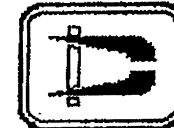


NAMEPLATE DETAIL

CERTIFIED BY
DACRO INDUSTRIES INC.
EDMONTON, ALBERTA, CANADA



MAWP. 730/FV PSIG
DESIGN TEMP. 100F/100F

M.D.M.T. -20F @ 730 PSIG

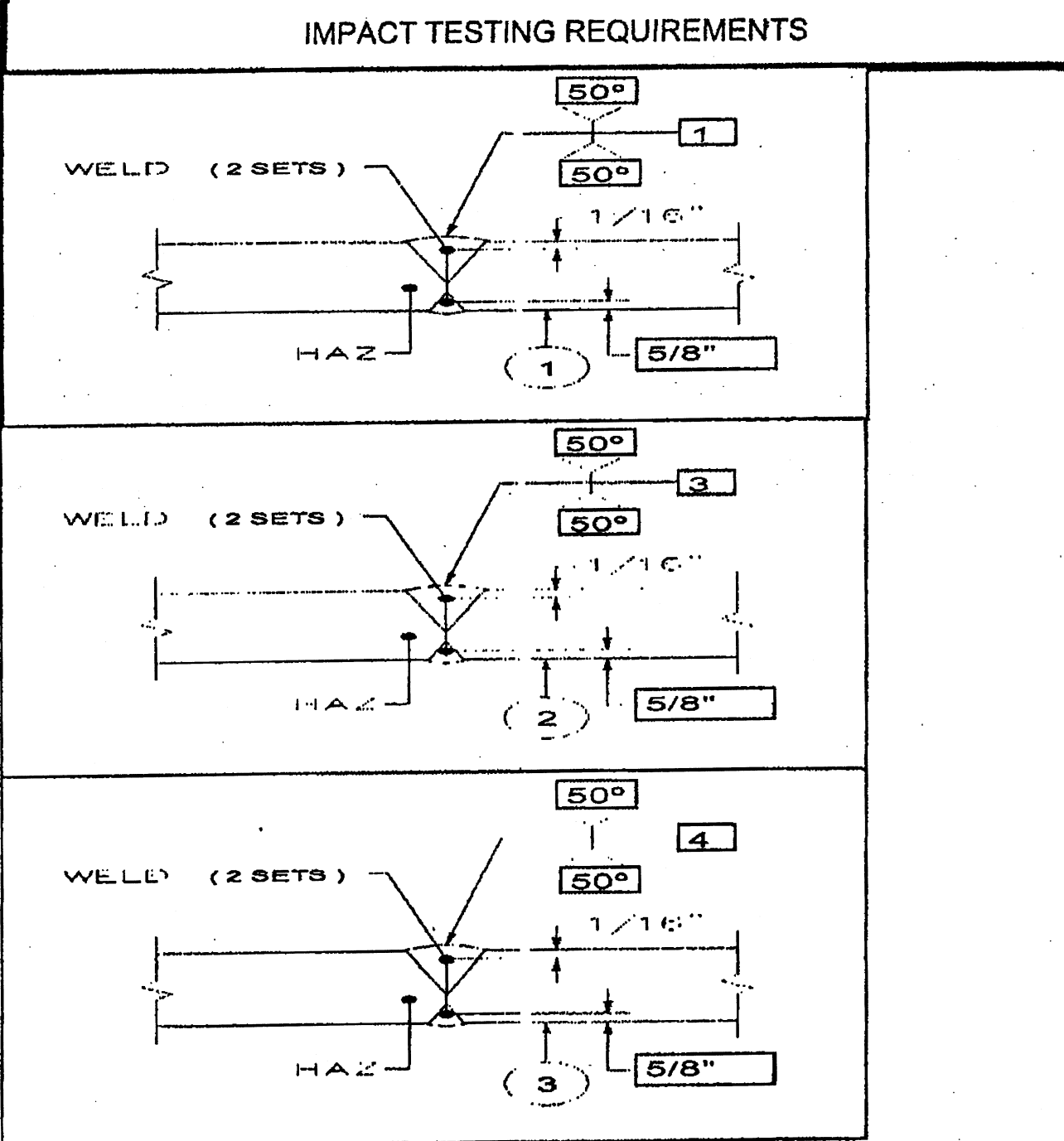
SERIAL NO. 04-538
DATE MFG'D 2004-02-24

CR.N. R6102.2
CODE ASME VIII DIV 1/01A02

DESCRIPTION TAG NO.
GROUP SEPARATOR V-100

SHELL MATL SA-516-70N	HEAD MATL SA-516-70N	CORR. ALLOW 0.125"
SHELL THICK 2.500"	HEAD THICK 2.253" MIN	TEST PRESS 949 PSIG

MEMBER OF A.P.V.M.A. ISO 9002 CERTIFIED



Item	Qty	Description	Material
1	2	63.5 x 152 x 356	SA-516-70N
2	2	63.5 x 152 x 356	SA-516-70N
3	2	63.5 x 152 x 356	SA-516-70N

- TRANSVERSE CVN TESTS PER UG-84 @ -29°C
- IMPACT VALUES SHOWN ARE MINIMUM REQUIREMENTS PER FIG UG-84.1

REV	DESCRIPTION	DATE	ENG. BY
2	AS BUILT	04/05/2004	S.S.
1	REVISED PER CLIENT MARK UP	01/12/2004	S.S.
0	FIRST ISSUE	11/12/2003	S.S.

DESIGN DATA

FABRICATE & DESIGN TO ASME SECTION VIII, DIVISION 1, 2001 EDITION, 2002

M.A.W.P. 5033/FV kPag
DESIGN TEMP 38°C / 38°C

LIMITED BY HEADS

PROCESS CONTENTS 77 LETHAL SERVICE NO

M.D.M.T. -29°C @ 5033 KPag

I.T. EXEMPT PER UCS-66(a)(b)(c) NO

HYDROSTATIC TEST 6544 kPag @ 10°C MIN. HOLD 1 HOUR

PRESSURE & TEMPERATURE CHART REQUIRED YES

RADIOGRAPHY CATEGORY 'A' 100% PER UW-11(a) SEE UT/RT NOTES

CATEGORY 'B' 100% PER UW-11(a) SEE UT/RT NOTES

P.W.H.T. YES / 135 MINUTES @ 621 ± 14°C

SHELL THK. 63.5 mm COR. ALLOW 3.17 mm

HEAD THK. 57.214 mm MIN. COR. ALLOW 3.17 mm

CONE THK. N/A COR. ALLOW N/A

CR.N. R6102.2 SERIAL NO. 04-538

CODE SYMBOL REQ'D YES VOLUME 109.4 cu. m.

VESSEL FAB. WEIGHT (EMPTY, BARE) 89082 kg

VESSEL SHOP TEST WEIGHT (FLOODED, BARE) 198690 kg

VESSEL SHIPPING WEIGHT 89082 kg

VESSEL ERECTING WEIGHT (INSUL. HEAT TRACING, OTHER) 90745 kg

OPERATING LIQUID SPECIFIC GRAVITY 1.0 DESIGN TO FULL OF WATER

WIND LOADING PARAMETERS: SEISMIC LOADING PARAMETERS:

CODE NBC '95 CODE NBC '95

Cp = 0.8 v = 0.05

β = N/A Zs = 0

q = 0.4 kPa Zv = 1

EXPOSURE 'B' F = 1.3

R = 3

I = 1

MOMENT AT BASE N/A GOVERNED BY N/A

- MATERIAL REQUIREMENTS
- GASKETS**
- EXTERNAL GASKETS PER ASME B16.20, 304SS SPIRAL WOUND, 95% GRAPHITE FILLED C/W CS OUTER (CENTERING) RING.
- FLANGES AND FORGINGS**
- FLANGES / FORGINGS MATERIAL SHALL BE SA-105N-NORMALIZED OR SA-350-LF2
 - GASKET SURFACE TO BE MACHINE FINISHED TO 125-250 AARH.
- PIPE AND FITTINGS**
- PIPE & FITTINGS MATERIAL TO CONFORM WITH ASME SEC. II PART A(2001 ED. A.02)
 - PIPE AND FITTINGS MATERIAL SHALL BE SA-106-B OR SA-333-Gr.6; SA-234-WPB OR SA-420-WPL6
- SHELLS, HEADS AND NOZZLE NECKS**
- PLATE MATERIAL TO CONFORM WITH ASME SEC. II PART A (2001 ED., A.2002)
 - PLATE MATERIAL TO BE NORMALIZED
 - HARDNESS <= 200 BHN.
 - HEADS SHALL BE ONE-PIECE.
 - SHELL, HEADS, AND REPADS PLATE MATERIAL SHALL BE IMPACT TESTED PER UG-84 @ -29°C

- FABRICATION NOTES
- ALL MATERIALS AND WELDER IDENTIFICATION SHALL BE WITH LOW STRESS STAMPS.
 - EXPOSED INSIDE EDGES OF NOZZLES TO BE ROUNDED TO 3mm MINIMUM RADIUS, MANWAYS TO 5mm MINIMUM RADIUS.
 - ALL FLANGE BOLT HOLES AND ANCHOR BOLTS SHALL STRADDLE NORTH-SOUTH CENTERLINES FOR VERTICAL VESSELS AND MAJOR VESSEL CENTERLINES FOR HORIZONTAL VESSELS.
 - NOZZLE REINFORCING PADS (WHERE APPLICABLE) SHALL HAVE AS A MINIMUM ONE (1) VENT HOLE. REPADS INSTALLED IN SECTIONS SHALL HAVE AT LEAST ONE (1) VENT HOLE PER SECTION. VENT HOLES SHALL BE THREADED 1/4" NOMINAL PIPE SIZE.
 - FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH KPS STD-324
 - VESSEL TO BE PREPARED FOR INTERNAL COATING. ALL WELD SPATTER, BURNS AND SHARP EDGES TO BE GROUND SMOOTH.
 - VESSEL INTERNALS TO BE RADIUS FOR INTERNAL COATING.

- INSPECTION AND TESTING
- A. QUALIFICATIONS**
- ALL NON-DESTRUCTIVE EXAMINATIONS SHALL BE CONDUCTED AND INTERPRETED BY PERSONNEL CERTIFIED IN ACCORDANCE WITH CGSB OR ASNT-TC-1A LEVEL II.
- B. VISUAL EXAMINATION**
- EXAMINATION AND ACCEPTANCE CRITERIA SHALL BE IN ACCORDANCE WITH ASME SECTION V (ARTICLE 9) AND ASME VIII RESPECTIVELY.
 - 100% VISUAL EXAMINATION IS REQUIRED FOR ALL WELDING.
 - AS A MINIMUM, VISUAL INSPECTION SHALL CONFIRM:
 - NO SURFACE CRACKING
 - NO SURFACE POROSITY
 - NO WELD CRATERS
 - ACCEPTABLE WELD PROFILE PER CSA W59
 - NO UNDERCUT
 - NO LACK OF FUSION
- C. MT INSPECTION**
- MAGNETIC PARTICLE INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH ASME SECTION V, ARTICLE 7, AND ACCEPTANCE CRITERIA PER ASME SECTION VIII, DIV 1, APPENDIX 1.
- D. RT INSPECTION**
- RADIOGRAPHIC EXAMINATION AND ACCEPTANCE CRITERIA SHALL BE IN ACCORDANCE WITH ASME SECTION V (ARTICLE 2) AND ASME SECTION VIII, DIV 1, PAR UW-51 (FULL).
- E. UT INSPECTION**
- ULTRASONIC EXAMINATION AND ACCEPTANCE CRITERIA SHALL BE IN ACCORDANCE WITH ASME SECTION V (ARTICLE 4) AND ASME SECTION VIII, APPENDIX 12.
- F. PRODUCTION HARDNESS TESTING**
- WELDS TO HAVE WELD METAL AND BOTH SIDE OF THE H.A.Z. TESTED FOR HARDNESS.
 - INSPECTION MATRIX INDICATES (1) TEST PER WELD TYPE INDICATED AND PER WELD PROCEDURE USED.

