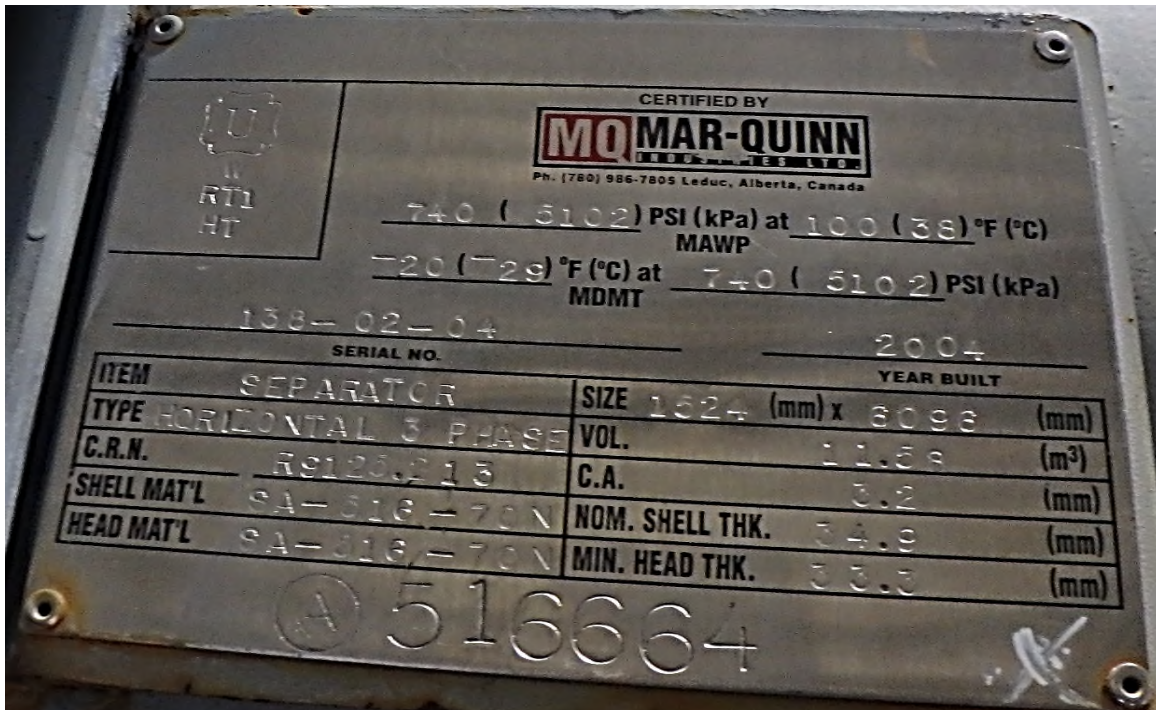
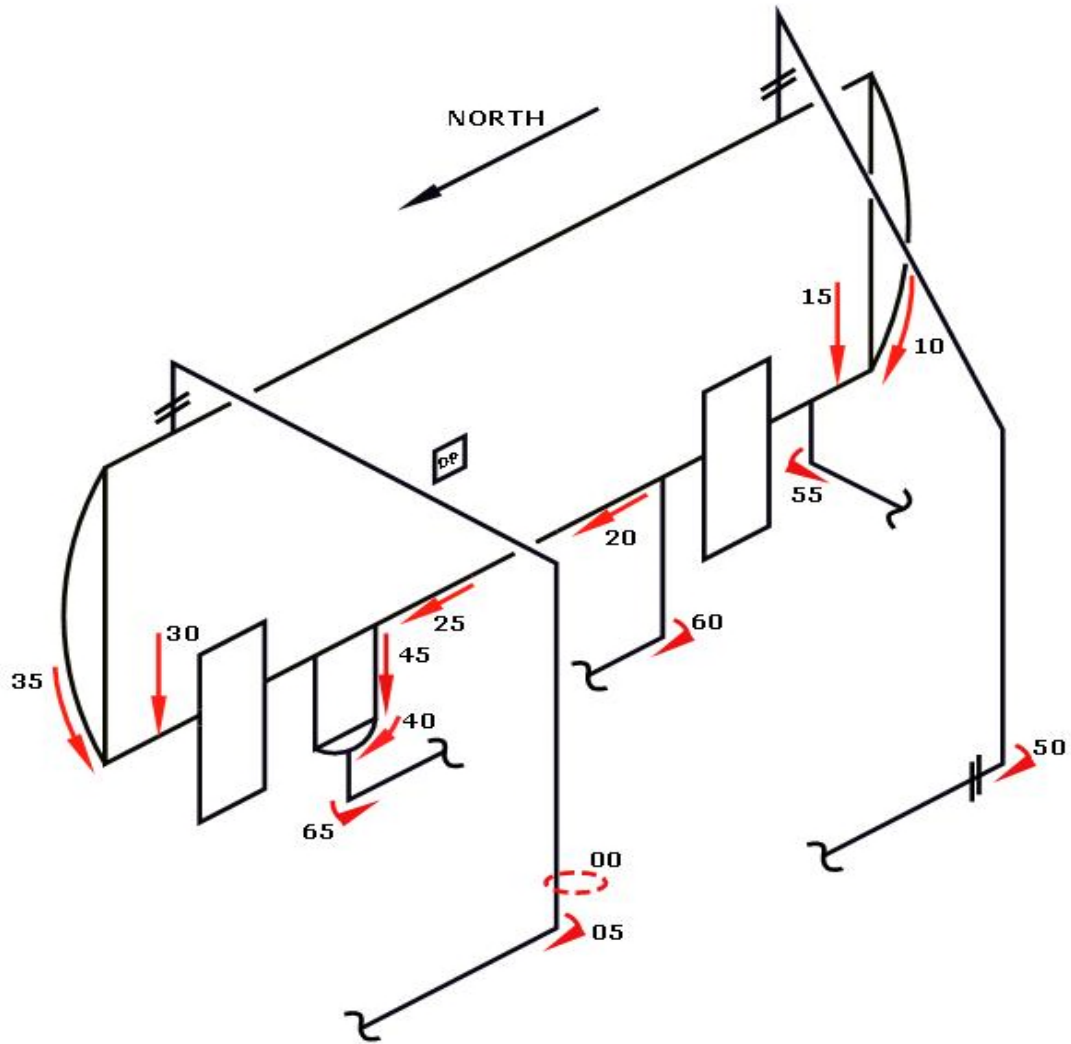




