

As Built Drawings and Calculations

3

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PYRAMID PROCESS FABRICATORS
DOCUMENT CONTROL
RECEIVED
JAN 27 2009

SHIPPING NOTES

- ALL FLANGE SURFACES TO BE PROTECTED WITH AN ASPHALTIC RUST PREVENTIVE, TYPE B SUCH AS RUST VETO 344 OR TECTYL 891
- EQUIPMENT SHALL BE ADEQUATELY PREPARED TO PROVIDE AGAINST ENTRY OF DIRT OR WATER DURING SHIPMENT
- ALL OPEN FLANGES TO BE COVERED WITH 12.5mm PLYWOOD COVERS SECURELY FASTENED WITH BOLTS OR CLAMPS.
- ALL DRAINS, VENTS AND SMALL PIPING CONNECTIONS SHALL BE CAPPED OR PLUGGED.
- BEFORE SHIPMENT, MARK ON, OR SECURELY ATTACH TO THE EQUIPMENT, OR IN THE SHIPPING CONTAINER, A LIST OF THE SPECIFIC RUST PREVENTIVES USED TO PROTECT THE EQUIPMENT. THIS LIST SHALL INCLUDE INTERNAL AS WELL AS EXTERNAL RUST PREVENTIVE, GIVING MANUFACTURER AND TYPE NUMBER, AND THE LOCATIONS WHERE EACH HAS BEEN APPLIED
- INCLUDE WITH THE ABOVE LIST ANY SPECIAL INSTRUCTIONS NECESSARY FOR THE REMOVAL OR REPLACEMENT OF ANY RUST PREVENTIVE TOGETHER WITH ANY SPECIAL PRECAUTIONS TO BE TAKEN IN THE CARE OF THE EQUIPMENT DURING THE PERIOD OF JOBSITE STORAGE.
- A COPY OF THIS INFORMATION SHALL BE SUPPLIED, UNDER SEPARATE COVER, TO THE BUYER AT THE JOBSITE

SHOP NOTES

- ALL BOLT HOLES STRADDLE NATURAL VESSEL CENTERLINES.
- CLEAN ENTIRE VESSEL OF WELD SLAG AND OTHER FOREIGN MATERIAL
- ALL MISCELLANEOUS AND ATTACHMENT WELDS SHALL BE 1/4" FILLET WELDS UNLESS SHOWN OTHERWISE.
- COATING SPECIFICATIONS
SURFACE PREP: - EXTERNAL: SSPC-SP6
- INTERNAL: NONE
PRIMING: - EXTERNAL: ONE (1) COAT OF DEVCO BAR RUST 236 EPOXY COAT TO DFT OF 4-8mils
- INTERNAL: NONE
FINISH: - EXTERNAL: TWO (2) COATS OF DEVCO DEVTHANE 379 URETHANE TO A DFT OF 2-3mils (WARM GREY)
- INTERNAL: NONE
- IMPACT TEST REQUIREMENTS:
HEADS & SHELLS ARE IMACT TEST EXEMPT PER UCS-66 CURVE D
- NOZZLES AND FLANGES ARE EXEMPT FROM IMPACT TESTING PER UCS-66(C), FIG. UCS-66 CURVE B & FIG. UCS-66.1
- STUDS & NUTS ARE EXEMPT FROM IMPACT TESTING PER FIG. UCS-66 NOTE(C)
- ALL NOZZLE LENGTH INCLUDES 1/8" WELD CAP.
- BLEND ALL INTERNAL ROOT AND FILLET WELDS. RADIUS ALL INTERNAL EDGES.
- DIMENSIONS IN [] ARE IN mm.
- ALL VESSELS MATERIALS COMING IN CONTACT WITH THE PROCESS FLUID SHALL COMPLY WITH THE LATEST EDITION OF NACE MR0175, AND HAVE A CARBON EQUIVALENCE LESS THAN OR EQUAL TO 0.45%.
- FULL RT EXAMINATION OF ALL BUTT WELDS PER UW-11, WITH EXCEPTIONS AS PERMITTED BY ASME CODE.
- FULL MP, LP OR UT OF ALL PLATE EDGES PRIOR TO WELDING.
- DELETED
- 100% UT EXAMINATION ON ALL CATEGORY 'D' WELDS. THIS IS TO BE DONE BEFORE REINFORCING PADS ARE WELDED TO THE VESSEL.
- FULL MP OR LP EXAMINATION OF LIFTING LUGS.
- HYDROTEST SHALL BE HELD FOR A MINIMUM OF ONE (1) HOUR.
- THE HYDROTEST WATER SHALL BE AT LEAST 59°F (15°C) THROUGHOUT THE TESTING CYCLE.
- A MINIMUM OF TWO(2) PRESSURE GAUGES WILL BE USED FOR THE HYDROTEST, ONE(1) AT THE PUMP AND ONE(1) AT THE SYSTEM HIGH POINT.
- GASKETS USED FOR THE HYDROTEST SHALL BE OF THE SAME MATERIAL AND DESIGN AS THE GASKETS TO BE FURNISHED WITH THE VESSEL.
- THE USE OF SHELLAC, GLUE, COMPOUND, LEAD, ETC., ON HYDROTEST GASKETS IS NOT PERMITTED.
- ONLY NEW, UNUSED, STUDS, NUTS AND GASKETS SHALL BE FURNISHED WITH THE VESSEL.
- NO VESSEL OR ITS COMPONENT SHALL BE GIVEN A HYDROSTATIC TEST UNLESS APPROVAL IS OBTAINED IN WRITING FROM ENCANVA FOCL OIL SANDS LTD. OR ITS REPRESENTATIVE.
- REGISTER VESSEL IN ALBERTA.
- HEAT #s STAMPED ON ALL MATERIAL
- HARDNESS TEST REQ'D AFTER PWHT PER SPEC-225 BHN MAX
- VESSEL TO BE BLOWN DRY AFTER HYDROTEST.
- NO FCOW ON WELDS
- AFTER WELDING OR AFTER FINAL POST WELD HEAT TREATMENT, HARDNESS IN THE BASE MATERIAL OR HEAT AFFECTED ZONE (HAZ) SHALL NOT EXCEED 225 BHN FOR LOW CARBON STEEL MATERIALS.