WELD INSPECTION MATRIX

Weld Type	INSPECTION REQUIREMENTS							Codes
	RT	UT	MT	WFMT	LPI	BHN	CA	
(ref Fig UW-3)								
Cat A Shell/Cone	100% (1)		100% (2,3)			200 max (1,4)		
Cat A Nozzle	100% (1)					200 max (1,4)		
Cat B Shell/head	100% (1)		100% (2,3)			200 max (1,4)		
Cat B (Nozzle)								
Cat C (Nozzle)	100% (1)					200 max (1,4)		
Cat D		100% (1)	100% (2,3)			200 max (1,4)		
Internal Att's (incl. areas of temp att's)								
External Att's (lift lugs)			100% (1)					

- HYDROTEST REQUIREMENTS
- NOZZLE REPADS SHALL BE PNEUMATICALLY SOAP TESTED AT 15-20 P.S.I.G. (103-138 kPag) PRIOR TO VESSEL HYDROTEST.
 - HYDROTEST WATER SHALL BE POTABLE
 - VESSEL SHALL BE HYDROTESTED IN THE HORIZONTAL POSITION AND SHALL BE ADEQUATELY SUPPORTED TO PREVENT WEIGHT DEFORMATION.
 - HYDROTEST PRESSURE SHALL BE MAINTAINED FOR A MINIMUM OF ONE (1) HOUR.
 - UPON COMPLETION OF HYDROTEST, VESSEL SHALL BE COMPLETELY DRAINED OF ALL WATER AND VACUUMED DRY.
 - VENT HOLE ON REINFORCING PADS SHALL BE PROTECTED AGAINST WATER INGRESS WITH HEAVY GREASE

- MARKING AND PREPARATION FOR SHIPMENT
- TWO (2) GASKETS SHALL BE PROVIDED FOR EACH BLINDED CONNECTION AND MANWAY. ONE (1) GASKET SHALL BE USED FOR HYDROTEST AND REMAIN IN PLACE FOR SHIPMENT. THE ONE (1) REMAINING NEW AND UNUSED GASKETS SHALL BE APPROPRIATELY PACKAGED, LABELLED AS 'SPARES' AND SHIPPED LOOSE.
 - STENCIL "PWHT-DO NOT WELD" IN CONSPICUOUS LOCATION.
 - ALL NOZZLES WHICH ARE NOT SUPPLIED WITH STANDARD BLIND FLANGES SHALL BE PROTECTED WITH 1/2" THICK PLYWOOD COVERS FASTENED IN PLACE WITH A MINIMUM OF FOUR (4) BOLTS FOR FLANGES WITH 16 TO 24 BOLT HOLES (NOTE: TEMPORARY BOLTS DO NOT HAVE TO MATCH DIAMETER REQUIREMENTS OF SERVICE BOLTS).

- PWHT REQUIREMENTS
- PWHT SHALL BE IN ACCORDANCE WITH ASME SECTION VIII, DIV. 1 PARAGRAPH UW-40 AND UCS-56

SURFACE PREPARATION & PAINTING REQUIREMENTS

COMPONENT	BLAST	PRIMER	D.F.T.	FINISH	D.F.T.
NOZZLES AND APPURTENANCES	SP6	P1	1.5-2.5 MILS	F1	1.5-2.5 MILS
SADDLES	SP6	P1	1.5-2.5 MILS	F1	1.5-2.5 MILS
SHELL(external)	SP6	P1	1.5-2.5 MILS	N/A	N/A
HEADS(external)	SP6	P1	1.5-2.5 MILS	N/A	N/A
SHELL(internal)	SP5	P2	12-15 MILS	N/A	N/A
HEADS(internal)	SP5	P2	12-15 MILS	N/A	N/A

DESCRIPTIONS:

SP5: SSPC-SP5, WHITE METAL SANDBLAST USING SILICA SAND, PROFILE 2-3 mils
SP6: SSPC-SP6, COMMERCIAL SANDBLAST USING SILICA SAND, PROFILE 2-3 mils

P1: ONE COAT OF RED SHOP PRIMER
F1: ONE COAT OF ENAMEL
P2: 2-3 COATS OF DEVCO 253

INSULATION REQUIREMENTS

COMPONENT	INSULATION TYPE	THK.	CLAD TYP	THK.
SHELL	MINERAL FIBBER	2"	ALUMINIUM	0.020"
HEADS	MINERAL FIBBER	2"	ALUMINIUM	0.025"

- NOTES:
- INSULATION SUPPORTS BY DACRO. INSULATION BY OTHERS.
 - 4# DENSITY MINERAL WOOL INSULATION
 - STUCCO EMBOSSED ALUMINIUM JACKETING WITH POLYRAFT MOISTURE BARRIER
 - INSULATION AND JACKETING SHALL BE SECURED WITH 3/4" STAINLESS STEEL BANDS AT 12" SPACING

FIREPROOFING AND/OR HEAT TRACING REQUIREMENTS

COMPONENT	FIREPROOFING /HEAT TRACING	THK.
N/A	N/A	N/A

NOTES

CERTIFIED AS-BUILT

CUSTOMER NAME: KVAERNER PROCESS SYSTEMS
END USER: KEYSKAN ENERGY CANADA

PURCHASE ORDER NO.: 3060-001
LOCATION: LSD 11-14-50-8W5

DACRO INDUSTRIES INC.
9325 - 51 AVENUE
EDMONTON, ALBERTA
TAG NO.: V-100

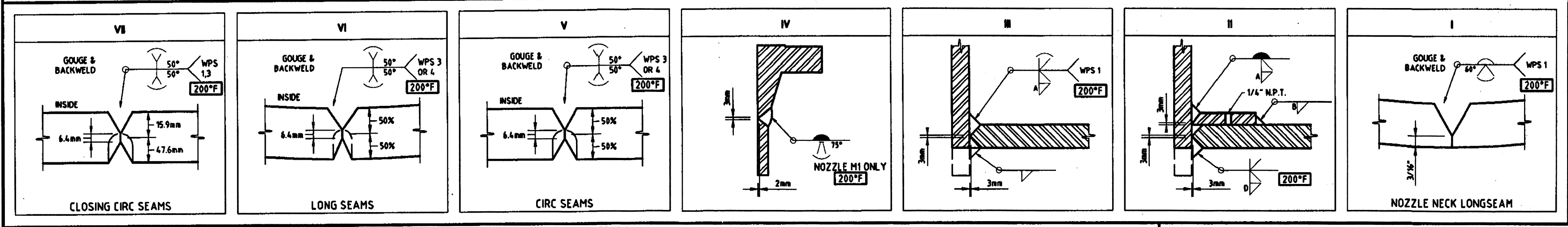
GROUP SEPARATOR
DESIGN DATA AND FABRICATION NOTES

ENGINEERED BY: S. STOJANOVIC
DOCUMENT NO.: 04-538-DN-1
REV: 2

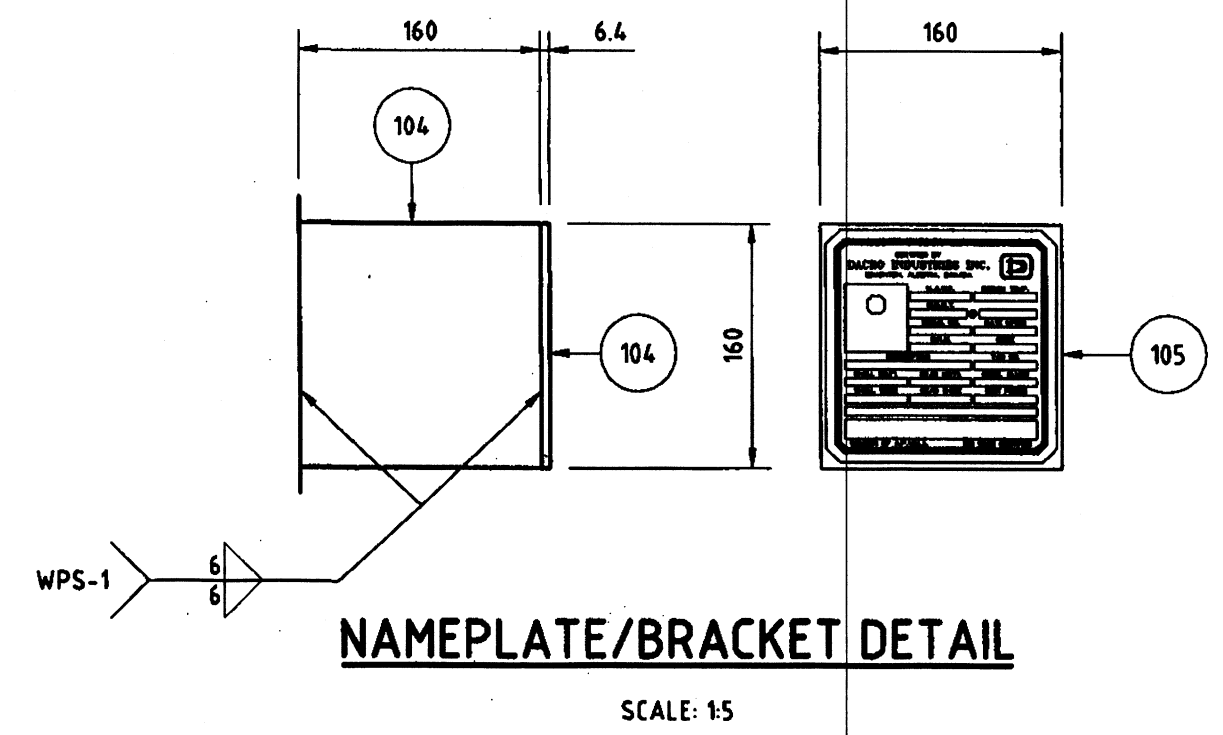
DATE: 12/12/2003
SHEET: 1 OF 1

NOZZLE SCHEDULE AND WELD DETAILS

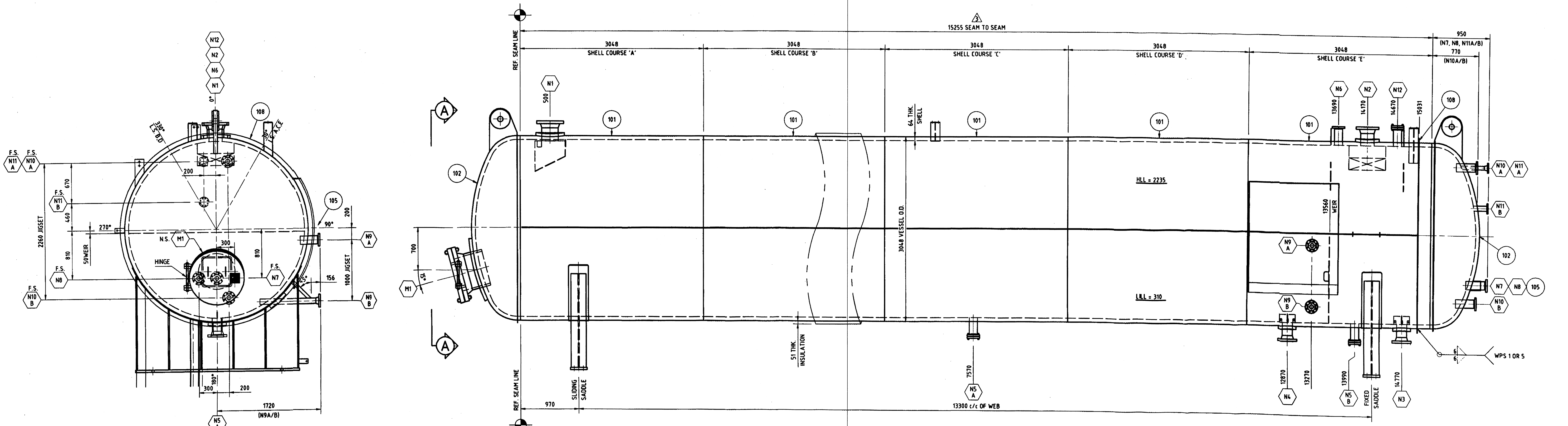
TOLERANCES ON ALL WELD PREPARATIONS ARE: ± 15° FOR CUMULATIVE BEVEL, ± 7.5° FOR SINGLE BEVEL, ± 1.5mm FOR GAPS AND LANDS.