Location Name:	RAVEN CREEK	LSD:	02-20-050-18W5
Jur #:	A0516664	Equipment/Tag No.	222149
Equipment Description:	INLET SEPARATOR		
Manufacturer:	MARQUINN INDUSTRIES		
Serial Number:	136-02-04	CRN:	R9125.213
Shell MAWP:	5102	KPA Shell Design Temp:	38 °C
Tube MAWP:		KPA Tube Design Temp:	°C
Shell Material:	SA-516-70N	Head Material:	SA-516-70N
Shell Thickness:	34.80	mm Head Thickness:	33.27 mm
Corrosion Allowance:	3.18	mm Date Built:	2004
Size:	1524	mm Pipe / Rolled Plate:	PLATE
RT:	1	Streamline Report #:	STL-190060-DMS 28

NOTES: SAP#66146479









Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: **Husky Energy**

Date: **Jan 30, 2019**

Streamline Report #: **STL-190060-DMS 28**

Inspector: **Colin Davies**

LSD: 02-20-050-18W5	Area: RAVEN CREEK	Location: FIELD
Jur #: A0516664	Tag Number: 222149	Vessel Name: INLET SEPARATOR
CRN: R9125.213	Year Built: 2004	Serial Number: 136-02-04
RT: 1	Vessel CA: 3.180 mm	Manufacturer: MARQUINN INDUSTRIES
	Shell MAWP: 5102 KPA	Tube MAWP: KPA
	MAWT: 38 °C	MAWT: °C
		Pipe/Plate PLATE

