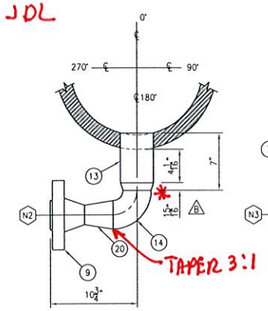
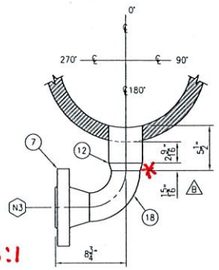
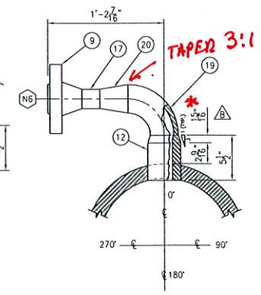
JDL



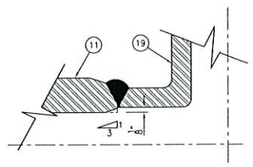
DETAIL OF NOZZLE – N2
SCALE: 1/8"=1"



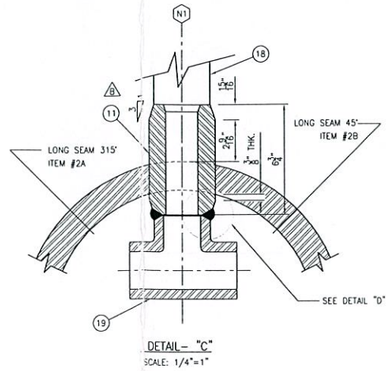
DETAIL OF NOZZLE – N3
SCALE: 1/8"=1"



DETAIL OF NOZZLE – N6
SCALE: 1/8"=1"



DETAIL– "D"
SCALE: 1/2"=1"



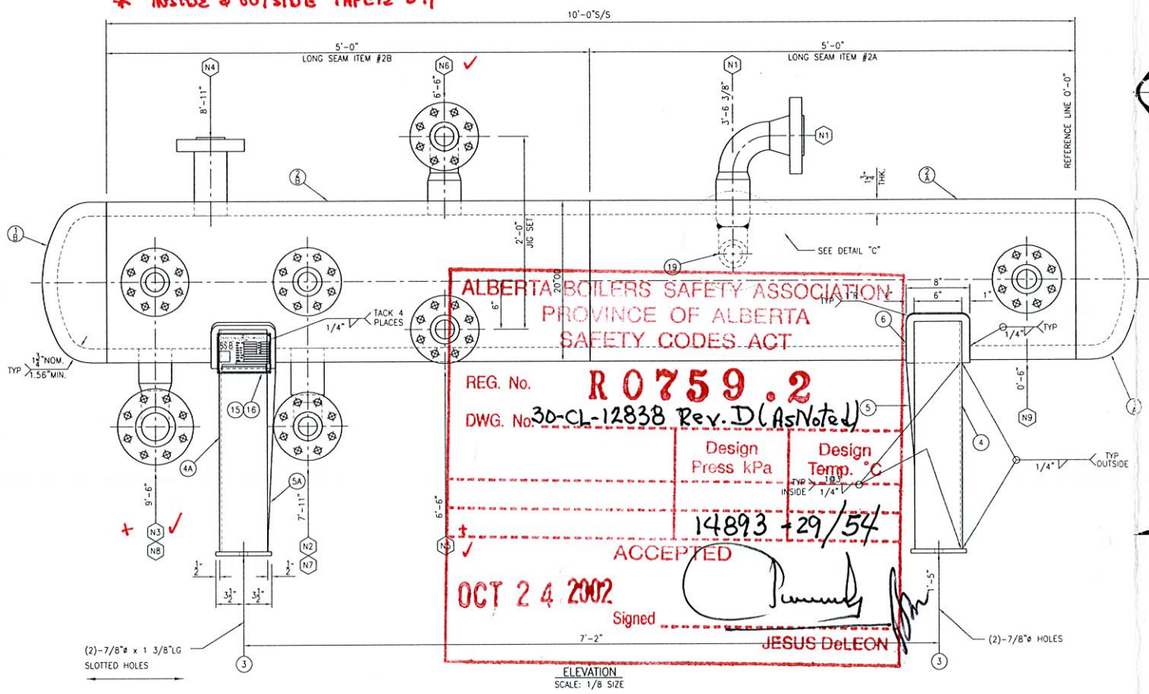
DETAIL– "C"
SCALE: 1/4"=1"