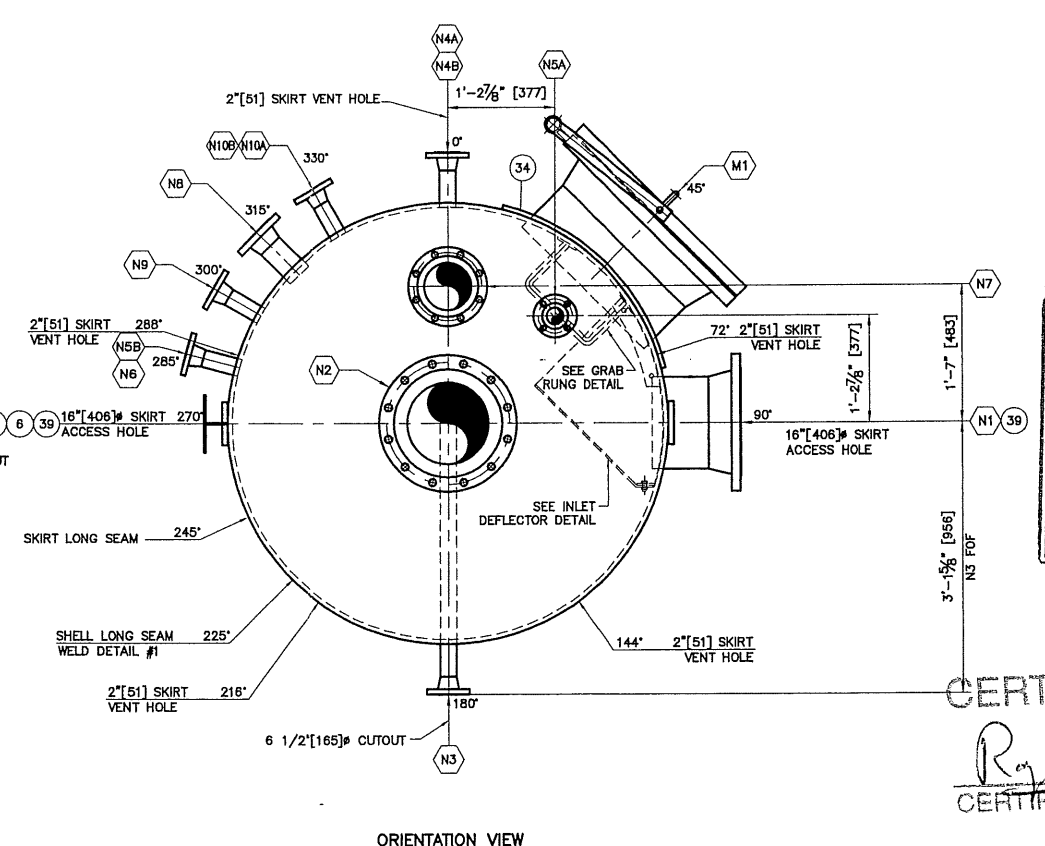
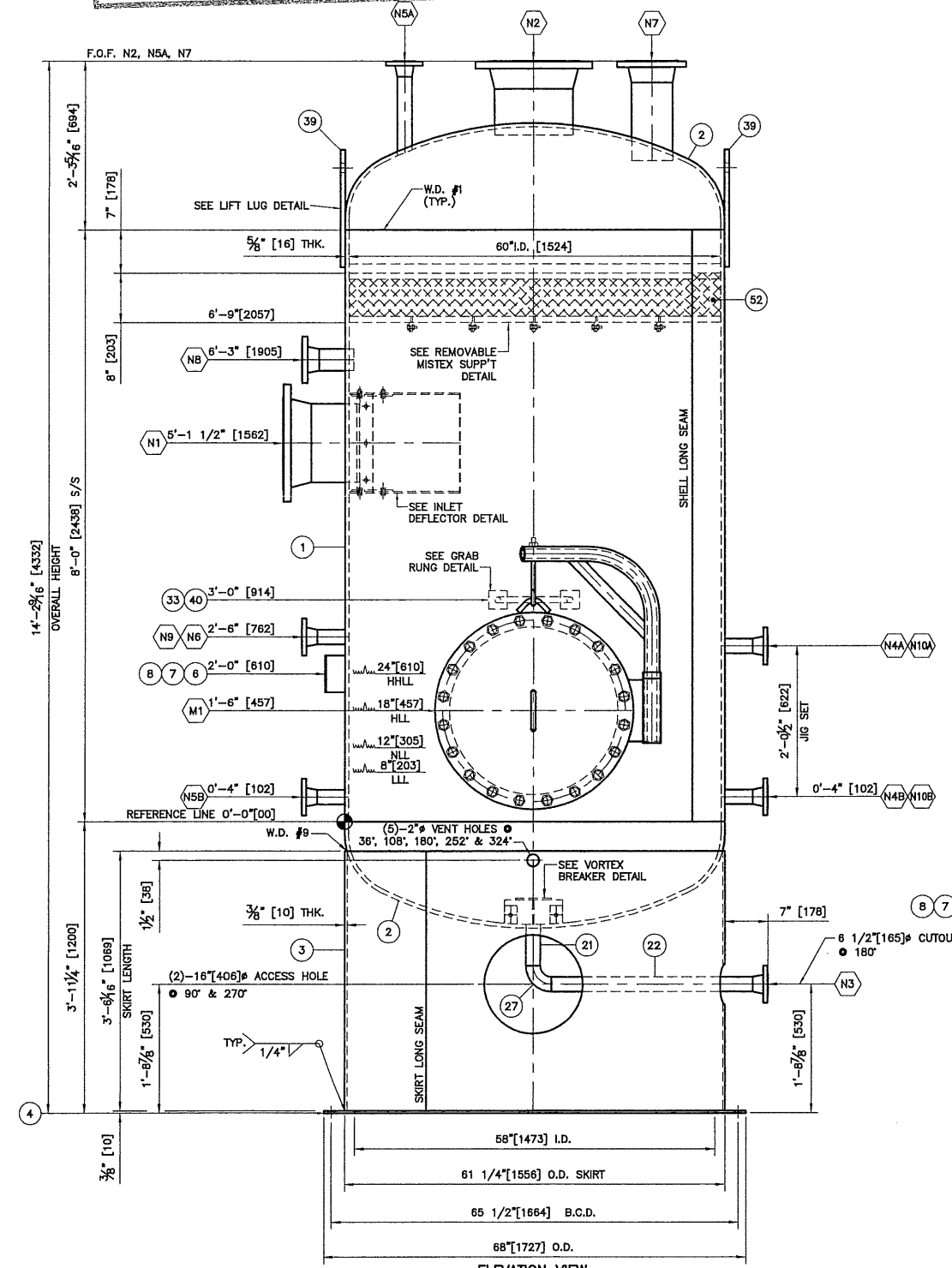
NOZZLE SCHEDULE

