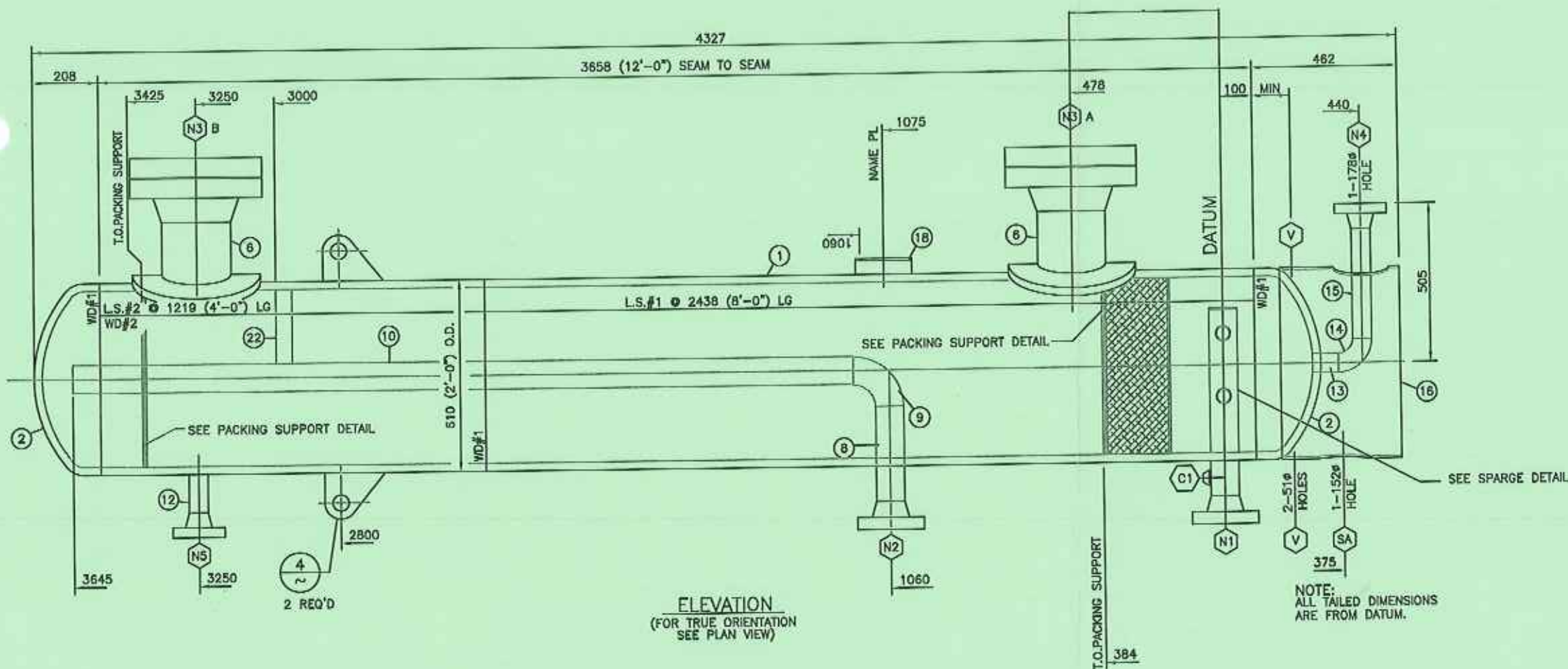
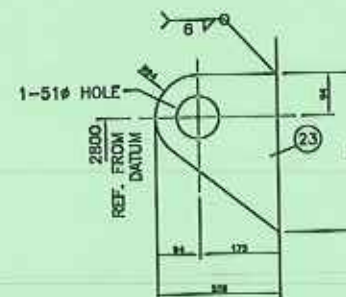
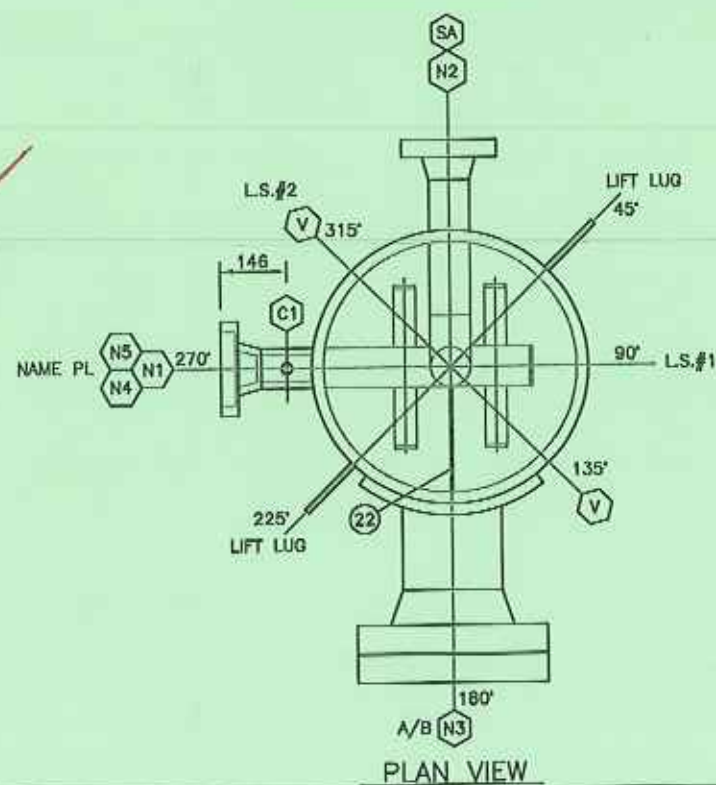




