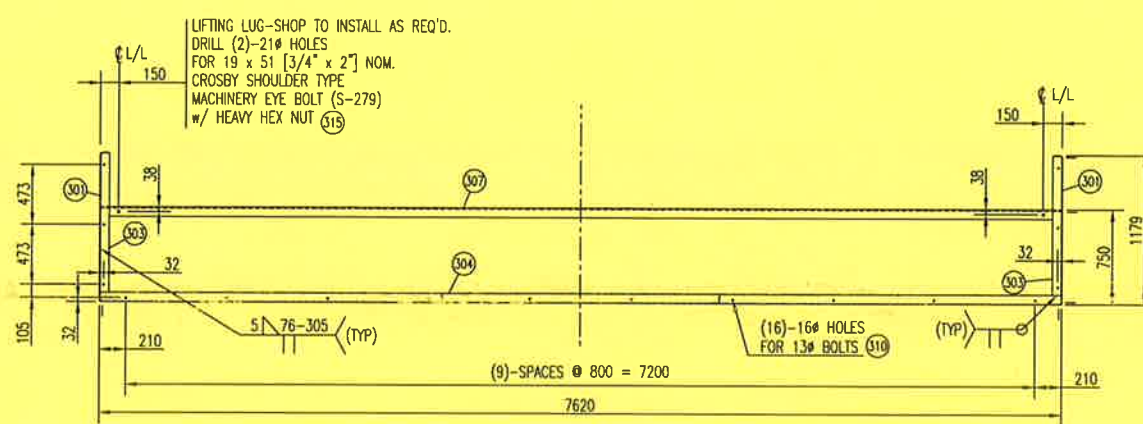


DUCTING ATTACHMENT DETAIL

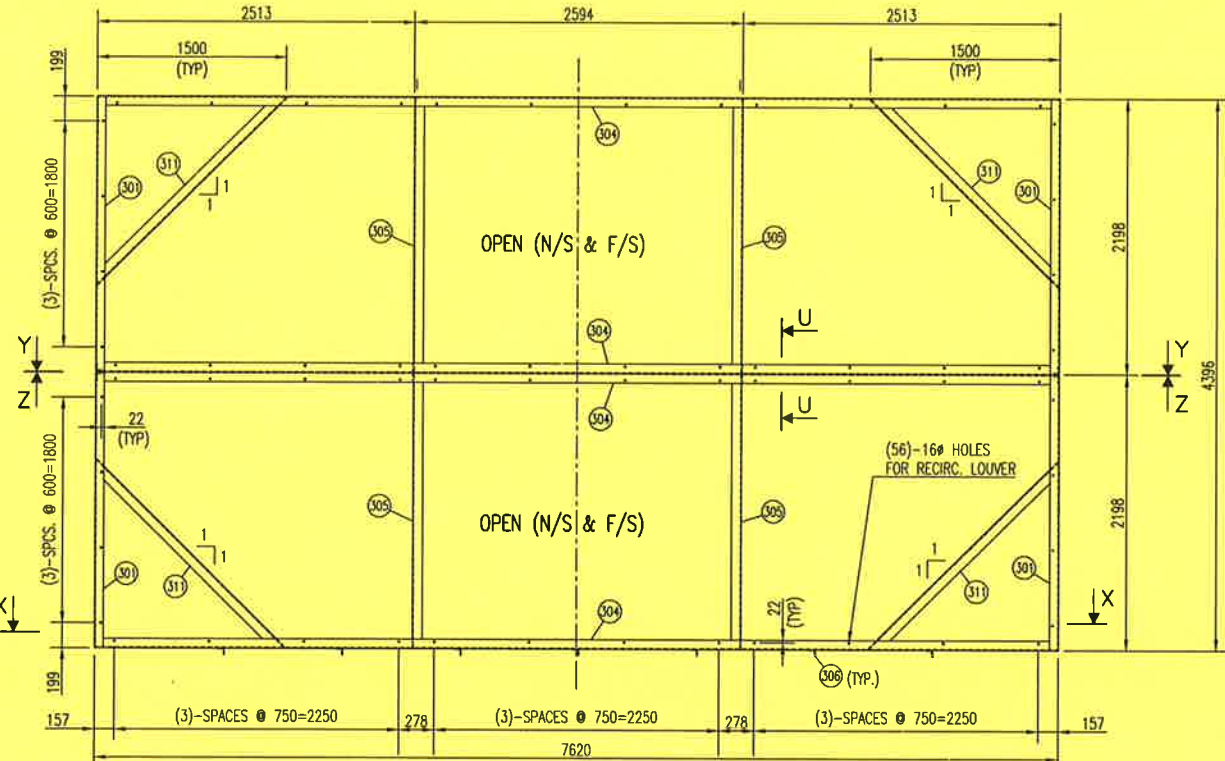


LEFT SIDE VIEW  
SCALE 1:30

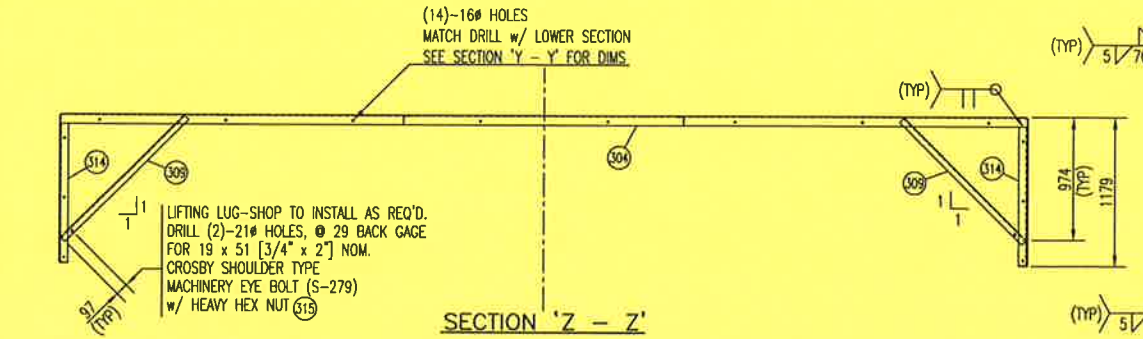
SECTION 'W - W'  
SCALE 1:5



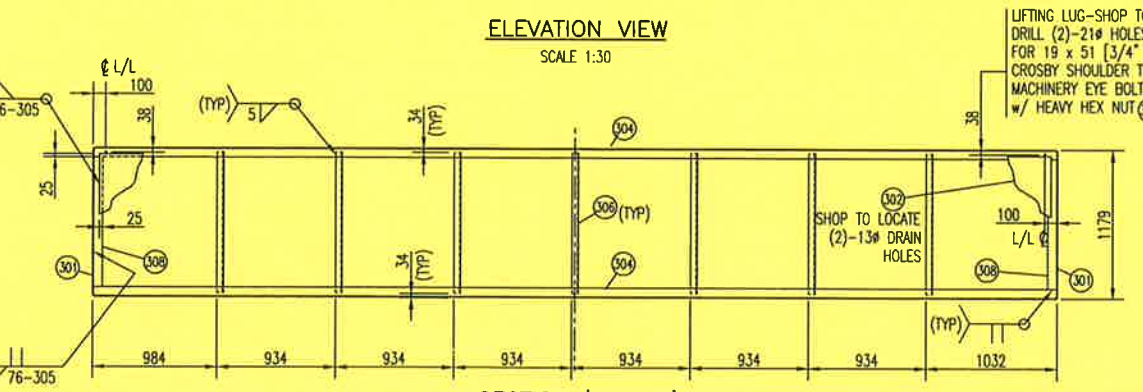
PLAN VIEW  
SCALE 1:30



ELEVATION VIEW  
SCALE 1:30

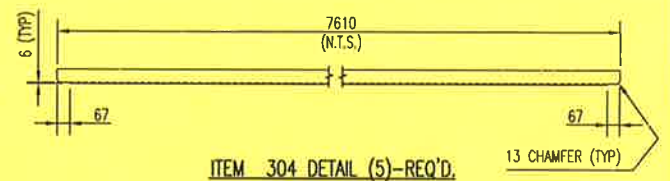


SECTION 'Z - Z'  
TOP SECTION  
SCALE 1:30

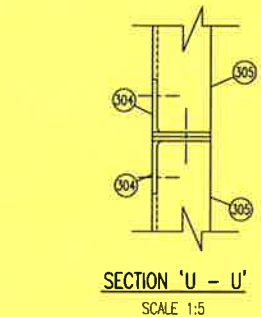


SECTION 'X - X'  
SCALE 1:30

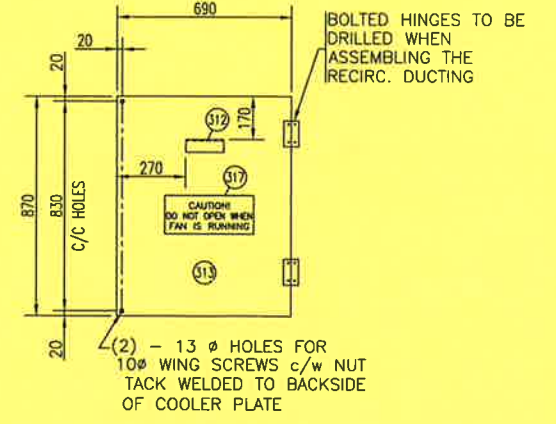
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
301	4	PRE-FORMED CHNL. PLATE 1179 DEEP x 70 TOP & BOTTOM FLG. x 5 THK x 2192 LG. (SEE DETAIL)	SA-36
302	1	PLATE: 5 THK. x 1077 WD. x 7508 LG.	SA-36
303	2	FLAT BAR: 6 THK x 76 x 1096 LG	G40.21M-300W
304	5	ANGLE: 76 x 76 x 6 x 7610 LG (SEE DETAIL)	G40.21M-300W
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 1096 LG	G40.21M-300W
315	8	CROSBY MACHINERY EYE BOLT: 19# x 51 MDL S-279 (W.L.L.=7200) c/w HEAVY HEX NUT & WASHER	ANSI-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	



ITEM 304 DETAIL (5)-REQ'D.  
SCALE 1:20



SECTION 'U - U'  
SCALE 1:5



ACCESS OPENING COVER  
SCALE 1:15

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

DATE: 2000.10.06 1:11pm FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\DCT-99420-236-03.dwg

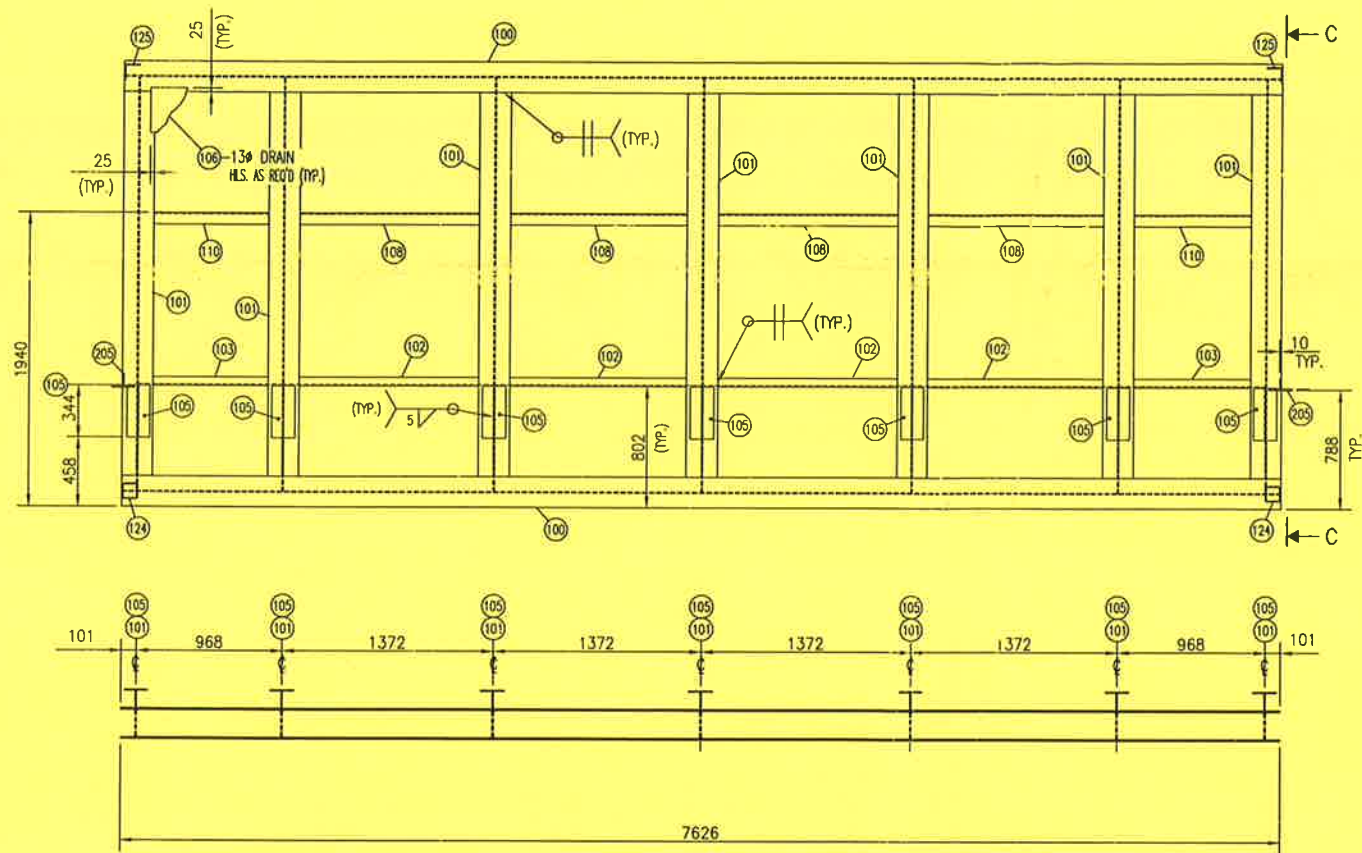
No.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	BRAGINSKY	00/10/06	ABP	ABW

APPROVED		DRAWN	
MECH./STRUCT.	BY: [Signature]	BY: I.BRAGINSKY	DATE: 00/10/02
ELECTRICAL	DATE: 00/10/02	CHECKED	
DATE	BY: [Signature]	DATE	00/10/02
PROJECT	DATE: 00/10/02	SCALE	AS NOTED

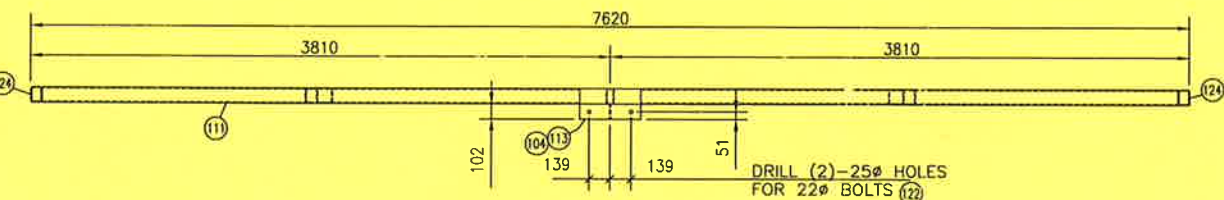
APACHE CANADA LTD.  
1478 HP HAMBURG COMPRESSOR PACKAGE  
AERIAL COOLER-SIDE RECIRC. DUCTING  
MDL: 1SV1-156-312-F  
DWG. No.: D-DCT-99420-236 SHT.3 OF 3 REV. 1

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

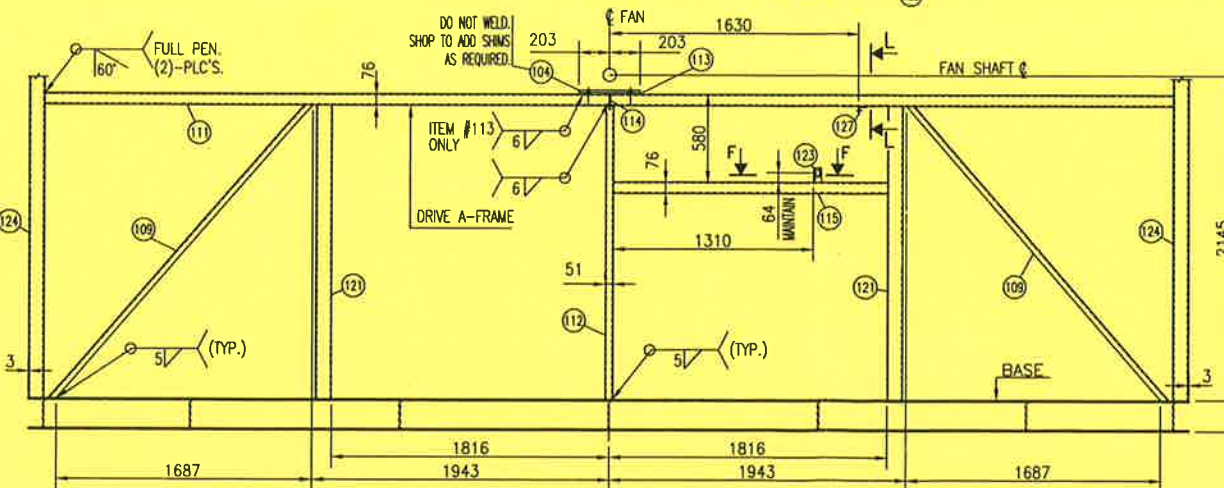
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT IN WRITTEN CONSENT OF PROPAK.



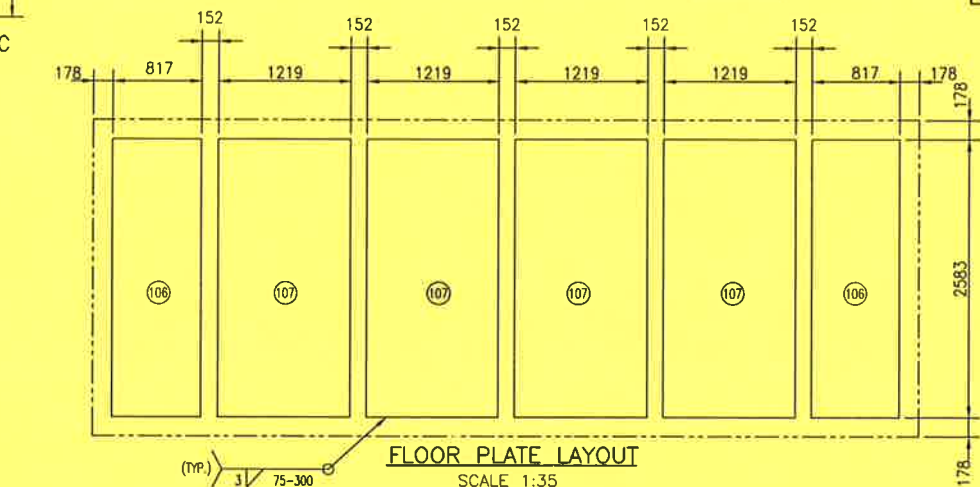
**BASE DETAILS**  
SCALE 1:25



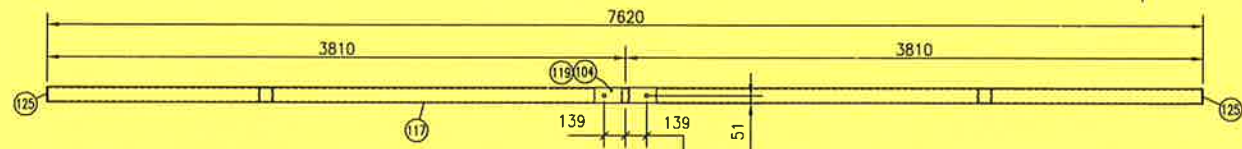
**VIEW 'B-B'**  
SCALE 1:25



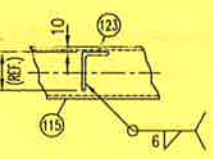
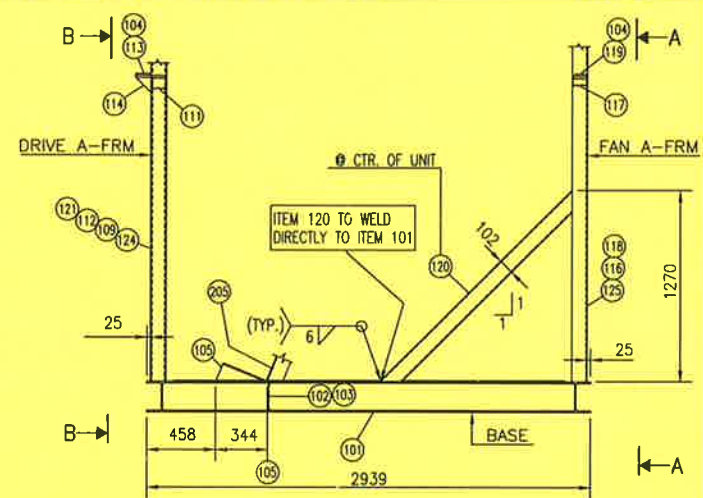
**VIEW 'A-A'**  
SCALE 1:25



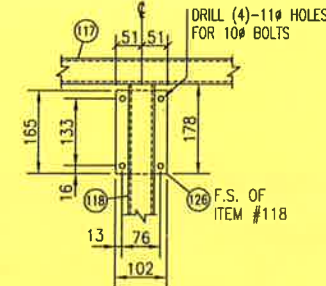
**FLOOR PLATE LAYOUT**  
SCALE 1:35



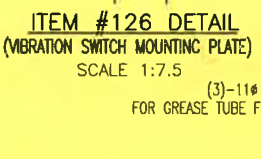
**VIEW 'C-C'**  
SCALE 1:25



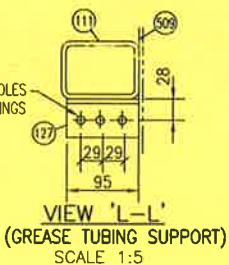
**VIEW 'F-F'**  
SCALE 1:7.5



**ITEM #123 DETAIL**  
SCALE 1:5



**ITEM #126 DETAIL**  
SCALE 1:7.5



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

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	W/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

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. 8500 kg.
3. SHOP TO COPE ALL MEMBERS TO SUIT.	9. SURFACE PREP.: PRIME: PNT 11
4. DRILL ALL HOLES - DO NOT FLAME CUT.	10. COPIED FROM JOB# 99404.
5. STRUCTURAL WELDS: E-7018-1 ELECTRODES OR E-7X-TX WIRE TO BE USED.	
6. REMOVE ALL SHARP EDGES AND BURRS.	

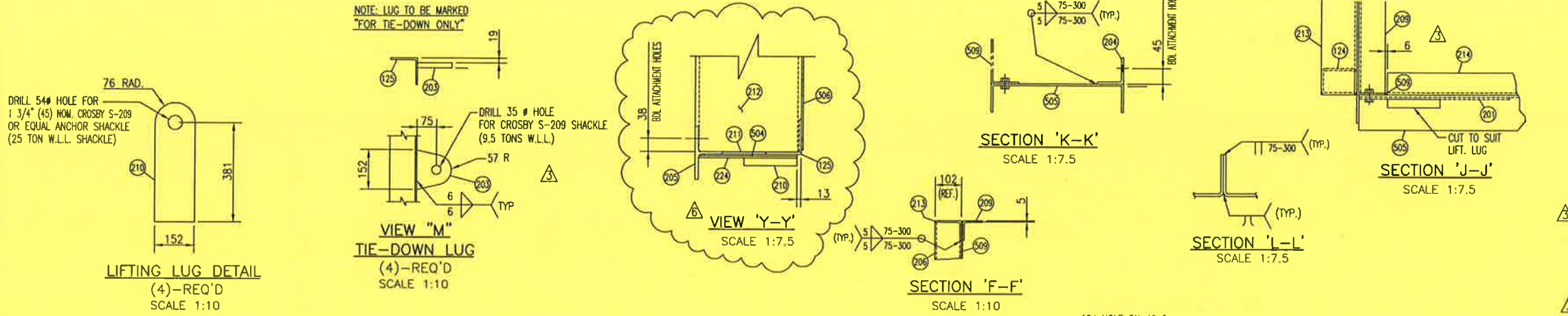
GENERAL NOTES		GENERAL NOTES	
2	WEIGHT WAS 9900 KG/SHEET 4 OF 5 TRANSFERRED TO JOB# 00424	BY	DATE
1	ISSUED FOR CONSTRUCTION	CKD	ENG

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	00/05/24	SCALE	AS NOTED

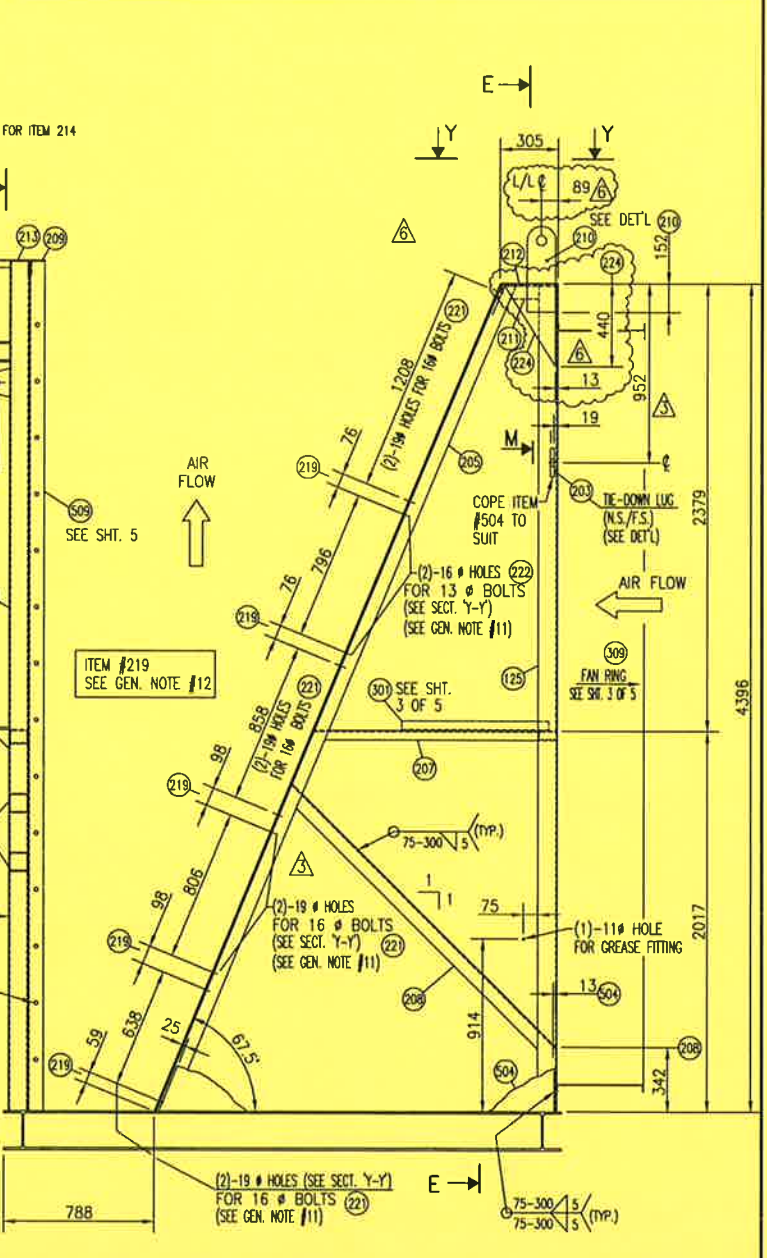
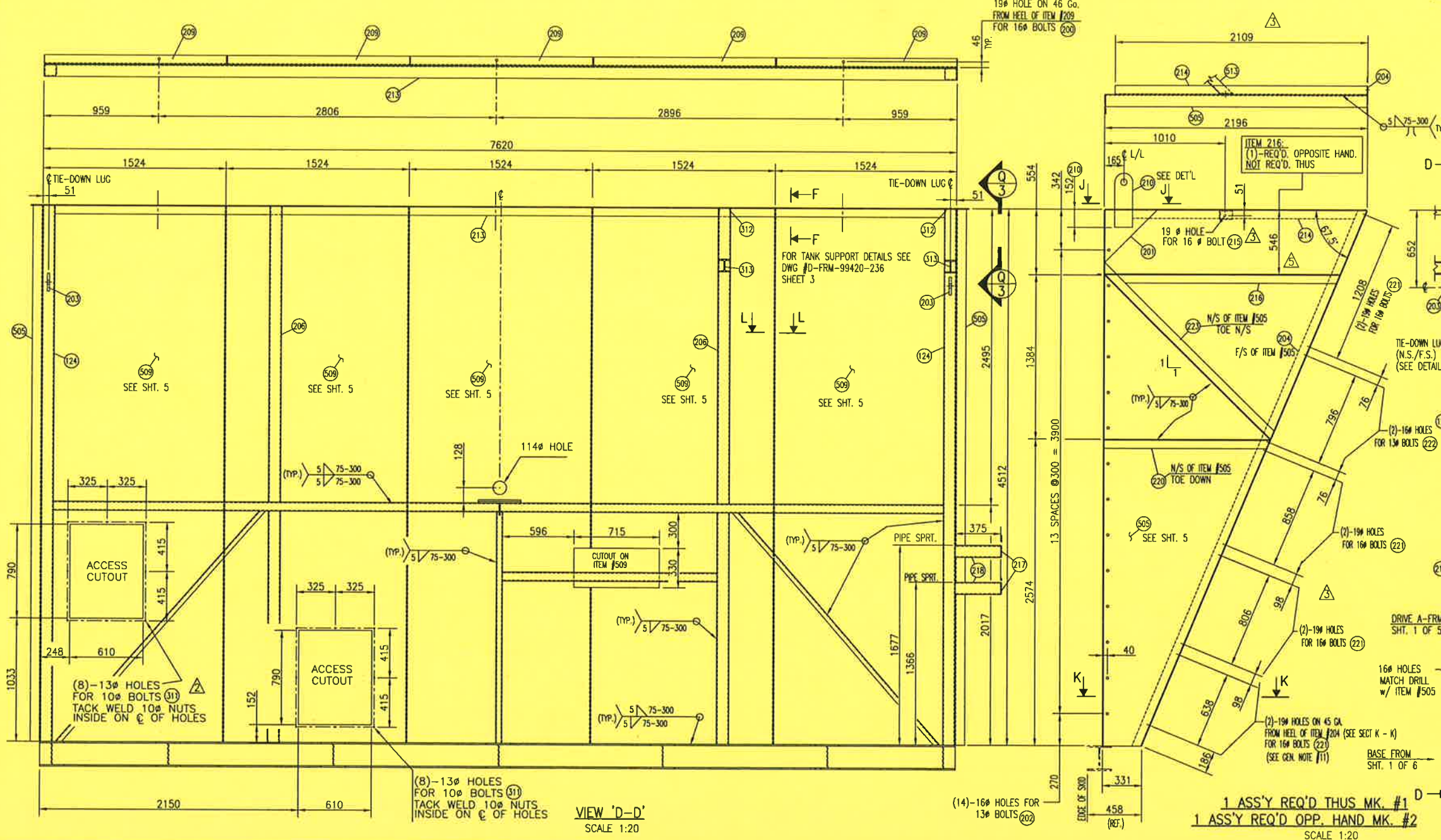
**PROPAK**  
**PROPAK SYSTEMS LTD.**  
 1380 HP STOCK COMPRESSOR, M/N W 1380, 6HOS-3  
 AERIAL COOLER - FRAME ASSEMBLY  
 MDL: 1-SV-1-156-312-F  
 DWG. No.: D-FRM-99420-236 SHEET 1 OF 5 REV. 2