CERTIFIED BY:
BLACK, SIVALLS & BRYSON (CANADA) LTD.
NISKU ALBERTA

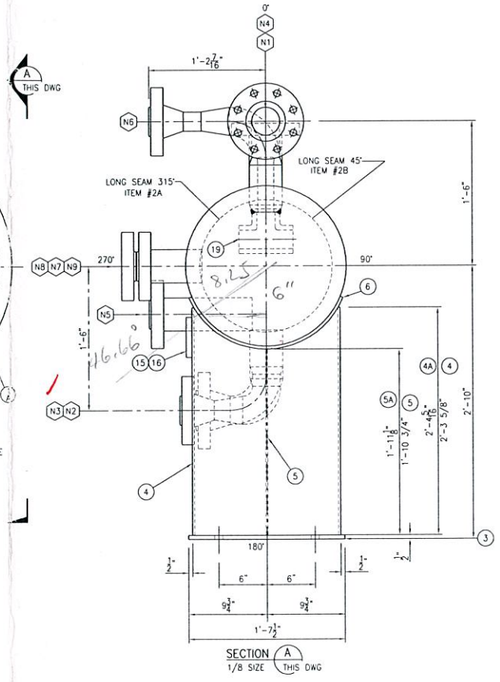
SERIAL NO.	021046	BLT	2002
CRN		C.A.	0.0625"
MAX. W.P.	2160 PSIG	MWT	130°F
SPEC SH	SA-516-70N	TS	70000
SPEC HD	SA-516-70N	TS	70000
SHELL THK	1.75" THK.		
HEAD THK	1.75" NOM./		
MD.MT.	-20°F @ 2160 PSIG		

20'OD x 10'-0"S/S HORIZ. BLOWCASE

* INSIDE & OUTSIDE TAPER 3:1



ALBERTA BOILERS SAFETY ASSOCIATION
PROVINCE OF ALBERTA
SAFETY CODES ACT
REG. No. R0759.2
DWG. No 30-CL-12838 Rev. D (As Noted)
Design Press kPa | Design Temp. °C
14893 +29/54
ACCEPTED
OCT 24 2002
Signed
JESUS DeLEON