NOZZLE PROJ. FROM VESSEL TO RAISED FACE OF FLANGE

N1,N2,N4,N5.....505mm
N3A/B.....636mm



4 LIFT LUG DETAIL
SCALE 1:5
2 REQ'D

6	CHANGED THE WELD SIZES ON NOZZLES N1 AND N2	04/16/07	JRC
5	INCREASED FLANGE HOLE IN SKIRT FROM 100mm TO 178mm.	04/04/07	JRC
4	ADDED ITEM 26 - PACKING MATERIAL, ALSO ADDED PAGE 2 CONTAINING PACKING, SPARGE SUPPORT DETAILS.	04/04/07	JRC
3	I.P. N1&N2 TO 1" AS REQUIRED IN CALCS, UPDATED SPARGE AND PACKING SLIP DETAIL.	04/01/07	RCN
2	ADDED NOZZLE WELD SIZE, INSPECTED BY, WEIGHT, RADIOGRAPHY NOTES, CHANGED PWHT FOR DYNACORP WELD, PROCEDURES.	03/27/07	JRC
1	ADDED INSIDE PROJECTION COLUMN, ADDED CODE EDITION AND ADDENDA NOTES.	03/26/07	JRC
REV.	DESCRIPTION	DATE	BY

This Drawing is the property of Dynacorp Fabricators Ltd. It must be returned immediately upon request and must not be reproduced, copied, or lent in whole or in part, nor used for any purpose other than that for which it is specifically furnished, without the expressed written permission of Dynacorp Fabricators Ltd.

BILL OF MATERIAL

ITEM	QTY.	DESCRIPTION	MAT'L SPEC.
1	1	23.4 (1") PL ROLLED TO 609.6 (2'-0") OD x 3658 (12'-0") LG	SA-516-70N X
2	2	24.36(0.959") MIN GA. (28.58(1.125")NOM) x 609.6 (2'-0") OD	SA-516-70N X
		ASME CODE 2:1 S.E. HEADS c/w 51 (2") S.F.	
3	2	8"-600# ASME RFWN FLG x SCH 100 BORE	SA-105N X
4	2	8"-600# ASME RF 'BLIND' FLG	SA-105N X
5	2	3"-600# ASME RFWN FLG x SCH XXH BORE	SA-105N X
6	2	8"-SCH 100 SMLS PIPE x 239 LG	SA-108-B X
7	1	3"-SCH XXH SMLS PIPE x 588 LG	SA-108-B X
8	1	3"-SCH XXH SMLS PIPE x 298 LG	SA-108-B X
9	1	3"-SCH XXH 90° LR ELL	SA-108-B X
10	1	3"-SCH XXH SMLS PIPE x 2468 LG	SA-105N X
11	2	2"-600# ASME RFWN FLG x SCH 160 BORE	SA-105N X
12	1	2"-SCH 160 SMLS PIPE x 148 LG	SA-108-B X
13	1	2"-SCH 160 SMLS PIPE x 74 LG	SA-108-B X
14	1	2"-SCH 160 90° LR ELL	SA-234-WPB X
15	1	2"-SCH 160 SMLS PIPE x 343 LG	SA-108-B X
16	1	24"-SCH STD SMLS PIPE x 411± LG	SA-53-B X
17	-	-	-
18	1	VESSEL NAME PL c/w CHAIR	1-34-SS/SA-36/4W X
19	2	8"-600# ASME RF SPIRAL WOUND GASKET	T-316-SS X
20	24	28.58# x 197 LG STUD BOLTS c/w 2 HEX NUTS EACH	8-18-SS/SA-36/4W X
21	2	REPAD(N3A/B)-1" PL x 222 ID x 381 OD ROLLED TO 610 (2'-0") ID	SA-516-70N X
22	1	50.8 x 6.35 FB x 235 LG	SA-36/44W X
23	2	12.7 PL x 148 WD x 191 LG (SHOP TO SUIT)	SA-516-70N X
24	4	4.76 PL x 33.34 WD ROLLED TO 610 ID x 531 LG (HARDWAY(SHOP TO SUIT)	SA-516-70N X
25	1	1/2"-6000# TOL	SA-182-F316L
26	1	546 OD, X 203 STRUCTURE PACKING (SUPPLIED BY ULTRAFAB)	