MARK	NO. REQ'D	SERVICE	SIZE	RTG.	TYPE	NOZZLE O.D.	NOZZ. BORE	WELD DETAIL	"A"	"B"	"C"	PROJECTION	ITEM	REMARKS	
									INSIDE	OUTSIDE					
N1	1	INLET	12"	CL150	RFWN	12 3/4"	SCH.160	2,3	3/8"	1/4"	-	1"	10"	12,17	c/w INLET DVERTER
N2	1	GAS OUTLET	12"	CL150	RFWN	12 3/4"	SCH.160	2,3	3/8"	1/4"	-	1"	10"	12,28	-
N3	1	LIQUID OUTLET	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	GRIND FLUSH	15,21,22,27	c/w VORTEX BREAKER	
N4A	1	BRIDLE	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	15,25	-	
N4B	1	BRIDLE	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	7"	15,25	
N5A	1	STEAM OUT	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	15,24	-	
N5B	1	STEAM OUT	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	15,23	-	
N6	1	TEMP GAUGE	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	7"	15,23	
N7	1	VENT	6"	CL150	RFWN	6 9/8"	SCH.180	2,3	3/8"	1/4"	-	3/4"	13,19	SHOWN	
N8	1	PSV	3"	CL150	RFWN	3 1/2"	SCH.180	2,3	3/8"	1/4"	-	3/4"	14,20	-	
N9	1	PG	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	7"	15,23	
M1	1	MANWAY	24"	CL150	RFWN	24"	SCH.180	2,4	3/8"	3/8"	1/2"	1"	10"	10,11,18,29-33,34	c/w DAVIT & REPAD
N10A	1	UT (FUTURE)	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	7"	15,25	
N10B	1	UT (FUTURE)	2"	CL150	RFWN	2 3/8"	SCH.160	2,3	3/8"	-	-	SET FLUSH	7"	15,25	