NOZZLE SCHEDULE												
TAG No.	No. REQ'D	NOM SIZE	RATING & FACING	SERVICE	HOLE DIA.	PROJ. INSIDE	PROJ. OUTSIDE	WELD DETAIL	WPS No.	WELD DETAIL	WPS No.	REMARKS
M1	1	24"	300# RFWN	MANWAY	610	75	325	II	1	IV	2.3	c/w HINGE, B.F.B.O.
N1	1	10"	300# RFWN	INLET	273	20	251	II	1	IV	2.3	c/w REMOVABLE INLET DEVICE
N2	1	8"	300# RFWN	GAS OUTLET	219	G.F.	251	II	1	IV	2	c/w MIST EXTRACTOR (PAD REMOVABLE)
N3	1	6"	300# RFWN	OIL OUTLET	168	G.F.	251	II	1	IV	2	c/w REMOVABLE VORTEX BREAKER
N4	1	6"	300# RFWN	PRODUCED WATER	168	G.F.	251	II	1	IV	2	c/w REMOVABLE VORTEX BREAKER
N5A/B	2	3"	300# RFHB	DRAIN	137	G.F.	251	III	1			c/w B.F.B.O.
N6	1	3"	300# RFHB	PSV	137	G.F.	251	III	1			
N7	1	3"	300# RFHB	PI	137	10	SHOWN	III	1			
N8	1	3"	300# RFHB	TI	137	10	SHOWN	III	1			
N9A	1	3"	300# RFHW	BRIDLE	137	50	SHOWN	II	1	IV	2	
N9B	1	3"	300# RFHW	BRIDLE	89	50	SHOWN	II	1	IV	2	
N10A	1	3"	300# RFHB	BRIDLE	137	50	SHOWN	III	1			
N10B	1	3"	300# RFHB	BRIDLE	137	50	SHOWN	III	1			
N11A	1	2"	300# RFWN	LSHH	60.3	G.F.	SHOWN	III	1	IV	2	
N11B	1	2"	300# RFWN	LSHH	84	G.F.	SHOWN	III	1			
N12	1	3"	300# RFHB	SPARE	137	G.F.	251	III	1			c/w B.F.B.O.



BILL OF MATERIALS													
ITEM No.	TAG No.	PART	QTY	NOM SIZE (Inches)	RATING	TYPE	SCH.	MAT'L THK (mm)	WD / ID (mm)	LG / OD (mm)	DESCRIPTION	MATERIAL	WEIGHT (kg)
101		SHELL	5					63.5	3048	9376	PLATE (ROLL TO 3048 O.D.)	SA-51670N	71227
102		HEAD	2			2:1 S.E.		63.5	3048		57.214 MIN. c/w 51 S.F.	SA-516-70N	10070.8
104		BRACKET	2					6.4	160	160	PLATE	SA-51670N	2.572
105		NAMEPLATE	1			DACRO					STANDARD NAMEPLATE	S.S.	1
108		BUILDING FLASH RING	1					6.4	304.8	3200	PLATE	SA-516-70N	37.5745
110	M1	HINGE	1	24"	300#	DACRO					SEE DWG: DACRO-HGE-24-300-3	C.S.	35
111	M1	BLIND	1	24"	300#	RFBLD					ASME FLANGE	SA-105N	34.3
112	M1	GASKET	1	24"	300#						SEE MATERIAL NOTE DWG: 04-538-DN-1	304 S.S.	3
113	M1	STUDS	24	1 1/2"							c/w (2) SA-194-2HM NUTS EACH	SA-193-B7M	84
114	M1	FLANGE	1	24"	300#	RFWN					ASME FLANGE, BORE 546 mm	SA-105N	24.8
115	M1	NECK	1					318	315	1815	PLATE (ROLL TO 273 I.R.)	SA-516-70N	142.719
116	M1	REPAD	1					50.8	610	1041	PLATE, 216 ALL AROUND (DISH TO FIT HEAD)	SA-516-70N	224
118	N1	FLANGE	1	10"	300#	RFWN	100				ASME FLANGE	SA-105N	45.36
119	N1	NECK	1	10"		SMLS	100				PIPE	SA-106-B	25.678
120	N1	REPAD	1					50.8	273	477	PLATE, 102 ALL AROUND (ROLL TO 1524 I.R.)	SA-516-70N	4.8
122	N2	FLANGE	1	8"	300#	RFWN	100				ASME FLANGE	SA-105N	32
123	N2	NECK	1	8"		SMLS	100				PIPE	SA-106-B	15.7
124	N2	REPAD	1					50.8	219	397	PLATE, 89 ALL AROUND (ROLL TO 1524 I.R.)	SA-516-70N	34
126	N3, N4	FLANGE	2	6"	300#	RFWN	160				ASME FLANGE	SA-105N	40.824
127	N3, N4	NECK	2	6"		SMLS	160				PIPE	SA-106-B	29.5602
128	N3, N4	REPAD	2					50.8	168	219	PLATE, 63.5 ALL AROUND (ROLL TO 1524 I.R.)	SA-516-70N	36
130	N5A/B, N6	FORGING	3	3"	300#	RFHB					ASME FORGING	SA-105N	90
132	N5A/B	BLIND	2	3"	300#	RFBLD					ASME FLANGE	SA-105N	14.5152
133	N5A/B	GASKET	2	3"	300#						SEE MATERIAL NOTE DWG: 04-538-DN-1	304 S.S.	2
134	N5A/B	STUDS	16	3/4"							c/w (2) SA-194-2HM NUTS EACH	SA-193-B7M	6.968
138	N7	FORGING	1	3"	300#	RFHB					ASME FORGING	SA-105N	30
140	N8	FORGING	1	3"	300#	RFHB					ASME FORGING	SA-105N	32
142	N9A	FORGING	1	3"	300#	RFHB					ASME FORGING	SA-105N	31
143	N9B	FLANGE	1	3"	300#	RFWN	160				ASME FLANGE	SA-105N	8.1648
144	N9B	NECK	1	3"		SMLS	160				PIPE	SA-106-B	20
145	N9B	REPAD	1					50.8	89		64 WD ALL AROUND, ROLL PLATE TO 1542 I.R.	SA-516-70N	12.1238
146	N9B	BRACE	1					9.5	51	427	PLATE, CUT TO SUIT	SA-516-70N	1.61765
150	N10A/B	FORGING	2	3"	300#	RFHB					ASME FORGING	SA-105N	67
155	N11A	FLANGE	1	2"	300#	RFWN	160				ASME FLANGE	SA-105N	4
156	N11A	NECK	1	2"		SMLS	160				PIPE	SA-106-B	4
157	N11B	FORGING	1	2"	300#	RFLWN					ASME FORGING	SA-105N	9
160	N12	BLIND	1	3"	300#	RFBLD					ASME FLANGE	SA-105N	7.2576
161	N12	FORGING	1	3"	300#	RFHB					ASME FORGING	SA-105N	30
162	N12	GASKET	1	3"	300#						SEE MATERIAL NOTE SHT: 04-538-DN-1	304 S.S.	1
163	N12	STUDS	8	3/4"							c/w (2) SA-194-2HM NUTS EACH	SA-193-B7M	200