ITEMS	QTY.	DESCRIPTION	MAT'L SPEC.
25	C1	1 1/2" 6000# TOL VENT	7
11,12	N5	1 2" 600# 160 RFWN PSV	6.9 0"
11,13,14,15	N4	1 2" 600# 160 RFWN DRAIN	6.9 OUT FLUSH
3,4,6,19,20,21	N3A/B	2 8" 600# 100 RFWN INSP.	5.6 0"
5,8,9,10	N2	1 3" 600# XXH RFWN OUTLET	4.6 1"
5,7	N1	1 3" 600# XXH RFWN INLET	4.6 1"

NOZZLE SCHEDULE

DESIGN DATA

CODE:	CONSTRUCTION IN ACCORDANCE WITH ASME B&PV CODE SEC.VIII DIV.1 2004ED., 2008 ADDENDA
SERVICE:	WATER/OIL/GAS
DES. PRESS.:	10205 kPaq (1480 psig)
MAX. HYDROSTATIC HEAD PRESS. (OPER.):	10205 kPaq (1480 psig)
OPERATING PRESS.:	10205 kPaq (1480 psig)
EXT. DESIGN PRESS.:	10205 kPaq (1480 psig)
FLG. MAX. PRESS. RATING @ D.T./M.D.M.T.:	10205 kPaq (1480 psig)
NOZZLE REINFORCEMENT CALC. PRESS.:	10205 kPaq (1480 psig)
HYDROSTATIC TEST PRESS.:	15308 kPaq (2220 psig)
VOLUME:	1.14m ³ (40.23 ft ³)
RADIOGRAPHY:	100% JOINT EFF. 1.0 A
VESSEL LONG SEAMS:	100% JOINT EFF. 1.0 A
VESSEL CIRC. SEAMS:	100% JOINT EFF. 1.0 B
VESSEL SECTIONS:	CYLINDRICAL
HEADS:	ASME 2:1 S.E.
NOZZLES:	ASME 2:1 S.E.
CALCULATED THICKNESS INCL. C.A.:	25.07mm (0.987")
MINIMUM THICKNESS USED:	25.4mm (1")
C.V.N. IMPACT TESTS:	EXEMPT PER SECTION UC-20(f)(1-5), UCS-68(c), FIG. UCS-68
POST WELD HEAT TREATMENT:	60 MIN @ 1150°F +/- 50°F
SERIAL NUMBER:	C.R.N. TO BE REGISTERED

DYNACORP

8600-92 St. Grande Prairie, AB T8V 7S3
Ph: (780) 538-1200 Fax: (780) 538-1090
9815-48 St. SE Calgary, AB T2C 2R1
Ph: (403) 720-9800 Fax: (403) 720-9881

24" OD X 12' S/S SWEETENING VESSEL

DWN JRC DATE 03/21/07 APPR
DWG. NO. 5100-43 REV 6 SCALE NTS SHEET 1/2

Issued For Fabrication

2J70889-12 Q.C.