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MATERIAL
1	1	SHELL: 60"[1524] I.D. x 5/8"[16] THK. x 8'-0"[2438] LG (BBE)	SA-516-70N
2	2	HEAD: 60"[1524] I.D. x 5/8"[16] THK. (0.5625" MIN.) 2:1 S.E. w/2"[51] S.F.	SA-516-70N
3	1	SKIRT: 61 1/4"[1556] O.D. x 3/8"[10] THK. x 3'-6 1/16"[1068] ± LG. (PBE)	SA-516-70N
4	1	BASE PLATE: 68"[1727] O.D. x 3/8"[10] THK. x 58"[1473] I.D. (SEE DETAIL)	G40.21-300W
6	1	PL: 1/4"[6] THK. x 3"[76] WD. x 6"[152] LG. (NAME PLATE BRACKET)	SA-516-70N
7	1	PL: 1/4"[6] THK. x 6"[152] WD. x 8"[203] LG. (NAME PLATE BRACKET)	G40.21-300W
8	1	PYRAMID STANDARD NAME PLATE	SS
10	1	24"-CL150 ANSI RF BLIND FLG	(M1) SA-105N
11	1	24"-CL150 ANSI RFWN FLG c/w SCH.XH BORE	(M1) SA-105N
12	2	12"-CL150 ANSI RFWN FLG c/w SCH.160 BORE	(N1,N2) SA-105N
13	1	6"-CL150 ANSI RFWN FLG c/w SCH.160 BORE	(N7) SA-105N
14	1	3"-CL150 ANSI RFWN FLG c/w SCH.XXH BORE	(N8) SA-105N
15	9	2"-CL150 ANSI RFWN FLG c/w SCH.160 BORE (N3,N4A/B,N5A/B,N6,N9,N10A/B)	SA-105N
17	1	12" SCH.160 SMLS PIPE x 7 13/16"[198] LG. (BOE,POE)	(N1) SA-106-B
18	1	24" SCH.XH SMLS PIPE x 8 1/8"[208] LG. (BOE,POE)	(M1) SA-106-B
19	1	6" SCH.160 SMLS PIPE x 1'-0 5/8"[321] LG. (BOE,POE)	(N7) SA-106-B
20	1	3" SCH.XXH SMLS PIPE x 5 11/16"[144] LG. (BOE,POE)	(N8) SA-106-B
21	1	2" SCH.160 SMLS PIPE x 6 11/16"[170] LG. (BOE,POE)	(N3) SA-106-B
22	1	2" SCH.160 SMLS PIPE x 2'-8 1/8"[816] LG. (BBE)	(N3) SA-106-B
23	3	2" SCH.160 SMLS PIPE x 5 1/8"[131] LG. (BOE,POE)	(N5B,N6,N9) SA-106-B
24	1	2" SCH.160 SMLS PIPE x 1'-0 13/16"[326] LG. (BOE,POE)	(N5A) SA-106-B
25	4	2" SCH.160 SMLS PIPE x 5 1/8"[131] LG. (BOE,POE) (N4A/B,N10A/B)	SA-106-B
26	1	12" SCH.160 SMLS PIPE x 7 1/2"[191] LG. (BOE,POE)	(N2) SA-106-B
27	1	2" SCH.160 BW 90° LR ELL	(N3) SA-234-WPB
29	1	24"-CL150 MANWAY DAVIT (B-08-3183-0000-003)	(M1) -
30	1	24" CL150 FLEXITALLUC GASKET, "CG" x 1/8" THK.	(M1) 316 SS
31	20	1 1/4" x 7" LG. STUD (24"-CL150)	(M1) SA-193-B7M
32	40	1 1/4" HEX HEAD NUTS (24"-CL150)	(M1) SA-194-2HM
33	2	PL: 3" WD. x 1/4" THK. x 3" LG. (FORM TO ID SHELL) (GRAB RUNG POISON PAD)	SA-516-70N
