

EQUIPMENT DATA SHEET		DOC: DS116-A-C8000-1	PAGE: 1 OF 3	Rev					
PRESSURE VESSEL		STANTEC PROJECT NO. _____	RFQ/PO NO.: PO-2017-0001	1					
SOUR		CLIENT: _____	LOCATION: _____	1					
SI UNITS		CLIENT PROJECT NO: 02-03887	SERIAL: V-17090						
MANUFACTURER: Score / Vortex Production Services		SERVICE: Aqueous Ammonia Bullet	TAG: 116C-8000 QTY: 1						
APPLICABLE TO:		MODEL: N/A	SIZE: 10" DIA X 35' S/S						
<input type="checkbox"/> PROPOSAL <input type="checkbox"/> PURCHASE <input checked="" type="checkbox"/> AS BUILT									
PROCESS DESIGN DATA		MECHANICAL DESIGN DATA							
PROCESS FLUID: 29 wt.% Aqueous Ammonia c/w Nitrogen Blanket		MINIMUM DESIGN METAL TEMPERATURE (°C): -45°C							
<input checked="" type="checkbox"/> SWEET SERVICE <input type="checkbox"/> SOUR SERVICE <input type="checkbox"/> LETHAL		MAXIMUM DESIGN TEMPERATURE (°C): 60°C							
SPECIFIC GRAVITY: Vapour: _____ Liquid: 0.9004 @ 15 C		DESIGN PRESSURE (kPag): 1035 / Full Vacuum							
OPERATING TEMPERATURE (°C): Min: -45 Normal: 15 Max: 35		HYDROTEST PRESSURE (kPag): 1345 (Note 3)							
OPERATING PRESSURE (kPag): Min: 35 Normal: 40 Max: 50		VESSEL ORIENTATION: Horizontal Location: Outdoors							
DESIGN FLOWRATE (Sm³/d) Nitrogen Min: 0.002 Normal: 0.015 Max: 0.038		SHELL DIAMETER (mm): ID: 3048 (10') OD: 3092							
(Sm³/d) Aqueous Ammonia Min: 2 Normal: 11.14 Max: 24.5		LENGTH - Seam-Seam (mm): 10,668 (35')							
INSULATION		HEAD TYPE: 2:1 SE							
INSULATION TYPE: N/A		CORROSION ALLOWANCE (mm): Shell: 3.2 (1/8")							
INSULATION RING: QTY: N/A SPACING: N/A		CORROSION ALLOWANCE (mm): Head: 3.2 (1/8")							
INSULATION THICKNESS: N/A		WALL THICKNESS (mm): Shell: 22.2 (7/8") Head: 20.3 (0.8")							
INSULATION SUPPORT CLIPS: N/A		JOINT EFFICIENCY (mm): Shell: 1 Head: 1							
CLADDING TYPE: N/A		LIQUID VOLUME - GROSS (m³): 86							
CLADDING THICKNESS: N/A		RELIEF VALVE: Type: Conventional Setting: 1,035 kPag							
CODES AND SPECIFICATIONS		SEISMIC LOADING: Sa(0.2)=0.12; Sa(0.5)=0.056; Sa(1.0)=0.023; Sa(2.0)=0.006							
VESSEL DESIGN CODE: ASME BPVC SECTION VIII DIV 1 & CSA B51 (Note 1)		WIND LOADING: Note 5							
VESSEL DESIGN SPECIFICATION: (Note 1) <input checked="" type="checkbox"/> U-STAMP REQ'D		TRANSPORT LOADING: Transportation by Others.							
APPROXIMATE WEIGHTS		NOZZLE LOADS: Note 16							
WEIGHT OF INTERNALS (kg): - TOTAL WEIGHT (OPERATING) (kg): 82,473		INSPECTION AUTHORITY: ABSA							
DRY WEIGHT WITH MEDIA (kg): 27,414 TOTAL WEIGHT (TEST) (kg): 113,371		REGISTRATION: Y4618.2 / A668258							
SKID (SHIPPING) WEIGHT (kg): 27,414		RADIOGRAPHY: Note 14 ULTRASONIC: Note 14							
MATERIALS (Note 14)		MAGNETIC PARTICLE: Note 14 DYE PENETRANT: N/A							
SHELL: ASTM A516-70N		HYDROTEST: Note 3 IMPACT TESTS: ASME Sec VIII Div 1							
HEADS: ASTM A516-70N		POSTWELD HEAT TREATMENT: Note 7 HARDNESS TEST: Note 14							
SKIRT: N/A		SPECIAL HEAT TREATMENT: N/A HIC TEST: Not Required							
PIPE: ASTM A333 Gr 6		VESSEL ACCESSORIES (Note 17)							
EXTERNAL NOZZLES: ASTM A333 Gr 6		As per applicable Spec. <input type="checkbox"/> DOWN COMER							
EXTERNAL FLANGES: ASTM A350 LF2 Cl. 1		<input type="checkbox"/> SKIRT <input type="checkbox"/> MANWAY HINGE							
WELDING FITTINGS: ASTM A420-WPL-6		<input checked="" type="checkbox"/> LEGS/SADDLES Y (NOTE 33) <input checked="" type="checkbox"/> PAINTERS TROLLEY							
EXTERNAL BOLTS: ASTM A320 L7M		<input type="checkbox"/> DEMISTER PAD <input type="checkbox"/> PIPE COIL							
EXTERNAL NUTS: ASTM A194 7M		<input type="checkbox"/> DEMISTER PAD SUPPORT <input checked="" type="checkbox"/> GROUND LUG Y, TWO							
SADDLES: ASTM A516-70N		<input type="checkbox"/> PLATFORM CLIPS <input checked="" type="checkbox"/> LIFTING LUGS Y							
LIFTING LUGS: ASTM A516-70N		<input type="checkbox"/> PLATFORM <input checked="" type="checkbox"/> MANWAY DAVIT Y							
INTERNALS: ASTM A516-70N / 316L SS		<input type="checkbox"/> WEIR PLATE <input type="checkbox"/> TOP DAVIT							
GASKETS: Fully Annealed 316 SS SPWD CG Flexitallic, c/w inner & outer ring		<input type="checkbox"/> LADDER <input checked="" type="checkbox"/> BLIND FLANGES Spare/Manway Nozzles							
ANODES: N/A		<input type="checkbox"/> SAFETY CAGE <input type="checkbox"/> SPECTACLE BLINDS							
PAINTING AND COATING		<input type="checkbox"/> DEFLECTOR <input type="checkbox"/> SIGHT GLASS							
PAINT/ COATING SYSTEM		<input checked="" type="checkbox"/> SPARE GASKETS Spare/Manway Nozzles <input checked="" type="checkbox"/> VORTEX BREAKER Y							
SURFACE PREPARATION									
PRIMER COAT									
FINISH COAT									
PRIMER DFT (micron)									
FINISH DFT (micron)									
INTERNAL LINING: N/A		N/A							
EXTERNAL FINISH									
SHELL: NC1 SSPC-SP 10		Carboguard 553 Carbocrylic 3359 DTM -							
HEADS: NC1 SSPC-SP 10		Carboguard 553 Carbocrylic 3359 DTM -							
PIPING: N/A		N/A N/A N/A N/A							
STRUCTURAL STEEL: N/A		N/A N/A N/A N/A							
REMARKS									
* INDICATES INFORMATION TO BE COMPLETED BY VENDOR									
A, B, C, ...: INDICATES A PRE-ORDER REVISION 0: INDICATES AN ORDER REVISION 1, 2, 3, ...: INDICATES A POST-ORDER REVISION									
REV	DATE	BY	CHECKED	MECH	PROCESS	ELECTRICAL	INST	APPROVED	DESCRIPTION
0A1	3-Feb-17	RR	YM	RR	IJ	-	-	NL	ISSUED FOR QUOTE
0A2	23-Feb-17	RR	YM	RR	IJ	-	-	EC	ISSUED FOR PURCHASE
1	15-Feb-18	BC	YM	YM	IJ	-	-		ISSUE FOR AS-BUILT