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

TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC



ITEM	QUA	DESCRIPTION	SA
200	4	W/C BOLT: 16# x 44 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA. (ZNC. PLATED)	SA-325
201	1	PLATE: 6 THK. x 440 SQ. (CUT DIAGONAL) (1)-MAKES TWO	SA-36
202	28	W/C BOLT: 13# x 44 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA. (ZNC. 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-300W
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 7620 LG.	G40.21M-300W
214	2	ANGLE: 76 x 76 x 6 THK. x 2103 LG. (C.T.S.)	G40.21M-300W
215	2	W/C BOLT: 16# x 51 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA. (ZNC. 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	W/C BOLT: 16# x 57 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA. (ZNC. PLATED)	SA-325
222	8	W/C BOLT: 13# x 44 LG. c/w (1) HEX NUT, WASHER & LOCK WASHER EA. (ZNC. 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



NO.	REVISION	BY	DATE	CKD	ENG
6	ADDED ITEM #224/20M TO L/L C WAS RZ/MOOFED VIEW Y-Y/DELETED SHOP NOTE	LBRAGINSKY	00/10/26	J.D.	G.W.
5	ADDED ITEM #216	LBRAGINSKY	00/10/24	J.D.	G.W.
4	ADDED TANK SUPPORT/PIPE SUPPORT ELEVATION WAS 1337	G. CHIN	00/10/23	D.P.	G.W.
3	ADDED ITEM #214 & #215/QUA. ITEM #200 WAS 6, ITEM #221 WAS 24, ITEM #222 WAS 16/ CHGD LOCATION OF TIE-DOWN LUGS & HOLE FOR ITEM #215	LBRAGINSKY	00/10/06	D.P.	G.W.
2	ACCESS CUT-OUT RE-LOCATED DUE TO PIPING INTERFERENCE	J. DELORME	00/09/15	L.J.D.	CLAUDE G.
1	ISSUED FOR CONSTRUCTION	D. PARTIBLE	00/02/11	J.D.	T.K.

GENERAL NOTES	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.	

APPROVED	DRAWN
MECH./STRUCT. S. ISAACS	BY LBRAGINSKY
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**

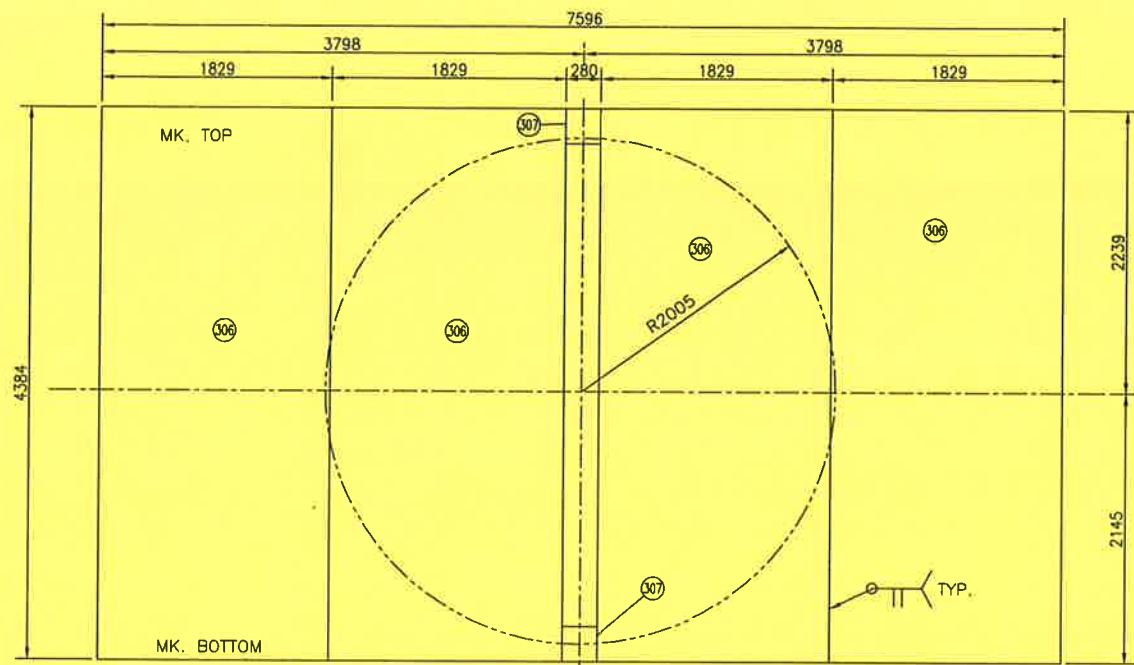
**APACHE CANADA LTD.**

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

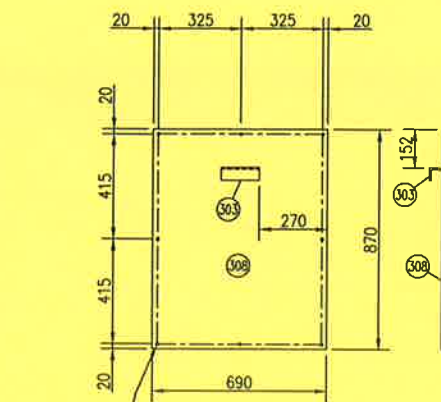
1478 HP HAMBURG COMPRESSOR PACKAGE  
AERIAL COOLER - FRAME ASSEMBLY  
MDL: 1-SV-1-156-312-F

DWG. No.: D-FRM-99420-236 SHEET 2 OF 5 REV. 6

TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC

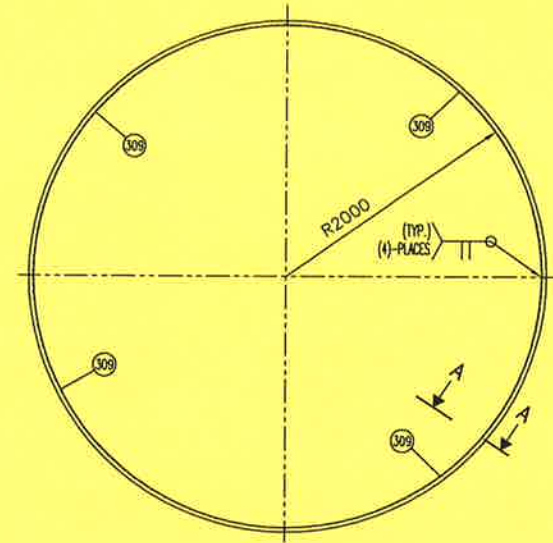


1 ASS'Y REQ'D THUS  
SCALE 1:30

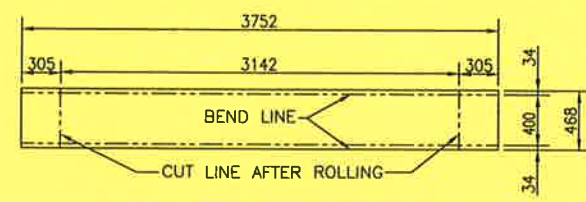


(8)-16# HOLES FOR 10# BOLTS  
3 REQ'D THUS  
SCALE 1:15

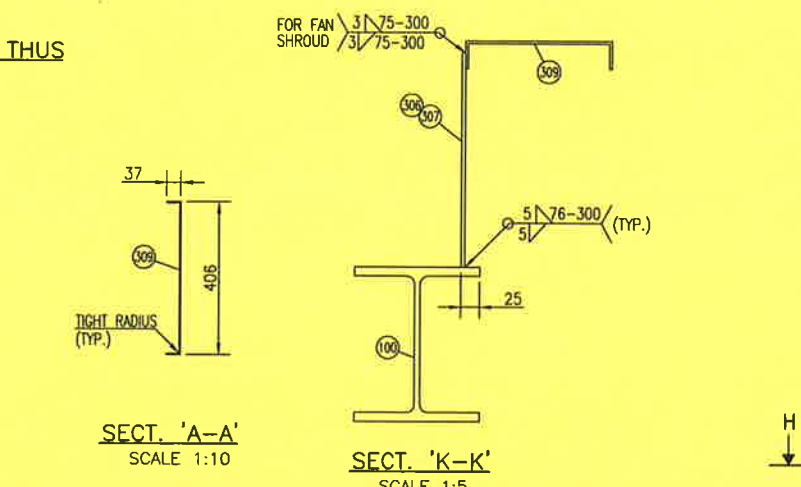
BILL OF MATERIAL		
ITEM	QUA	DESCRIPTION
300		
301	2	ANGLE: 51 x 51 x 6 THK. x 1070 LG. G40.21M-300W
302	2	ANGLE: 76 x 76 x 6 THK. x 2783 LG. G40.21M-300W
303	3	ANGLE: 51 x 51 x 6 THK. x 152 LG. G40.21M-300W
304	2	ANGLE: 76 x 76 x 6 THK. x 2083 LG. G40.21M-300W
305		
306	4	PLATE: 5 THK. x 1829 WD. x 4384 LG. (SEE DETAIL) (C.T.S.) SA-36
307	2	PLATE: 5 THK. x 280 WD. x 280 LG. (SEE DETAIL) (C.T.S.) SA-36
308	3	PLATE: 5 THK. x 690 WD. x 870 LG. SA-36
309	4	PRE-FORMED CHNL: 406 DEEP x 37 WIDE TOP & BTM. FLG. x 3 THK. x 3752 LG. (ROLL TO 2000 I/R TOE OUT. BEND W/ TIGHT RAD.) (SEE DETAIL) SA-36
310		
311	24	M/C BOLT: 10-16 UNC x 38 LG. c/w (1) NUT, WASHER & LOCK WASHER EA. (ZINC PLATED) GRADE B
312	2	SIDE CHANNELS: C100@8kg/m x 570 LG. G40.21M-300W
313	2	WIDE FLANGE: 100@19kg/m x 400 LG. G40.21M-300W
314	2	H.S.S: 6 THK x 76 x 76 x 430 LG. G40.21M-350W



FAN SHROUD DETAIL  
SCALE 1:30

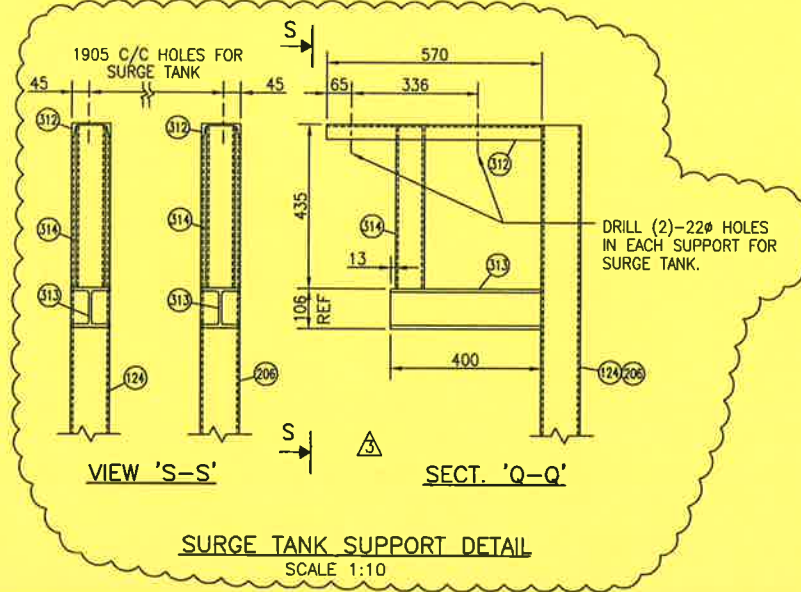


FAN SHROUD FLAT LAYOUT DETAIL  
(4)-REQ'D  
SCALE 1:30



SECT. 'A-A'  
SCALE 1:10

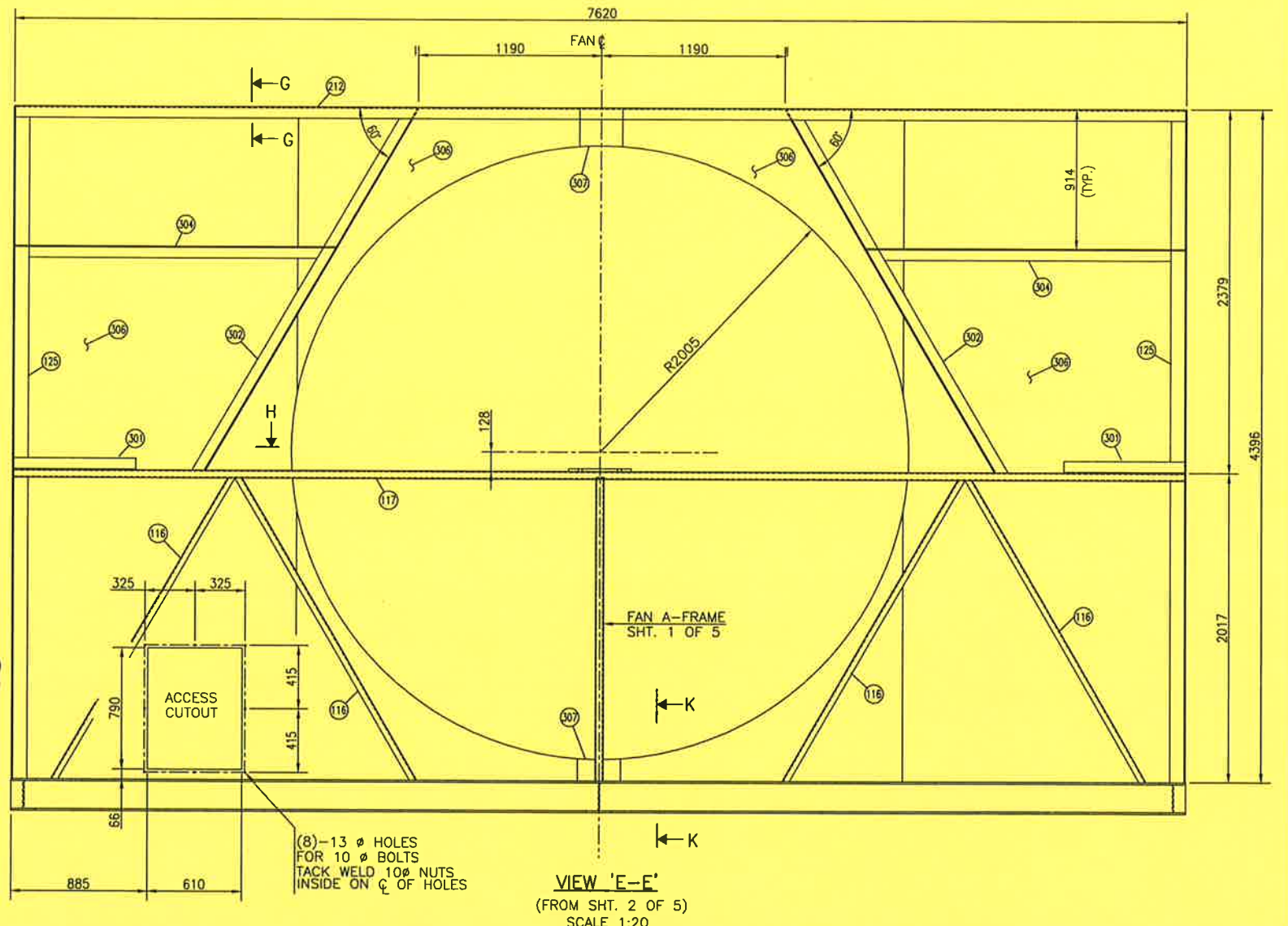
SECT. 'K-K'  
SCALE 1:5



VIEW 'S-S'

SECT. 'Q-Q'

SURGE TANK SUPPORT DETAIL  
SCALE 1:10



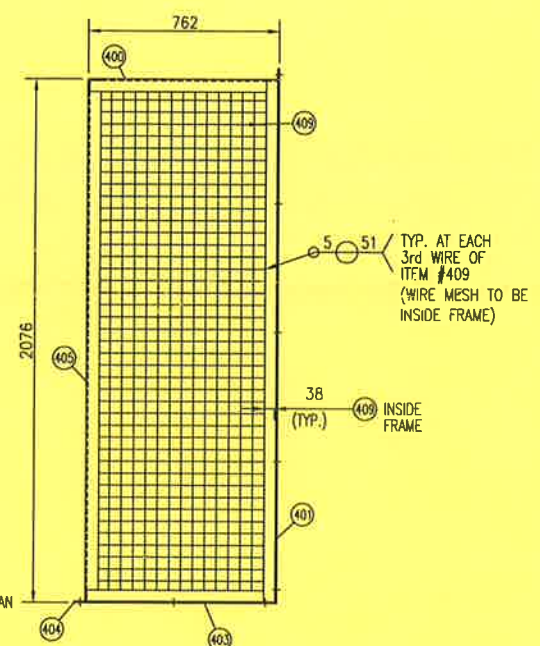
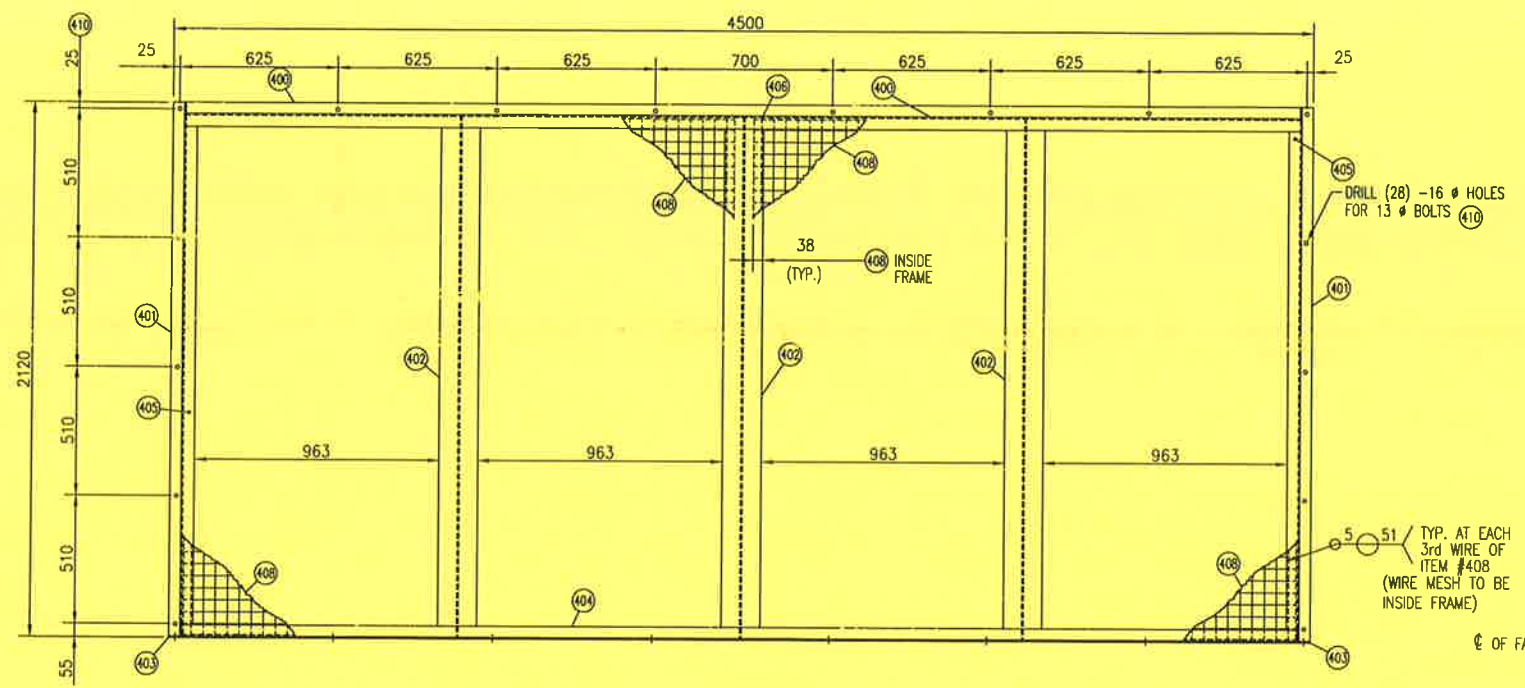
VIEW 'E-E'  
(FROM SHT. 2 OF 5)  
SCALE 1:20

- COPIED FROM JOB# 99404 (EXCEPT ITEM 309)

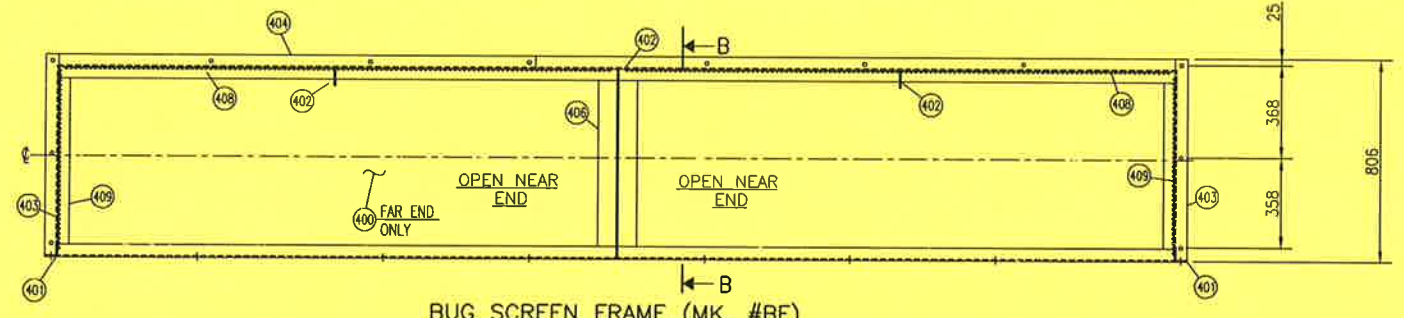
GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		APACHE CANADA LTD.	
3	ADDED TANK SUPPORT DETLS & ITEMS #312, 313 & 314	1	ISSUED FOR CONSTRUCTION	G. CHIN	S. ISAACS	I. BRAGINSKY	I. BRAGINSKY	1478 HP HAMBURG COMPRESSOR PACKAGE	
2	ITEM# 311 QUA. WAS 16/ ITEM# 308 & 303 QUA. WAS 2			J. BELORNE				AERIAL COOLER - FRAME ASSEMBLY	
1				I. BRAGINSKY				MDL: 1-SV-1-156-312-F	
								Canada T4B 2C3	
DATE:	2000.10.23 10:45am	FILE NAME:	J:\jobs99\DWG\99420\Clr - client changes\FRM-99420-236-03.dwg	BY	DATE	CKD	ENG	DWG. No.:	D-FRM-99420-236
								SHEET	3 OF 5

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

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 WITHOUT THE WRITTEN CONSENT OF PROPAK.



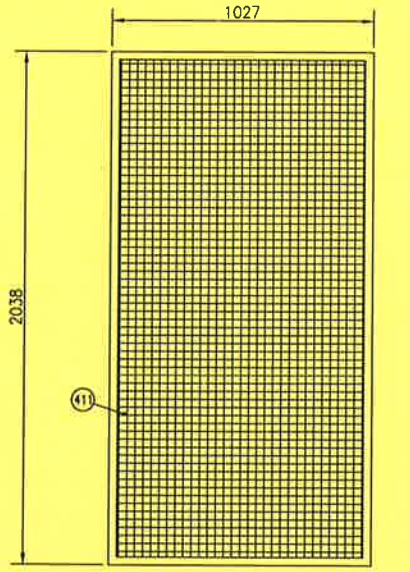
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
400	2	PLATE: 6 THK. x 840 WD. x 4488 LG. (B.T.S./C.T.S.) SEE DETAIL	SA-36
401	4	ANGLE: 51 x 51 x 6 THK. x 2114 LG.	G40.21M-300W
402	6	WT: 75 x 15 KG/M x 2064 LG.	G40.21M-300W
403	4	ANGLE: 51 x 51 x 6 THK. x 806 LG.	G40.21M-300W
404	2	ANGLE: 51 x 51 x 6 THK. x 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	8	SQ. MESH WIRE CLOTH: 51mm C/C x 3.4mm $\phi$ x 1027 x 2038 LG. (C.T.S.)	SA-36
408	4	SQ. MESH WIRE CLOTH: 51mm C/C x 3.4mm $\phi$ x 736 x 2038 LG. (C.T.S.)	SA-36
410	44	W/C BOLT: 13/8 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. MESH: 8 x 10 LINES/INCH	
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	



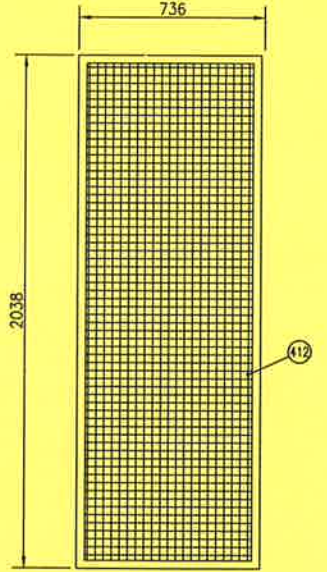
TRANSFER TO DWG.# D-FRM-00424-236 (SHT.4)

SECTION 'B-B'  
SCALE 1:20

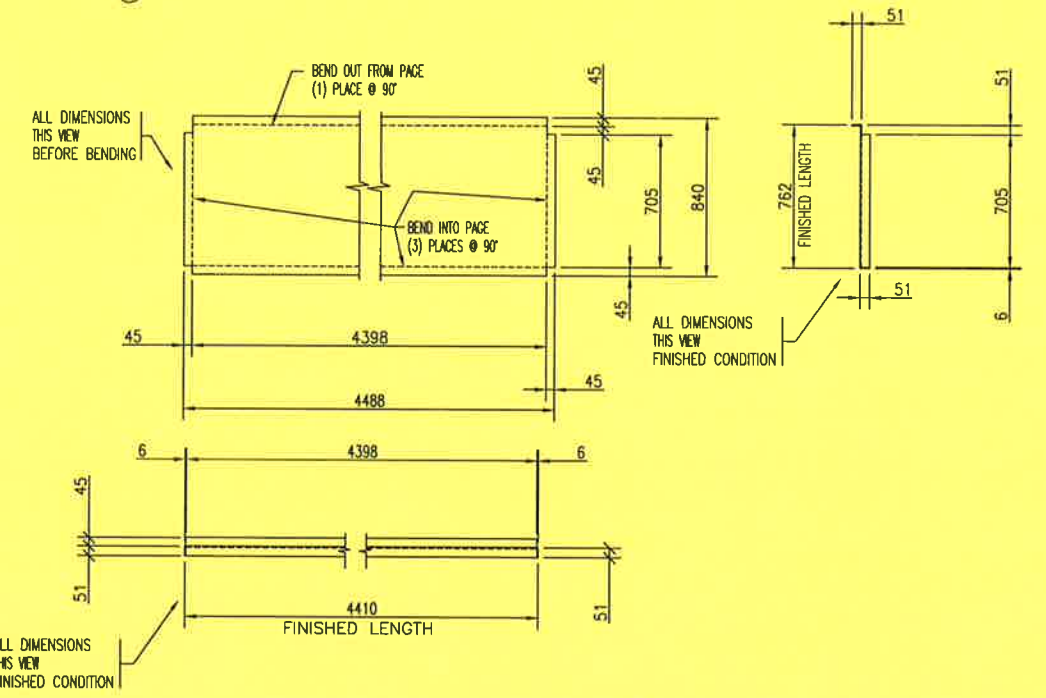
BUG SCREEN FRAME (MK. #BF)  
(2)-REQ'D. THUS  
SCALE 1:15



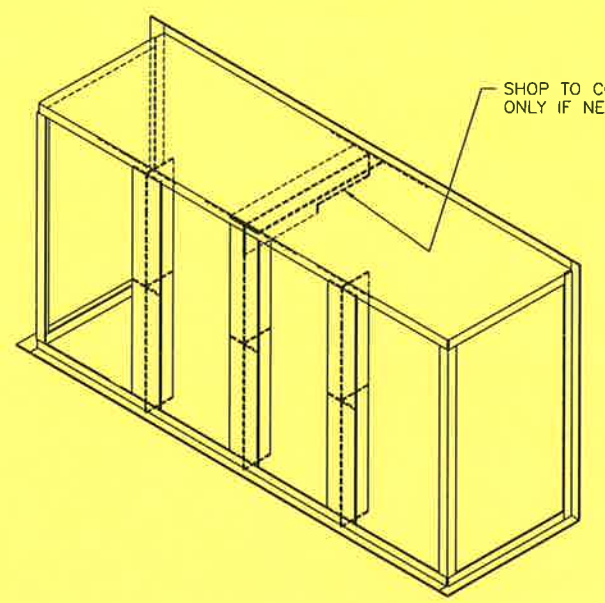
BUG SCREEN MESH DETAIL  
(8) EACH-REQ'D. THUS  
SCALE 1:15



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.