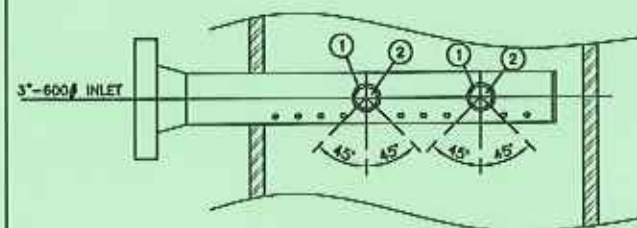
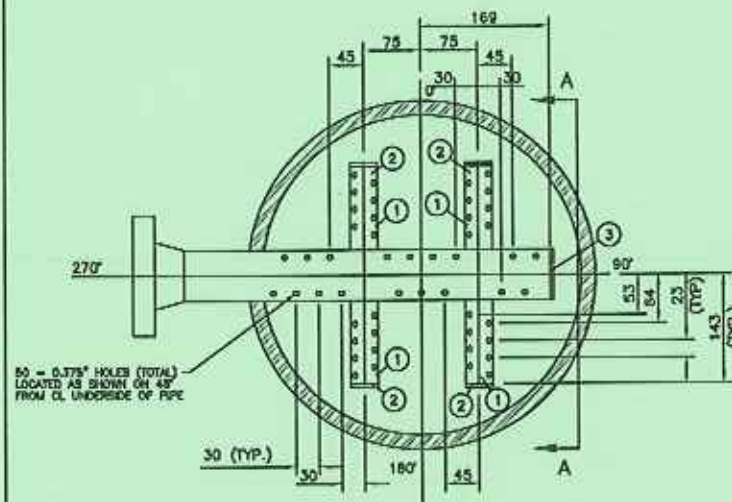
SPECIAL DETAIL:
FOR WELD INFORMATION SEE DYN-W1-R5.
FOR UNSPECIFIED WELDS USE 3/8" FILLET WELD OR MATCH
METAL THICKNESS IF LESS THAN 3/8".
FOR TOLERANCE INFORMATION SEE DYN-T1

NOZZLE WELD SIZE

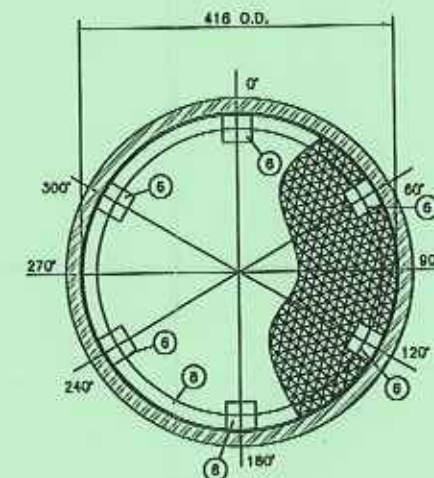
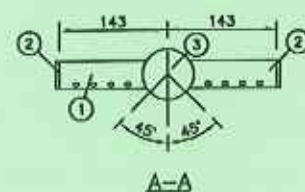
NOZZLE	A	B	C
N1	1 3/16	0	-
N2	1 3/16	0	-
N3A	3/8	-	5/8
N3B	3/8	-	5/8
N4	3/8	-	-
N5	3/8	-	-
C1	3/8	-	-