ELEVATION
ELEVATION SHOWN IS NOT A TRUE ORIENTATION

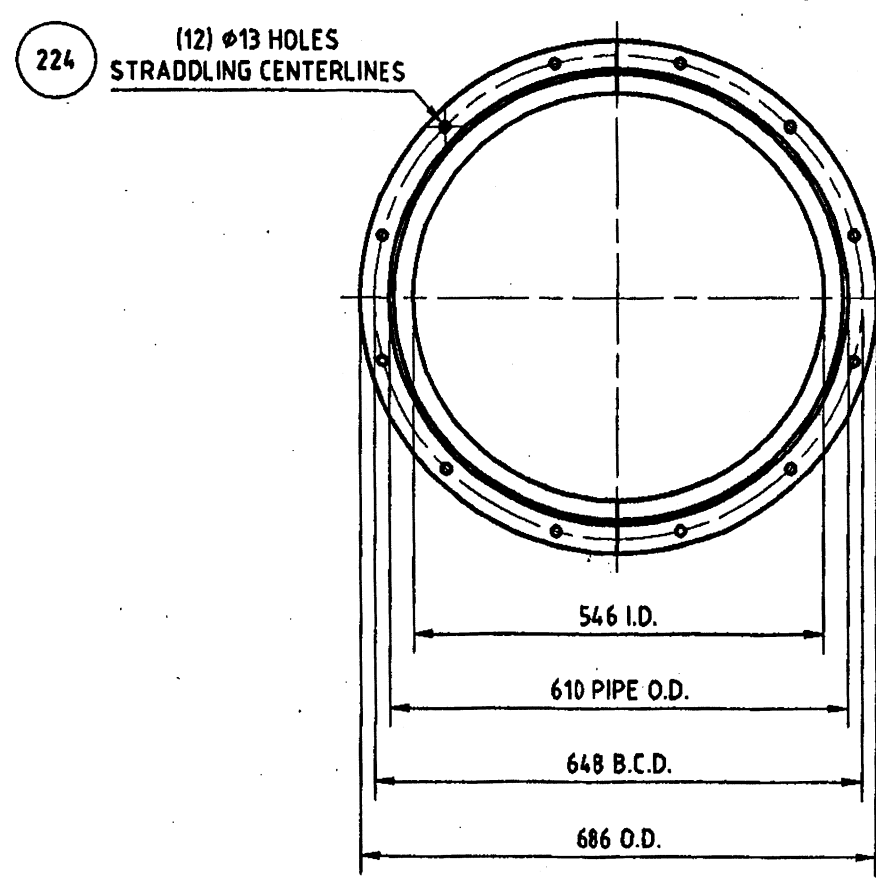
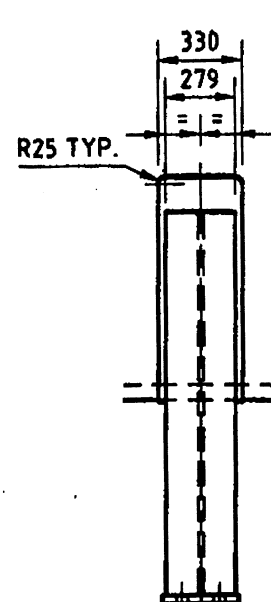
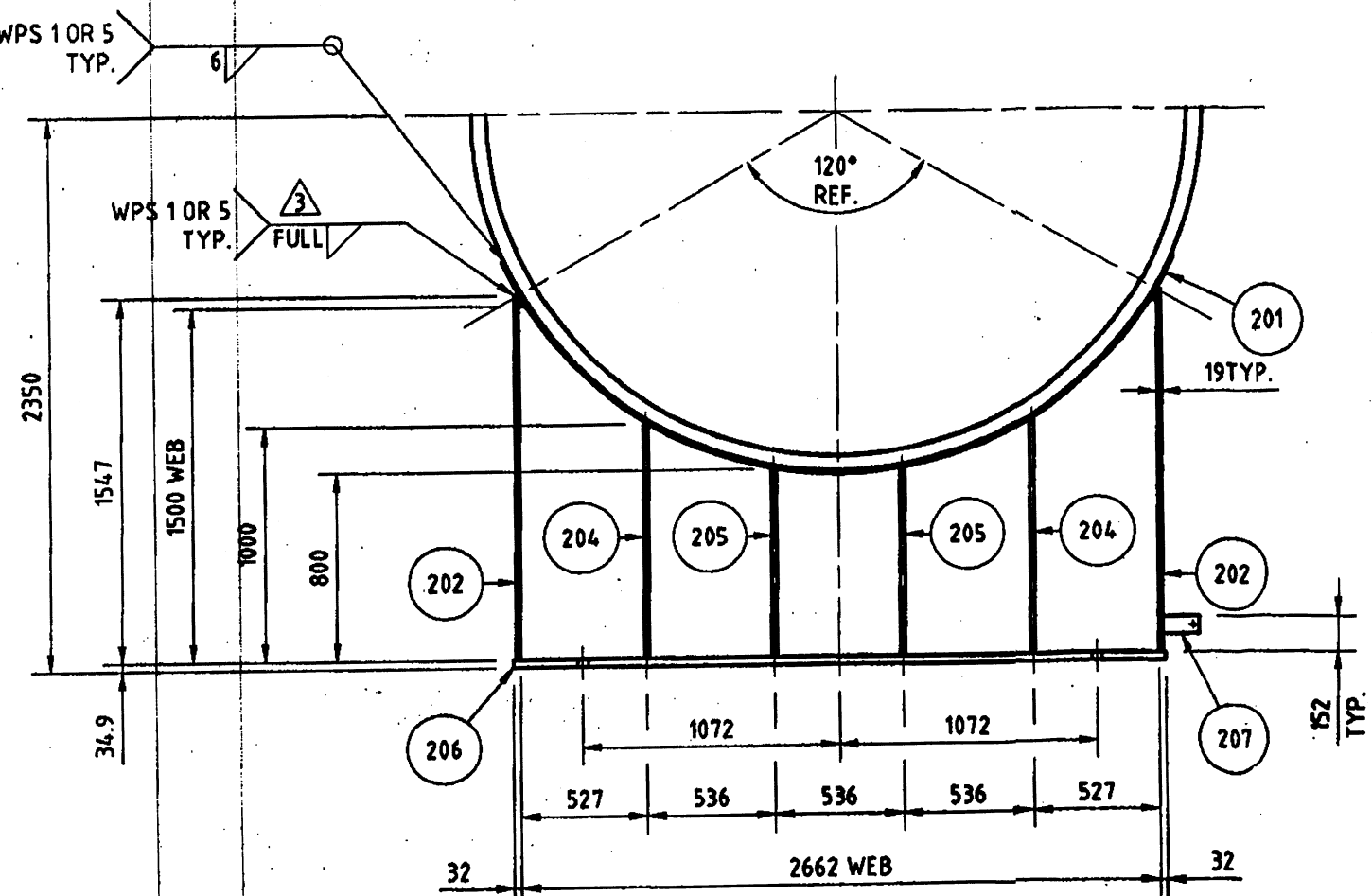
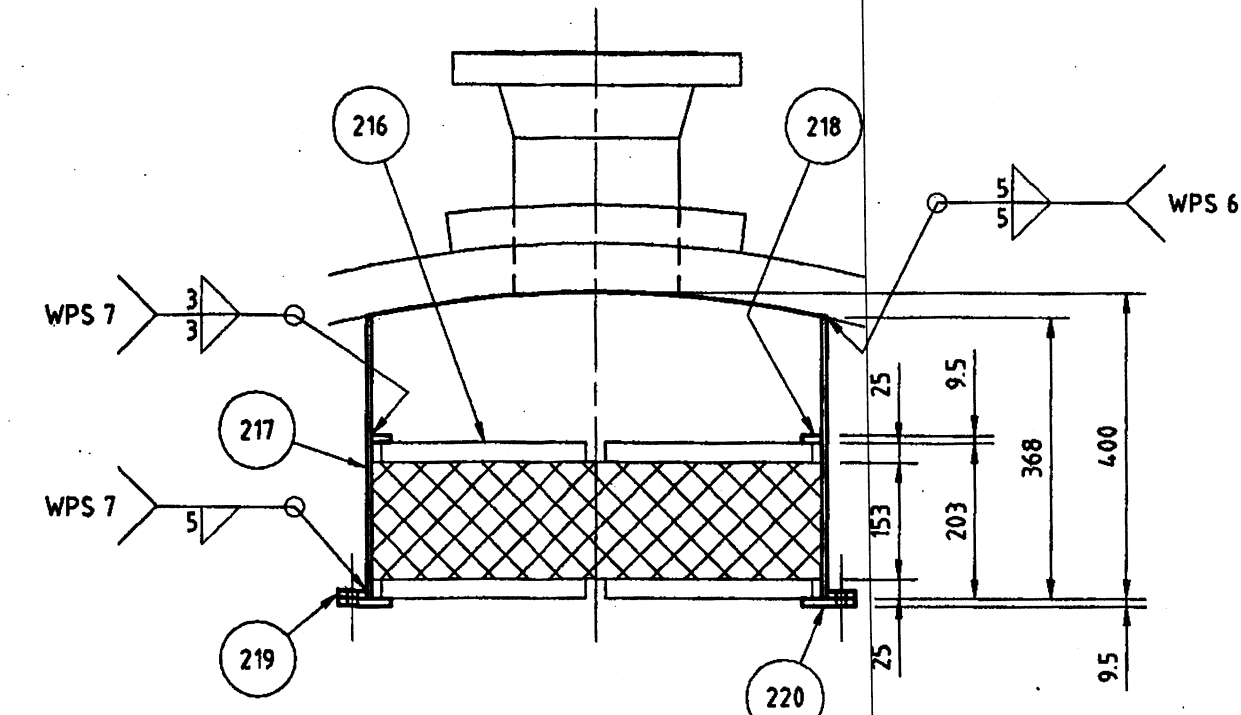
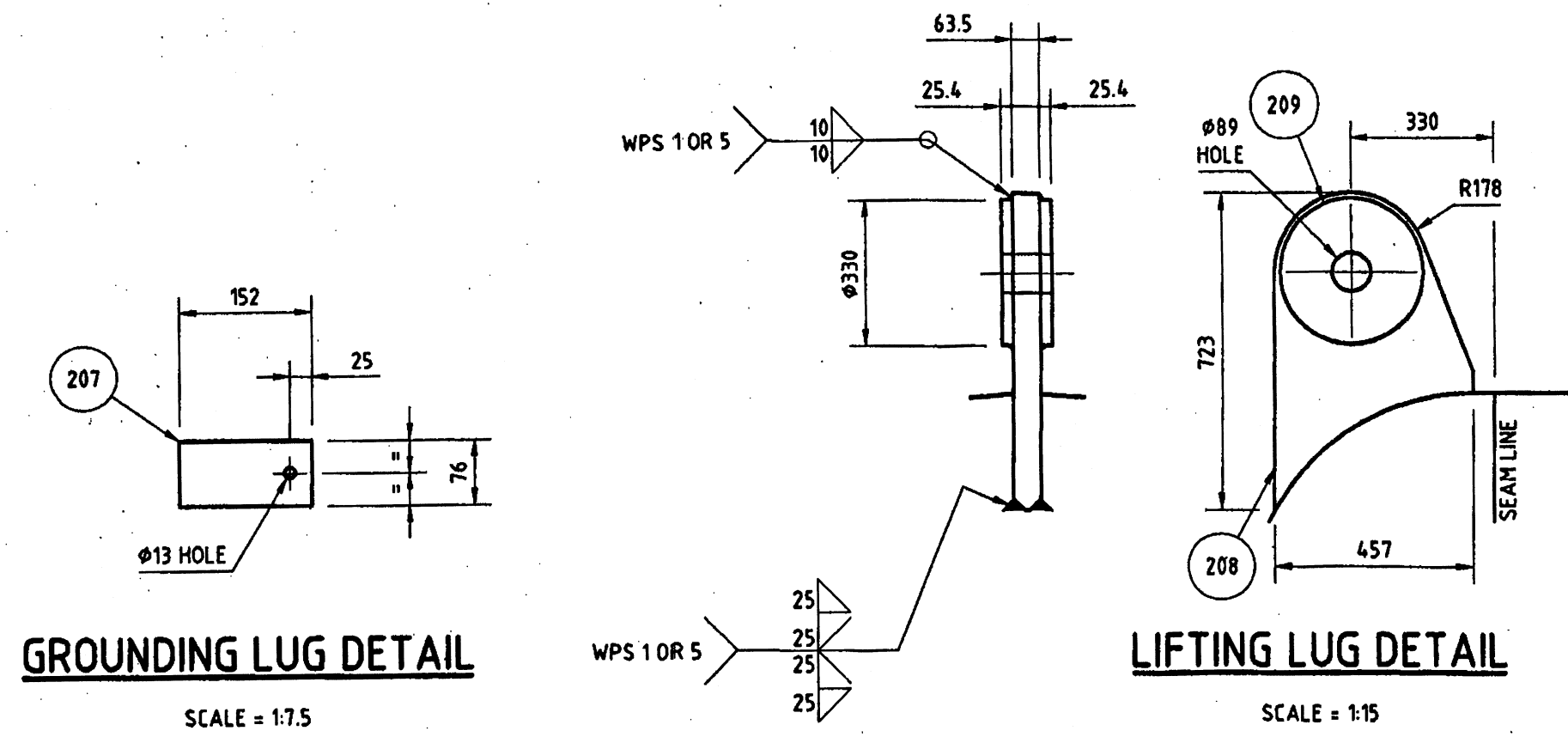
CERTIFIED AS-BUILT
APR 1 2004

REV.	DESCRIPTION	DATE	BY	CHKD.
3	CERTIFIED AS-BUILT	04/06/2004	A.A.	S.S.
2	REVISED AS PER CUSTOMER MARK-UP	01/19/2004	A.A.	S.S.
1	REVISED AS PER CUSTOMER DWG	01/05/2004	A.A.	S.S.
0	FIRST ISSUE	12/12/2003	A.A.	S.S.

SHIPPING ENVELOPE PERIMETERS:	
OVER ALL LENGTH IN SHIPPING POSITION:	17526mm [57'-6"]
OVER ALL HEIGHT IN SHIPPING POSITION:	4420mm [14'-6"]
OVER ALL WIDTH IN SHIPPING POSITION:	3353mm [11'-0"]
SHIPPING WEIGHT:	90745kg [200055lbs]