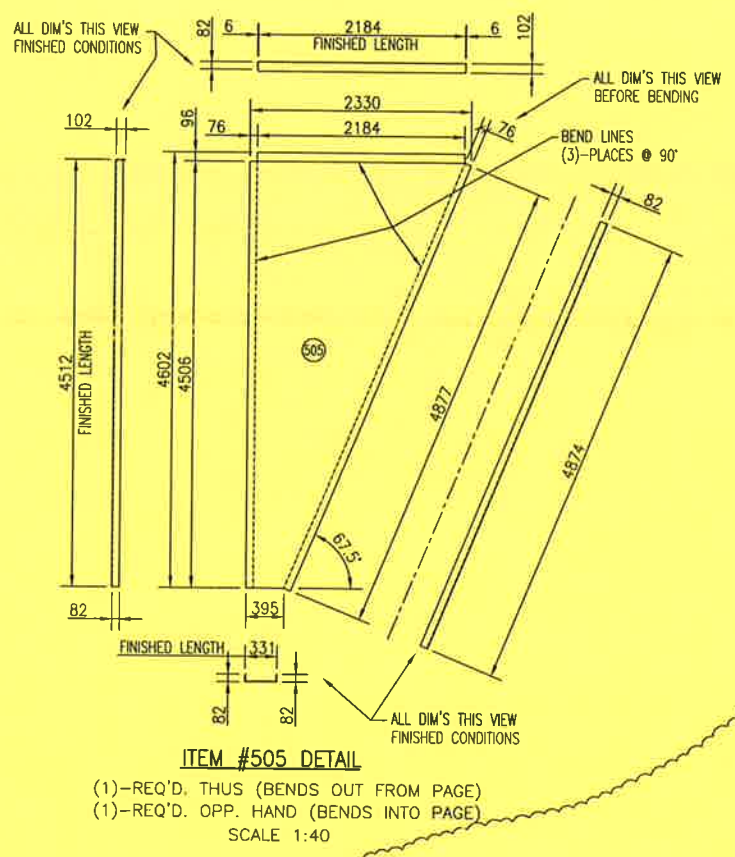
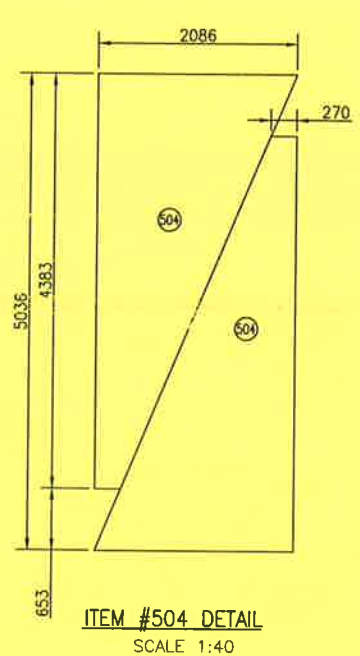
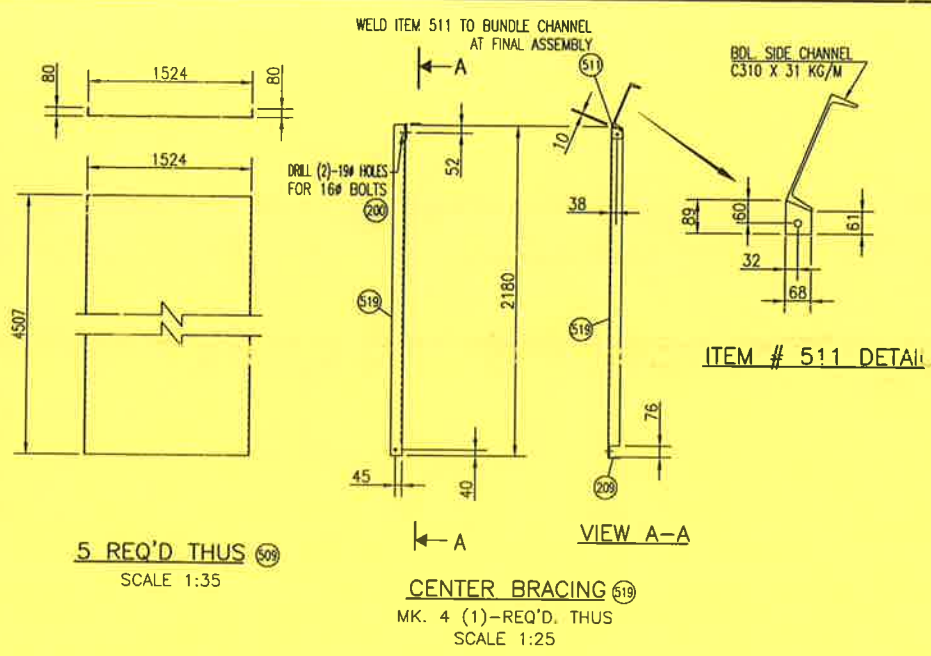
GENERAL NOTES		GENERAL NOTES		APPROVED		DRAWN		PROJECT	
2	TRANSFERRED TO DWG.# D-FRM-00424-236 (SHT.4)	1	ISSUED FOR CONSTRUCTION	BY	DATE	BY	DATE	DATE	DATE
No.	REVISION	No.	REVISION	BY	DATE	BY	DATE	DATE	DATE
				BRAGINSKY	00/10/06	BRAGINSKY	00/05/08	00/05/12	00/05/12
				BRAGINSKY	00/05/12	J.D.	P.C.	00/05/12	00/05/12
				CKD	ENG	SCALE	AS NOTED		

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

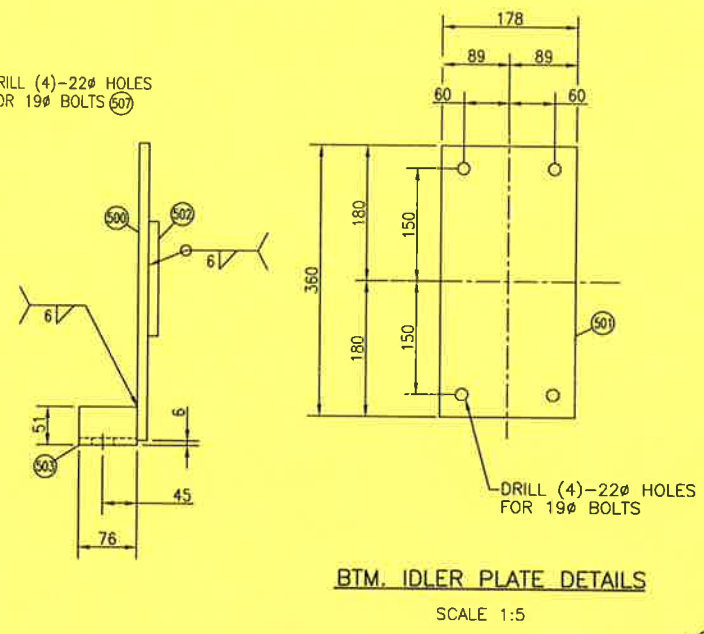
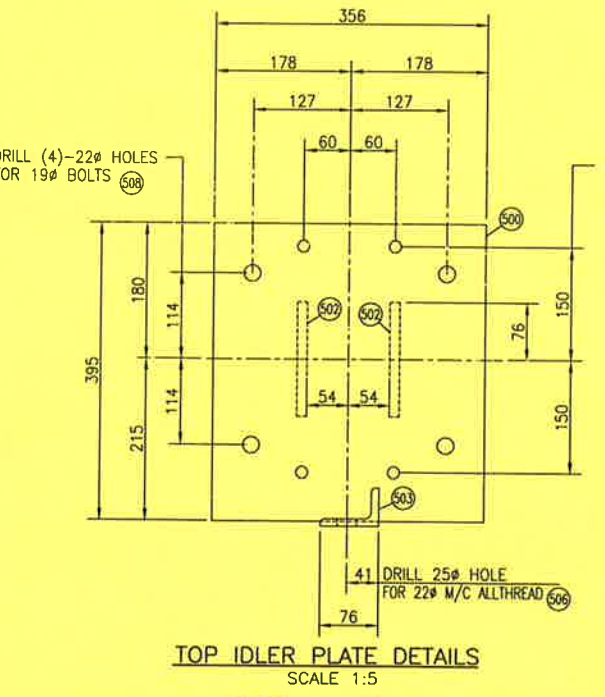
PROPAC SYSTEMS LTD.  
1480 HP STOCK COMPRESSOR, M/N W 1480, 6HOS-3  
AERIAL COOLER-STRUCTURAL DETAILS  
MDL.: 1-SV-1-156-312-F

DWG. No.: D-FRM-99420-236 SHEET 4 OF 5 REV. 2

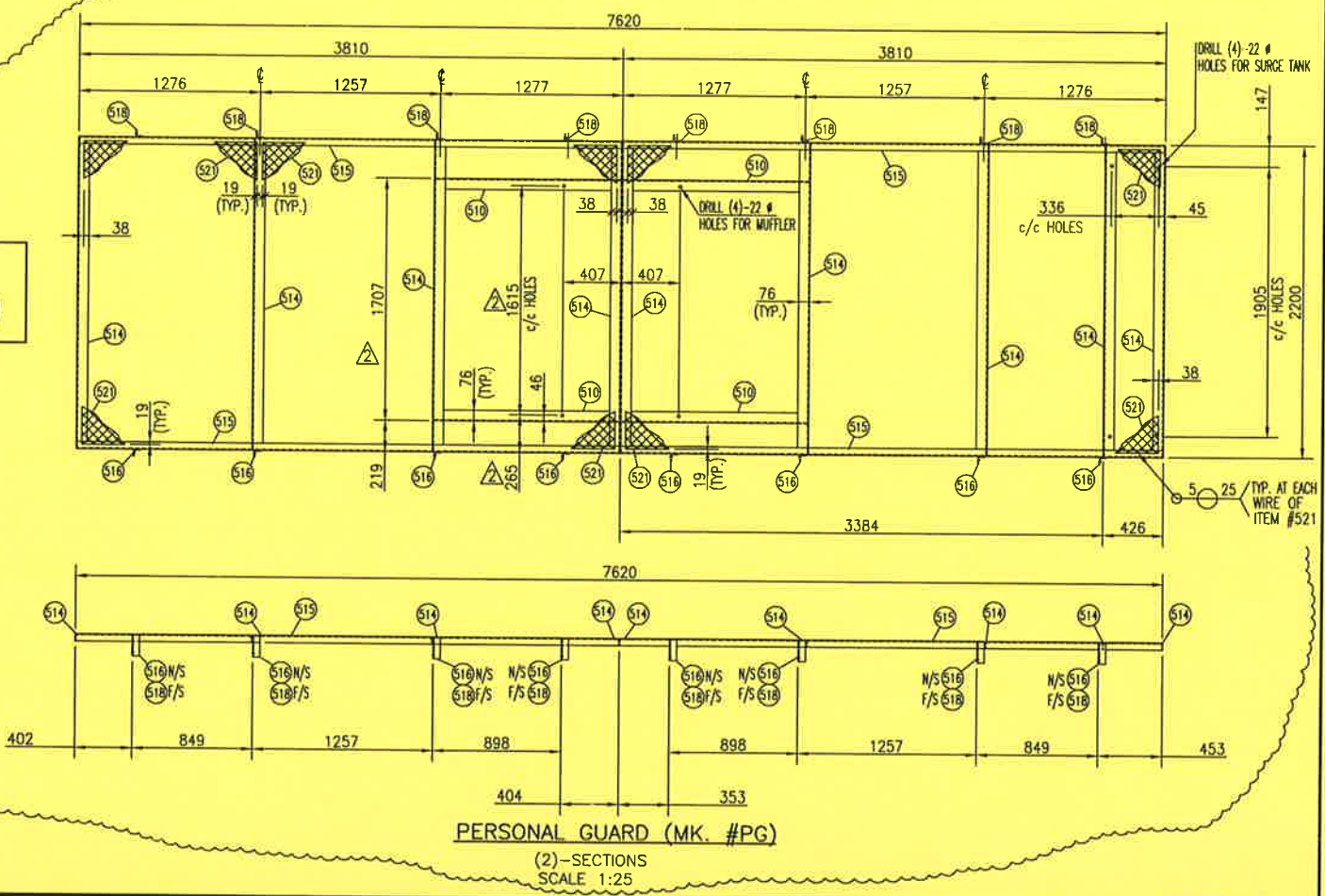
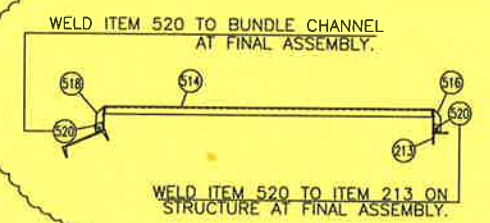
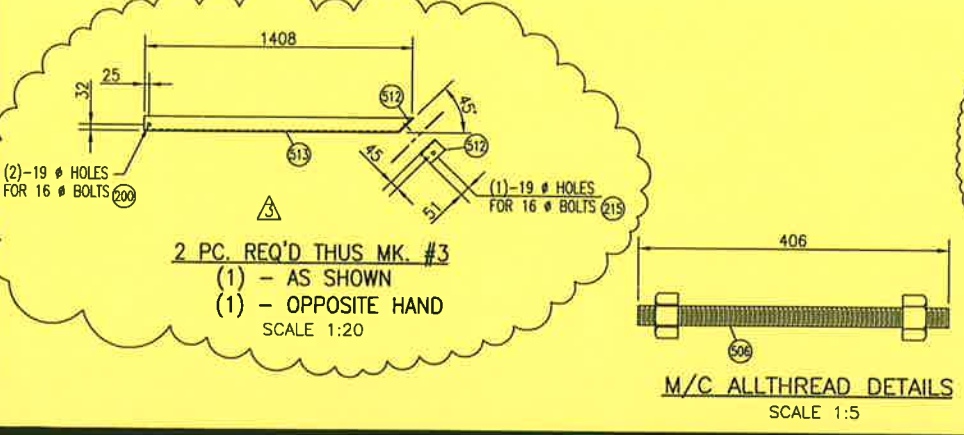
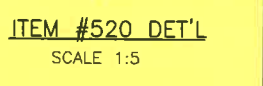
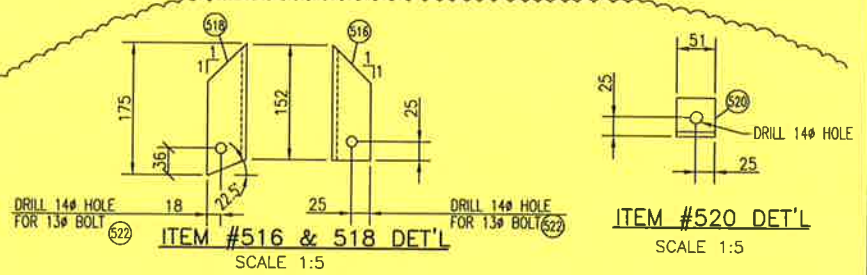
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



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	13 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: 22# 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: 6 THK. x 76 WD. x 107 LG.	G40.21M-300W
512	2	FLAT BAR: 10 THK. x 89 WD. x 68 LG. (C.T.S.) SEE DETAIL	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



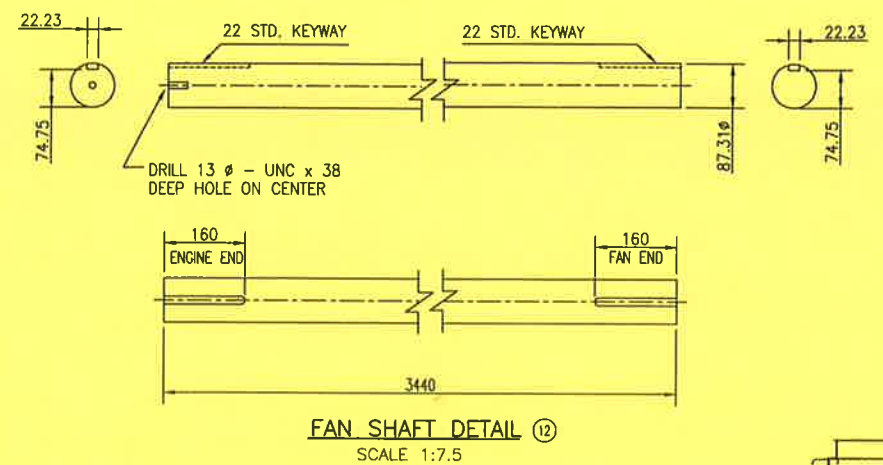
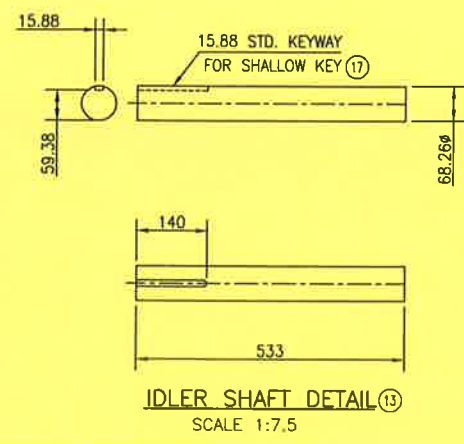
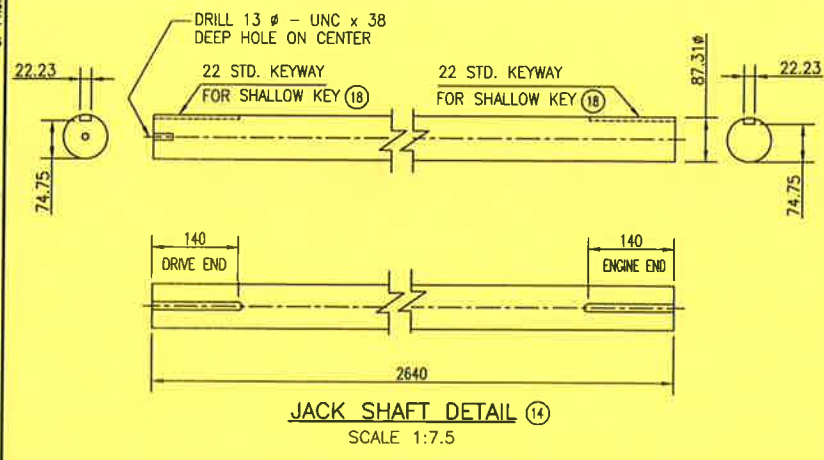
TRANSFER TO DWG.#  
D-FRM-00424-236 (SHT. 5)



GENERAL NOTES		REVISION		APPROVED		DRAWN		PROPAC SYSTEMS LTD.	
3		CHG'D. DETAILS OF ITEM 513/ADDED ITEM 512/ PERSONAL GUARD TO BE TRANSFERRED TO JOB# 00424		LIBRAGINSKY 00/10/06		LIBRAGINSKY 00/05/09		1380 HP STOCK COMPRESSOR, M/N W 1380, 6HOS-3 AERIAL COOLER-STRUCTURE DETAILS MDL: 1-SV-1-156-312-F	
2		CHANGED DIM'S: 1707 FR. 970, 219 FR. 615, 1615 FR. 878, 265 FR. 661.		LIBRAGINSKY 00/06/22		D.P. P.C.		DWG. No.: D-FRM-99420-236 SHEET 5 OF 5	
1		ISSUED FOR CONSTRUCTION		LIBRAGINSKY 00/05/24		J.D. P.C.		REV. 2	

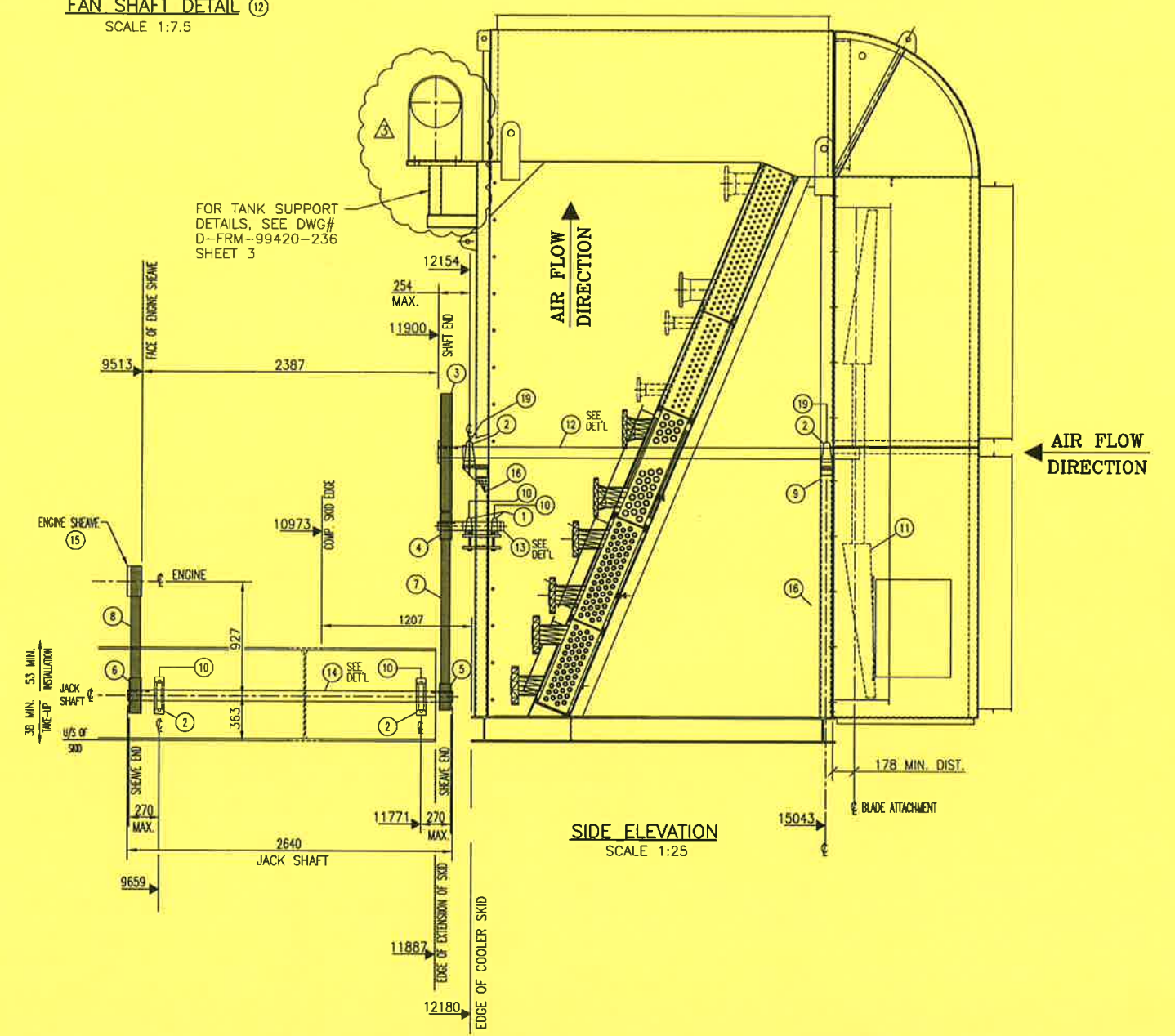
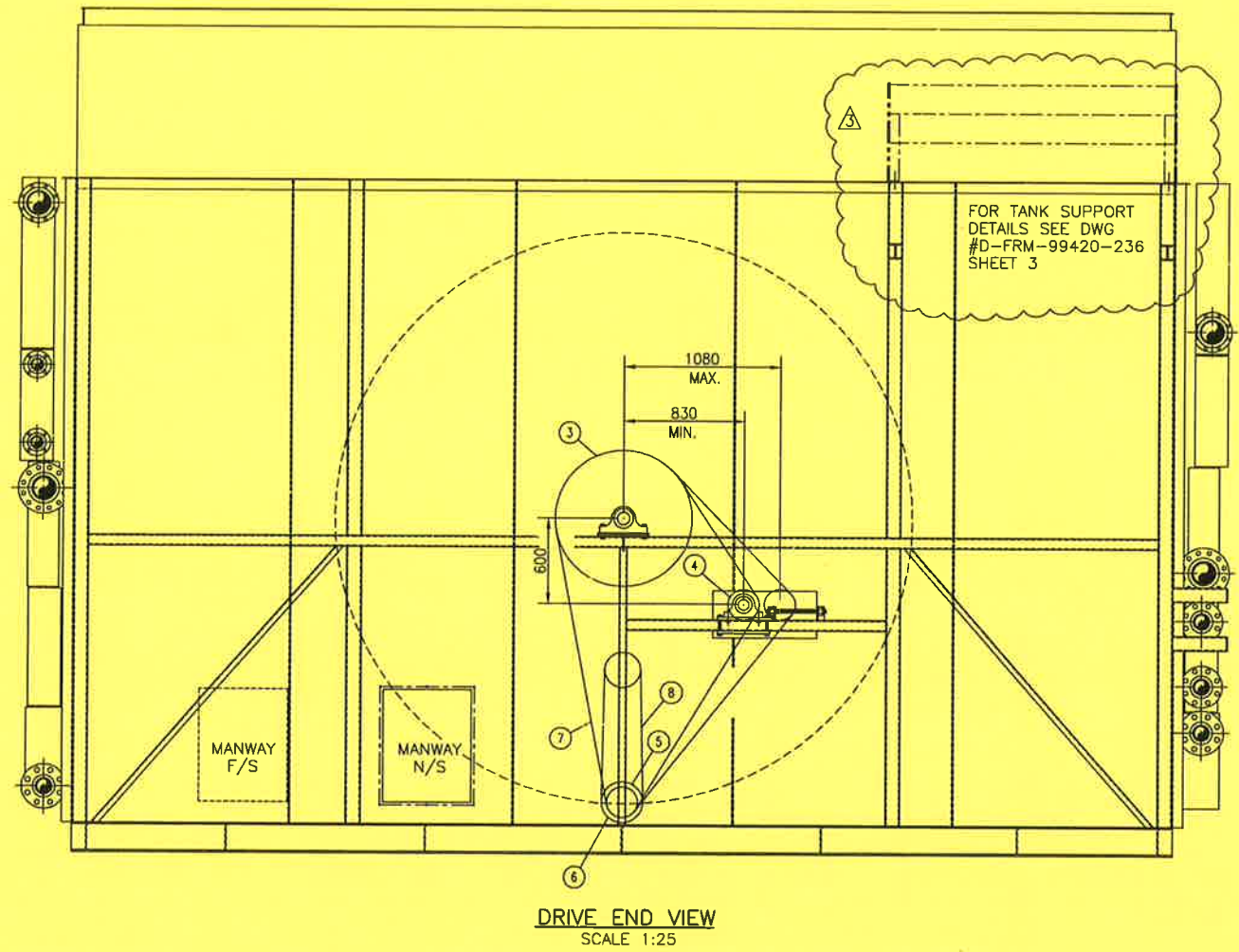
**PROPAC**  
440 East Lake Road,  
Postal Bag #2  
Airdrie, Alberta  
Canada T4B 2C3

THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAG 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 PROPAG.



BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
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 SHAFT SHEAVE: SV GROOVE PROFILE, SV-S-375-C3 c/w "J" TYPE BUSHING 3 7/16" (87.31mm) BORE STD. KEYWAY	GATES
4	1	ROLLER SWGT SHEAVE: SV GROOVE PROFILE, SV-S-85-A1 c/w "E" TYPE BUSHING 2 11/16" (68.26mm) BORE SHALLOW KEYWAY	GATES
5	1	JACK SWGT SHEAVE (COOLER END): SV GROOVE PROFILE, SV-S-113-A1 c/w "E" TYPE BUSHING 3 7/16" (87.31mm) BORE SHALLOW KEYWAY	GATES
6	1	JACK SWGT SHEAVE (ENGINE END): SV GROOVE PROFILE, SV-S-113-A1 c/w "E" TYPE BUSHING 3 7/16" (87.31mm) BORE SHALLOW KEYWAY	GATES
7	1	V-BELTS: SV-2500 (1) SET OF (5) MATCHED BANDED BELTS	GATES
8	1	V-BELTS: SV-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, LIQUID QUARK C18 OR EQUIV	
11	1	13 FT. (3962) MOORE FAN: CLASS 5000-SERIES 60 ED c/w (11) BLADES, 12" (305mm) HUB Ø/O, ØØ 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: 87.31Ø x 3440 LG. (SEE DETAIL, KEYWAYS REQUIRED MACHINING)	C1045-TC&P
13	1	ROUND BAR: 68.26Ø x 533 LG. (SEE DETAIL, KEYWAYS REQUIRED MACHINING)	C1045-TC&P
14	1	ROUND BAR: 87.31Ø x 2640 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



- WEIGHT OF ASSEMBLY ITEMS: 625 KG.
- DATUM FOR ALL TAILED DIMENSIONS IS PER DWG D-SKD-99404-114A (SHT. 1)

DATE: 2000.10.23 10:48am FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\LT-99420-238-02.dwg

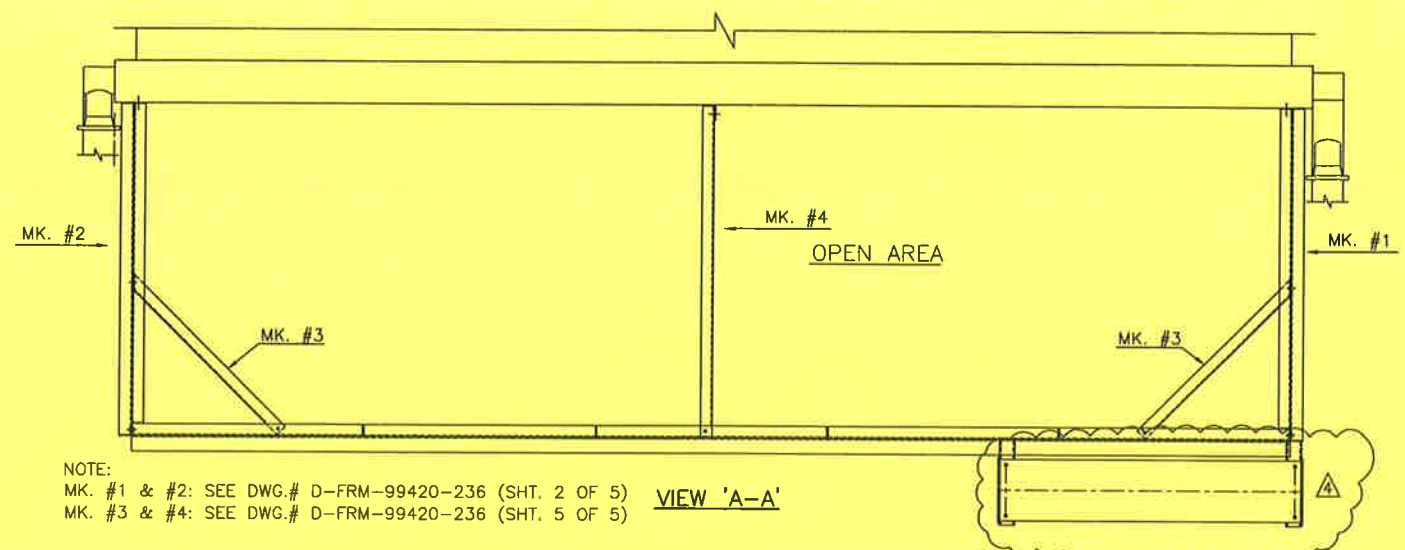
No.	REVISION	BY	DATE	CKD	ENG
3	ADDED TANK SUPPORT	G. CHIN	01/02/03	OP	J.L.W.
2	ADDED DUCTING/ REPLACED BUNDLES AC-210/211/212	I.BRAGINSKY	00/10/06	D.P.	G.M.
1	ISSUED FOR CONSTRUCTION	D. PARVILLE	00/02/17	TE FOR JD	TK

APPROVED		DRAWN	
MECH./STRUCT. S. ISAACS	BY I. BRAGINSKY	DATE 00/05/16	CHECKED
ELECTRICAL	BY J. DELORME	DATE 00/05/17	
PROJECT P. CRAWFORD	DATE 00/05/17	SCALE AS NOTED	REV. 3

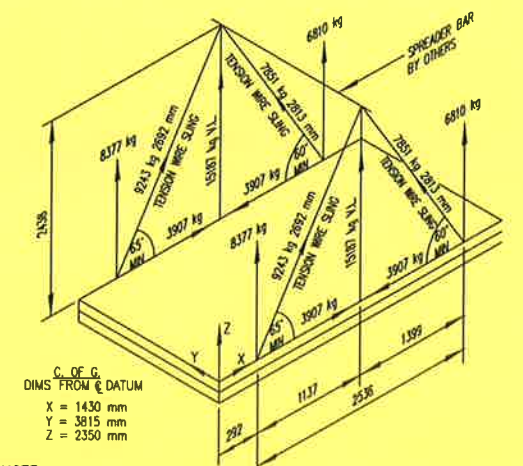
**APACHE CANADA LTD.**  
 1478 HP HAMBURG COMPRESSOR PACKAGE  
 AERIAL COOLER LAYOUT (DRIVE ASSEMBLY)  
 MDL: 1-SV-1-156-312-F  
 DWG. No.: D-LYT-99420-238 SHEET 2 OF 2

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

THIS DRAWING AND 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.



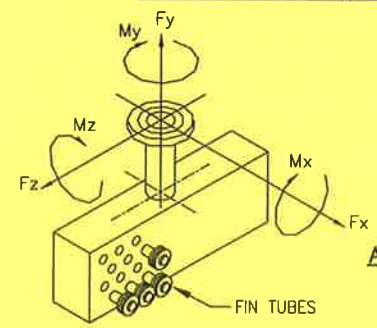
NOTE:  
 MK. #1 & #2: SEE DWG.# D-FRM-99420-236 (SHT. 2 OF 5)  
 MK. #3 & #4: SEE DWG.# D-FRM-99420-236 (SHT. 5 OF 5)



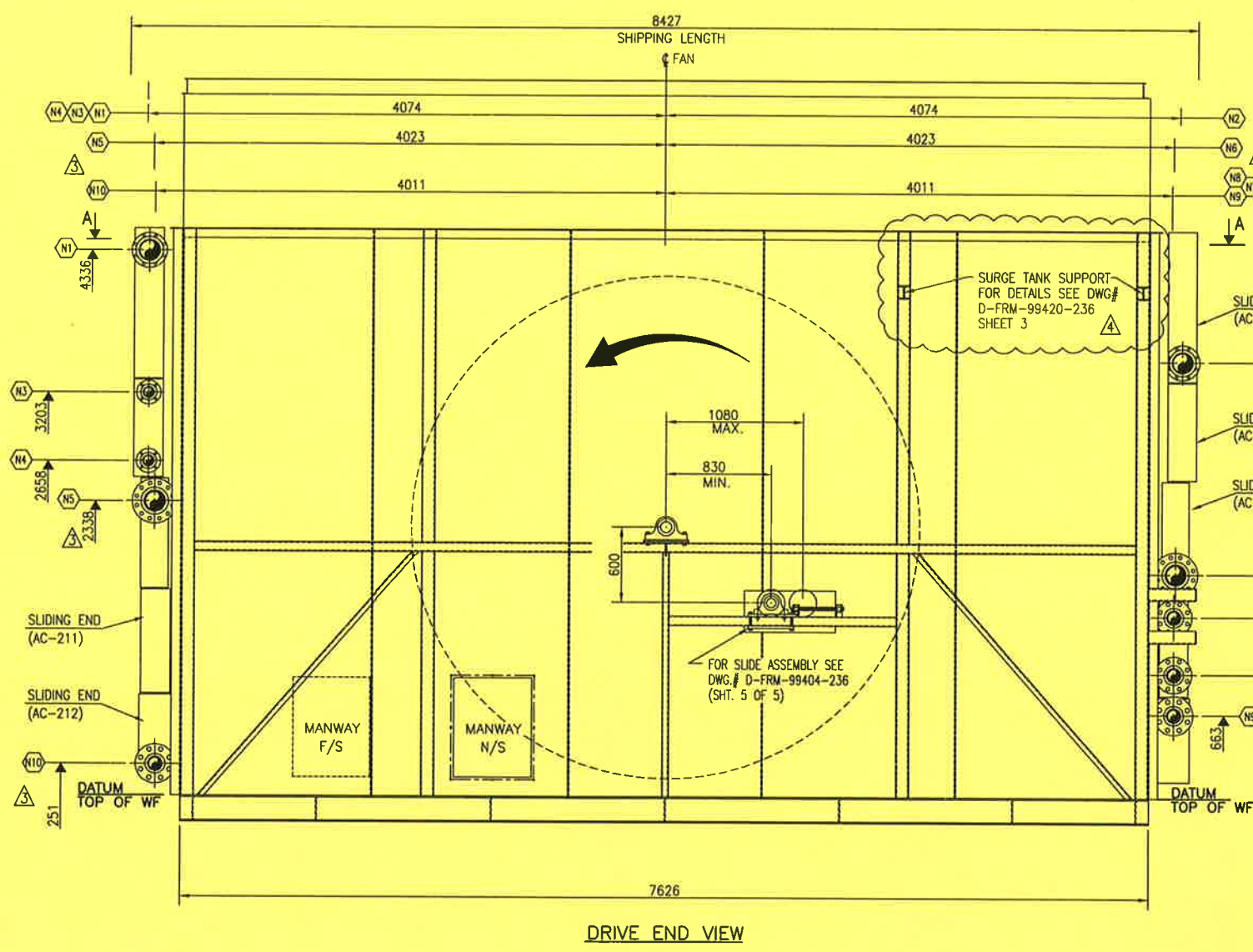
NOTE:  
 WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING  
 LIFTING DIAGRAM WEIGHT: 20,250 KG. (WITHOUT IMPACT LOADING)  
 INCLUDES: COOLER STRUCTURAL STEEL, BUNDLES & BUNDLE LOUVRES  
**LIFTING DIAGRAM FOR COOLER ASSEMBLY**  
 AC-210/211/212/220/230

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



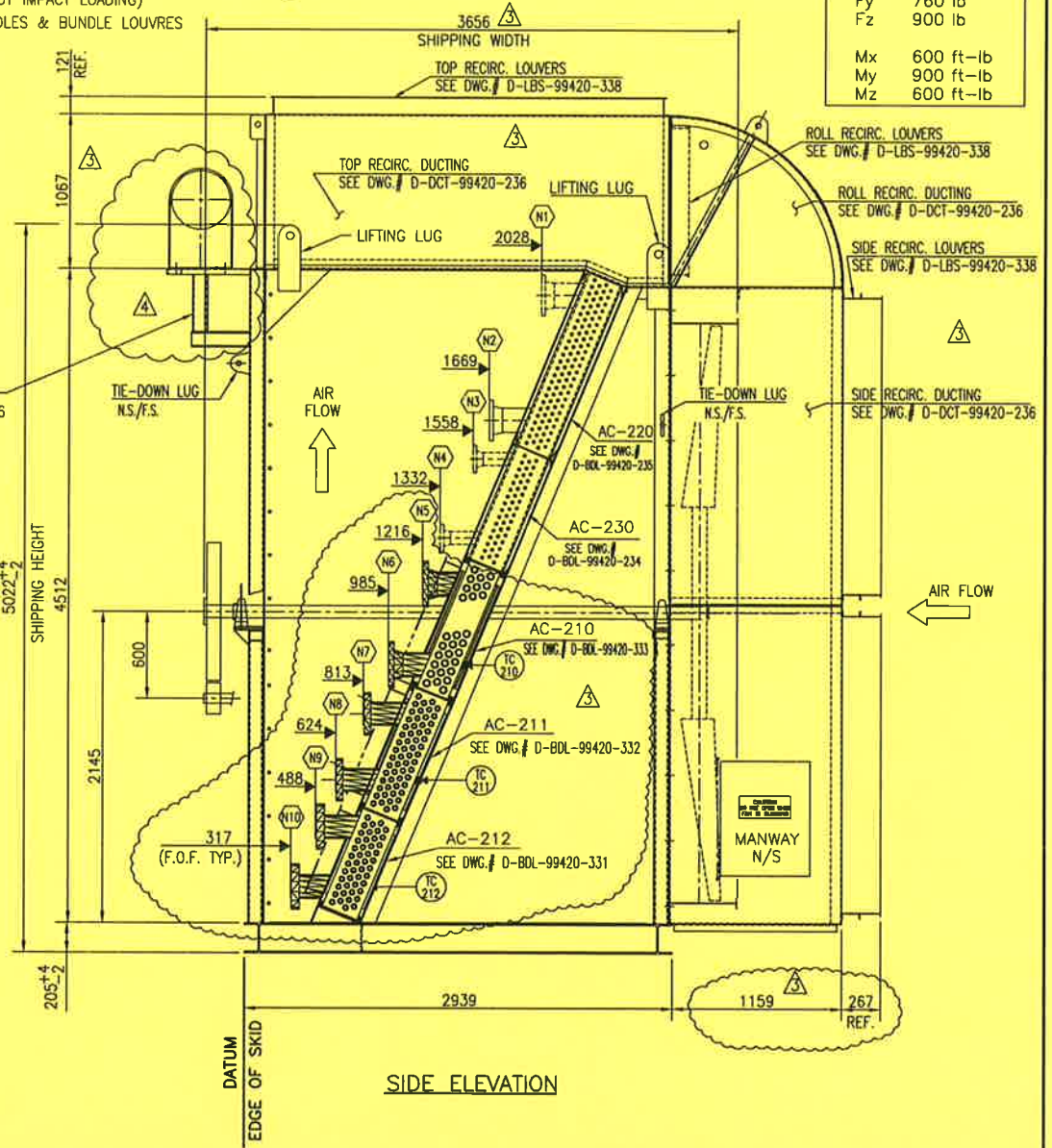
MAXIMUM ALLOWABLE 89 O/D NOZZLE LOADS	
Fx	900 lb
Fy	760 lb
Fz	900 lb
Mx	600 ft-lb
My	900 ft-lb
Mz	600 ft-lb



DRIVE END VIEW

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-99420-236 SHEET 3



SIDE ELEVATION

- 1. TOTAL WEIGHT OF UNIT APPROX.: 25,000 KG
- 2. SHIP LOOSE WEIGHT: APPROX. 4,750 KGS (DUCTING & RECIRC. LOUVERS)

GENERAL NOTES		GENERAL NOTES	
4	ADDED TANK SUPPORT	4	ADDED TANK SUPPORT
3	ADDED DUCTING & RECIRC LOUVERS/REPLACED BUNDLES AC-210/211/212	3	ADDED DUCTING & RECIRC LOUVERS/REPLACED BUNDLES AC-210/211/212
2	REMOVED FAN GUARD & MUFFLER SUPPORT/SHIPPING WIDTH WAS 4005	2	REMOVED FAN GUARD & MUFFLER SUPPORT/SHIPPING WIDTH WAS 4005
1	ISSUED FOR CONSTRUCTION	1	ISSUED FOR CONSTRUCTION

No.	REVISION	BY	DATE	CHKD	ENG
4	ADDED TANK SUPPORT	G. CHIN	20/02/17	DP	SW
3	ADDED DUCTING & RECIRC LOUVERS/REPLACED BUNDLES AC-210/211/212	LBRAGINSKY	00/10/06	D.P.	G.M.
2	REMOVED FAN GUARD & MUFFLER SUPPORT/SHIPPING WIDTH WAS 4005	LBRAGINSKY	00/05/17	J.D.	P.C.
1	ISSUED FOR CONSTRUCTION	D. PARTERRE	00/02/17	TE FOR JD	TK

APPROVED	BY	DATE	DRAWN	BY	DATE
MECH/STRUCT. SISMS	L.BRAGINSKY	00/05/17	J.BRAGINSKY	J.BRAGINSKY	00/05/15
ELECTRICAL	J.DELORME	00/05/17	J.DELORME	J.DELORME	00/05/17

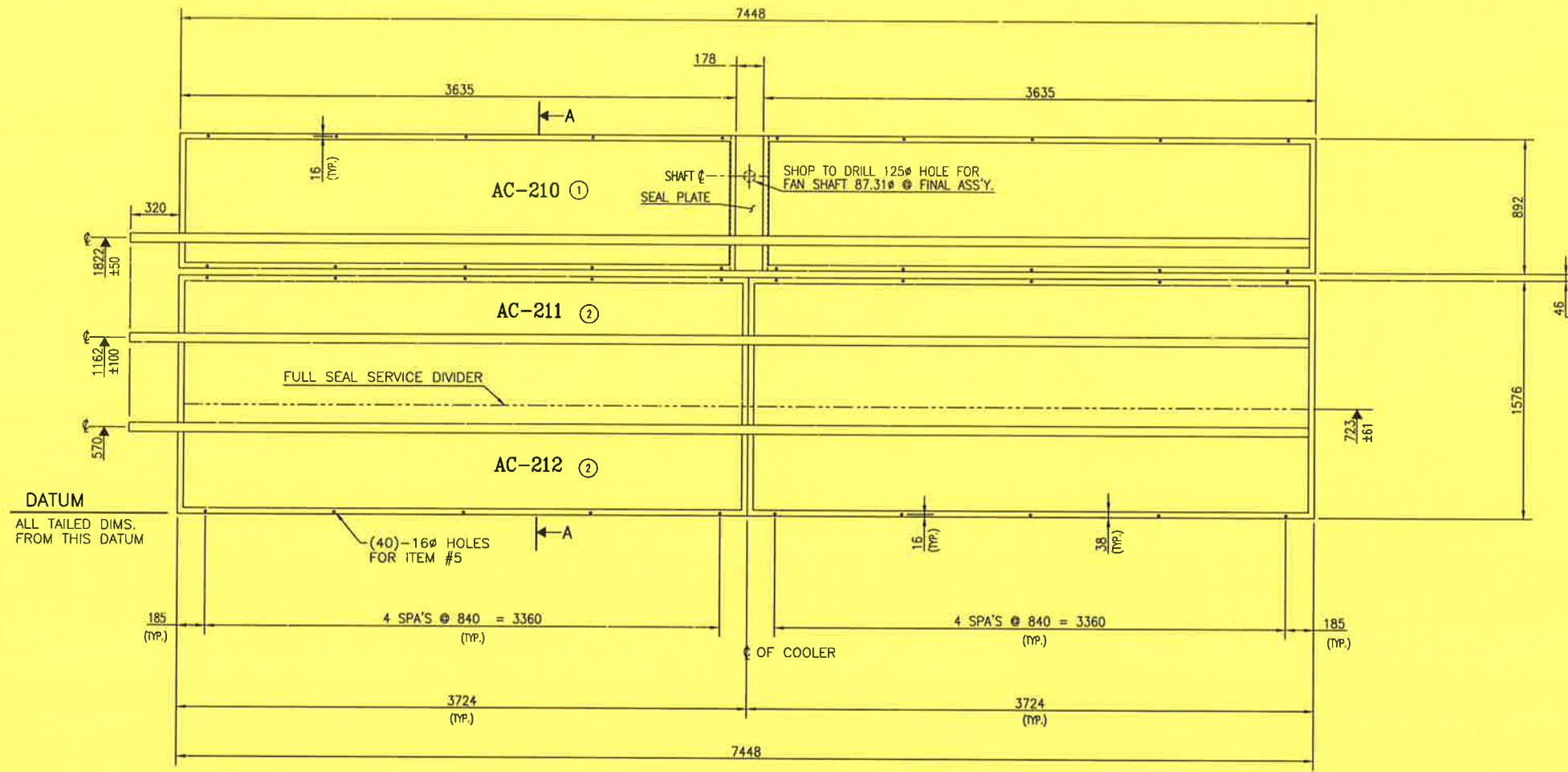
**PROPAK**  
 APACHE CANADA LTD.  
 1478 HP HAMBURG COMPRESSOR PACKAGE  
 AERIAL COOLER LAYOUT (AC-210/211/212/220/230)  
 MDL.: 1-SV-1-156-312-F (WAUKESHA L7042GL)  
 DWG. No.: D-LYT-99420-238 SHEET 1 OF 2 REV. 4

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

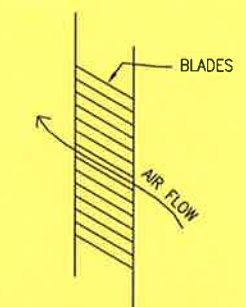


THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

TRANSFER TO DWG.# D-LBS-00424-238  
▲

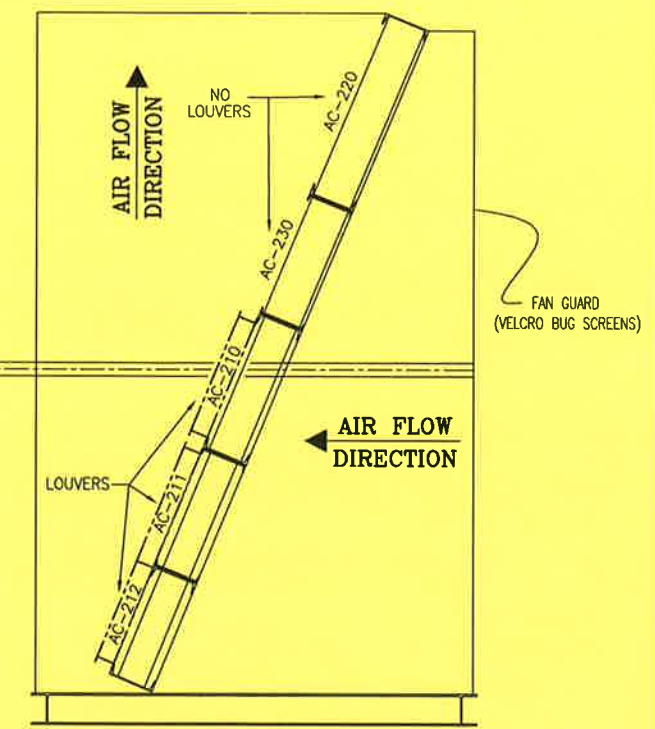


SHOP TO ATTACH LOUVERS IN THIS SPACE  
w/ SHEET METAL SCREWS (FOR EASIER ACCESS)  
⑥



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

ITEM		QUA	DESCRIPTION
1	2		AC-210 LOUVERS c/w THE FOLLOWING: 892 WD x 3635 LG (1)-SECTION c/w (1) SEAL PLATE TO SUIT BETWEEN LOUVERS DRAWING: AS PER DRAWING D-LBS-99420-238 GUARDS: NONE FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES DESIGN CODE: API 661 EDITION 1
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	2		AC-211 & AC-212 LOUVERS c/w THE FOLLOWING: 1576 WD x 3274 LG (1)-SECTION c/w (1)-FULL SEAL SERVICE DIVIDER EACH SECTION DRAWING: AS PER DRAWING D-LBS-99420-238 GUARDS: NONE FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES DESIGN CODE: API 661 EDITION 1
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 # x 44 LG c/w (1) WASHER, LOCK WASHER & NUT EACH SA-325
6	20		10 # SHEET METAL SCREWS x 25 LG



**COOLER CONFIGURATION**  
SCALE 1:25

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

- 1. LOUVERS TOTAL WEIGHT IS APPROX.: 325 KG.
- 2. COPIED FROM JOB# 99404.

DATE: 2000.10.06 1:08pm FILE NAME: J:\jobs99\DWG\99420\Cir\LBS-99420-238-01.dwg

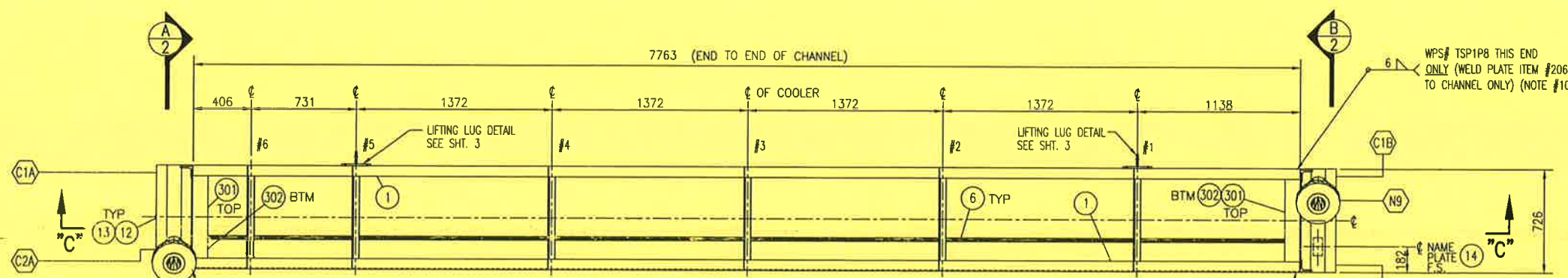
No.	REVISION	BY	DATE	CKD	ENG
3	TRANSFERRED TO JOB# 00424	BRAGINSKY	00/10/06		
1	ISSUED FOR CONSTRUCTION	BRAGINSKY	00/05/24	J.D.	P.C.