INSPECTED BY: PROVINCIAL BOILER INSPECTOR
WEIGHT: 4342 LBS
RADIOGRAPHY: RT-1 & 100% NOZZLE BUTTWELDS

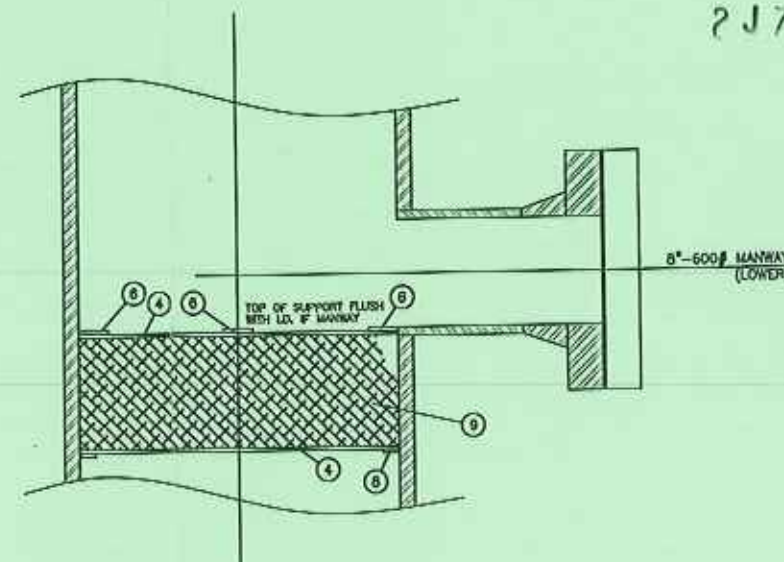
BILL OF MATERIALS			
ITEM	QTY.	DESCRIPTION	MATERIAL
1	4	1 1/2" - SCH XH SMLS PIPE x 157 LG	SA-106-B
2	4	1/4" PL x 48 OD	SA-36/44W
3	1	1/4" PL x 89 OD	SA-36/44W
4	2	EXPANDED METAL - C19-9R x 553 OD.	C.S.
5	1	EXPANDED METAL - C19-9R x 553 OD./116 ID.	C.S.
6	12	1/4" x 2" FB x 51 LG	SA-36/44W
7	1	4" - SCH STD SMLS PIPE x 51 LG	SA-106-B
8	1	1/4" PLATE X 552 OD x 502 ID (PACKING SUPPORT RING)	SA-36/44W
9	1	546 OD. X 203 STRUCTURE PACKING (SUPPLIED BY ULTRAFAB)	SA-36/44W



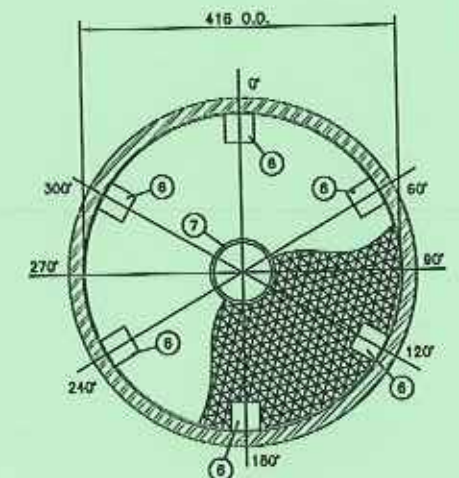
DISTRIBUTOR DETAIL



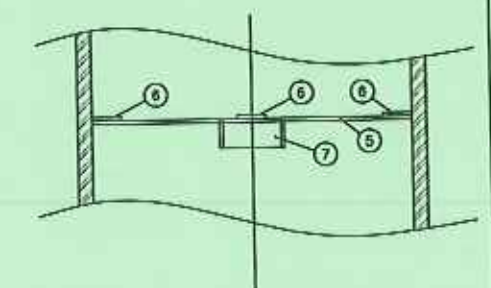
LOWER PACKING SUPPORT - PLAN VIEW



LOWER PACKING SUPPORT - SECTION



UPPER PACKING SUPPORT - PLAN VIEW



UPPER PACKING SUPPORT - SECTION
(SEE VESSEL DRAWING FOR ELEVATION)

Issued For Fabrication
2 J 7 0 3 8 9 -12 Q.C.

- NOTES:
- 1.) SHOP TO REMOVE ALL SHARP EDGES AND BURRS
 - 2.) ALL WELDS TO BE 6mm CONTINUOUS FILLET UNLESS OTHERWISE NOTED.

				SPARGE/PACKING SUPPORT DETAILS			
REV.	DESCRIPTION	DATE	BY	DWN	JRC	DATE 04/04/07	APPR
This Drawing is the property of Dymocorp Fabricators Ltd. It must be returned immediately upon request and must not be reproduced, copied, or lent in whole or in part, nor used for any purpose other than that for which it is specifically furnished, without the expressed written permission of Dymocorp Fabricators Ltd.				DWG. NO.	5100-43 REV 5		SCALE NTS SHEET 2/2

DYNACORP
8800-92 St. Grande Prairie, AB T8V 7S3
Ph: (780) 538-1200 Fax: (780) 538-1090
9815-48 St. SE Calgary, AB T2C 2R1
Ph: (403) 720-9800 Fax: (403) 720-9881