34	1	32" O.D. x 24" I.D. x 5/8" THICK REPAD (FROM TO OD SHELL)	(M1 REPAD) SA-516-70N
35	2	PL: 1'-9 5/16"[541] WD. x 1/4"[6] THK. x 1'-4 5/8"[422] LG. (SEE DETAIL) (INLET DVERTER)	G40.21-300W
36	1	PL: 1'-4"[406] WD. x 1/4"[6] THK. x 1'-9 13/16"[554] LG. (SEE DETAIL) (INLET DVERTER)	G40.21-300W
37	1	PL: 2 1/2"[64] WD. x 1/4"[6] THK. x 1'-3 1/4"[387] LG. (SEE DETAIL) (INLET DVERTER)	SA-516-70N
38	2	PL: 8 11/16"[170] WD. x 1/4"[6] THK. x 1'-0 9/16"[319] LG. (SEE DETAIL) (INLET DVERTER)	SA-516-70N
39	2	PL: 6"[152] WD. x 3/4"[19] THK. x 1'-7"[483] LG. (TRIM AS SHOWN) (LIFT LUG)	SA-516-70N
40	1	R.B.: 3/4"[19] x 2'-2 3/4"[679] ± LG. (BEND AS SHOWN)	G40.21-300W
41	1	PL: 1/4"[6] THK. x 6"[152] O.D.	(REM. VORTEX BREAKER) G40.21-300W
42	1	FB: 4"[102] WD. x 1/4"[6] THK. x 8"[203] LG. (SEE DETAIL) (REM. VORTEX BREAKER)	G40.21-300W
43	2	FB: 4"[102] WD. x 1/4"[6] THK. x 2 5/8"[67] LG. (REM. VORTEX BREAKER)	G40.21-300W
44	2	PL: 2"[51] WD. x 1/4"[6] THK. x 2"[51] LG. (SEE DETAIL) (REM. VORTEX BREAKER)	SA-516-70N
45	17	1/2" x 1 1/2" LG. HEX HEAD BOLT (MISTEX,VORTEX,INLET DVERTER)	SA-193-B7M
46	17	1/2" HEX HEAD NUT (MISTEX,VORTEX,INLET DVERTER)	SA-194-2HM
47	17	1/2" FLAT WASHER (MISTEX,VORTEX,INLET DVERTER)	316 SS
48	1	PL: 1/4"[6] THK. x 1 1/2"[38] x 4'-11 7/8"[1521] LG. (MISTEX SUPPORT)	SA-516-70N
49	2	PL: 1/4"[6] THK. x 1 1/2"[38] x 2'-5 13/16"[757] LG. (MISTEX SUPPORT)	SA-516-70N
50	4	PL: 1/4"[6] THK. x 1 1/2"[38] x 2'-4 1/16"[713] LG. (MISTEX SUPPORT)	SA-516-70N
51	4	PL: 1/4"[6] THK. x 1 1/2"[38] x 1'-10 1/16"[580] LG. (MISTEX SUPPORT)	SA-516-70N
52	1	JONEL STYLE 115 12# DEMISTER (60"[1524] O.D. x 6"[152] THK. MESH) (6 PIECE CONSTRUCTION)	316L SS
53	10	PL: 1/4"[6] THK. x 1 1/2"[38] x 3"[76] LG. (SEE DETAIL) (REM. MISTEX SUPPORT)	SA-516-70N
54	1	FB: 1/4"[6] THK. x 1 1/2"[38] x 4'-11 1/4"[1505] LG. (SEE DETAIL) (REM. MISTEX SUPPORT)	G40.21-300W
55	2	FB: 1/4"[6] THK. x 1 1/2"[38] x 4'-7 5/8"[1413] LG. (SEE DETAIL) (REM. MISTEX SUPPORT)	G40.21-300W
56	2	FB: 1/4"[6] THK. x 1 1/2"[38] x 3'-7 5/8"[1101] LG. (SEE DETAIL) (REM. MISTEX SUPPORT)	G40.21-300W