APPROVED		DRAWN	
MECH./STRUCT.	S. ISAACS	BY	I. BRAGINSKY
DATE	00/05/15	DATE	00/05/12
ELECTRICAL		CHECKED	
DATE		BY	J.D. FOR D.P.
PROJECT	P. CRAWFORD	DATE	00/05/15
DATE	00/05/24	SCALE	AS NOTED

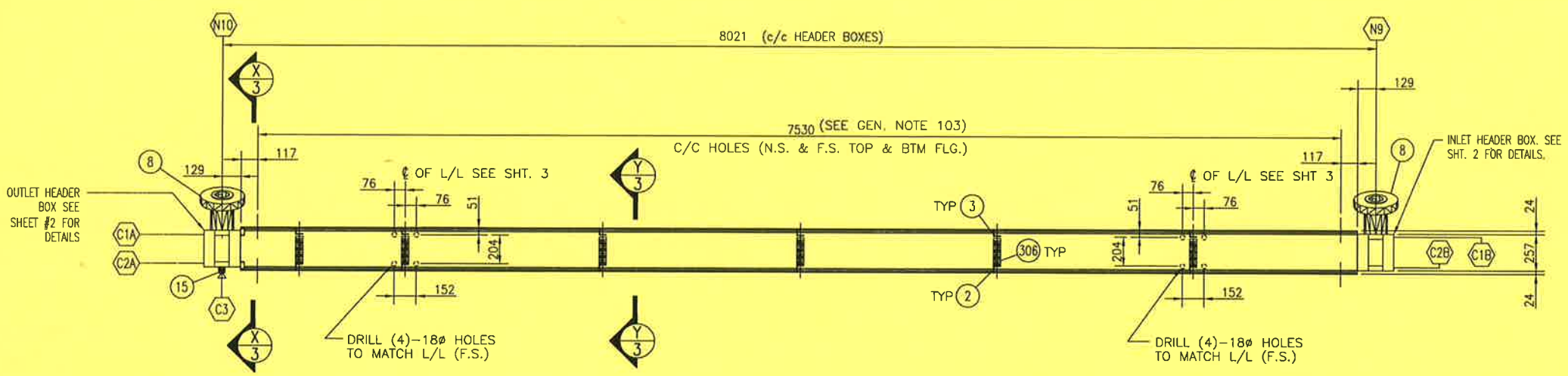
**PROPAK SYSTEMS LTD.**  
1380 HP STOCK COMPRESSOR, M/N W 1380, 6HOS-3  
AERIAL COOLER-LOUVER DETAILS  
MDL.: 1-SV-1-156-312-F  
DWG. No.: D-LBS-99420-238 SHEET 1 OF 1 REV. 2

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

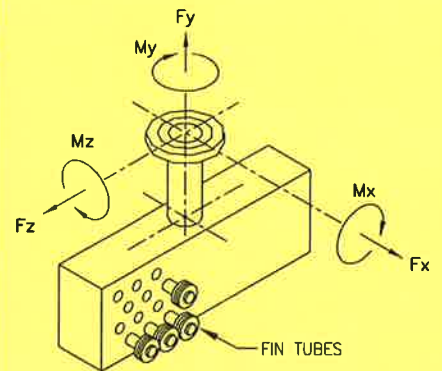
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAG SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAG.



**BUNDLE PLAN VIEW**  
SCALE 1:20

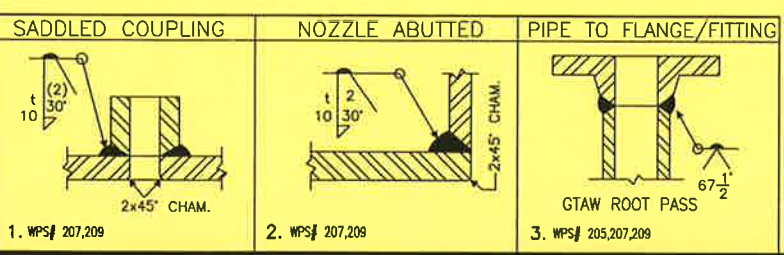


**BUNDLE ELEVATION SECTION 'C - C'**  
SCALE 1:20



**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:**

②—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
A/B	C1	29	SHLDR PLUG	12 UNF	VENT	-
A/B	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	TUBES (WELDED): 25# x 14 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINIUM FINS 0.4 THK x 16 HIGH @ 394 FINS/m & 98mm STRIP BACK EACH END	SA-249-TP304
	7		
P	8	FLG: 114 - 1500# RFLWN x 162 O/D x 102 I/D x 305 LG	SA-182-F304L
	9		
	10		
P	12	GASKET: 35 (1 3/8") O/D x 29 (1 1/8") ID x 1.59 (1 1/16") THK MAX BHN 110	304SS
P	13	HEX STEEL SHLDR. PLUG: 29 (1 1/8") # - (12 UNF) x 51 (2") LG	SA-182-F304
	14	NAME PLATE c/w MOUNTING BRACKET	SS/SA-36
	15	CPLG: 27 - 6000# NPT c/w PLUG	SA-182-F304L
	16		

**NOTE:**

<b>MANUFACTURERS SPECS</b>	QCP: AQP-1050(S), AQP-1227(S)	YEAR BUILT: 2000
	WPR: WP-590.2	CRN: -
	SERVICE: NATURAL GAS	LSO #:
<b>MECHANICAL LOADING GOVERNS PER UG 22:</b>	NO	ASME SECT. VIII DIV I, '98, ADDENDA '99
<b>PRODUCTION IMPACT TEST REQ'D:</b>	NO	DESIGN PRESSURE: 11377 kPag
<b>IMPACT TESTING:</b>	NO - PER UHA-51(d)(1)(a)	DESIGN TEMPERATURE: 176 °C
		M.D.M.T.: -28.8°C @ 11377 kPag
<b>CAPACITY:</b>	0.153 m <sup>3</sup>	HYDROTEST PRESSURE: 17065 kPag
<b>TUBE S.A. INCL. FINS:</b>	610.37 m <sup>2</sup>	<b>MATERIAL:</b> TUBES: SA-249-TP304 (WELDED) HEADER: SA-240-304L
<b>WEIGHT EMPTY:</b>	2500 kg	<b>RADIOGRAPHY:</b> N/A
<b>WEIGHT FULL OF WATER:</b>	2653 kg	<b>INSULATION:</b> NONE
<b>PAINT SPEC: (NON-STAINLESS PARTS)</b>	PNT-11	<b>SHIP LOOSE:</b> NO
<b>INSULATION:</b> NONE		<b>TACK &amp; PRESS. TO STRUCT WELDS:</b> WPS#207
<b>CORR. ALLOWANCE:</b> 3.18 mm		<b>STRUCT TO STRUCT WELDS:</b> 101, 109
		<b>"SOUR SERVICE"</b>
		<b>TAG NO: AC-212</b>

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).
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	06/10/06	JL	MP

APPROVED	DRAWN
MECH./STRUCT. <i>[Signature]</i>	BY G. CHIN
DATE 06/10/06	DATE 00/09/29
ELECTRICAL	CHECKED
DATE	BY
PROJECT	DATE 06/10/06
DATE	SCALE AS NOTED

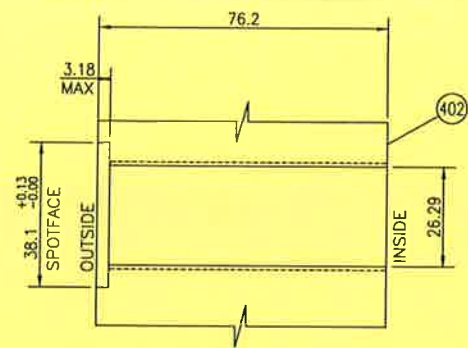
**APACHE CANADA LIMITED**

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

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

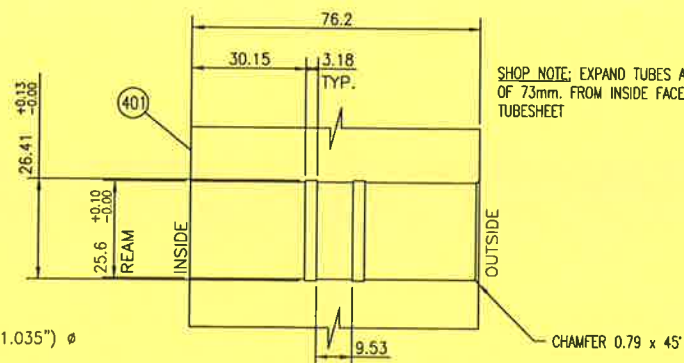
DWG. No.: D-BDL-99420-331 SHT. 1 OF 4 REV. 1  
SHT. 4 IS B SIZE 11" x 17"

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



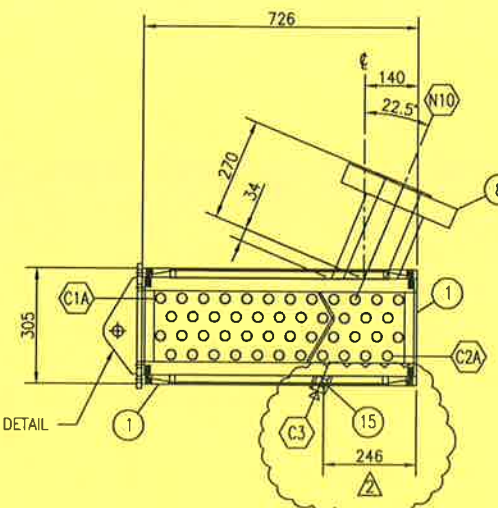
**PLUGSHEET HOLES**  
SCALE 1:1

NOTE: CORE DRILL 26.29 (1.035")  $\phi$   
(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."



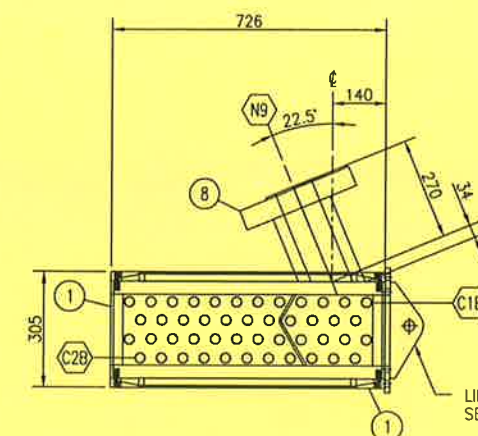
**TUBESHEET HOLES**  
SCALE 1:1

SHOP NOTE: EXPAND TUBES A MINIMUM  
OF 73mm. FROM INSIDE FACE OF  
TUBESHEET



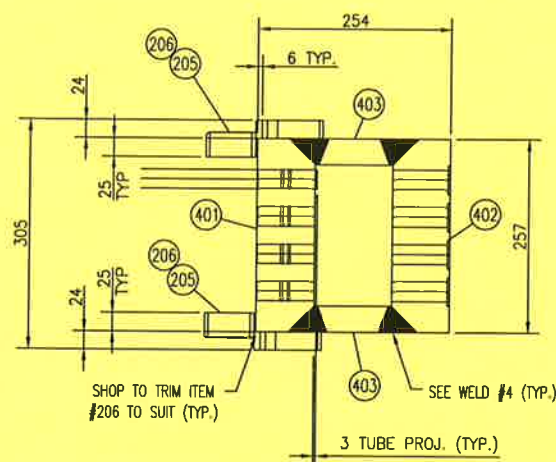
**SECTION 'A' - 'A'**  
SCALE 1:10

LIFTING LUG DETAIL  
SEE SHT. 3



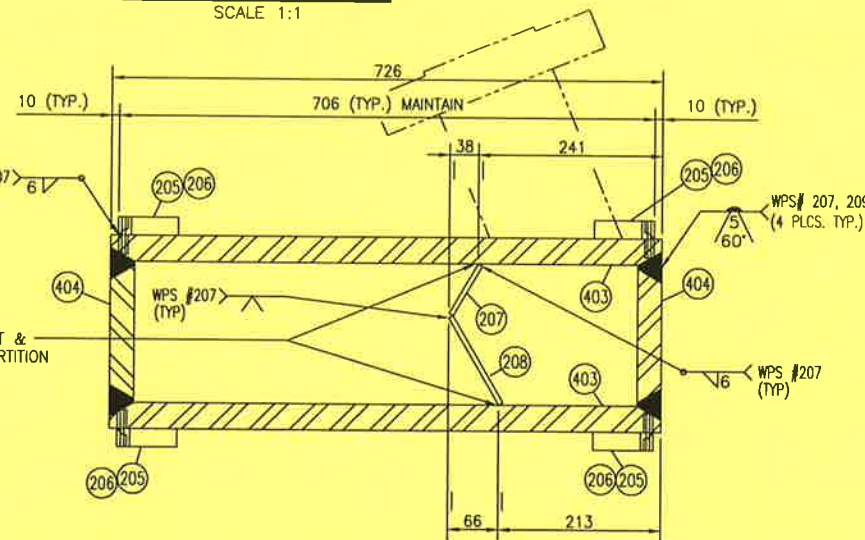
**SECTION 'B' - 'B'**  
SCALE 1:10

LIFTING LUG DETAIL  
SEE SHT. 3

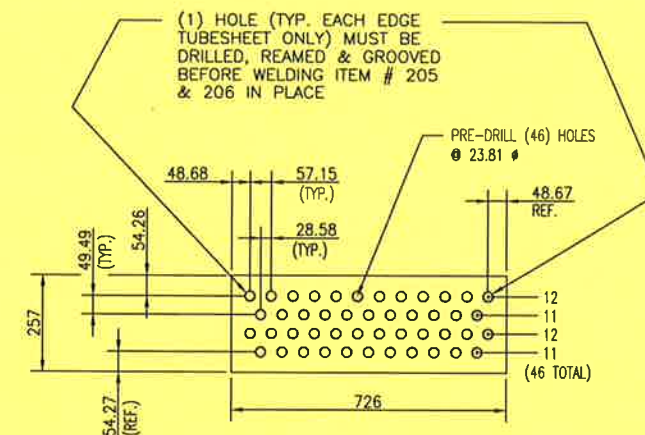
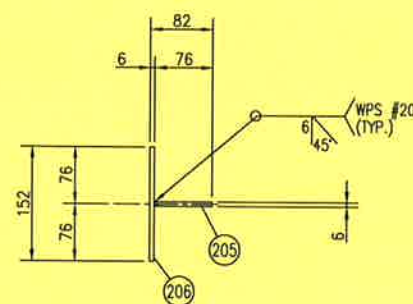


**INLET HEADER BOX DETAIL**  
(VIEWED FROM PLUG SIDE)  
SCALE 1:5

SHOP TO DRILL 10 $\phi$  VENT &  
DRAIN HOLES TO THE PARTITION  
PLATES AS REQ'D. (TYP.)



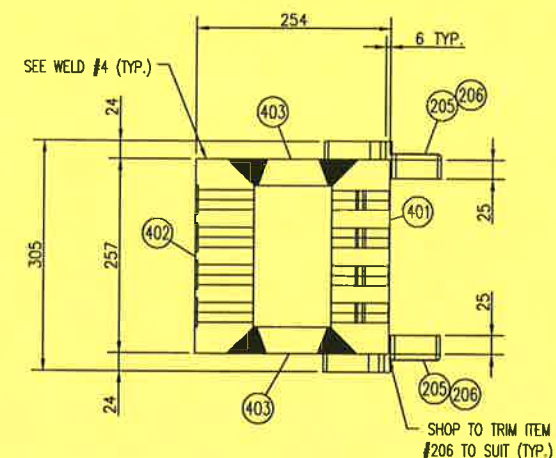
**ITEMS #205 & #206 DETAIL**  
(8) - REQUIRED  
SCALE 1:5



**TUBESHEET/PLUGSHEET LAYOUT**  
SCALE 1:10

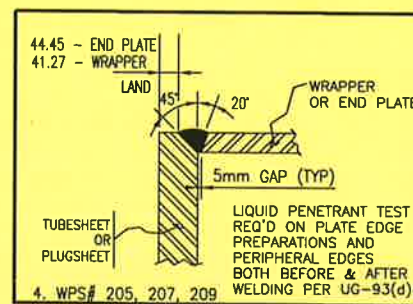
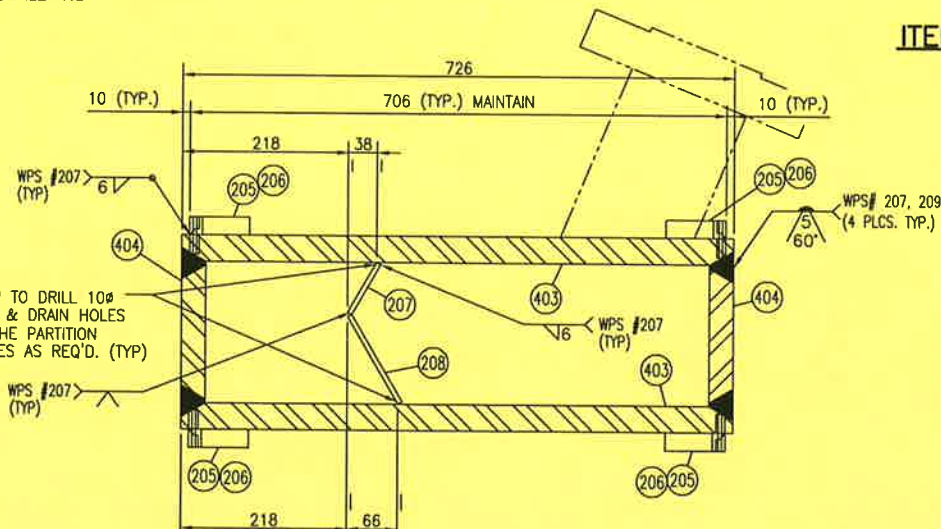
**BILL OF MATERIAL**

ITEM	QUA	DESCRIPTION	
201			
202			
203			
204			
P 205	8	PLATE: 6 THK. x 76 WD x 49 LONG	SA-240-304L
P 206	8	PLATE: 6 THK. x 152 WD x 49 LONG	SA-240-304L
P 207	2	PLATE: 6 THK. x 76 WD x 102 LONG	SA-240-304L
P 208	2	PLATE: 6 THK. x 133 WD x 102 LONG	SA-240-304L



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

SHOP TO DRILL 10 $\phi$   
VENT & DRAIN HOLES  
TO THE PARTITION  
PLATES AS REQ'D. (TYP.)



SEE SHT 1 FOR GENERAL NOTES & MATERIAL NOTES

DATE: 2001.01.25 1:17pm FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\BDL-99420-331-01.dwg

No.	REVISION	BY	DATE	CKD	ENG
2	AS BUILT: ADDED DIM. 246mm FOR CPLG C3 ON SECT. "A-A"	I. LEE	01/01/25		
1	ISSUED FOR CONSTRUCTION	G. CHIN	00/10/06	I. LEE	MP

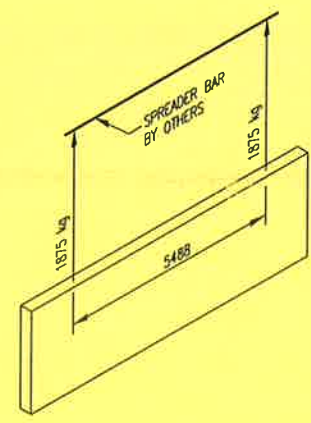
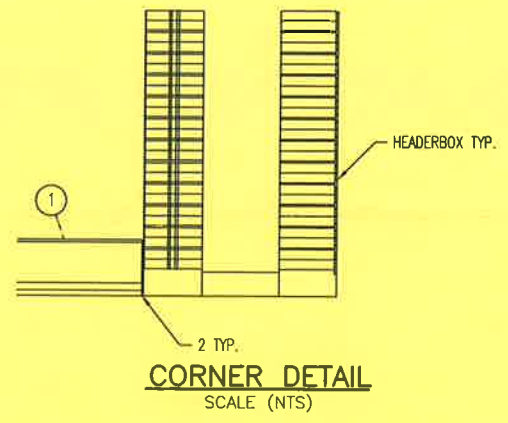
APPROVED		DRAWN	
MECH./STRUCT.	J. RUST	BY	G. CHIN
DATE	00/10/06	DATE	00/09/29
ELECTRICAL		CHECKED	
DATE		BY	I. LEE
PROJECT	M. PREECE	DATE	00/10/06
DATE	00/10/06	SCALE	AS NOTED

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-99420-331 SHT. 2 OF 4 REV. 2

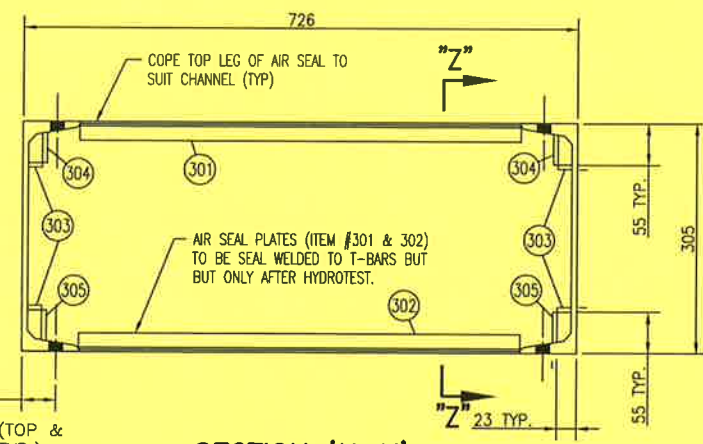
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



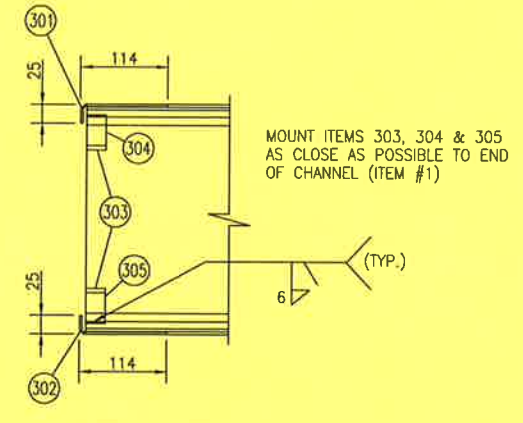
**NOTE:** WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING  
 LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2500 kg

**LIFTING DIAGRAM**  
FOR AC-212

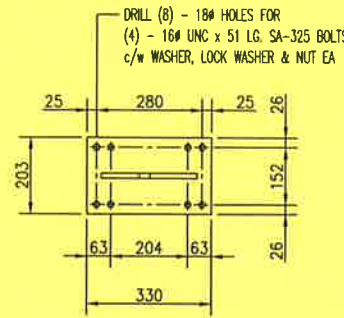
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
301	2	TOP AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 682 LONG	SA-36
302	2	BTM. AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 682 LONG	SA-36
303	4	FLAT BAR: 6 THK. x 25 WD x 16 LONG	G40.21M-300W
304	2	FLAT BAR: 6 THK. x 25 WD x 42 LONG	G40.21M-300W
305	2	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



**SECTION 'X-X'**  
SCALE 1:5

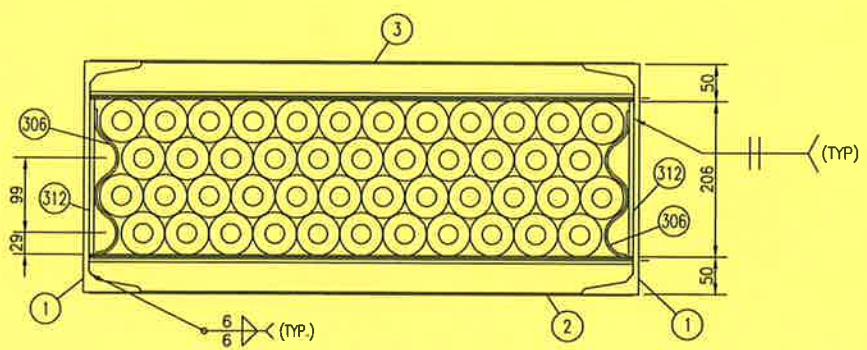


**SECTION 'Z-Z'**  
SCALE 1:5

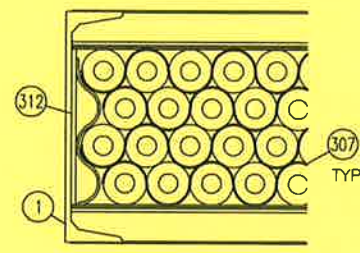


- NOTES:**
- HOLES SPACED 204 APART ARE FOR 305 DEEP SIDE CHANNEL. HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
  - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
  - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".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

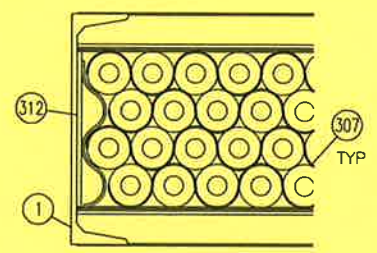
19# HOLE (TOP & BTM. FLG. TYP.)  
 SEE GEN. NOTE #103 ON SHEET 1



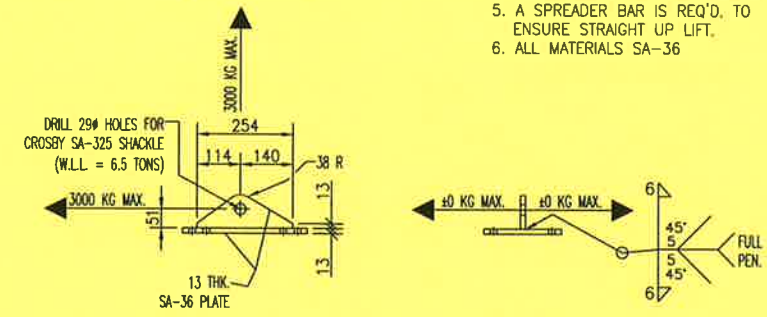
**SECTION 'Y - Y'**  
SCALE 1:5



**ALUMINUM WRAP AT SUPPORT #1, 3, & 5**  
SCALE 1:5



**ALUMINUM WRAP AT SUPPORT #2, 4, & 6**  
SCALE 1:5



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

- SEE SHIT 1 FOR GENERAL NOTES & MATERIAL NOTES SHOP TO COPE ALL MEMBERS TO SUIT.										<b>APPROVED</b> MECH./STRUCT. <i>G. CHIN</i> BY <i>G. CHIN</i> DATE <i>00/09/29</i> DATE <i>00/09/29</i> <b>ELECTRICAL</b> CHECKED DATE BY PROJECT DATE <i>02/17/06</i> DATE SCALE AS NOTED		<b>APACHE CANADA LIMITED</b> 1478 HP HAMBURG COMPRESSOR PACKAGE 3rd STAGE AFTERCOOLER AC-212		<b>PROPAC</b> 440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3	
<b>GENERAL NOTES</b>		<b>GENERAL NOTES</b>		1 ISSUED FOR CONSTRUCTION		G. CHIN <i>02/17/06</i> <i>ZL</i> <i>MP</i>				DWG. No.: D-BDL-99420-331		SHT. 3 OF 4		REV. 1	
DATE: 2000.10.06 10:46am FILE NAME: J:\jobs99\DWG\99420\Cir - client changes\BDL-99420-331-01.dwg		No.		REVISION		BY DATE CKD ENG				SHT. 4 IS B SIZE 11" x 17"					

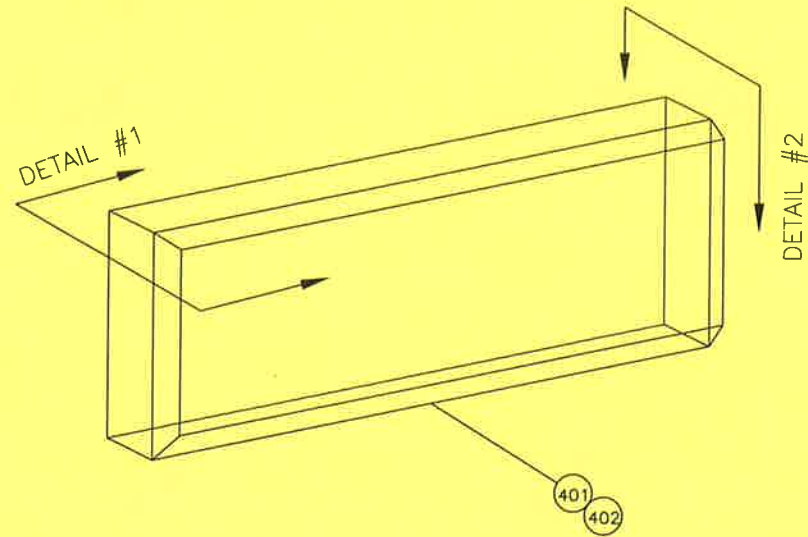
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

**MATERIAL NOTES**

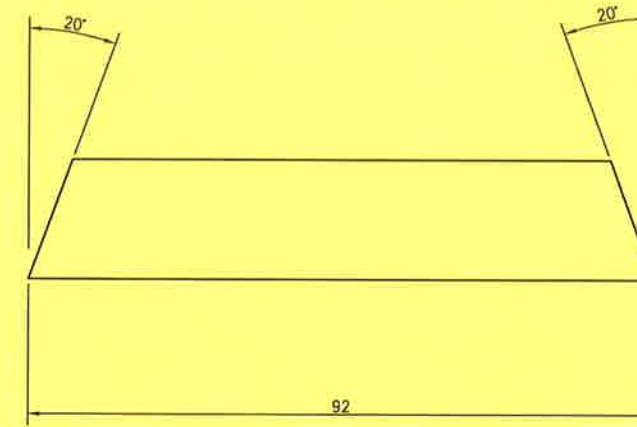
22 U.T. SCAN IN STRICT ACCORDANCE WITH SA-435 ON A 51mm GRID, FOLLOWED BY AN XAMINATION TO SA-577.