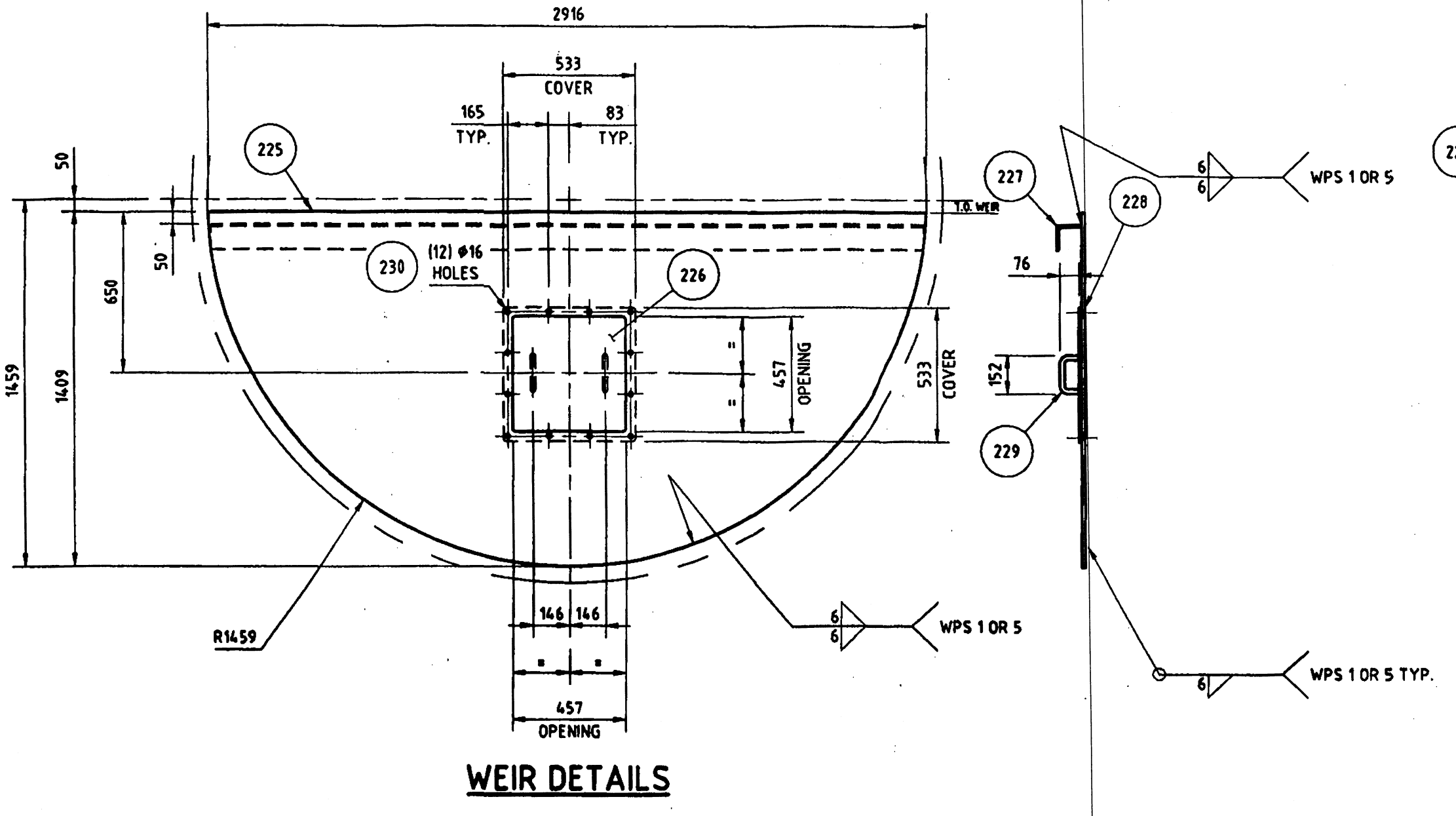
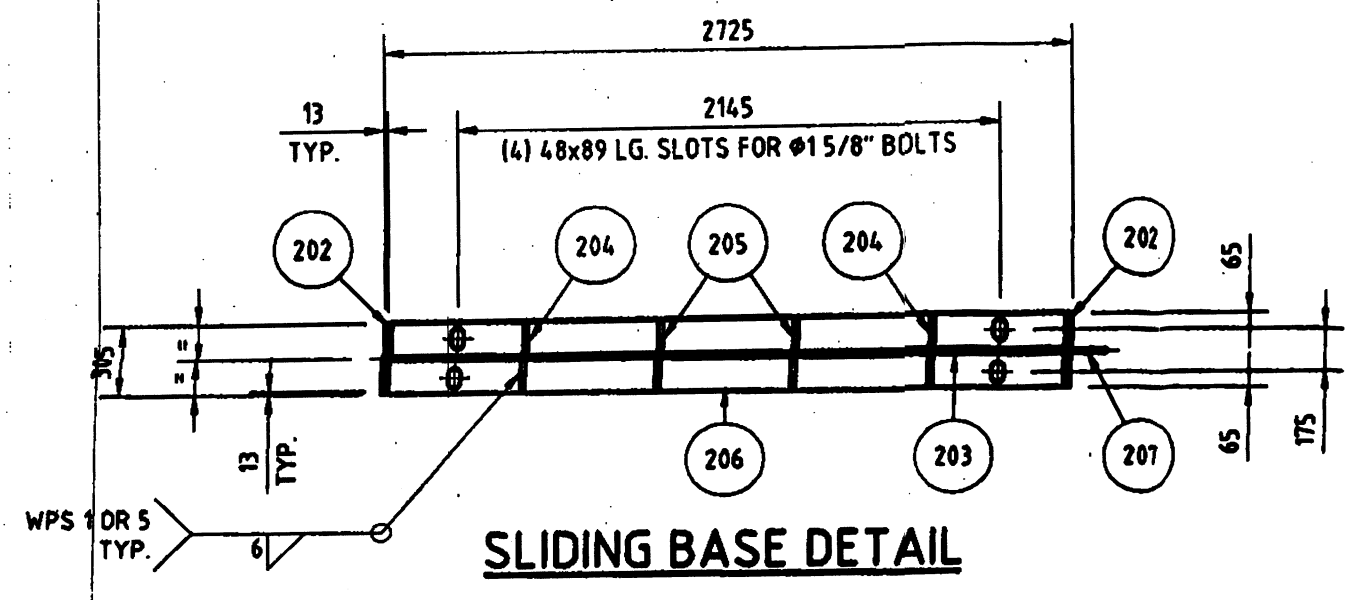
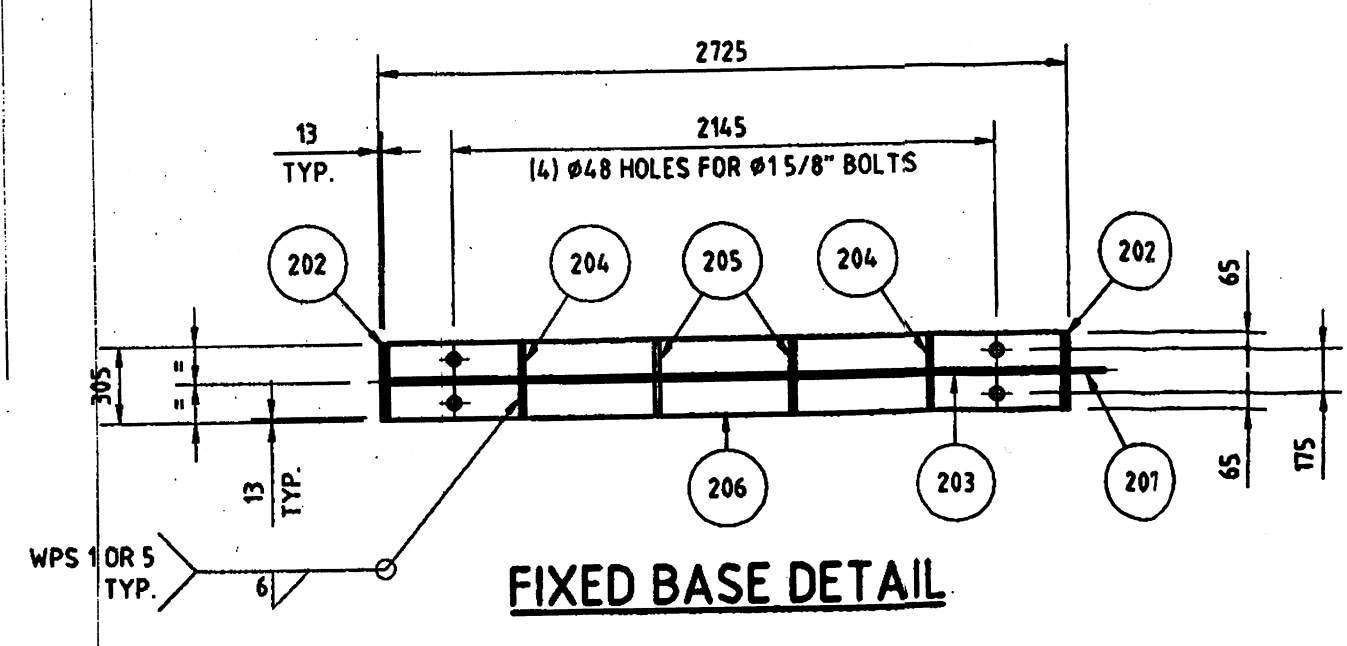
VESSEL QTY OF 1	CUSTOMER NAME KVAERNER PROCESS SYSTEMS	END USER KEYSPAN ENERGY CANADA
	PURCHASE ORDER NO. 3060-001	TAG No. V-100
	LOCATION LSD 11-14-50-BW5	
	DRAWN BY A. ASTER	
CHECKED BY S. STOJANOVIC		DOCUMENT NO. 04-538-V-1
DATE 12/03/2003	SCALE 1:30	SHEET 1 of 3

CAD DWG No. 538V-01.dwg

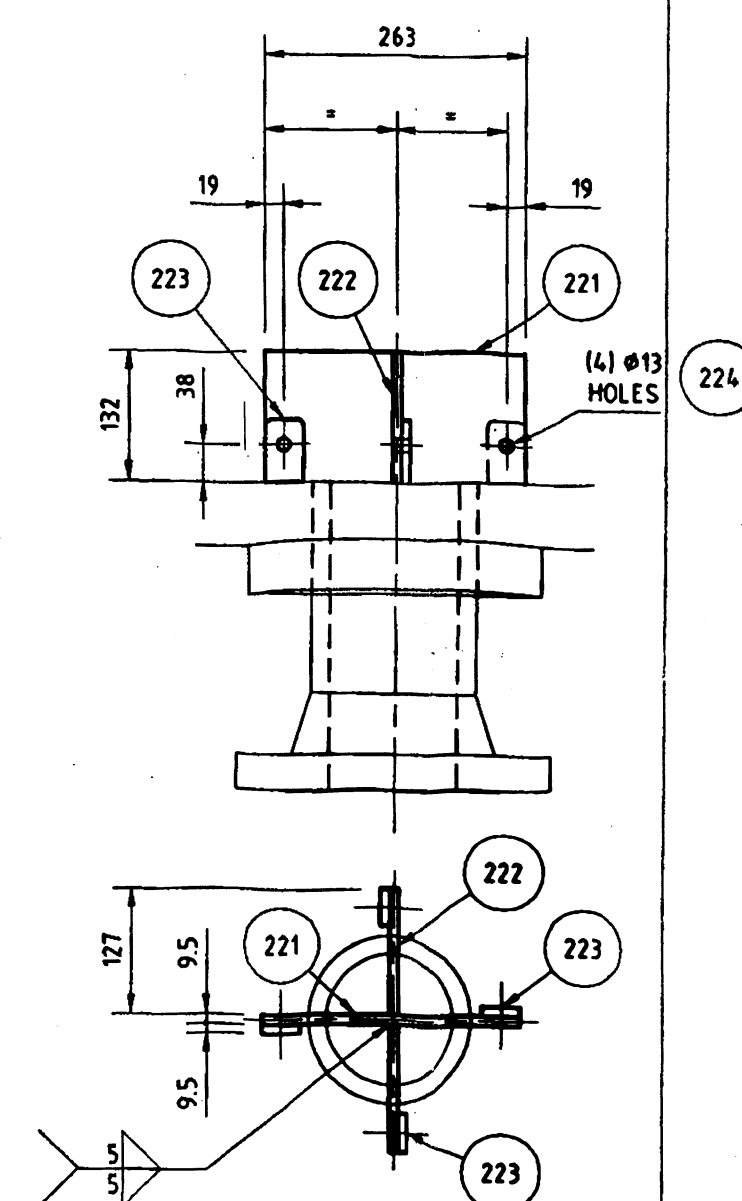


MIST EXTRACTOR DETAIL - N2
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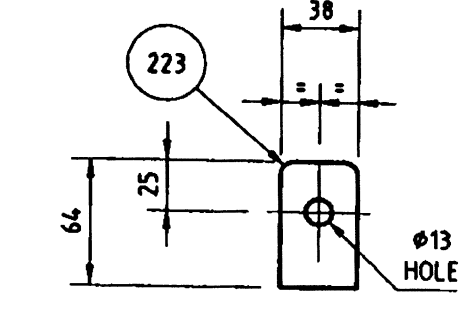
SADDLE DETAILS
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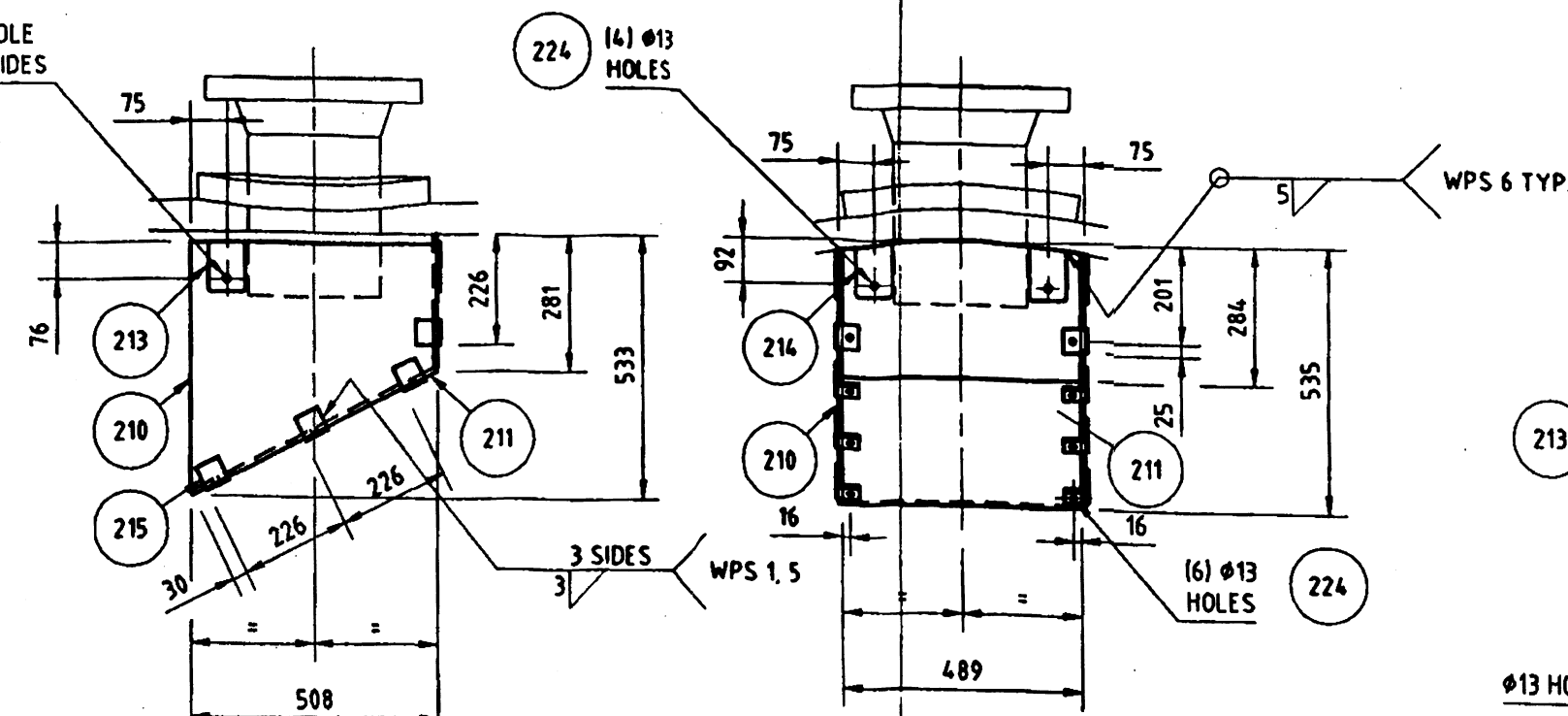
WEIR DETAILS
SCALE = 1:20



