[National Board (incl. endorsements), State, Province and Number]

A)600021

## FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only) As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1 Manufactured and certified by Enerflex Ltd., 10121 Barlow Trail NE, Calgary, Alberta, T3J 3C6 (Name and address of manufacturer) Manufactured for Husky Oil Operations Ltd., Box 4490, Stn. D Calgary Alberta, T2P 3G7 (Name and address of purchaser) Location of installation LSD: 03-35-078--25 W4 McMullen TCP. (Name and address) V2124,213 Vertical 31834211 31833-V0401 Rev.5 2010 (Horizontal or vertical, tank) (Manufacturer's serial Number) (CRN) (Drawing Number) (National Board number) (Year built) 5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 2007 [Addenda (date)] (Code Case numbers) [Special service per UG-120(d)] 6. Shell: SA-106B 0.687" 0.0625" 1' - 10.626" 5' - 6" S/S (Material spec. number, grade) (Nominal, thickness) (Inner diameter) (Corr. allow.) [Length (overall)] Seams: Seamless Pipe 1.0 Type 1 Spot 0.70 [Long.(welded, dbl., sngl., lap, butt)] (R.T. (spot or full)) (Eff., %) (H.T. temp.) elded, dbl., sngl., lap, butt)] (Time, hr) [R.T. (spot (Eff., %) No. of cours or fulb) 8. Heads: (a) Material <u>SA-516-70N</u> (b) Material SA-516-70N (Spec. no., grade) (Spec. no., grade) Location (Top, Corrosion Crown Knuckle Elliptical Conical Hemispherical Flat Side to Pressure Bottom, Ends Thickness Allowance Radius Radius Ratio Apex Angle Radius Diamete (Convex or Concave (a) Top 0.5625" 0.0625" SE 2:1 Concave (b) 0.0625" **Bottom** 0.5625" SE 2:1 Concave If removable, bolts used (describe other fastenings) (Material spec. number, grade, size, number) 9. MAWP **655 PSIG** at max, temp. 300°F (internal) Min. design metal temp. 655 PSIG . Hydro., pneu., or comb. test pressure **852 PSIG Proof Test** 10. Nozzles, inspection, and safety valve openings: Purpose Diameter Nominal Reinforcement How Type Material Location (Inlet, Outlet, Drain) or Size Thickness Material SEE ATTACHED U4 **FORM** 11. Supports: Skirt <u>Yes</u> Attached Head & Welded (Number) (Yes or no) (Number) (Describe) (Where and how) 12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: (Name of part, Item number, Manufacturer's name and identifying stamp) Vessel Type: Stage #1 Suction Scrubber Construction Drawing: 31834-V-0401 Rev.5 Impact testing: exempt, per UG-20(f)(1-5), UCS-66(c) Volume: 22 Cu. Ft. Relief Valve installed on piping in accordance with UG-125 2 - 3" CL300 Hub Flange RF SA-105N Studs: 3/4"Ø 4 1/2" Lg. SA-193-B7 Qty. 16, Nuts: 3/4"Ø SA-194-2H Qty. 32 4 - 2" CL300 Hub Flange RF SA-105N Studs: 5/8"Ø 4" Lg. SA-193-B7 Qty. 32, Nuts: 5/8"Ø SA-194-2H Qty. 64 2 - 2" CL300 RFBL SA-105N Studs: 5/8"Ø 4" Lg. SA-193-B7 Qty. 16, Nuts: 5/8"Ø SA-194-2H Qty. 32 **CERTIFICATE OF SHOP/FIELD COMPLIANCE** We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 33.658 November 26, 2011 22 Sept 2010 Co. name Enerflex Ltd Signed (Manufacturer) **CERTIFICATE OF SHOP/FIELD INSPECTION** Vessel constructed by **Enerflex Ltd** at Calgary, Alberta, Canada I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Alberta and employed by ABSA have inspected the component described in this Manufacturer's Data Report on and state that. to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the inspector nor his/her employer makes any warranty, expressed or 

(Authorized Inspector)

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## FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

中期 医原性溶液管管管切除器。

1. Manufactu	red and certified	by		Enerflex Ltd., 10121 Barlow Trail NE, Calgary, Alberta, T3J 3C6						
2. Manufactu	red for		Hu	Na) Sky Oil Operat	ne and address of Manufacturer) ions Ltd., Box 4490, Stn. D Ca	nary Albe	rta TOD 3G7	7	-	
3. Location of	of Installation			(N	ame and address of Purchaser) ACMullen TCP. LSD: 03-35-0					
4. Type:	Vertica (Horizontal, vertical, c	or sphere)	(Name and address)  Stage #1 Suction Scrubber (Tank, separator, heat exch., etc.)			31834211 (Manufacturers serial Number)				
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V2124.213 (CRN)			31833-V0401 Rev.5 (Drawing Number) (National			 al Board, Numbe	2010 I Board, Number) (Year built)			
	<b>1</b>	,	T		Remarks					
Data Report Item Number	Purpose (inlet, Outlet, Drain)	Number	Diameter or Size	Туре	Material	Nominal Thicknes	Reinforcement Material	How Attached	Location	
10-N1	Inlet	1	6"NPS	CL300 RFWN	SA-105N/SA-234-WPB/SA-106B	0.718"		UW16.1(c)	Shell	
10-N2	Outlet	1	6"NPS	CL300 RFWN	SA-105N/SA-106B	0.718"	***	UW16.1(c)	Shell	
10-N3	LC	1	3"NPS	CL300 RFLWN	SA-105N	0.81"		UW16.1(c)	Shell	
10-N4	LS	11	3"NPS	CL300 RFLWN	SA-105N	0.81"	****	UW16.1(c)	Shell	
10-N5	Drain	1	2"NPS	CL300 RFWN	SA350LF2CL1/SA-234-WPB/SA-106B	0.343"		UW16.1(c)	Head	
10-N6	TI	11	2"NPS	CL300 RFWN	SA-350LF2 CL1 / SA-106B	0.343"		UW16.1(c)	Shell	
10-N7	Insp.	1	2"NPS	CL300 RFWN	SA-350LF2 CL1 / SA-106B	0.343"		UW16.1(c)	Head	
10-N8A	LG	1	2"NPS	CL300 RFWN	SA-350LF2 CL1 / SA-106B	0.343"		UW16.1(c)	Shell	
10-N8B	LG	1	2"NPS	CL300 RFWN	SA-350LF2 CL1 / SA-106B	0.343"		UW16.1(c)	Shell	
10-N10	Pl	1	2"NPS	CL300 RFWN	SA-350LF2 CL1 / SA-106B	0.343"		UW16.1(c)	Shell	
10-N11	insp.	1	2"NPS	CL300 RFWN	SA-350LF2 CL1 / SA-106B	0.343"		UW16.1(c)	Shell	
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Certificate of Aut	horization: Type	•	"U"	No.	33,658 Expires	Novemb	er 26, 2011			
							٨	Λ 1		
Date 22 Sept 2010 Name Enerflex Ltd. Signed							<u>ulv</u>	noll		
(Mgsufacturer)							(Repres	sonialivo)	•	
Date <b>SE</b> F	2 7 2010	1	Name	60 Sa	Commissis	ons	ALTA	からない		
(Authorized Inspector) (National Board (Incl. andorsements), State, Province and Number)										