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

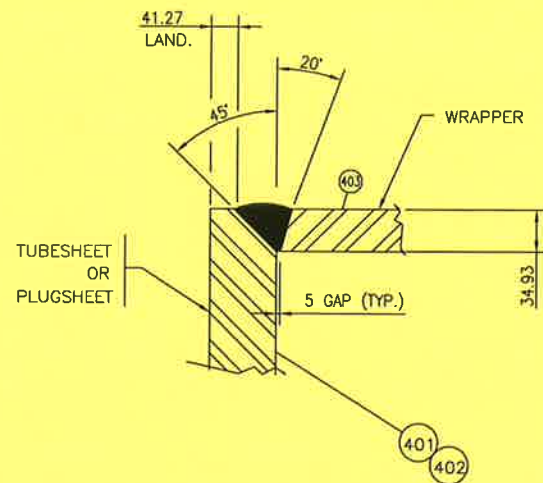


HEADER BOX

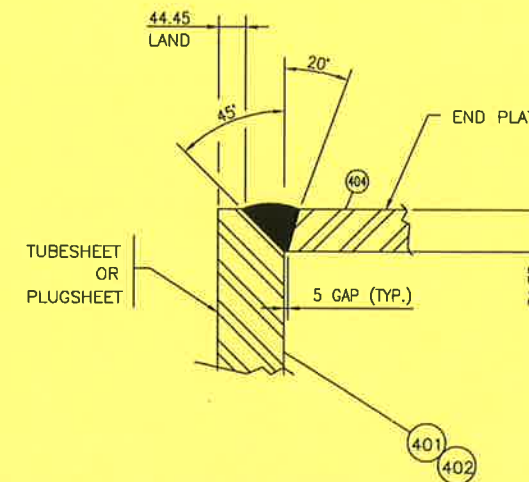


DETAIL #3

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 9:42am FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\BDL-99420-331-04.dwg

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

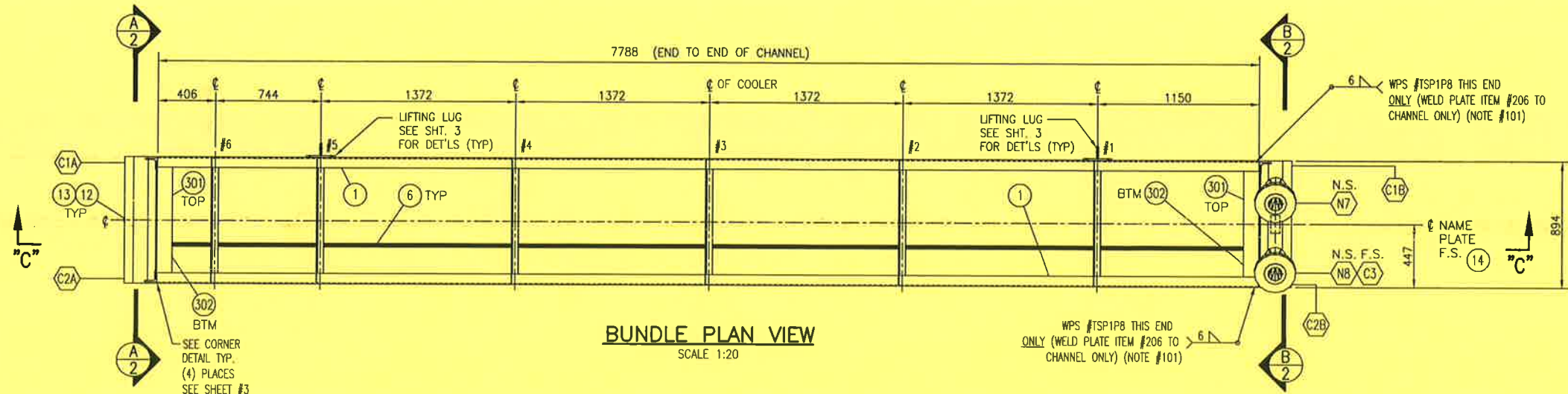
APPROVED		DRAWN	
MECH./STRUCT.	BY	J. DELORME	
DATE	DATE	00/09/22	
ELECTRICAL	CHECKED		
DATE	BY	00/02/06	
PROJECT	DATE	00/10/06	
DATE	SCALE	N.T.S	

**APACHE CANADA LIMITED**  
 1478 HP HAMBURG COMPRESSOR PACKAGE  
 STAGE 3 AFTERCOOLER  
 HEADER BOX BEVELLING DETAILS (AC-212)

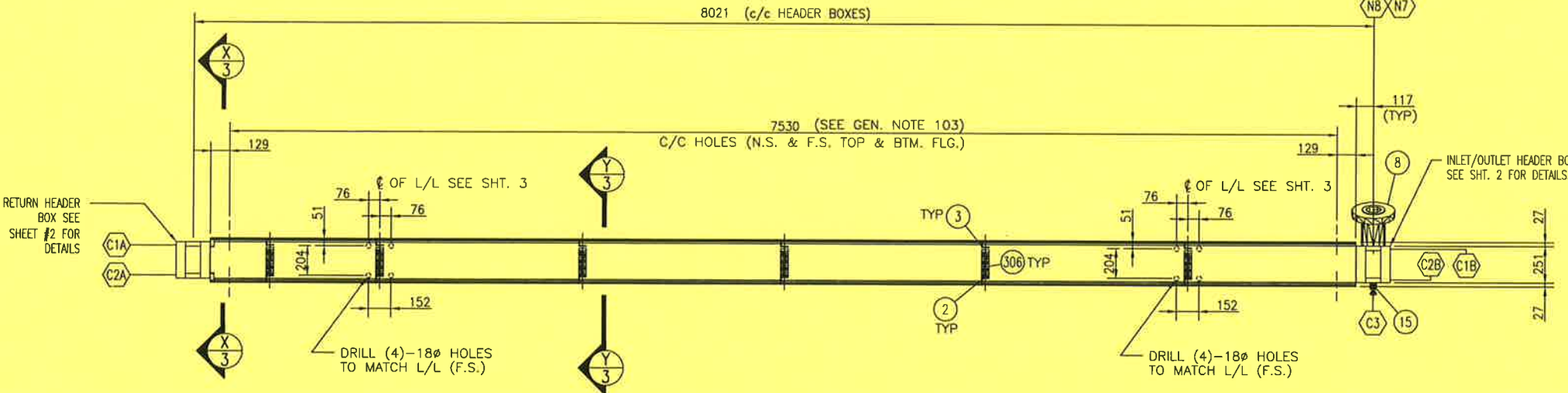
**PROPAK**  
 440 East Lake Road,  
 Postal Bag #2  
 Airdrie, Alberta  
 Canada T4B 2C3

DWG. No.: B-BDL-99420-331 SHT. 4 OF 4 REV. 1

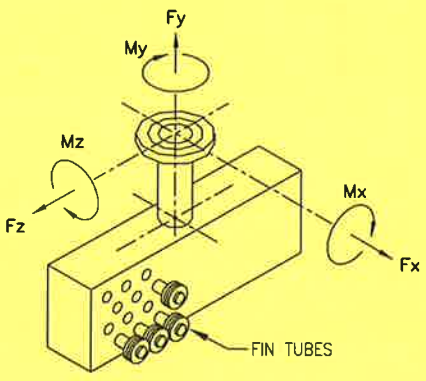
THIS DRAWING AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.



**BUNDLE PLAN VIEW**  
SCALE 1:20

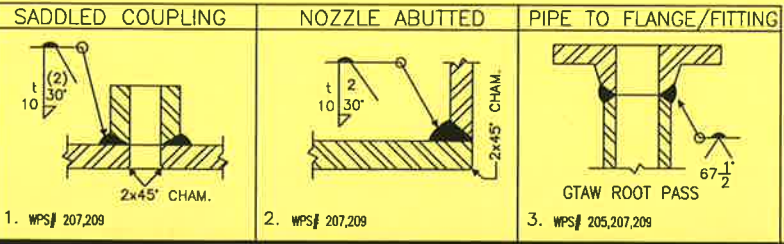


**BUNDLE ELEVATION SECTION 'C - C'**  
SCALE 1:20



**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:**  
 1. 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
N7	114	900#	RFLWN	28.5 WT	2nd STG. INTERCOOLER INLET	SPEC	2
N8	114	900#	RFLWN	28.5 WT	2nd STG. INTERCOOLER 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 7788 LONG	G40.21M-300W
2	6	BTM. TUBE SUP'T: L51 x 51 x 6.4 THK. x 879 LONG	G40.21M-300W
3	6	TOP TUBE SUP'T: L51 x 51 x 6.4 THK. x 879 LONG	G40.21M-300W
4			
5			
* P 6	58	TUBES (WELDED): 25# x 14 B.W.G. W.T. x 7925 LG c/w L-TENSION ALUMINIUM	
		FINS 0.4 THK x 16 HIGH @ 394 FINS/m & 86mm STRIP BACK EACH END. SA-249-TP304	
7			
P 8	2	FLG: 114 - 900# RFLWN x 159 O/D x 102 I/D x 305 LG	SA-182-F304L
9			
10			
11			
P 12	116	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	116	HEX STEEL SHLDR PLUG: 29 (1 1/8") # - (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)(a)

**CAPACITY:** 0.193 m<sup>3</sup>  
**TUBE S.A. INCL. FINS:** 772.13 m<sup>2</sup>  
**WEIGHT EMPTY:** 2700 kg  
**WEIGHT FULL OF WATER:** 2893 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

**CORR. ALLOWANCE:** 3.18 mm

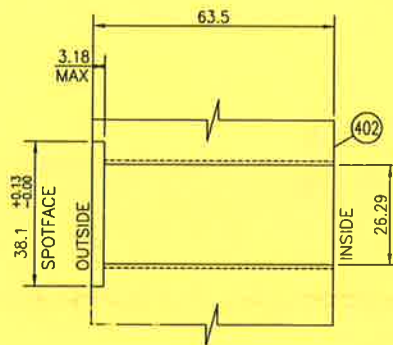
**"SOOR SERVICE"**  
**TAG NO: AC-211**

**MANUFACTURERS SPECS**  
 SERIAL NO: 99420-332 CRN: -  
 YEAR BUILT: 2000  
 LSD #: -  
 CODE: -  
 ASME SECT. VIII DIV 1, '98, ADDENDA '99

**DESIGN PRESSURE:** 8908 kPag  
**DESIGN TEMPERATURE:** 176 °C  
**M.D.M.T.:** -28.8°C @ 8908 kPag  
**HYDROTEST PRESSURE:** 13363 kPag  
**MATERIAL:** TUBES: SA-249-TP304 (WELDED)  
 HEADER: SA-204-304L  
**RADIOGRAPHY:** N/A EXCEPT FULL IIR II (a) ON WELD #5 ON SHT. 2  
**PWHT: MIN TEMP/TIME:** NO  
**CORR. ALLOWANCE:** 3.18 mm

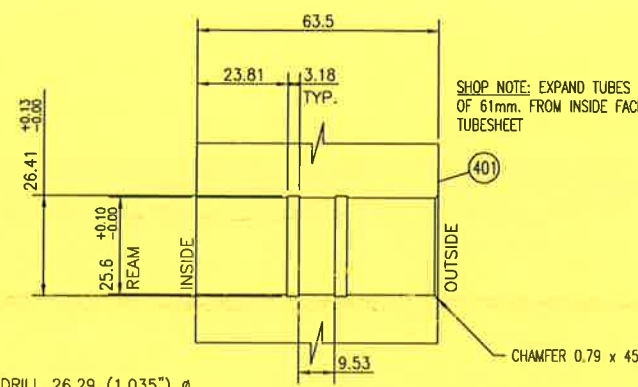
101. THE INLET HEADER BOX CAN BE WELDED TO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE PLATE (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE OUTLET HEADER BOX. IT SHOULD BE FREE TO SLIDE.	104. ALTERNATE GASKET: DOUBLE-JACKETED NON-ASBESTOS FILLED 304SS SAME DIMENSIONS AS ITEM #12	105. LIQUID PENETRANT TEST REQUIRED ON PLATE & PERIPHERAL EDGE PREPARATIONS BOTH BEFORE AND AFTER WELDING PER UG-93(d).	APPROVED MECH./STRUCT. BY G. CHIN DATE 00/10/04 ELECTRICAL CHECKED DATE PROJECT BY DATE DATE	DRAWN BY G. CHIN DATE 00/10/04 CHECKED BY 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
<b>GENERAL NOTES</b> DATE: 2000.10.06 10:48am FILE NAME: J:\jobs99\DWG\99420\Cir - client changes\BDL-99420-332-01.dwg	<b>GENERAL NOTES</b>	1 ISSUED FOR CONSTRUCTION	BY G. CHIN DATE CKD ENG		DWG. No.: D-BDL-99420-332 SHT. 1 OF 4 REV. SH. 4 IS 8-SIZE 11" x 17" 1	

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.



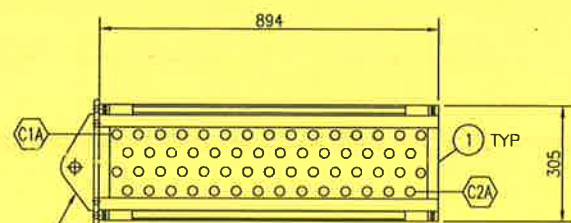
**PLUGSHEET HOLES**  
SCALE 1:1

NOTE: CORE DRILL 26.29 (1.035")  $\phi$   
(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."

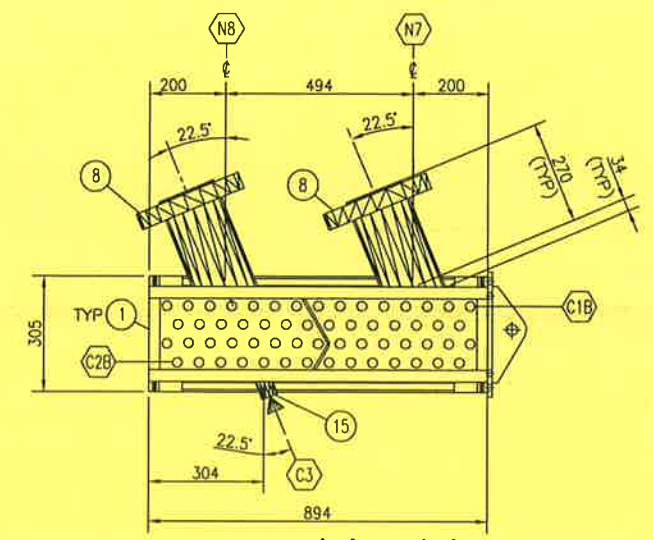


**TUBESHEET HOLES**  
SCALE 1:1

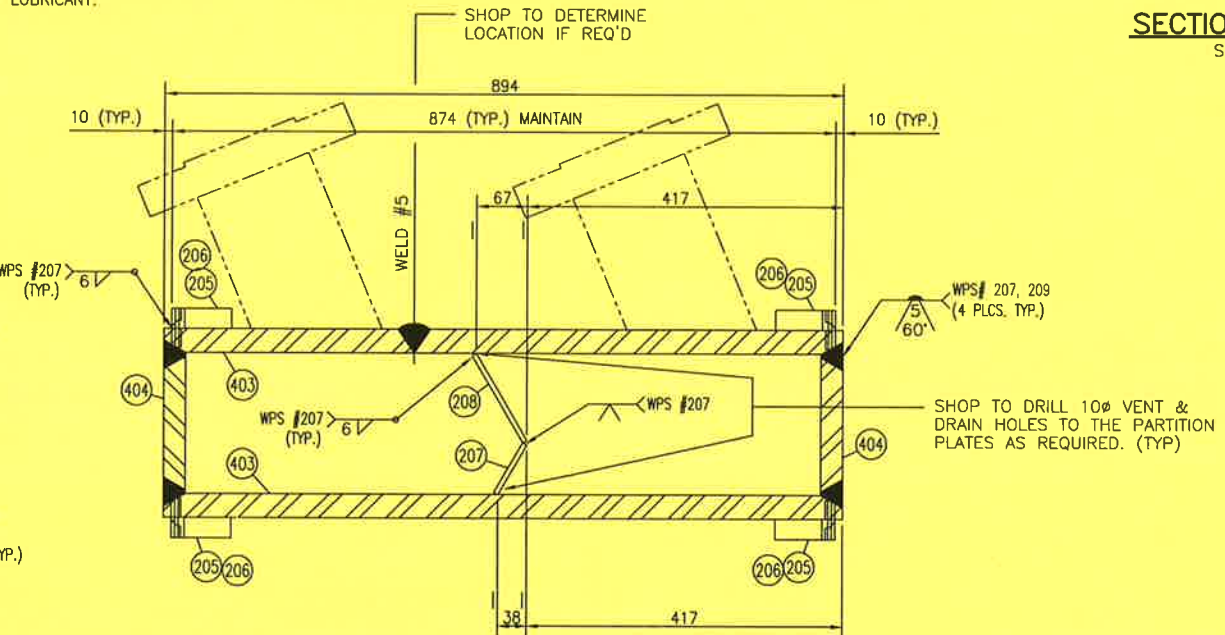
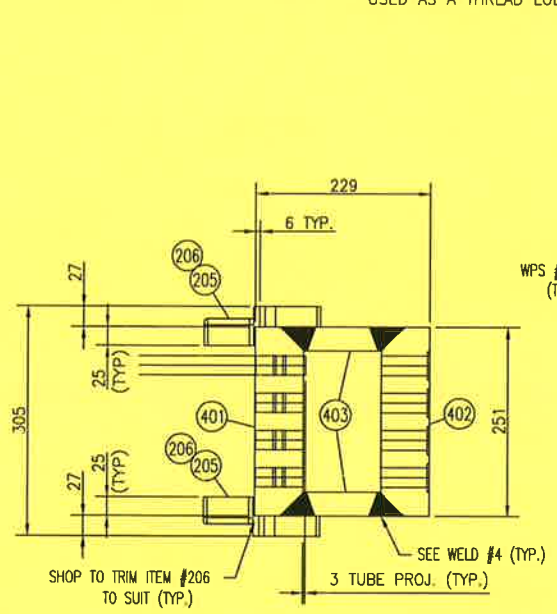
SHOP NOTE: EXPAND TUBES A MINIMUM  
OF 61mm. FROM INSIDE FACE OF  
TUBESHEET



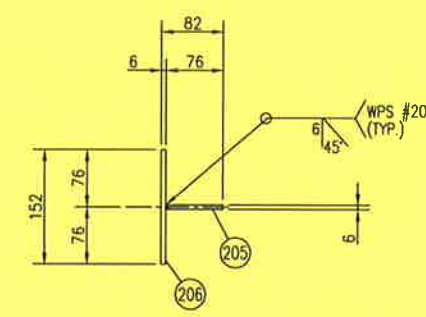
**SECTION 'A' - 'A'**  
SCALE 1:10



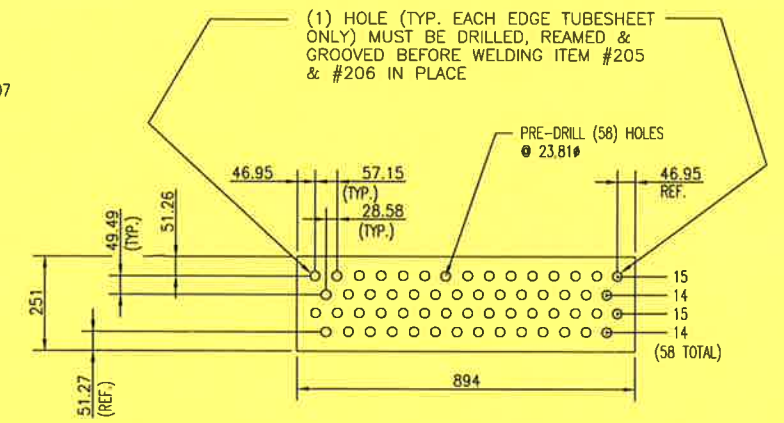
**SECTION 'B' - 'B'**  
SCALE 1:10



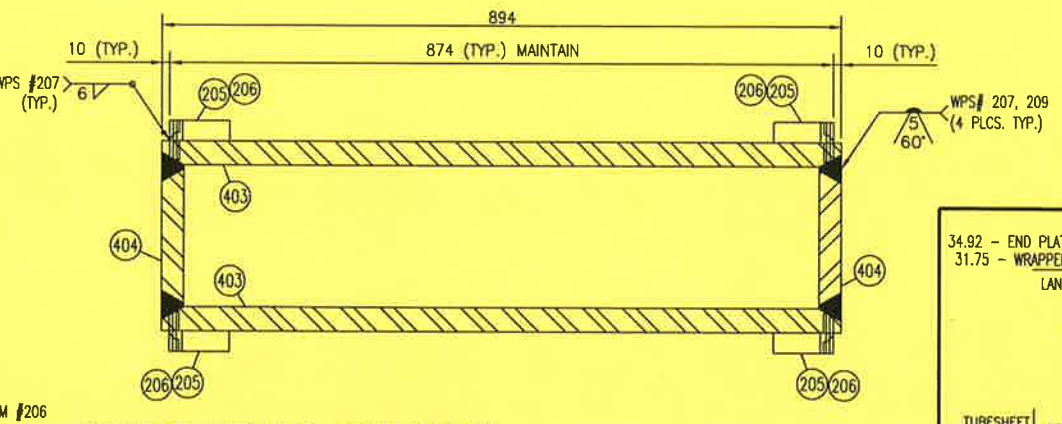
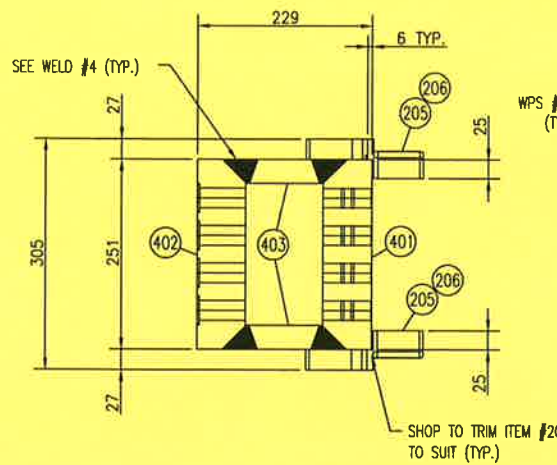
**INLET/OUTLET HEADER BOX DETAIL  
(VIEWED FROM PLUG SIDE)**  
SCALE 1:5



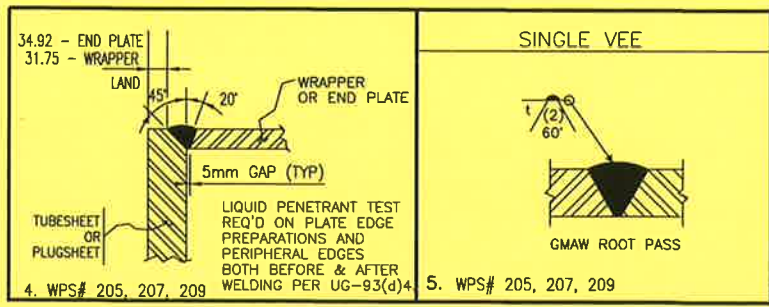
**ITEMS #205 & #206 DETAIL**  
(B) - REQUIRED  
SCALE 1:5



**TUBESHEET/PLUGSHEET LAYOUT**  
SCALE 1:10



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



**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 SH1 FOR GENERAL NOTES & MATERIAL NOTES

GENERAL NOTES	REVISION
1 ISSUED FOR CONSTRUCTION	

BY	DATE	CKD	ENG
G. CHIN	2000/10/06		

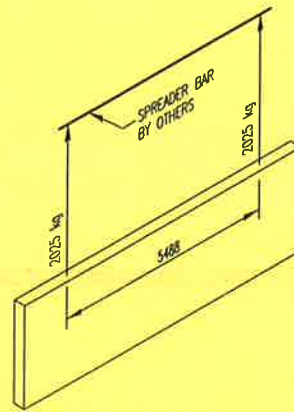
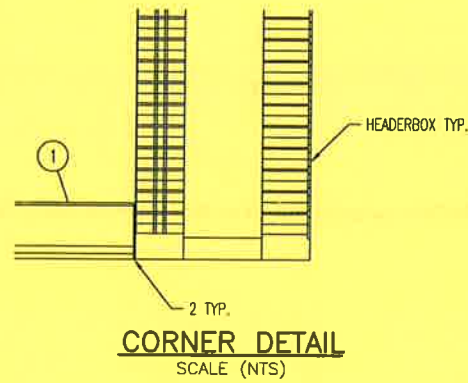
APPROVED	DRAWN
MECH/STRUCT. [Signature]	BY G. CHIN
DATE 00/10/04	DATE 00/10/04
ELECTRICAL [Signature]	CHECKED
DATE 00/10/04	DATE 00/10/04
PROJECT	SCALE AS NOTED
DATE	

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

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

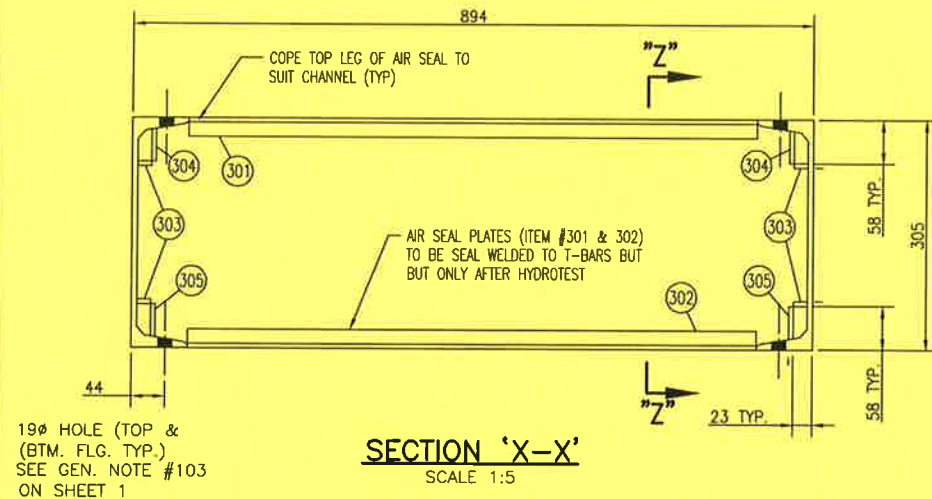
DWG. No.: D-BDL-99420-332 SH1. 2 OF 4 REV. 1  
 SHT. 4 IS B-SIZE 11" x 17"

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.