NO.	REQ. NO.	FOR ONE	QTY. REQ'D	DESCRIPTION	MATERIAL
1		2		20"OD x 1 3/4" NOM. x 1.56"MN. 2:1 S.E. HEAD w/2" SF	SA-516-70N
2A		1		CYLINDER 20"OD x 1 3/4" THK x 5'-0"LG (BBE)	SA-516-70N
2B		1		CYLINDER 20"OD x 1 3/4" THK x 5'-0"LG (BBE)	SA-516-70N
3	PLO.500-36	2		BASE PL. 7" x 1/2"THK. x 1'-7 1/2"LG	SA-36
4	PLO.250-36	1		SADDLE SUPPORT PL. 2'-4 5/16" x 1/4"THK. x 2'-5 1/2"LG (FLG 2 SIDES)	SA-36
4A	PLO.250-36	1		SADDLE SUPPORT PL. 2'-4 1/16" x 1/4"THK. x 2'-3 5/8"LG (FLG 2 SIDES)	SA-36
5	PLO.250-36	1		STIFFENER PL. 6 3/4" (TRIM) x 1/4"THK. x 1'-11 1/8"LG	SA-36
5A	PLO.250-36	1		STIFFENER PL. 6 3/4"(TRIM) x 1/4"THK. x 1'-10 3/4"LG	SA-36
6	PLO.375-7	1		WEAR PL. 8" x 3/8"THK. x 2'-0 1/2"LG (ROLL TO 10'IR)	SA-516-70N
7		2		3"-900# ANSI RFWN FLG w/XXHY BORE	SA-105N
8		4		2"-1500# ANSI RFLWN FLG (12" LG.)	SA-105N
9		2		2" -1500# ANSI RFWN FLG. w/SCH.160 BORE	SA-105 N
10		1		2" -1500# RFLWN FLG (14" LG.)	SA-105 N
11		1		FORGING 4 1/8" OD. x 1.06" WT x 6 3/4" LG.	SA-105 N
12		2		FORGING 4 1/8" OD. x 1.06" WT x 5 1/2" LG.	SA-105 N
13		1		FORGING 4 1/8" OD. x 1.06" WT x 7" LG.	SA-105 N
14		1		3" XXHY 90° SR BW ELL.	SA-234 WPB
15	NAME-LG-P	1		LARGE NAME PLATE	SA-240-304
16	NAME-LG-B	1		LARGE NAME PLATE BRACKET	SA-36
17		1		2" SCH.160 SML'S PIPE x 2 3/16" LG.	SA-106-B
18	EQ90W3.0XXYLWB	3		3" XXHY 90° LR BW ELL.	SA-234-WPB
19		1		3" XXHY STRAIGHT BW TEE	SA-234-WPB
20		2		3"x 2" SCH.160 CON.RED.	SA-234-WPB
FOR				FURNISH FOR ASSEMBLY.	
8		3		2"-1500# ANSI RF GASKET	304SS
8		24		7/8"-9NC-2A STUD BOLT x 5 3/4" LG	SA-193-B7
8		48		7/8"-9NC-2B HEX NUT	SA-194-2H
N9		1		2"-900# ANSI RF BLIND FLG.	SA-105 N
N7,8		2		2"-900# ANSI RF HUB BLIND FLG. (D&T 3/4" NPT)	SA-105 N

DESIGN DATA

CODE: ASME SECTION VIII, DIV. 1, 2001 EDITION, 02 ADDENDA. PARAGRAPH: X
"U" STAMP REQUIRED: YES
C.R.N.: - SERVICE: SWEET SURFACE PREP: SSPC-SP6

WELD PROCEDURE: SEE NOTES	D.P.	MAWP	N & C	HYDRO TEST
INTERNAL PRESSURE PSIG./kPa.	2160 / -	- / -	- / -	2808 / -
EXTERNAL PRESSURE PSIG./kPa.	- / -	- / -	- / -	- / -
TEMPERATURE °F/°C	130 / -	- / -	- / -	- / -
M.D.M.T. °F/°C	-20 / -	- / -	- / -	- / -

LIMITED BY: FLANGE

CORROSION ALLOWANCE INCH/ mm	1/16" / 1.6	RADIOGRAPHY:	RT-1
LONG JOINT EFFICIENCY	1.0	CIRC.JOINT EFFICIENCY:	1.0
P.W.H.T. PER UCS-56	105 MIN. @ 1125°F ±25°F		
SHIPPING WEIGHT LBS./Kg	5252 / - △2	TOTAL VOLUME C-F:	15.64 △2
HYDRO TEST WEIGHT LBS./Kg	5000 / XX		

REV.	DD/MM/YY DATE	REV. BY	CHK'D BY	APPR'D BY	DESCRIPTION
D	OCT,11/02	SR	W.T	W.T	REVISED AS PER ABSA COMMENTS
C	OCT,08/02	SR	W.T	W.T	REVISED SHELL & HEAD THICKNESS AND WELD DETAIL #5
B	OCT,03/02	SR	W.T	W.T	REVISED AS PER ABSA COMMENTS
A	SEP,28/02	SR	W.T	W.T	ISSUED TO ABSA