REVISED DRAWING
ISSUED FOR CONSTRUCTION
DESTROY PREVIOUS ISSUE
DATE JAN 27 2009



ELEVATION VIEW
SCALE: 1"=1'-0"
(NOT A TRUE ORIENTATION)

ORIENTATION VIEW
SCALE: 3/4"=1'-0"

CERTIFIED AS BUILT

CERTIFIED BY *Royce* 01/04/09
 DATE *01/04/09*

DESIGN DATA

CONSTRUCTION:	ASME SECTION VIII DIV 1 2007 EDITION
INTERNAL DESIGN PRESSURE:	256 PSIG [1765 kPag] @ 205°F [96°C] (MAX)
EXTERNAL DESIGN PRESSURE:	FULL VACUUM
HYDROTEST PRESSURE:	333 PSIG [2296 kPag] @ 60°F [16°C] (ONE HR. MIN.)
MINIMUM DESIGN METAL TEMP.:	-20°F [-29°C] @ 256 PSIG [1765 kPag]
CORROSION ALLOWANCE:	1/8"[3.2] RADIOGRAPHY: FULL PER UW-11(a)
P.W.H.T.:	90 MIN. @ 1150°F [621°C] @ 225°F [107°C] VOLUME: 196.62 FT ³ [5.57 M ³)
WEIGHT (EMPTY):	6988 lbs [3170 kg] WEIGHT (TEST): 19714 lbs [8942 kg]
C.R.N.:	PENDING SERIAL NO. 08-3183-0000 SERVICE: SOUR

NO.	DESCRIPTION	REV.	BY	DATE
1.	SEAMS			
2.	NOZZLE TO WH FLG.			
3.	SET-THRU NOZZLE/CPLG			
4.	SET-THRU NOZZLE/CPLG			
5.	SET-ON NOZZLE/CPLG			
6.	O'LET			
7.	SOCKET WELD			
8.	MISCELLANEOUS			
9.	SKIRT TO HEAD			

NO.	DESCRIPTION	REV.	BY	DATE
1	RC MA DM MA			JAN 26/09
0	NC BD DM			ISSUED FOR CONSTRUCTION DEC.17/08
C	FL			RE-ISSUED FOR APPROVAL NOV.12/08
B	FL DK DM JM			RE-ISSUED FOR APPROVAL JUL.08/08

PYRAMID PROCESS FABRICATORS

HSKU - ALBERTA - CANADA / www.pyramidfab.com
 60"[1524] I.D. x 8'-0"[2438] S/S x 256 PSIG [1765 kPag]
 SWEET GAS SCRUBBER (V-5848)
 3183-0000 ENCANVA FOCL OIL LTD. c/o DPH FOCUS
 FCSR-DPH-4010B FOSTER CREEK N/A
 (1)-08-3183-0000-001