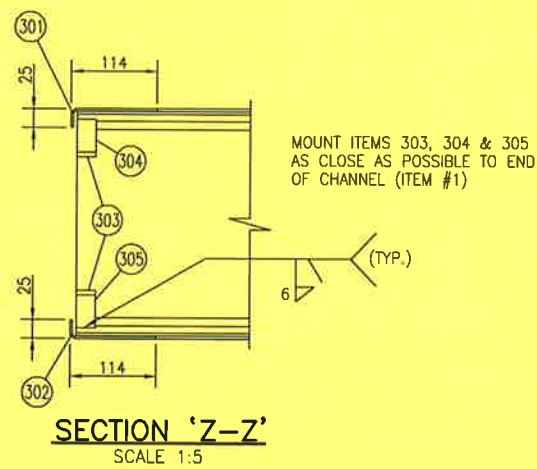


NOTE: WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING  
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2700 kg

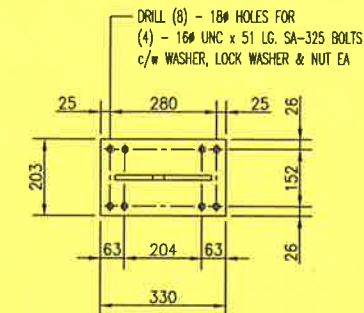
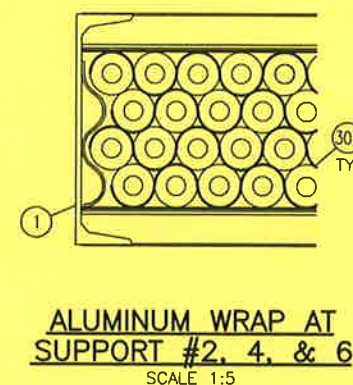
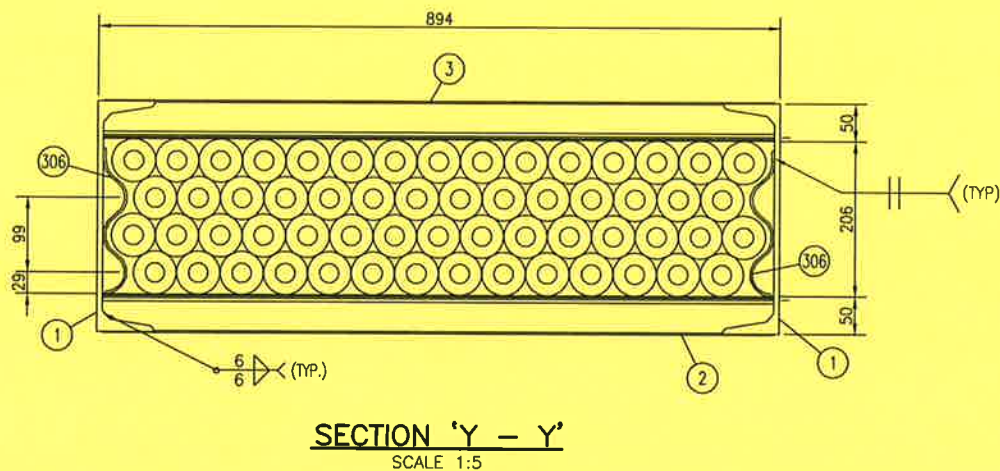
BILL OF MATERIAL			
ITEM	QUA	DESCRIPTION	
301	2	TOP AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 852 LONG	SA-36
302	2	BTM. AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 852 LONG	SA-36
303	4	FLAT BAR: 6 THK. x 25 WD x 16 LONG	G40.21M-300W
304	2	FLAT BAR: 6 THK. x 25 WD x 43 LONG	G40.21M-300W
305	2	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			



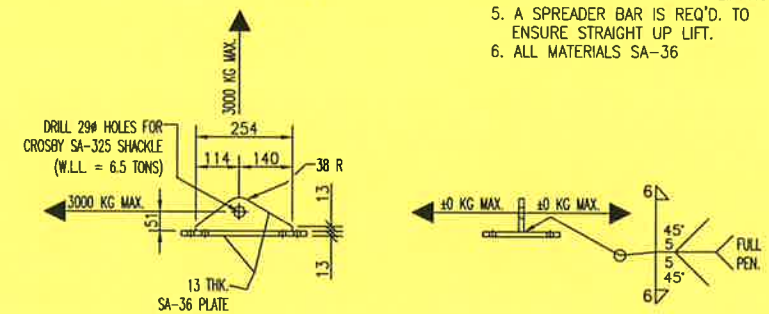
19# HOLE (TOP & BTM. FLG. TYP.)  
SEE GEN. NOTE #103 ON SHEET 1



MOUNT ITEMS 303, 304 & 305 AS CLOSE AS POSSIBLE TO END OF CHANNEL (ITEM #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 10:51am FILE NAME: J:\jobs99\DWG\99420\Cir - client changes\BDL-99420-332-01.dwg

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

APPROVED		DRAWN	
MECH./STRUCT.	BY G. CHIN	DATE 00/10/04	CHECKED
ELECTRICAL	BY	DATE	CHECKED
PROJECT	BY	DATE	CHECKED
DATE	BY	DATE	CHECKED
DATE	BY	DATE	CHECKED

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-99420-332 SHT. 3 OF 4 REV. 1  
SHT. 4 IS B-SIZE 11" x 17"



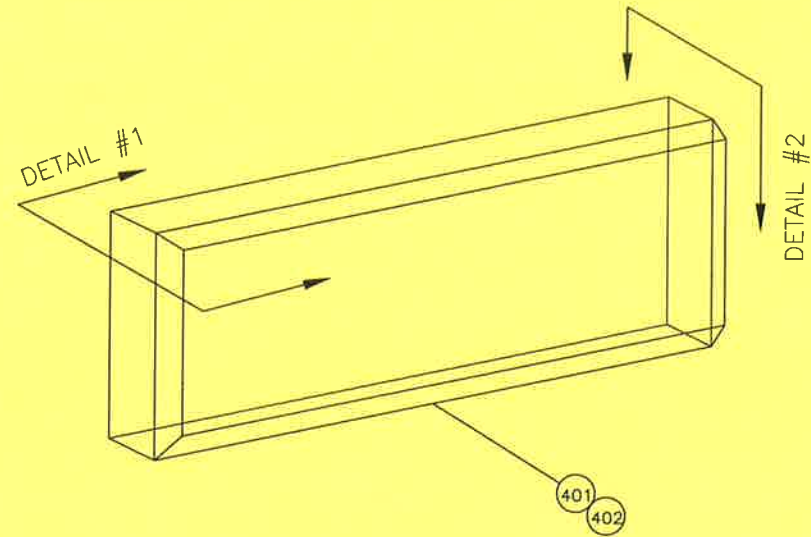
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

**MATERIAL NOTES**

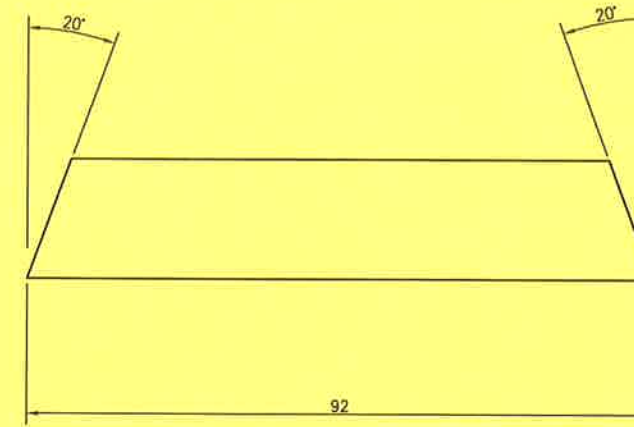
22 U.T. SCAN IN STRICT ACCORDANCE WITH SA-435 ON A 51mm GRID, FOLLOWED BY AN EXAMINATION TO SA-577.

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)	SA-240-304L
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)	SA-240-304L
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)	SA-240-304L
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)	SA-240-304L

SEE NOTE 105

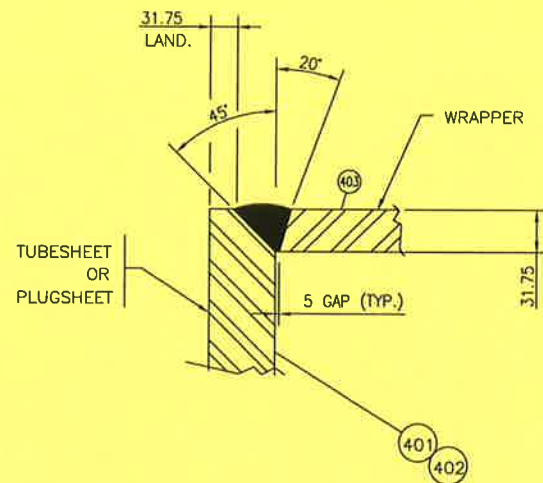


**HEADER BOX**

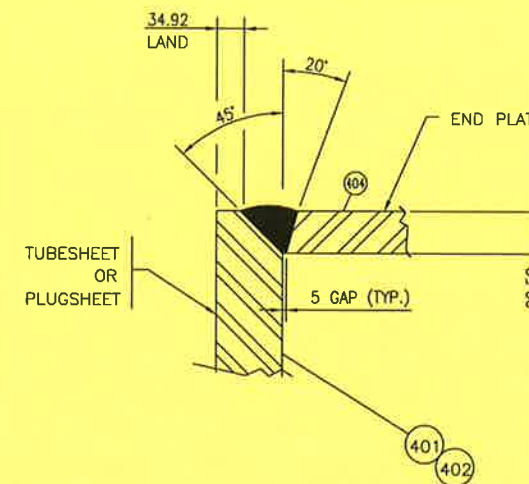


**DETAIL #3**

**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 AND AFTER WELDING PER UG-93(d)4.

DATE: 2000.10.06 10:07am FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\BDL-99420-332-04.dwg

No.	REVISION	BY	DATE	CKD	ENG
1	ISSUED FOR CONSTRUCTION	J.M.D.	00/10/06	[Signature]	[Signature]

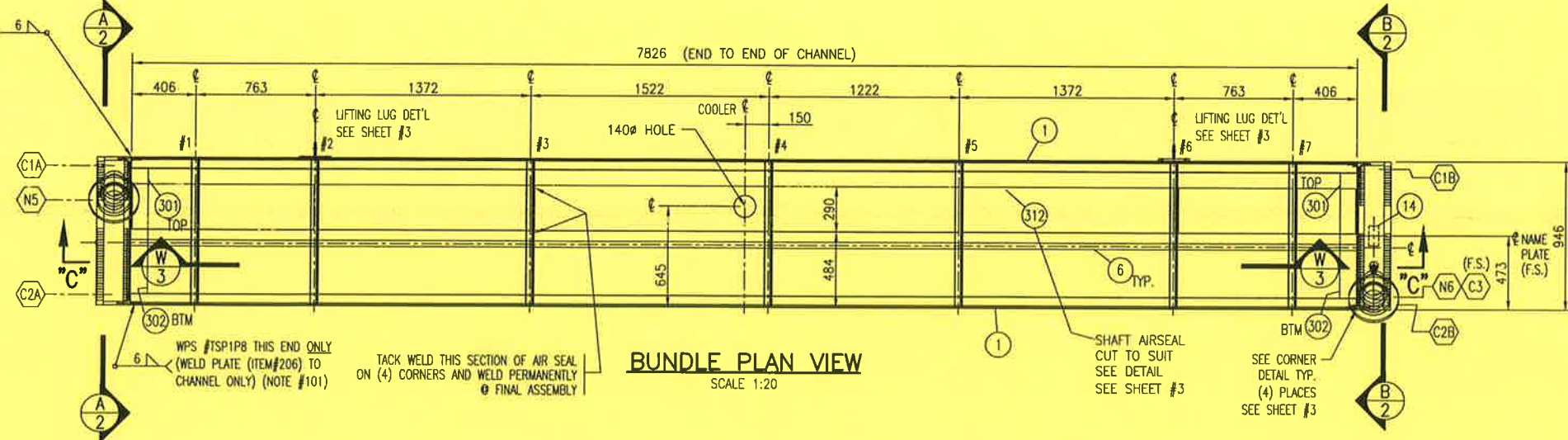
APPROVED		DRAWN	
MECH./STRUCT.	BY [Signature]	BY	J. DELORME
DATE	00/09/22	DATE	00/09/22
ELECTRICAL	CHECKED	CHECKED	
DATE	00/10/06	DATE	00/10/06
PROJECT	DATE	DATE	00/10/06
DATE	00/10/06	SCALE	N.T.S.

<b>APACHE CANADA LIMITED</b>	
1478 HP HAMBURG COMPRESSOR PACKAGE STAGE 2 AFTERCOOLER HEADER BOX BEVELLING DETAILS (AC-211)	
DWG. No.:	B-BDL-99420-332
SHT.	4 OF 4
REV.	1

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

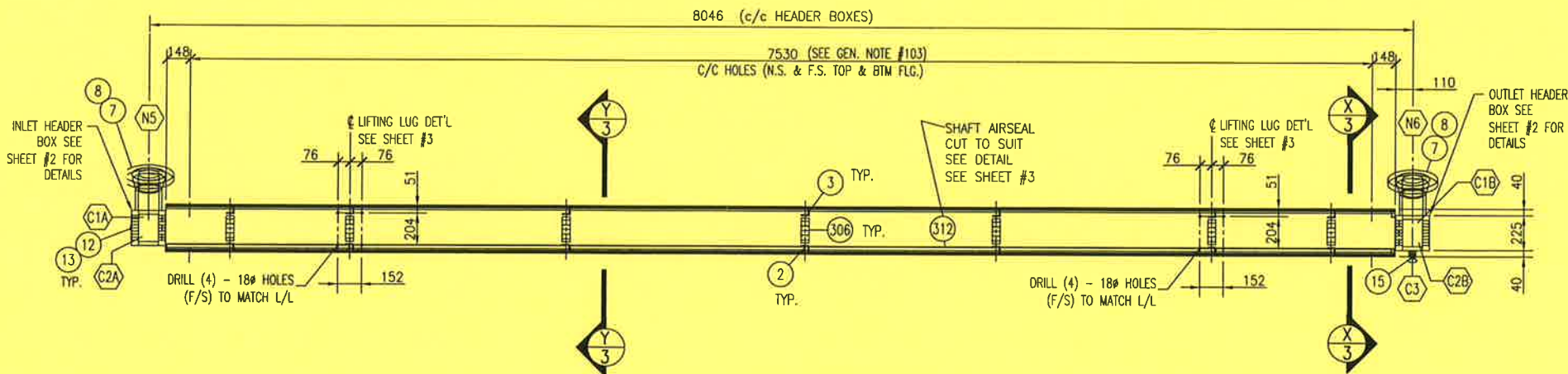
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

WPS #TSP1P8 THIS END ONLY (WELD PLATE (ITEM#206) TO CHANNEL ONLY) (NOTE #101)



**BUNDLE PLAN VIEW**

SCALE 1:20

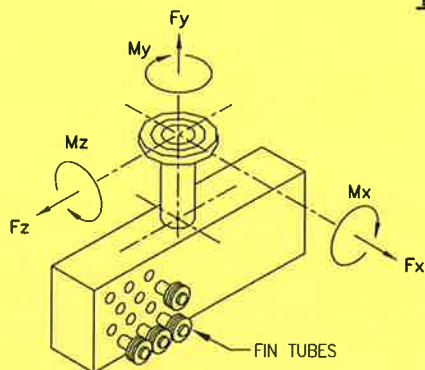


**BUNDLE ELEVATION SECTION 'C - C'**

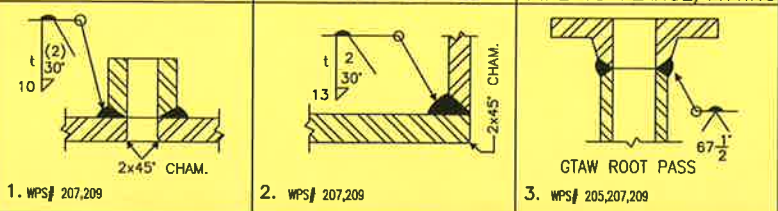
SCALE 1:20

**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



**SADDLED COUPLING NOZZLE ABUTTED PIPE TO FLANGE/FITTING**



**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
A/B	C1	41	SHLDR PLUG	12UN	VENT	-
A/B	C2	41	SHLDR PLUG	12UN	DRAIN	-
	C3	27	6000#	NPT	TC c/w PLUG	1

**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			
* P	6	TUBES (WELDED): 38ø 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
P	7	PIPE: 168 O/D x 18.26 W.T. x 215 LG (SMLS)	SA-312-TP304L
P	8	FLG: 168 - 600# RFWN SCH 160 BORE	SA-182-F304L
	9		
	10		
	11		
P	12	GASKET: 48 (1 7/8") O/D x 41 (1 5/8") ID x 1.59 (1 1/16") THK	304SS
		MAX BHN 110	
P	13	HEX STEEL SHOULDER PLUG: 41 (1 5/8") ø - (12 UN) x 32 (1 1/4") LG	SA-182-F304
	14	NAME PLATE c/w MOUNTING BRACKET	SS/SA-36
	15	CPLG: 27 - 6000# NPS c/w PLUG	SA-182-F304L
	16		

**NOTE:**

MANUFACTURERS SPECS		SERIAL NO: 99420-333 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:	NO - PER UHA-51(d)(1)(a)	DESIGN TEMPERATURE:	176°C
		M.D.M.T.:	-28.8°C @ 4447 kPag
		HYDROTEST PRESSURE	6670 kPag
CAPACITY:	0.248 m <sup>3</sup>	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 <sup>2</sup>	PWHT: MIN TEMP/TIME	NO
PAINT SPEC: (NON-STAINLESS PARTS:)	PNT-11	CORR. ALLOWANCE:	3.18 mm
INSULATION:	NONE		
SHIP LOOSE:	NO		
TACK & PRESS. TO STRUCT WELDS:	207	"SOOR SERVICE"	
STRUCT TO STRUCT WELDS:	101, 109	TAG NO: AC-210	

NO.	REVISION	DATE	BY	CHKD	ENG
1	ISSUED FOR CONSTRUCTION	00/10/06	ILEE		

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

MECH./STRUCT.	DATE	BY	CHECKED
ELECTRICAL	DATE	BY	CHECKED
PROJECT	DATE	BY	CHECKED
DATE			

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

DWG. No.:	D-BDL-99420-333	SHT. 1 OF 4	REV. 1
		SHT. 4 IS 8-SIZE 11" x 17"	

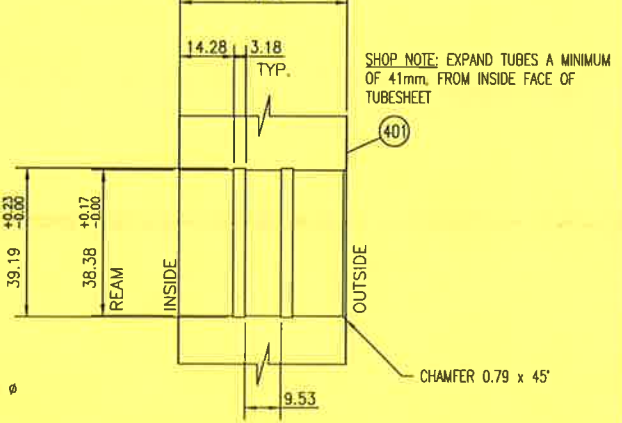
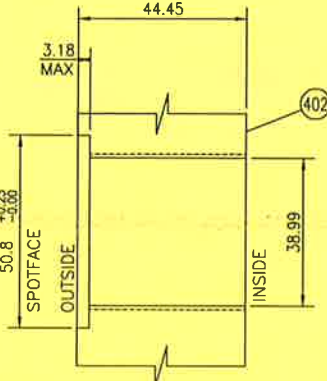
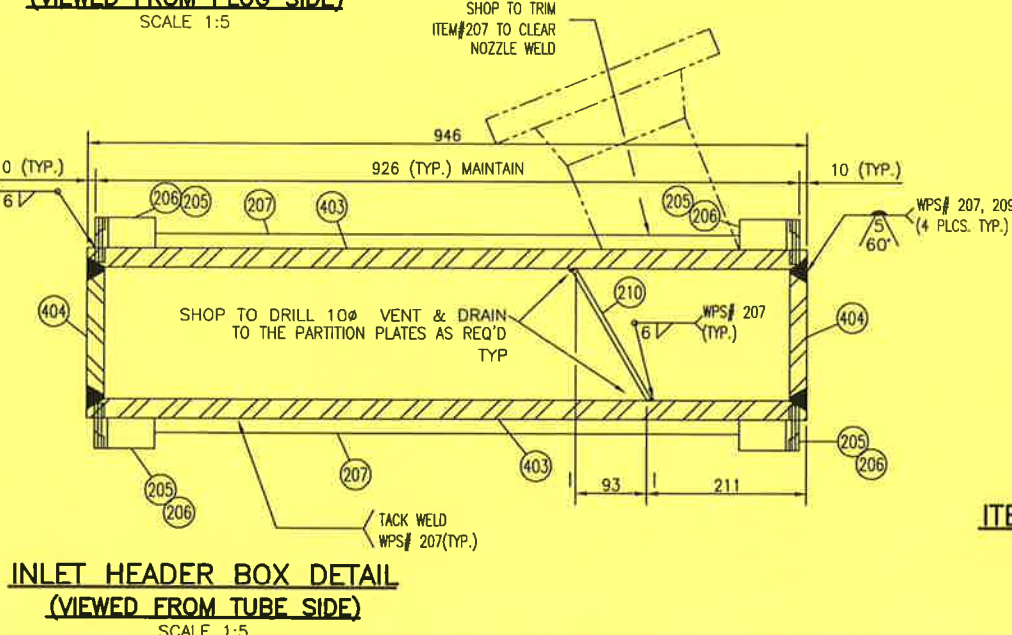
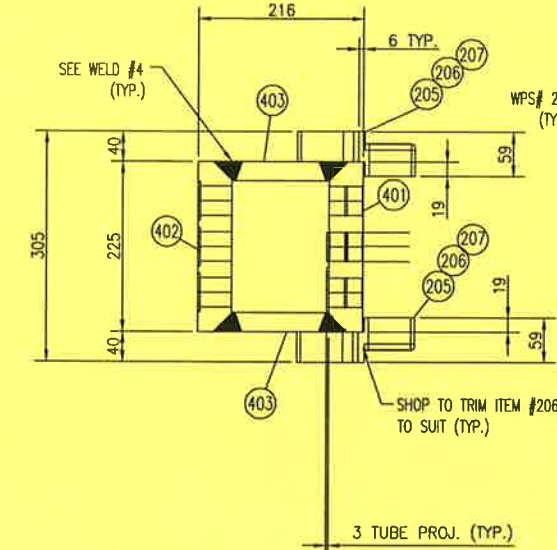
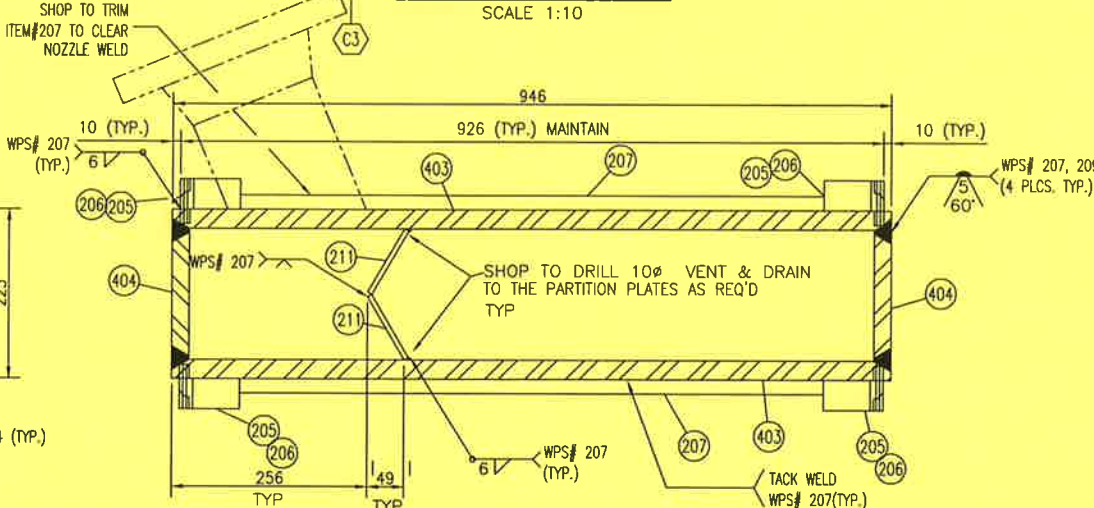
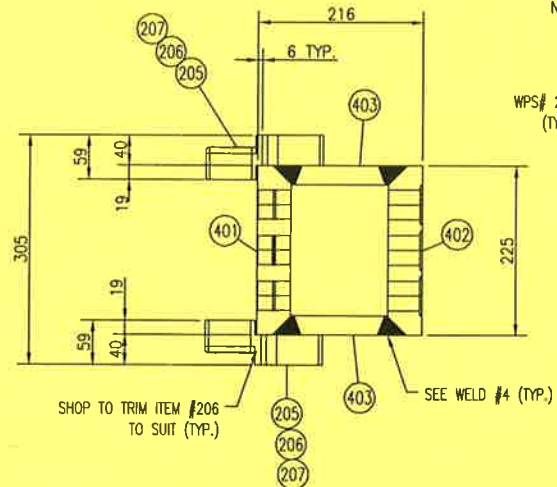
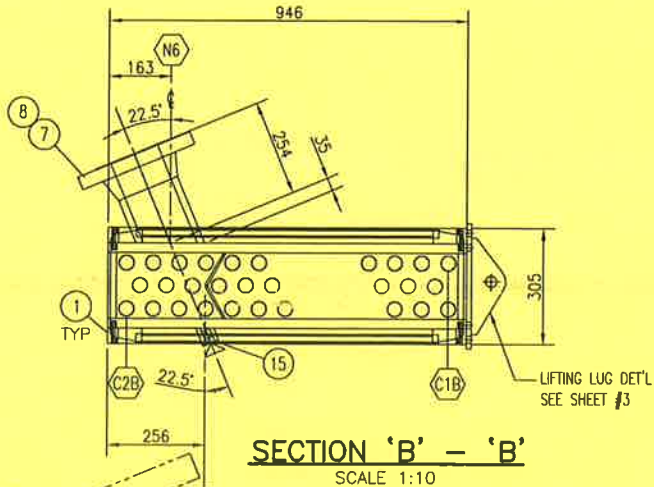
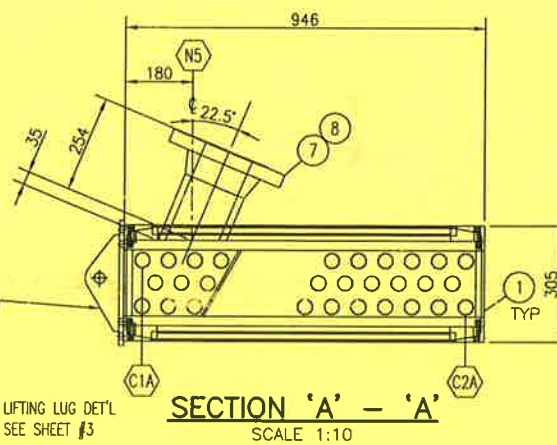
PROPAG 440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3

GENERAL NOTES

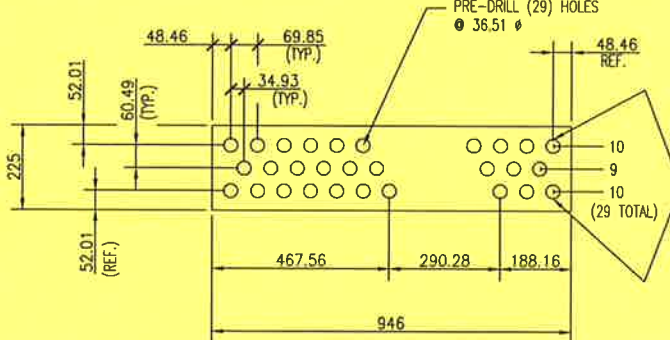
- THE INLET HEADER BOX CAN BE WELDED TO THE CHANNEL ASSEMBLY BY WELDING THE SLIDE PLATE (NOT THE HEADER BOX ITSELF) TO THE SIDE CHANNELS. DO NOT WELD THE OUTLET HEADER BOX, IT SHOULD BE FREE TO SLIDE.
- REMOVE ALL SHARP EDGES & BURRS.
- ALL BOLT HOLES FOR ATTACHING THE BUNDLE TO THE COOLER STRUCTURE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

DATE: 2000.10.06 9:31am FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\BDL-99420-333-01.dwg

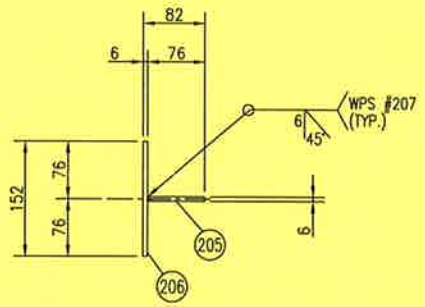
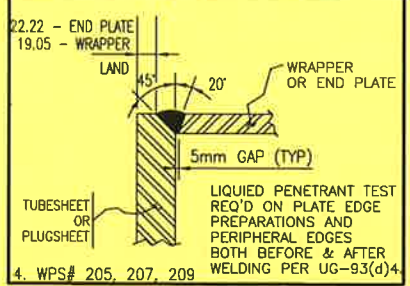
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAC.



NOTE: CORE DRILL 38.99 (1.535") Ø  
 (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	
No.	REVISION

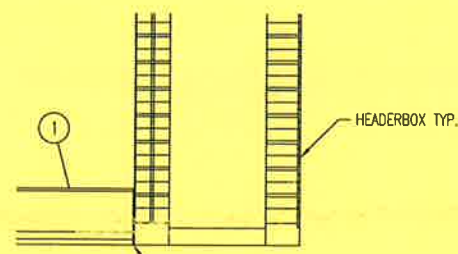
BY	DATE	CKD	ENG
ILEE	00/10/06		

APPROVED		DRAWN	
MECH./STRUCT.	BY	BY	I.LEE
DATE	00/09/28	DATE	00/09/28
ELECTRICAL	CHECKED	CHECKED	
DATE	BY	DATE	
PROJECT	DATE	DATE	
DATE	SCALE	SCALE	AS NOTED

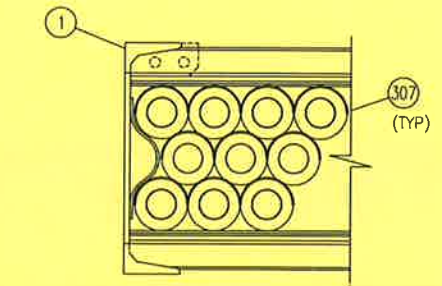
**APACHE CANADA LIMITED**  
 1478 HP HAMBURG COMPRESSOR PACKAGE  
 1st STAGE INTERCOOLER  
 AC-210  
 DWG. No.: D-BDL-99420-333 SHT. 2 OF 4 REV. 1  
 SHT. 4 IS 8-SIZE 11" x 17"

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

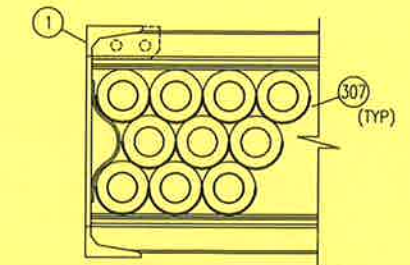
THIS DRAWING AND THE PROPERTY OF PROPAG SYSTEMS LTD., AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAG.