SPARGE/PACKING SUPPORT DETAILS

NON-SPECIFIED ATTACHMENT WELD $R=1/8"$ 7	SLIP-ON FLG TO PIPE $1/8"$ T_n 8	NOZZLE TRU HEAD OR SHELL WITHOUT REPAD WOM-2 $R=1/8"$ 9
NOZZLES THRU SHELL OR HEAD WOM-2 B A 37° I.S. PROJ. 4	NOZZLE TRU HEAD OR SHELL WITH REPAD WOM-2 B A 37° $R=1/8"$ $1/4"$ WEEPHOLE LOWEST LOCATION 5	FLANGES/FITTINGS TO PIPE WELDS DYN-12 O/S PROJ. $60^\circ \pm 15^\circ$ 1 3 IF REQ'D 6
CIRC SEAMS, HEAD/SHELL WOM-5 60° 1	LONG SEAMS WOM-5 60° 2	NOZZLE TRU HEAD OR SHELL WITH REPAD B A 37° C T_n I.S. PROJ. $1/4"$ WEEPHOLE LOWEST LOCATION 3

NOTE: STANDARD ROOT OPENING IS $1/8" \pm 1/16"$

05	CHANGES TO WELD SIZES ON DETAIL #8	SEP 23/05	CJM	DYNACORP FABRICATORS INC.			
04	RE-WELDING OF TITLES, ADDED BEVEL TOLERANCE TO #5	MAY 20/05	DOB	8600-92 Street, Grande Prairie, Alberta, T8V 7S3			
03	REPLACE ROMAN NUMERALS NUMBERS	FEB 6/04	CJM	Telephone: (780) 538-1200 Fax: (780) 538-1090			
02	UPDATES TO DETAIL #VII	JUL 22/02	CJM	DYNACORP STANDARD WELD DETAILS			
01	UPDATES TO DETAIL #VII	MAR 28/01	HR	OWN I.M.R. DATE MAR 29/00			
REV.	DESCRIPTION	DATE	BY	OWN I.M.R. DATE	CHKD	DATE	REV
				DYN-W1		SCALE NTS	REV 05

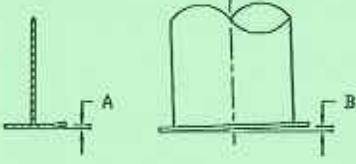
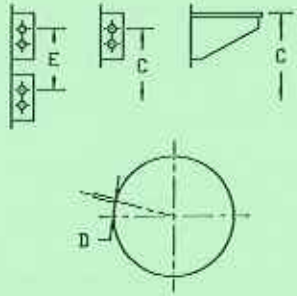
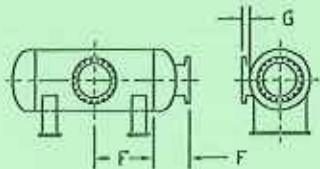
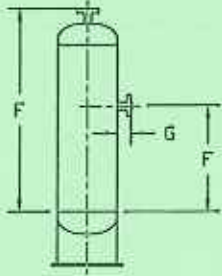
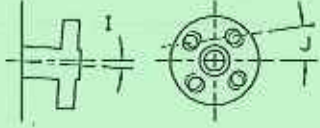
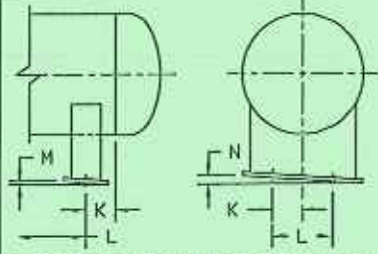
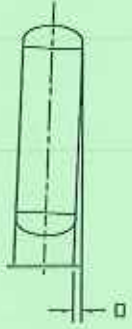
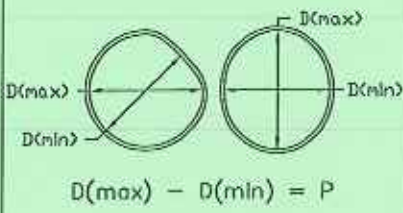
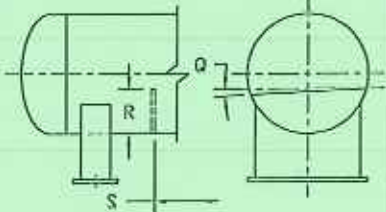
This drawing is the property of Dynacorp Fabricators Ltd., Grande Prairie, Alberta. It must be returned immediately upon request and shall not be reproduced, copied, or lent in whole or in part, nor used for any purpose other than that for which it is specifically limited, without the expressed written permission of Dynacorp Fabricators Ltd.