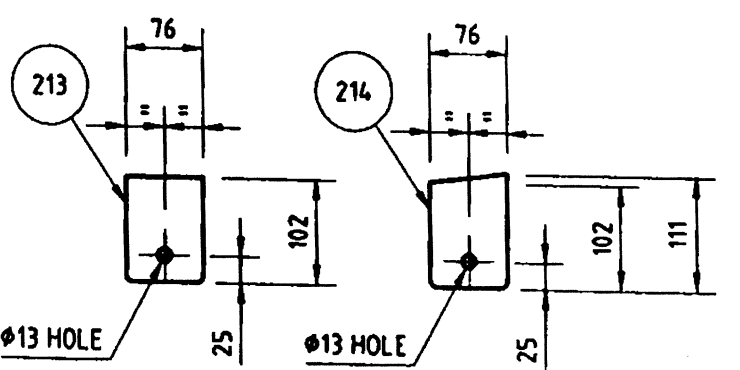
VORTEX BREAKER - N3 & N4
SCALE = 1:75



VORTEX BREAKER CLIP DETAIL
SCALE = 1:3.75



INLET DEFLECTOR DETAIL - N1
SCALE = 1:15



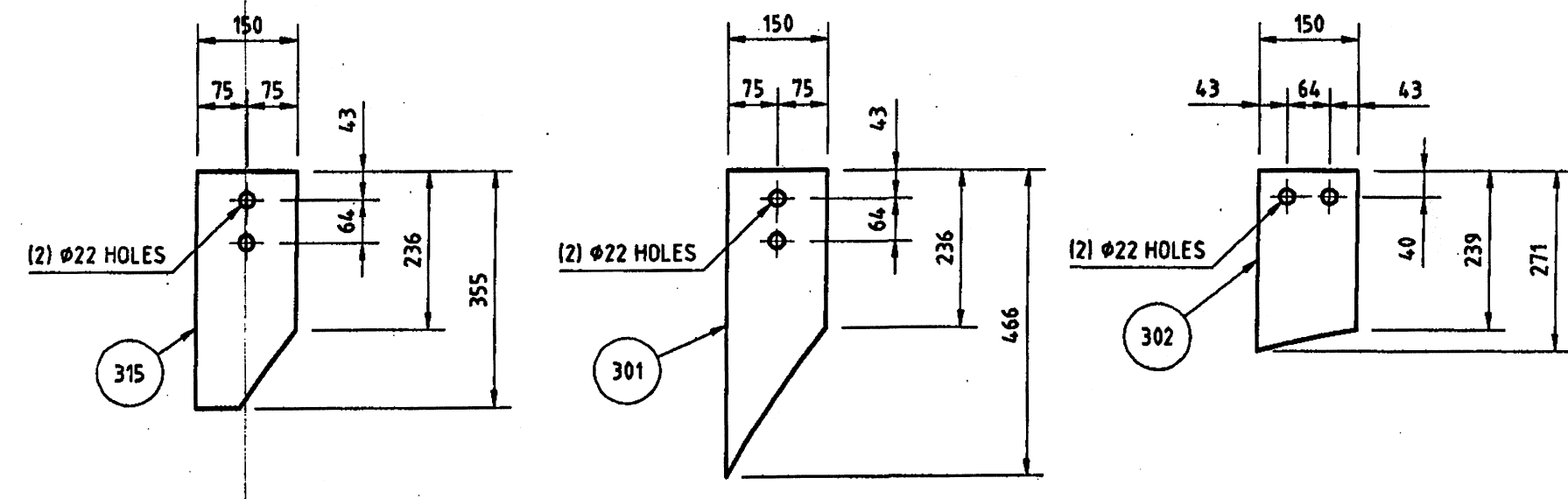
INLET DEFLECTOR CLIP DETAILS
SCALE = 1:7.5

ITEM No.	TAG No.	PART	QTY	NOM SIZE (inches)	RATING	TYPE	BILL OF MATERIALS			DESCRIPTION	MATERIAL	WEIGHT (kg)
							SCH.	MAT'L THK (mm)	WD/ID (mm)			
201		WEARPLATE	2				12.7	330	3526	PLATE (ROLL TO 1524 I.R.)	SA-516-70N	232
202		ENDPLATE	4				19.1	279	1547	PLATE	SA-516-70N	258.17
203		WEB	2				19.1	1500	2262	PLATE	SA-516-70N	1012
204		RIB	8				19.1	130	1000	PLATE	SA-516-70N	155
205		RIB	8				19.1	130	800	PLATE	SA-516-70N	124
206		BASEPLATE	2				34.9	305	2725	PLATE, SEE DETAIL	SA-516-70N	4.56
207		GROUNDING LUG	2				6.4	76	152	PLATE, SEE DETAIL	SA-516-70N	1.2
208		LIFTING LUG	2				63.5	457	723	PLATE, SEE DETAIL	SA-516-70N	330
209		WASHER	4				25.4	89	330	PLATE, SEE DETAIL	SA-516-70N	6.80
210	N1	DEFLECTOR	2				9.5	508	533	PLATE c/w HOLE, SEE DETAIL	SA-516-70N	4.046
211	N1	DEFLECTOR	1				9.5	489	833	PLATE c/w HOLES, SEE DETAIL	SA-516-70N	32.163
212	N1	CLIP	2				9.5	76	102	PLATE, SEE DETAIL	316 S.S.	1.2
213	N1	CLIP	2				9.5	76	111	ANGLE, SEE DETAIL	316 S.S.	1.2
214	N1	CLIP	8	2" x 2"			6.4	50.8		ANGLE c/w HOLE	G40.21-44W	1.9292
215	N1	CLIP	1				152.4	596		MESH PAD c/w C.S. GRIDS (916/CUFT.) CUT INTO 2 HALVES TO FIT THRU MANWAY	304 S.S.	11
216	N2	PIPE	1	24"			6.4	400	1859	PLATE (ROLL TO 298 I.R.)	316 S.S.	37.358
217	N2	INTERNAL RING	1				9.5	546	596	PLATE, SEE DETAIL	316 S.S.	3.33
218	N2	EXTERNAL RING	1				9.5	610	686	PLATE c/w HOLES, SEE DETAIL	316 S.S.	6.67
219	N2	SUPPORT RING	1				9.5	546	686	PLATE c/w HOLES, CUT INTO 2 HALVES TO FIT THRU MANWAY, SEE DETAIL	316 S.S.	10
221	N3, N4	VORTEX BREAKER	2				9.5	132	263	PLATE c/w HOLES, SEE DETAIL	SA-516-70N	5.1778
222	N3, N4	VORTEX BREAKER	4				9.5	127	132	PLATE c/w HOLES, SEE DETAIL	SA-516-70N	5.0006
223	N3, N4	CLIPS	8				9.5	38	64	PLATE c/w HOLE	316 S.S.	4.0
224		BOLT	32	3/8"					38	c/w (1) NUT EACH	S.S.	800
225		WEIR	1				12.7	1409	2916	PLATE c/w HOLE, SEE DETAIL	SA-516-70N	4.09.61
226		COVER PLATE	1				12.7	533	533	PLATE c/w HOLES, SEE DETAIL	SA-516-70N	28.322
227		STIFFNER	1	4"x4"			9.5		2890	ANGLE	G40.21-44W	42.14.8
228		GASKET	1	1/8"				533	533	CUT TO SUIT	NEOPRENE	2
229		HANDLE	2	3/4"				267		R.B., SEE DETAIL	G40.21-44W	2
230		BOLTS	12	1/2"				51		c/w (1) NUT EACH	C.S.	1.5

CERTIFIED AS-BUILT

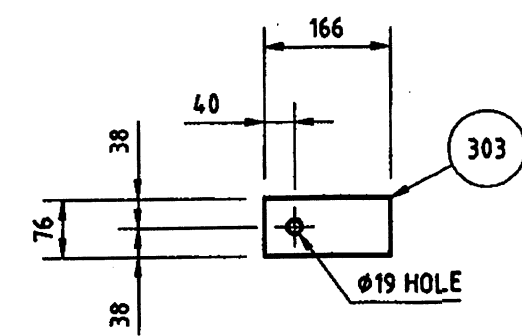
VESSEL QTY OF 1	CUSTOMER NAME	KVAERNER PROCESS SYSTEMS	END USER	KEYSPAN ENERGY CANADA	
	PURCHASE ORDER NO.	3060-001	TAG No.	V-100	
	DACRO INDUSTRIES INC.		9325 14th Avenue Edmonton, Alberta		
	THE INFORMATION SHOWN ON THIS DRAWING IS THE PROPERTY OF DACRO INDUSTRIES INC. AND IS NOT TO BE REPRODUCED OR IN WHOLE OR IN PART FOR USE OF IT WHATSOEVER THAT MAY BE INJURIOUS TO DACRO INDUSTRIES INC.				
DATE	12/05/2003	SCALE	1:30	SHEET	2 of 3
DESCRIPTION	SADDLE DETAILS, INLET DEVICE, DEMISTER, WEIR & VORTEX BREAKER DETAILS				
REV.	04-538-V-2	FISCAL YEAR	2003	JOB No.	DOC. TYPE

3	CERTIFIED AS-BUILT	04/06/2004	A.A.	S.S.	3	SA-20 (CVN) SAW: LINCOLN L-56 SINGLE, 880M	7	FC-4 (CVN) FCAW: E318LTO-4
2	REVISED AS PER CUSTOMER MARK-UP	01/19/2004	A.A.	S.S.	2	MS-5 (CVN) GMAW: ER70S-6, SMAW: E7018-1	6	S-38 (CVN) SMAW: E309L-16
1	REVISED AS PER CUSTOMER MARK-UP	01/12/2004	A.A.	S.S.	1	S-41 (CVN) SMAW: E7018-1	5	FC-5 (CVN) FCAW: E711-12MJ (ATTACHMENTS ONLY)
0	FIRST ISSUE	12/12/2003	A.A.	S.S.			4	SA-29 (CVN) SAW: LINCOLN L-56 TWIN, 880M
APPROVED WELDING PROCEDURES: ALL WELDING IN ACCORDANCE WITH PROCEDURE WP-519.2 AND MINIMUM PREHEAT REQUIREMENT IS 50F UNLESS OTHERWISE NOTED BY 200F WHERE APPLICABLE.								