Information of Record, 2018/04/13, Rev 1

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	SOUR		CLIENT:	LOCATION:	
	SI UNITS		CLIENT PROJECT NO: 02-03887	SERIAL: V-17090	
			SERVICE: Aqueous Ammonia Bullet	TAG: 116C-8000 QTY: 1	
6	MANUFACTURER: Score / Vortex Production Services		MODEL: N/A	SIZE: 10' DIA X 35' S/S	

NOTES

14. Note Continue:

- 100% MPI bevelled edges
- 100% MPI (WFMT) all process wetted welds (including internal welds); back gauged areas before back welding ; areas of temporary attachments; saddles to vessel welds; 100% WFMT examination of the formed head per CTS 0601, all external and internal attachment welds, welds between nozzles and reinforcing pads.
- 100% MPI full penetration welds for lifting lugs.
- Brinell hardness test per ASTM A833 (BM, WM, HAZ) one on each circumferential weld, one on each longitudinal weld, nozzle neck and nozzle attachment weld and each representative internal attachment weld; on internal and external surface of the weld, where accessible (after PWHT - max HBW 200; min HBW 140).
- Certified material test reports shall be provided for all pressure retaining components and for all service materials that are attached to pressure retaining components.

15. Weld procedures shall be in compliance with Suncor specification Shop and Field Welding: CTS 0903. All weld procedures shall be completed with applicable PQRs and laboratory testing analysis and provided for client review 1 week ARO.

16. All nozzles and manways shall be set-in through type with continuous full penetration welds. Allowable nozzles loads shall be in accordance with Suncor specification CTS 0601 Pressure Vessels.

17. Vessel accessories shall comply with Suncor standard details.

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31. Vessel shall be designed for flooded conditions. All loads as noted in sections 5.2.3 - 5.2.7 of CTS 0601 shall be considered in the design and vessel calculations.

32. Weld spacing requirements as noted in sections 5.2.10.17 and 5.2.10.18 of CTS 0601 shall be met.

33. Saddle plates shall be provided as per section 5.2.11.17 of CTS 0601.

34. External reinforcing pads shall be provided for all support attachments (as applicable).

35. Vessel heads shall be supplied in compliance with section 5.3.2.2 of CTS 0601.

36. Reinforcing pads, if any, shall be tested as per section 5.5.9 of CTS 0601.

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