Issued For Fabrication

2 J 7 0 8 8 9 Q.C.

Issued For Fabrication

2 J 7 0 8 8 9 Q.C.

BASE RING	CLIPS, LUGS, BRACKETS, ATTACHMENTS	MANWAY OPENINGS
 A: FLATNESS: $\pm 1/16"$ B: OUT OF LEVEL: $\pm 1/32"$ PER FT.	 C: DISTANCE TO DATUM: $\pm 1/8"$ D: DEVIATION CIRCUMFERENTIALLY MEASURED AT THE JOINT OF STRUCTURE: $\pm 1/8"$ E: DISTANCE BETWEEN ADJACENT CLIPS: $\pm 1/16"$	 F: DISTANCE TO DATUM: $\pm 1/4"$ G: OUTSIDE PROJECTION: $\pm 1/4"$ H: DEVIATION CIRCUMFERENTIALLY MEASURED AT VESSEL OUTER SURFACE: $\pm 1/4"$ I: DEVIATION FROM HORIZONTAL, VERTICAL IN ANY DIRECTION: $\pm 1"$ J: DEVIATION OF BOLT HOLES IN ANY DIRECTION: $\pm 1"$
NOZZLES / COUPLINGS	NOZZLES / COUPLINGS CONTINUED	SADDLE
 F: DISTANCE TO DATUM: $\pm 1/8"$ G: OUTSIDE PROJECTION: $\pm 1/8"$ H: DEVIATION CIRCUMFERENTIALLY MEASURED AT THE JOINT OF STRUCTURE: $\pm 1/8"$ I: DEVIATION FROM HORIZONTAL, VERTICAL IN ANY DIRECTION: $\pm 1/2"$ J: DEVIATION OF BOLT HOLES IN ANY DIRECTION: $\pm 1"$	 F: DISTANCE TO DATUM: $\pm 1/8"$ G: OUTSIDE PROJECTION: $\pm 1/8"$ H: DEVIATION CIRCUMFERENTIALLY MEASURED AT THE JOINT OF STRUCTURE: $\pm 1/8"$ I: DEVIATION FROM HORIZONTAL, VERTICAL IN ANY DIRECTION: $\pm 1/2"$ J: DEVIATION OF BOLT HOLES IN ANY DIRECTION: $\pm 1"$	 K: DISTANCE CENTERLINE OF BOLTHOLES TO REFERENCE LINE: $\pm 1/8"$ L: DISTANCE BETWEEN BOLTHOLES: $\pm 1/8"$ M: LONGITUDINAL TILT OF BASE PLATE: $\pm 1/8"$ N: TRANSVERSE TILT OF BASE PLATE: $\pm 1/32"$ PER FT.
SHELL	SHELL CONTINUED	WEIR PLATE / TRAYS
 O: DEVIATION FROM VERTICALITY FOR VESSELS UP TO 30' LG.: $\pm 3/8"$ FOR VESSELS OVER 30' LG.: $\pm 1/8"$ PER 10 FT. (MAX. 1-1/2")	 P: VESSELS FOR INTERNAL PRESSURE: P SHALL NOT EXCEED ONE PERCENT OF THE NOMINAL DIAMETER AT THE CROSS SECTION $\pm 1\%$ OUT OF ROUNDNESS: CODE UG-80 EXTERNAL PRESSURE: SEE CODE UG-80 FORMED HEADS: SEE CODE UG-81	 Q: OUT OF LEVEL: $\pm 1"$ R: HEIGHT: $\pm 1/8"$ S: DISTANCE TO DATUM: $\pm 1/8"$

REV.	DESCRIPTION	DATE	BY	OWN	C.J.M.	DATE	FEB 9/04	DRKD	DATE
DYNACORP FABRICATORS INC. 8600-92 Street, Grande Prairie, Alberta, T8V 7S3 Telephone: (780) 538-1200 Fax: (780) 538-1090 STANDARD FABRICATION TOLERANCES DYN-T1 UNITS INCHES SCALE NTS REV 00 SHEET									

Issued For Fabrication

2 J 7 0 8 8 9 Q.C.