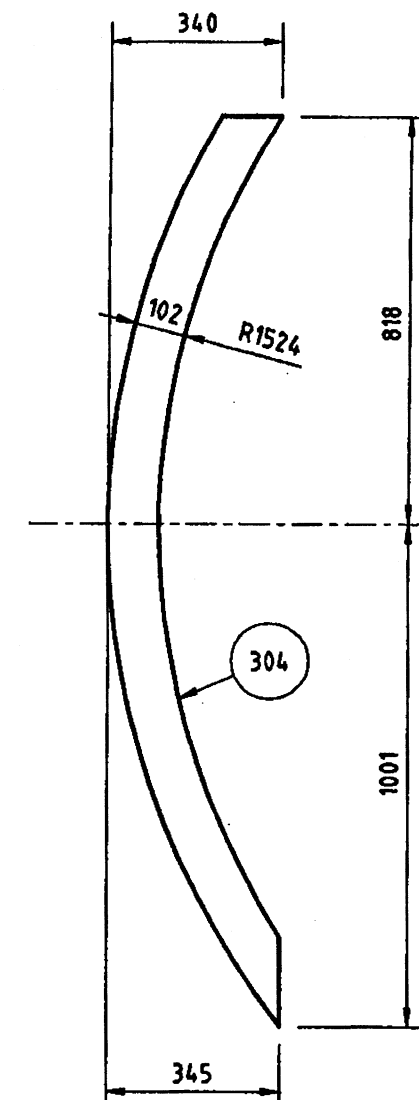
PLATFORM CLIP DETAILS

SCALE FACTOR: 3



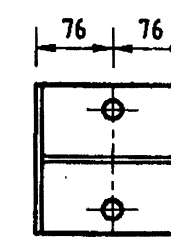
LADDER CLIP DETAIL

SCALE FACTOR: 3



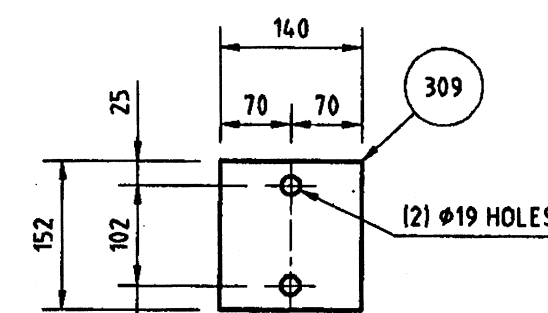
PARTIAL RING DETAIL

SCALE FACTOR: 2



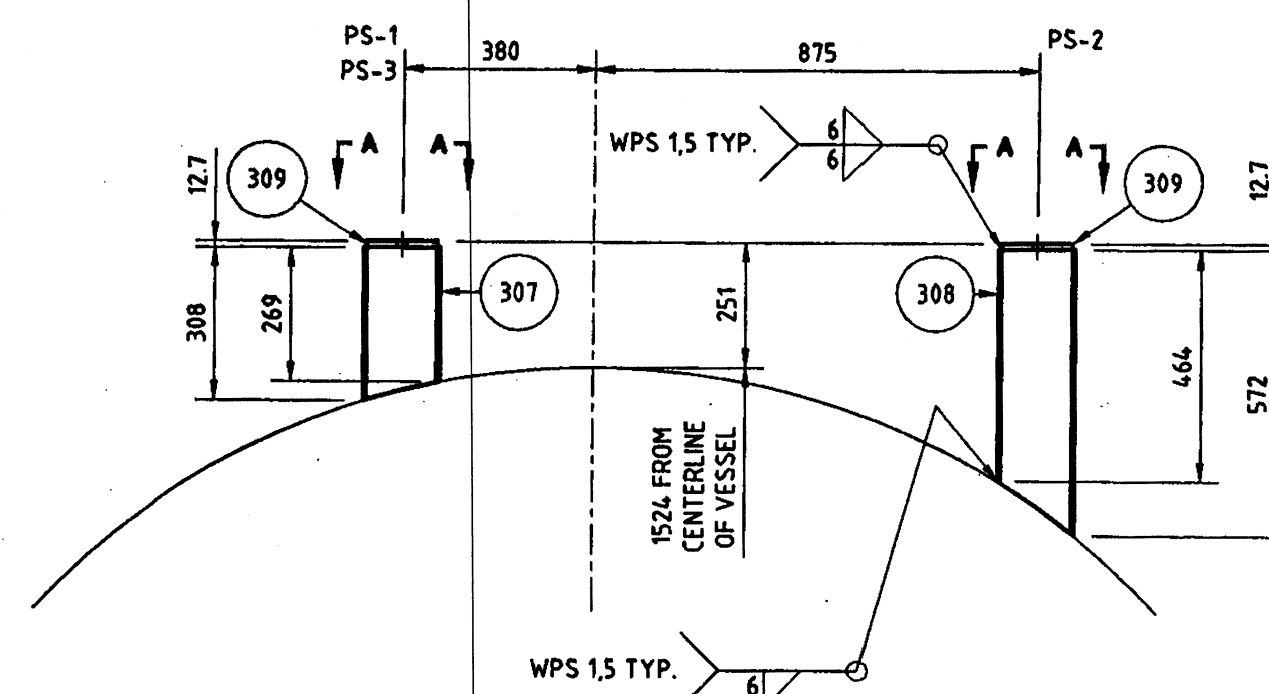
VIEW 'A-A'

SCALE FACTOR: 4



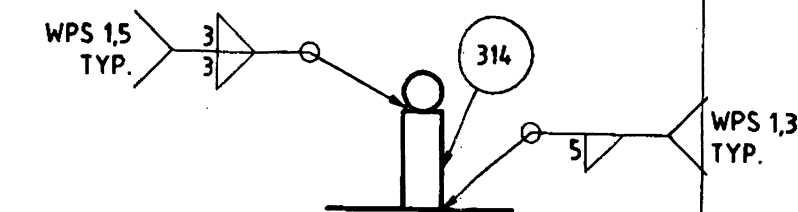
TOP PLATE DETAIL

SCALE FACTOR: 4



PIPE SUPPORT DETAIL

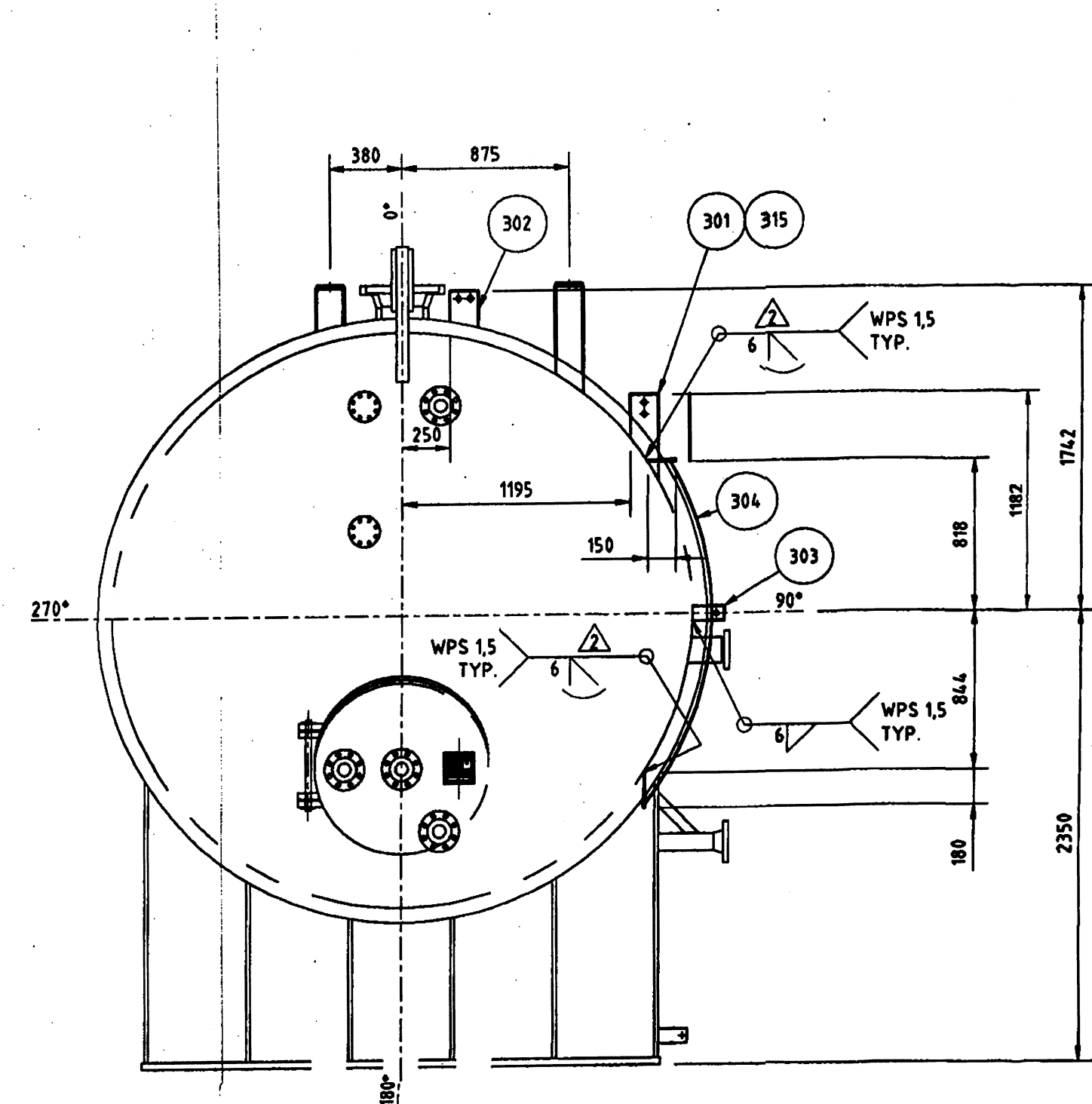
SCALE FACTOR: 2



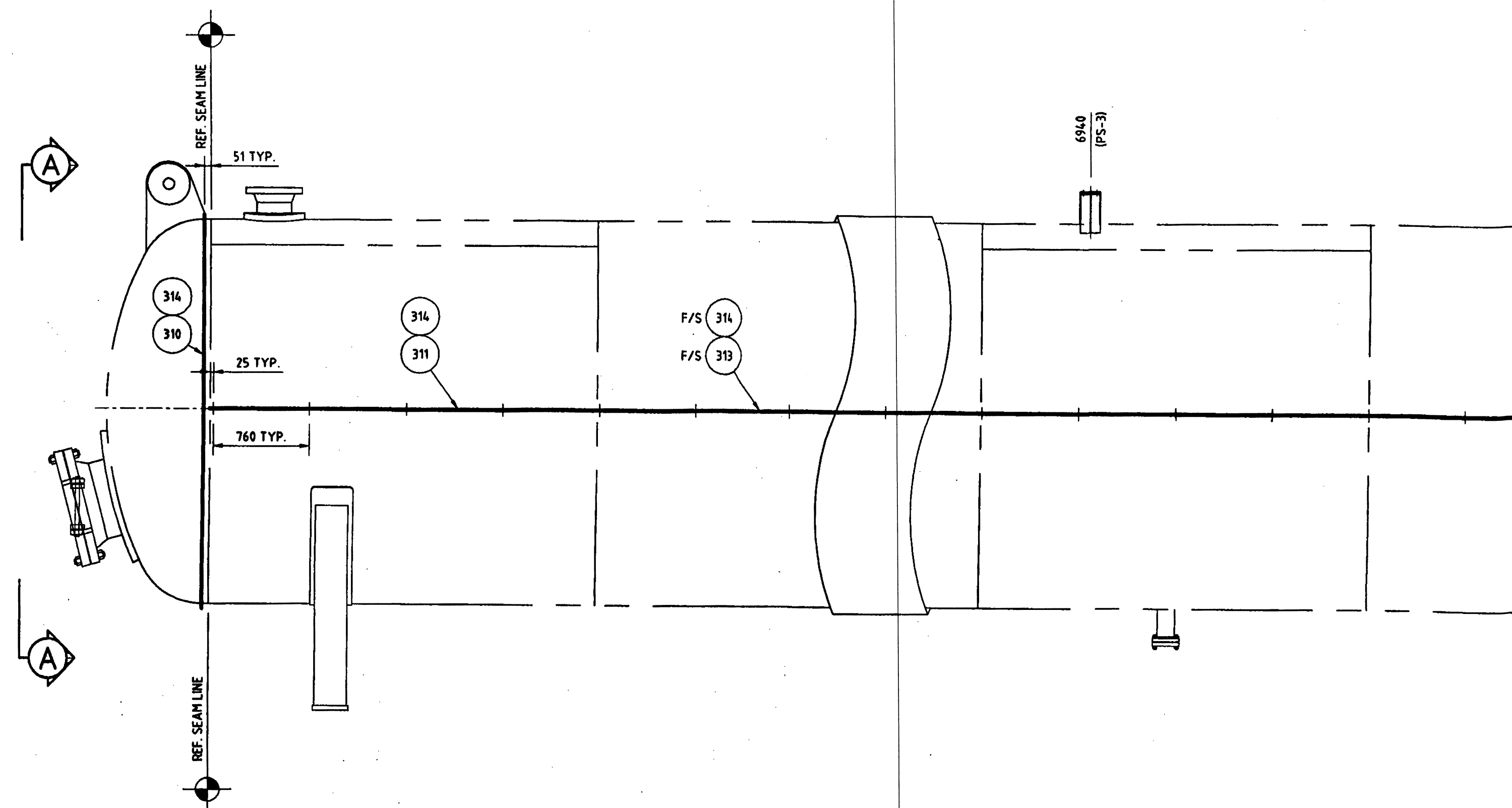
INSULATION SUPPORT DETAIL

SCALE FACTOR: 12

ITEM No.	TAG No.	PART	QTY	BILL OF MATERIALS										
				NOM SIZE (inches)	RATING	TYPE	SCH.	MAT'L THK (mm)	WD / ID (mm)	LG / OD (mm)	DESCRIPTION	MATERIAL	WEIGHT (kg)	
301		PLATFORM CLIP	2					9.5	150	466		PLATE c/w HOLES	SA-516-70N	10.4243
302		PLATFORM CLIP	3					9.5	150	271		PLATE c/w HOLES	SA-516-70N	9.9441
303		LADDER CLIP	2					9.5	76	166		PLATE c/w HOLE	SA-516-70N	1.88166
304		PARTIAL RING	2					9.5	345	1819		PLATE, SEE DETAIL	SA-516-70N	27.9434
305		PLATE	1					9.5	150	1652		PLATE	SA-516-70N	18.4796
306		PLATE	1					9.5	180	1652		PLATE	SA-516-70N	22.1756
307		PIPE SUPPORT	2	W150x22								WIDE FLANGE	G40.21/44W	13.7509
308		PIPE SUPPORT	1	W150x22								WIDE FLANGE	G40.21/44W	12.7686
309		TOP PLATE	3					12.7	140	152		PLATE c/w HOLES	SA-516-70N	6.36453
310		INSULATION RING	2	1/2"							9875	ROUND BAR, ROLL TO 3138 O.D.	G40.21/44W	19.5263
311		INSULATION SUPPORT	1	1/2"							11212	ROUND BAR	G40.21/44W	12.943
312		INSULATION SUPPORT	1	1/2"							1251	ROUND BAR	G40.21/44W	1.2645
313		INSULATION SUPPORT	1	1/2"							14987	ROUND BAR	G40.21/44W	14.8987
314		INSULATION SUPPORT	64	1/2"							32	ROUND BAR	G40.21/44W	20.4096
315		PLATFORM CLIP	1					9.5	150	355		PLATE c/w HOLES	SA-516-70N	3.97111