REVISIONS

MARK NO.	NO. REQ'D	SIZE	ANSI RATING & FACING	SERVICE		REQ'D HOLE SIZE	PROJECTION OUTSIDE	PROJECTION INSIDE	REINF. PAD WIDTH & THK	WELDING DETAIL NO.	FILLET WELD SIZE A	B	C	D	BILL OF MATERIAL ITEM NO.'S	REMARKS
N1	1	3"	900# RFWN	INLET	△6	4 1/8"	AS SHOWN	3/8"		3,5	3/8"	3/8"			7, 11, 18, 19	
N2	1	2"	1500# RFWN	HC OUT	△6	4 1/8"	AS SHOWN	GRND FLUSH		4,5	3/8"				9, 13, 14, 20	
N3	1	3"	900# RFWN	DRAIN	△6	4 1/8"	AS SHOWN	GRND FLUSH		4,5	3/8"				7, 12, 18	
N4	1	2"	1500# RFLWN	EQUALIZER	△6	4 1/8"	AS SHOWN	SET FLUSH		4	3/8"				8	
N5	1	2"	1500# RFLWN	BRIDLE	△6	4 1/8"	AS SHOWN	SET FLUSH		4	3/8"				10	
N6	1	2"	1500# RFWN	BRIDLE	△6	4 1/8"	AS SHOWN	SET FLUSH		4,5	3/8"				9, 12, 18, 17, 20	
N7	1	2"	1500# RFLWN	PI	△6	4 1/8"	AS SHOWN	SET FLUSH		4	3/8"				8	
N8	1	2"	1500# RFLWN	INSPECTION /.TI	△6	4 1/8"	AS SHOWN	SET FLUSH		4	3/8"				8	
N9	1	2"	1500# RFLWN	INSPECTION *	△6	4 1/8"	AS SHOWN	SET FLUSH		4	3/8"				8	

NOZZLE SCHEDULE

GENERAL NOTES:

1. MATERIAL IMPACT TEST EXEMPTION [redacted] FROM FIG. UCS-66 (a) (b). △8
2. WELD PROCEDURES: #W-03 AND #B(ROOT, FILL & CAP) CATEGORIES C, D AND ATTACHMENT WELDS #B CATEGORIES A & B
3. ALL DIMENSIONS ON ℄— ARE TO REFERENCE LINE UNO.
4. ALL BOLT HOLES TO STRADDLE ℄'S UNO. △9
5. EXPOSED INSIDE EDGES OF NOZZLES [redacted] TO BE ROUNDED TO 0.218" MIN. RADIUS ON NOZZLES WITHOUT INT. PROJECTION, 0.250" MIN. RADIUS ON NOZZLES WITH INT. PROJECTION AS PER SECTION VIII DIV. 2.
6. VESSEL TO BE THOROUGHLY CLEANED INSIDE AND OUT.
7. EXTERNAL PRIME: (1)ONE COAT SHOP PRIMER
8. EXTERNAL PAINT: (2)TWO COATS OF ALKYD ENAMEL ON UNINSULATED AREAS (VALSPAR SKY BLUE)
9. PROTECT ALL OPENINGS FOR SHIPMENT.
10. FATIGUE CALCULATIONS ARE PERFORMED AS REQUIRED PER ASME SECTION VIII DIV. 2 FOR CYCLIC SERVICE
11. LIFE EXPECTANCY OF VESSEL TO BE 20 YEARS. △1
12. TOTAL NUMBER OF CYCLES IS 876 000.

CIRC. SEAMS	LONG SEAMS	NOZZLE/CPLG. THRU SHELL OR HEAD	NOZZLE/CPLG. FLUSH SHELL OR HEAD	FLANGE TO PIPE
1	2	3	4	5 △4
WPS 7	WPS 7	WPS 2	WPS 2	WPS 2
NDE -	NDE -	NDE -	NDE -	NDE -

ENGINEERED AND DESIGN BY
BLACK, SIVALLS & BRYSON (CANADA) LTD.
NISKU ALBERTA CANADA
2314-8 th STREET, NISKU, ALBERTA, T9E 7Z2
PH: (780)-955-2888 / FAX: (780)-955-8911
WEB PAGE: WWW.BSB.AB.CA

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TITLE: 20'OD x 10'-0"S/S x 2160 PSIG HORIZONTAL BLOWCASE

CUSTOMER: ANADARKO CANADA ENERGY c/o TUNDRA ENERGY LTD.

LOCATION: -

DRAWN: SR | DATE: SEP,28/02 | ENG: WESLEY T. | SCALE: AS SHOWN

S.O. NUMBER	TAG NUMBER	UNITS REQ.	DRAWING NUMBER	REV.
021046	-	1	30-CL-12838	D