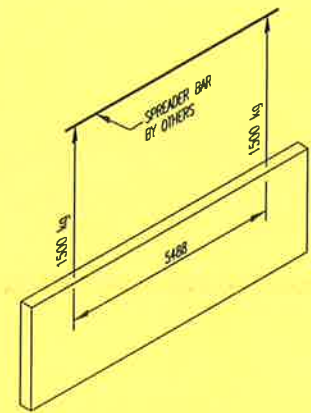
**CORNER DETAIL**  
SCALE (NTS)



**ALUMINUM WRAP AT SUPPORT #1, #3, #5 & #7**  
SCALE 1:5



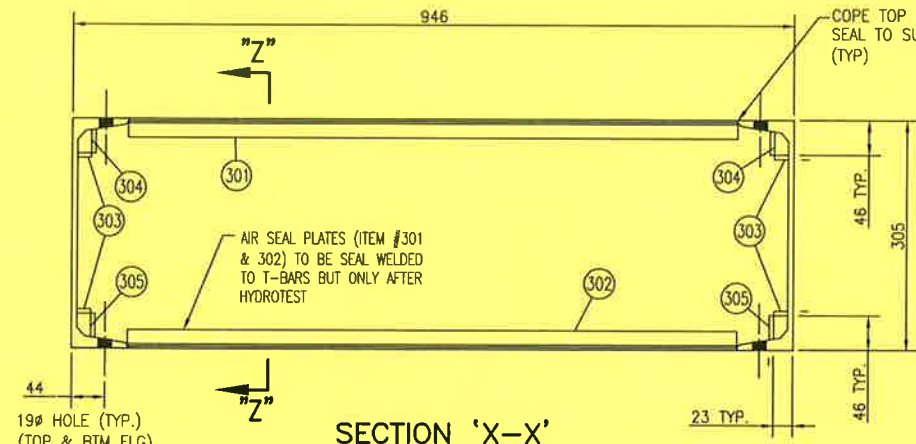
**ALUMINUM WRAP AT SUPPORT #2, #4 & #6**  
SCALE 1:5



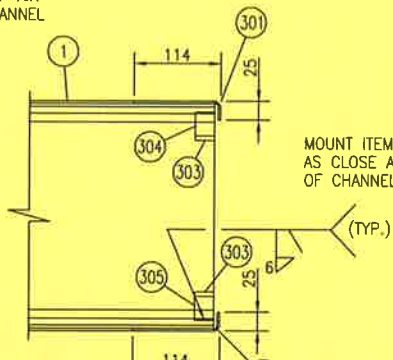
**NOTE:** WEIGHTS SHOWN IN DIAGRAM INCLUDE 50% EXCESS FOR DYNAMIC LOADING  
LIFTING DIAGRAM WEIGHT w/o IMPACT LOAD: 2000 kg

**LIFTING DIAGRAM**  
FOR AC-210

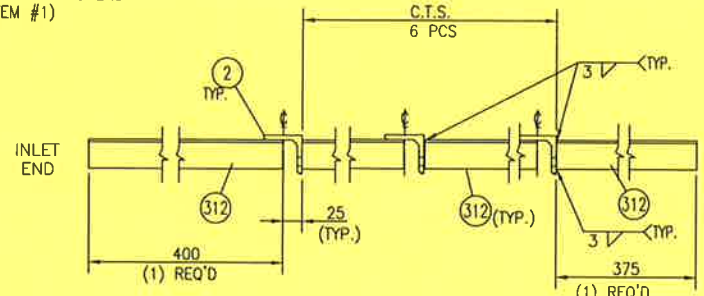
BILL OF MATERIAL				
ITEM	QUA	DESCRIPTION		
301	2	TOP AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 902 LONG	SA-36	
302	2	BTM. AIR SEAL: PREFORMED ANGLE: 3 THK. x 25 x 114 x 902 LONG	SA-36	
303	4	FLAT BAR: 6 THK. x 25 WD x 16 LONG	G40.21M-300W	
304	2	FLAT BAR: 6 THK. x 25 WD x 33 LONG	G40.21M-300W	
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	



**SECTION 'X-X'**  
SCALE 1:5



**SECTION 'Z-Z'**  
SCALE 1:5



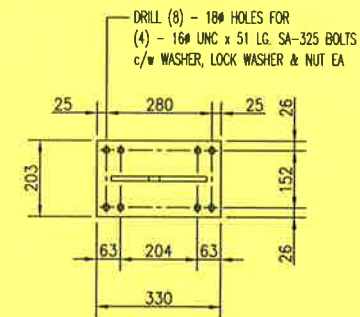
**SECTION 'W - W'**  
SCALE 1:5

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

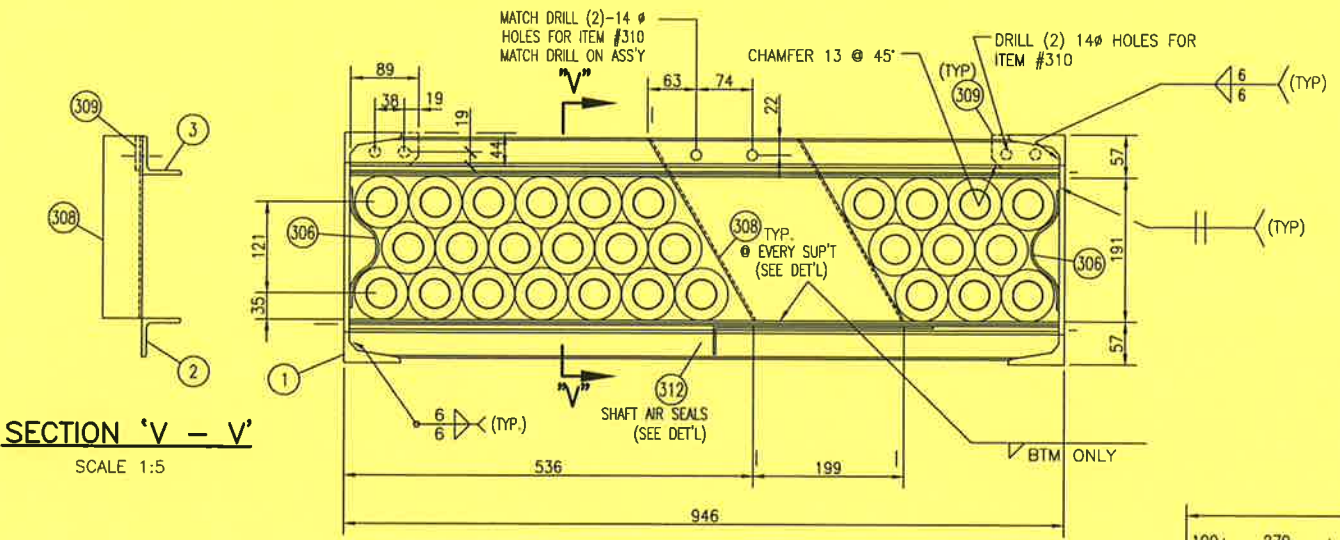
MOUNT ITEMS 303, 304 & 305 AS CLOSE AS POSSIBLE TO END OF CHANNEL (ITEM #1)

INLET END

OUTLET END

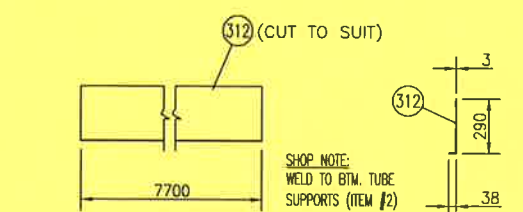


- NOTES:**
- Holes spaced 204 APART ARE FOR 305 DEEP SIDE CHANNEL. HOLES 280 APART ARE FOR 381 SIDE CHANNEL.
  - SHACKLE HOLE IS DESIGNED SO THAT THE BOTTOM OF THE SUSPENDED BUNDLE WILL "KICK OUT" SLIGHTLY TO AID IN PLACEMENT.
  - LUG SHOULD BE PERMANENTLY MARKED "2000 KG CAPACITY. (3000 KG DYNAMIC LOADING)".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

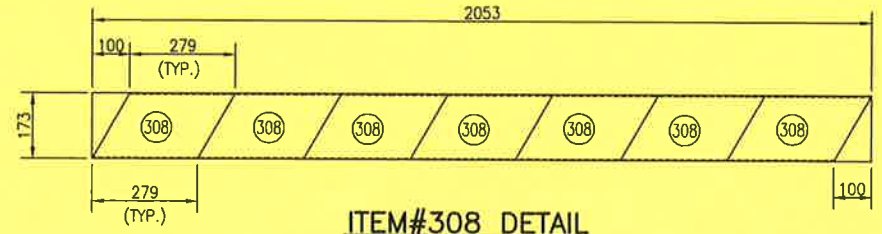


**SECTION 'V - V'**  
SCALE 1:5

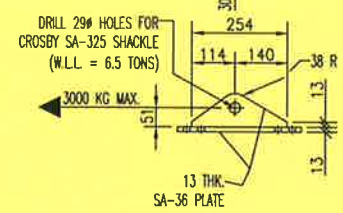
**SECTION 'Y - Y'**  
SCALE 1:5



**SHAFT AIR SEAL ITEM #312 DETAIL**  
(MAKES 8 PCS. CUT TO SUIT)  
SCALE 1:20



**ITEM #308 DETAIL**  
(MAKES 7 PCS)  
SCALE 1:10



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

SEE SHT 1 FOR GENERAL NOTES & MATERIAL NOTES

GENERAL NOTES		GENERAL NOTES		REVISION		APPROVED		DRAWN	
1	ISSUED FOR CONSTRUCTION								
DATE:	2000.10.06 9:31am	FILE NAME:	J:\jobs99\DWG\99420\Clr - client changes\BDL-99420-333-01.dwg	BY:	ILEE	DATE:	00/10/06	BY:	ILEE
				CKD:	30			DATE:	00/09/28
				ENG:	WP			CHECKED:	

APPROVED		DRAWN	
MECH./STRUCT.	BY: ILEE	DATE:	00/09/28
ELECTRICAL	CHECKED:	DATE:	
PROJECT	BY: ILEE	DATE:	
DATE:	SCALE:	AS NOTED	

**APACHE CANADA LIMITED**  
 1478 HP HAMBURG COMPRESSOR PACKAGE  
 1st STAGE INTERCOOLER  
 AC-210  
 DWG. No.: D-BDL-99420-333 SHT. 3 OF 4 REV. 1  
 SHT. 15 IS B-SIZE 11" x 17"

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

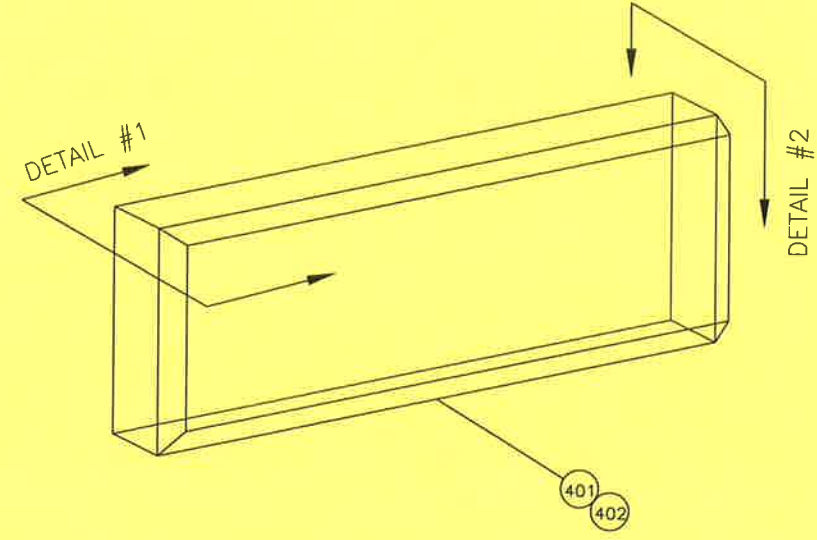
THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF PROPAK.

**MATERIAL NOTES**

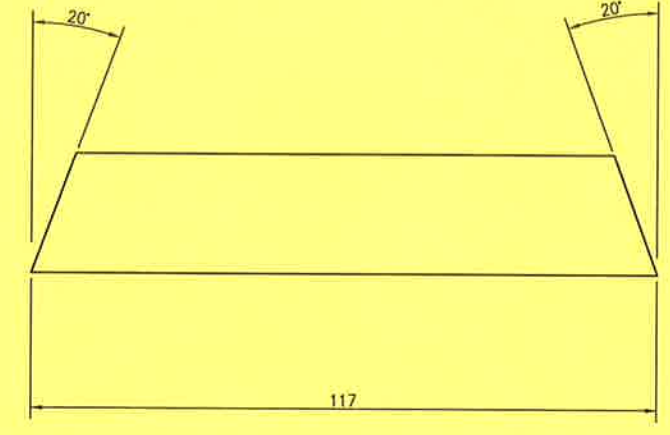
22 U.T. SCAN REQ'D. IN STRICT ACCORDANCE WITH SA-435 ON A 50mm GRID, FOLLOWED BY SUPPLEMENTARY EXAMINATION TO SA-577.

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



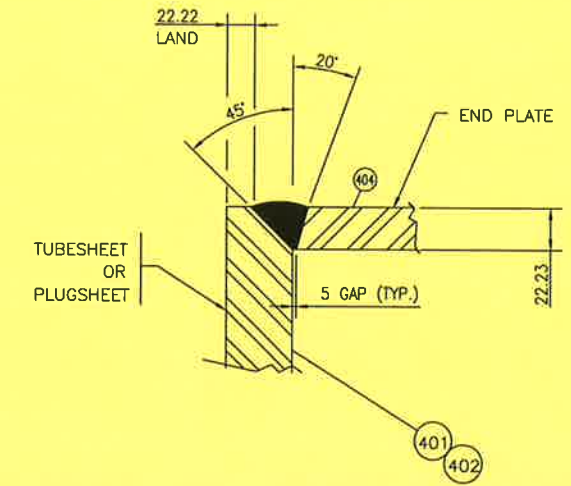
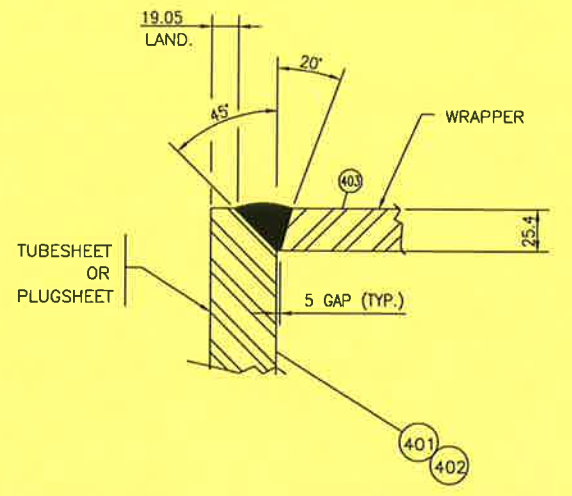
**HEADER BOX**



**DETAIL #3**

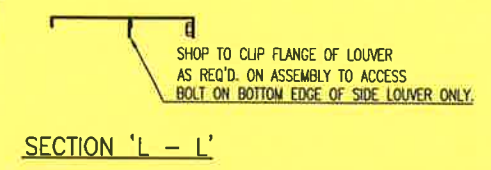
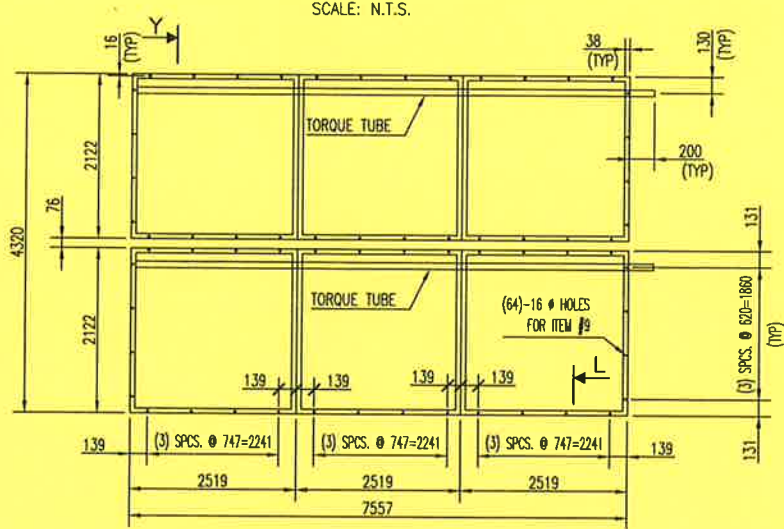
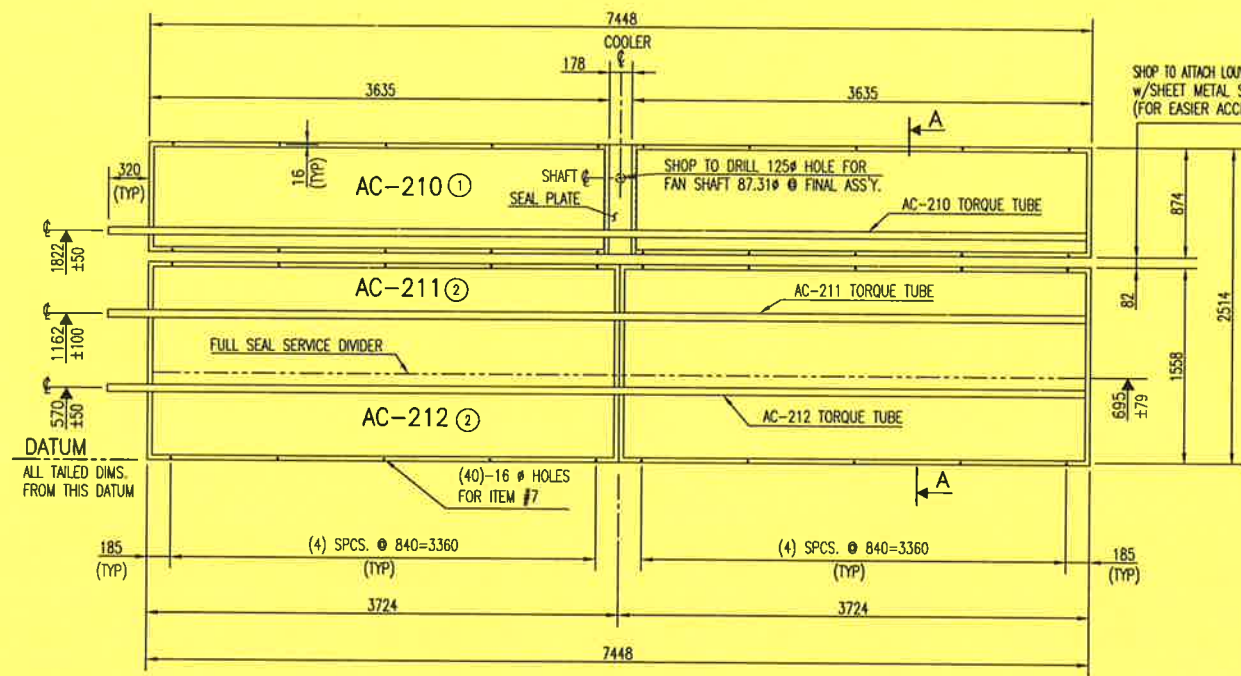
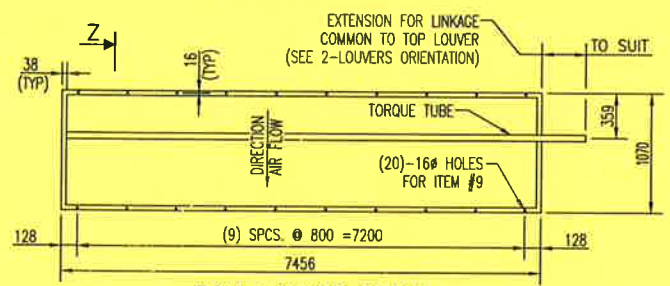
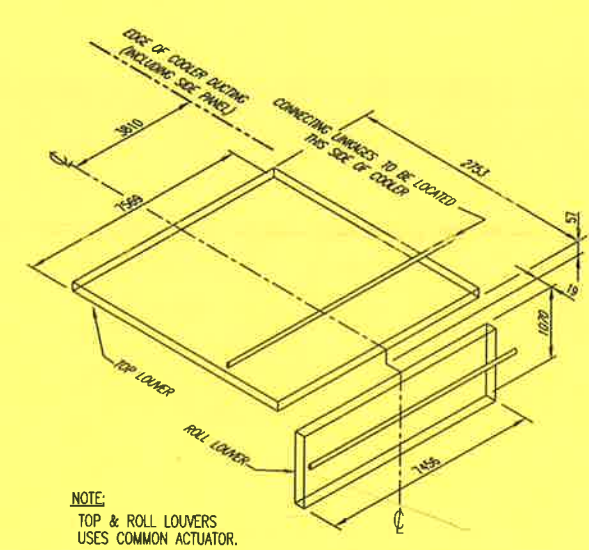
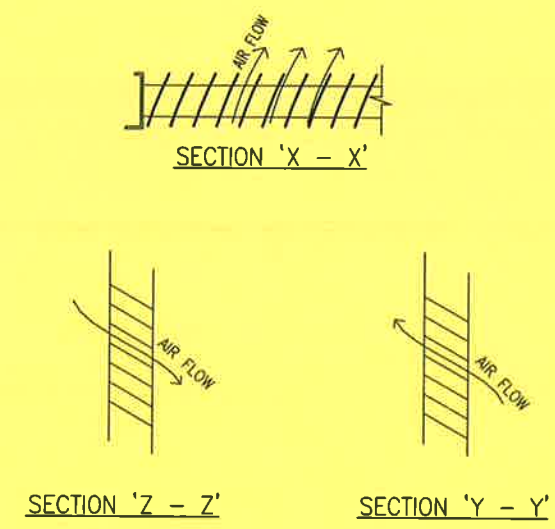
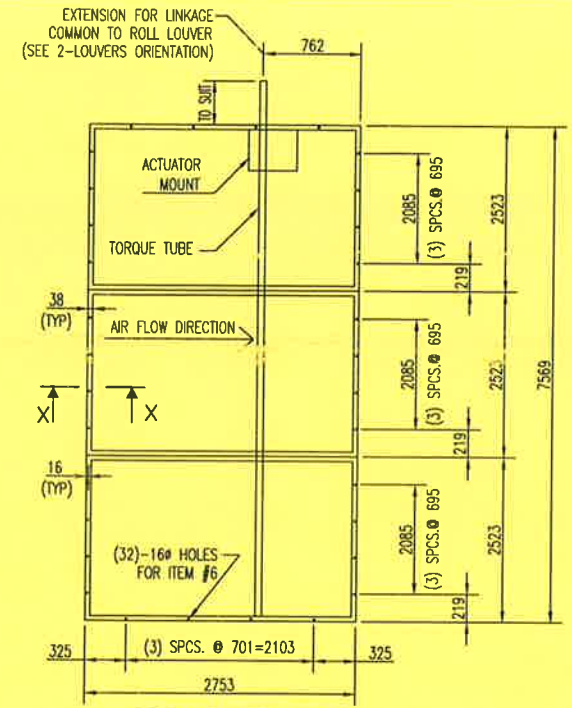
DETAIL #1 (TYP. BEVEL-TUBE/PLUGSHEET-LONG EDGES)

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

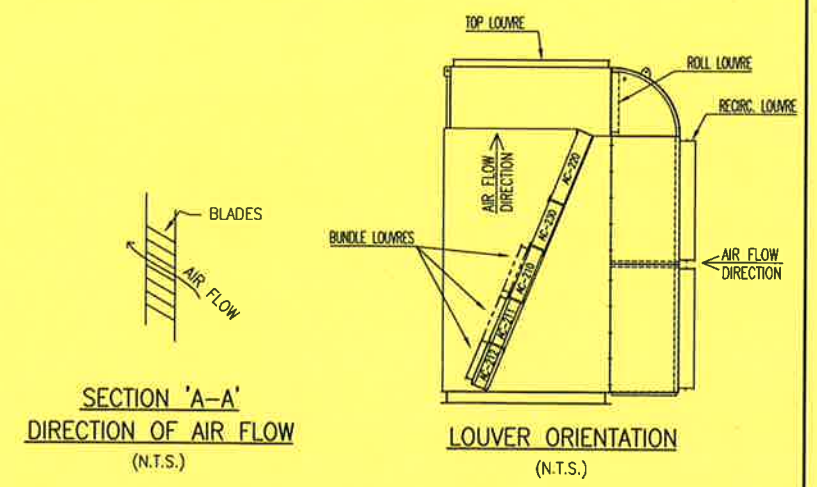


105. LIQUID PENETRANT TEST REQUIRED ON PLATE EDGE PREPARATIONS AND PERIPHERAL EDGES BOTH BEFORE & AFTER WELDING PER UG-93(d).																			
<b>GENERAL NOTES</b>		<b>GENERAL NOTES</b>		1 ISSUED FOR CONSTRUCTION		J.M.D. 00/10/06		30 MP		<b>APPROVED</b> MECH./STRUCT. BY J. DELORME DATE 00/09/22 ELECTRICAL BY J. DELORME DATE 00/09/22 PROJECT BY J. DELORME DATE 10/16/22		<b>DRAWN</b> BY J. DELORME DATE 00/09/22 CHECKED BY J. DELORME DATE 00/09/22		<b>APACHE CANADA LIMITED</b> 1478 HP HAMBURG COMPRESSOR PACKAGE 1st STAGE INTERCOOLER HEADER BOX BEVELLING DETAILS (AC-210)		<b>PROPAK</b> 440 East Lake Road, Postal Bag #2 Airdrie, Alberta Canada T4B 2C3			
DATE: 2000.10.06 9:55am FILE NAME: J:\Jobs99\DWG\99420\Cir - client changes\BDL-99420-333-04.dwg		No.		REVISION		BY		DATE		CKD		ENG		DWG. No.: B-BDL-99420-333		SHT. 4 OF 4		REV. 1	

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.



ITEM QUA		DESCRIPTION
1		AC-210 LOUVERS c/w THE FOLLOWING: 874 WD x 3635 LG (1)-SECTION c/w (1) SEAL PLATE TO SUIT BETWEEN LOUVERS DRAWING: AS PER DRAWING D-LBS-99420-338 GUARDS: NONE FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES DESIGN CODE: API 661 EDITION 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: 1558 WD x 3724 LG (1)-SECTION c/w (1)-FULL SEAL SERVICE DIVIDER EACH SECTION DRAWING: AS PER DRAWING D-LBS-99420-338 GUARDS: NONE FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES DESIGN CODE: API 661 EDITION 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 CLOSE
3		LOUVERS c/w THE FOLLOWING: 2753 WD x 2523 LG (1)-SECTION (TOP LOUVER) DRAWING: AS PER DRAWING D-LBS-99420-338 GUARDS: BUILT-IN INTERNAL HAIL GUARD FRAME: 121 (4 3/4") DEEP w/ EXTERNAL TORQUE TUBES DESIGN CODE: API 661 EDITION 1 CONTROLLER: AUTOMATIC ACTUATOR (FAIL CLOSE) CHECO #800, 6-30 psig SPRING RANGE PROVIDED BY CHECO COMMON w/ ITEM #4
4		LOUVERS c/w THE FOLLOWING: 7456 WD x 1070 LG (1)-SECTION (ROLL LOUVER) DRAWING: AS PER DRAWING D-LBS-99420-338 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: 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 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		GENERAL NOTES		APPROVED		DRAWN		PROJECT	
DATE: 2000.10.06 1:08pm	FILE NAME: J:\jobs99\DWG\99420\Clr - client changes\LBS-99420-338-01.dwg	1	ISSUED FOR CONSTRUCTION	BY	DATE	BY	DATE	DATE	DATE
		No.	REVISION	BY	DATE	CKD	ENG	SCALE	AS NOTED

**APACHE CANADA LTD.**  
 1478 HP HAMBURG COMPRESSOR PACKAGE  
 AERIAL COOLER-LOUVER DETAILS  
 MDL: 1SV1-156-312-F

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

DWG. No.: D-LBS-99420-338 SHEET 1 OF 1 REV. 1