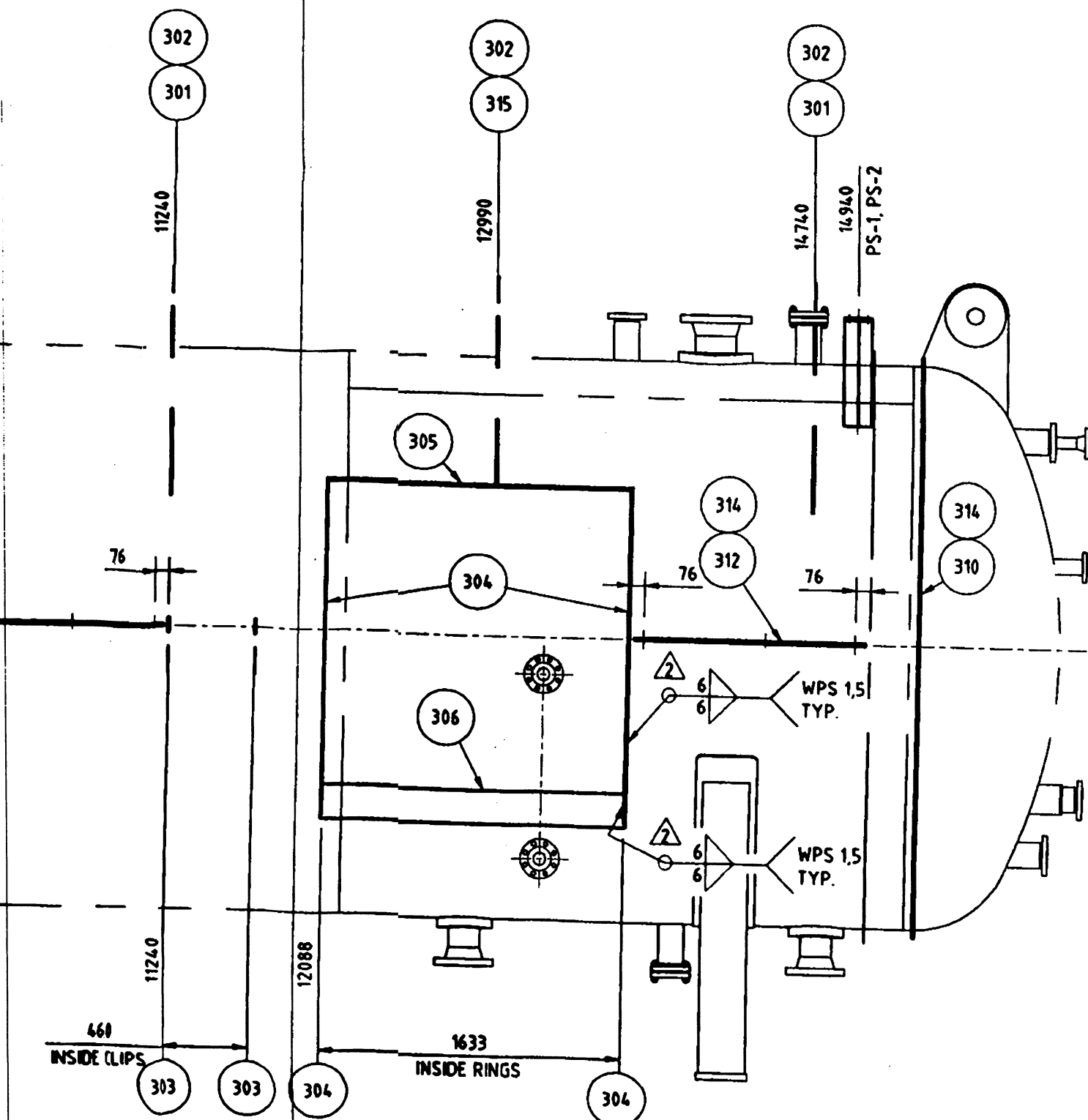


VIEW 'A-A'



ELEVATION

ELEVATION SHOWN IS NOT A TRUE ORIENTATION

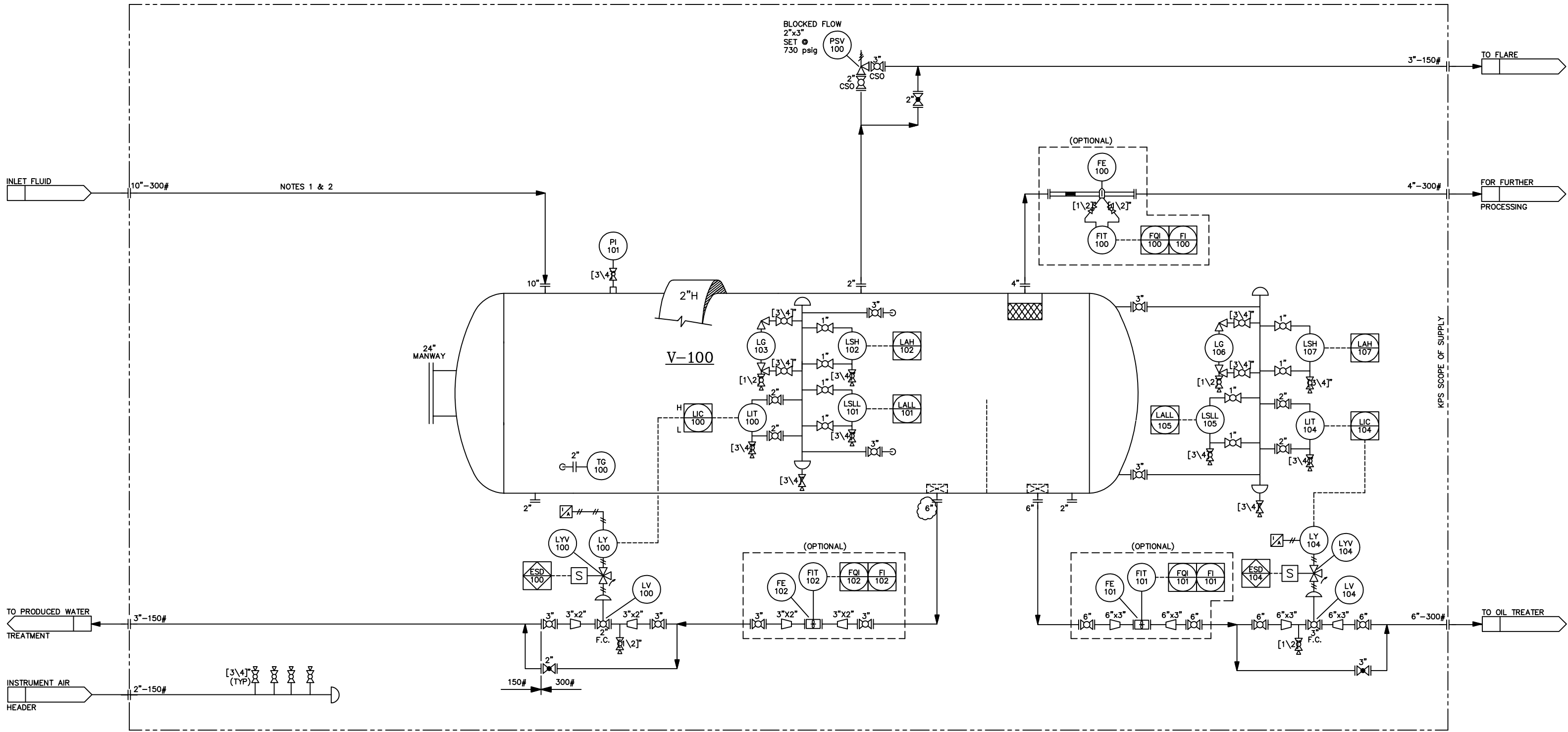


CERTIFIED AS-BUILT

REV.	DESCRIPTION	DATE	BY	CHKD.	APPROVED WELDING PROCEDURES: ALL WELDING IN ACCORDANCE WITH PROCEDURE WP-519.2 AND MINIMUM PREHEAT REQUIREMENT IS 50°F UNLESS OTHERWISE NOTED BY [200F] WHERE APPLICABLE.
1	CERTIFIED AS-BUILT	04/06/2004	A.A.	S.S.	7 FC-4 (CVN) FCAW: E316LT0-4
2	REVISED PER CUSTOMER MARK-UP & DRAWING	01/29/2004	A.A.	S.S.	8 S-38 (CVN) SMAW: E309L-16
3	FIRST ISSUE	01/26/2004	A.A.	S.S.	9 FC-5 (CVN) FCAW: E71T-12MJ (ATTACHMENTS ONLY)
4	DESCRIPTION				10 SA-29 (CVN) SAW: LINCOLN L-56 TWIN, 880M

CUSTOMER NAME KVAERNER PROCESS SYSTEMS		END USER KEYSPAN ENERGY CANADA	
PURCHASE ORDER NO. 3080-001		TAG No. V-100	
LOCATION LSD-11-14-50-8W5		DATE 04-538-V-3	
DACRO INDUSTRIES INC. 9325 44 AVENUE EDMONTON, ALBERTA			
GROUP DEPARATOR LADDER & PLATFORM CLIPS, PIPE SUPPORTS, & INSULATION DETAILS			
DRAWN BY A. ASTER		CHECKED BY S. STOJANOVIC	
DATE 01/23/2004		SHEET 3 of 3	
SCALE 1:30		FISCAL YEAR JOB No. DOC. No. SHT. No. REV.	

V-100
 OIL GROUP SEPARATOR
 SIZE: 120" O.D. x 50'-0" S/S
 DESIGN PRESSURE: 730 psig @ 100°F
 COATING: INTERNAL COATING



- ALL PIPING & MANUAL VALVES ARE NOT PART OF KPS SCOPE OF SUPPLY.
- ALL INSTRUMENTATION IS TO BE SHIPPED LOOSE, NOT INSTALLED ON SEPARATOR.

DRAWING	DESCRIPTION	NO	BY	DATE	DESCRIPTION	CHK	APP'D
-		A	BJS	19 DEC 03	ISSUED FOR CUSTOMER APPROVAL		BJS
REFERENCE DRAWINGS				REVISIONS			

ENGINEER'S STAMP		DATE:	12 JUN 03
DRAWN:	PLF	CHECKED:	DATE:
APPROVED:	DATE:	CADD REF:	3060000101
SCALE:	1:1	JOB NO:	3060

Kvaerner Process Systems
 A division of Kvaerner Canada Inc. Calgary, Alberta

PROJECT: KEYSpan ENERGY CANADA
 EASYFORD 11-14-50-8W5
 BATTERY MODIFICATION

TITLE: OIL GROUP SEPARATOR
 PIPING & INSTRUMENTATION DIAGRAM

DRAWING NO: D-3060-00-0101
 REV: A