CML Description	Baseline	Flange ANSI:	Material: SA-106-B
00 PIPING	2014 2019	CA Nominal T Min	STCR mm/yr LTCR mm/yr
Shape: 360° Circ	Min 12.14 10.85	11.113 1.588 12.700	0.259 0.124
OD: 219.075	Avg 11.38		Remaining Life:
Spec: ASME B31.3	Comments: THINNING NOTED		Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-234-WPB
05 PIPING	2014 2019	CA Nominal T Min	STCR mm/yr LTCR mm/yr
Shape: 90° Elbow	Min 11.05 11.86	11.113 1.588 12.700	0.000 0.056
OD: 219.075	Avg 12.88		Remaining Life:
Spec: ASME B31.3	Comments:		Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
10 HEAD	2014 2019	CA Nominal T Min	STCR mm/yr LTCR mm/yr
Shape: Ellipsoidal	Min 35.51 35.59	30.090 3.180 33.270	0.000 0.000
OD: 1524	Avg 35.89		Remaining Life:
Spec: ASME VIII Div.1	Comments:		Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
15 SHELL	2014 2019	CA Nominal T Min	STCR mm/yr LTCR mm/yr
Shape: Cylindrical	Min 36.35 35.86	31.620 3.180 34.800	0.097 0.000
OD: 1524	Avg 36.02		Remaining Life:
Spec: ASME VIII Div.1	Comments:		Retirement Date:



Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: Jan 30, 2019

Streamline Report #: STL-190060-DMS 28

Inspector: Colin Davies

LSD: 02-20-050-18W5	Area: RAVEN CREEK	Location: FIELD
Jur #: A0516664	Tag Number: 222149	Vessel Name: INLET SEPARATOR
CRN: R9125.213	Year Built: 2004	Serial Number: 136-02-04
RT: 1	Vessel CA: 3.180 mm	Manufacturer: MARQUINN INDUSTRIES
	Shell MAWP: 5102 KPA	Tube MAWP: KPA
	MAWT: 38 °C	MAWT: °C
		Pipe/Plate PLATE

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
20 SHELL	2014 2019	CA Nominal	T Min
Shape: Cylindrical	Min 36.07 35.79	3.180 34.800	STCR mm/yr 0.056
OD: 1524	Avg 35.89		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
25 SHELL	2014 2019	CA Nominal	T Min
Shape: Cylindrical	Min 36.12 35.86	3.180 34.800	STCR mm/yr 0.051
OD: 1524	Avg 36.02		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
30 SHELL	2014 2019	CA Nominal	T Min
Shape: Cylindrical	Min 36.14 35.81	3.180 34.800	STCR mm/yr 0.065
OD: 1524	Avg 35.97		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
35 HEAD	2014 2019	CA Nominal	T Min
Shape: Ellipsoidal	Min 35.33 35.71	3.180 33.270	STCR mm/yr 0.000
OD: 1524	Avg 36.07		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:



Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: Jan 30, 2019

Streamline Report #: STL-190060-DMS 28

Inspector: Colin Davies

LSD: 02-20-050-18W5	Area: RAVEN CREEK	Location: FIELD
Jur #: A0516664	Tag Number: 222149	Vessel Name: INLET SEPARATOR
CRN: R9125.213	Year Built: 2004	Serial Number: 136-02-04
RT: 1	Vessel CA: 3.180 mm	Manufacturer: MARQUINN INDUSTRIES
	Shell MAWP: 5102 KPA	Tube MAWP: KPA
	MAWT: 38 °C	MAWT: °C
		Pipe/Plate PLATE

CML Description	Baseline	2014	2019	Flag	Flange ANSI: CA	Nominal	Material: SA-516-70N	T Min	STCR mm/yr	LTCR mm/yr
40 HEAD										
Shape: Boot	Min	20.62	20.62	29.111	4.159	33.270			0.000	0.843
OD: 508	Avg		21.39							
Spec: ASME VIII Div.1	Comments:								Remaining Life:	Retirement Date:

CML Description	Baseline	2014	2019	Flag	Flange ANSI: CA	Nominal	Material: SA-516-70N	T Min	STCR mm/yr	LTCR mm/yr
45 SHELL										
Shape: Boot	Min	22.71	22.73	30.450	4.350	34.800			0.000	0.804
OD: 508	Avg		22.99							
Spec: ASME VIII Div.1	Comments:								Remaining Life:	Retirement Date:

CML Description	Baseline	2014	2019	Flag	Flange ANSI: CA	Nominal	Material: SA-234-WPB	T Min	STCR mm/yr	LTCR mm/yr
50 PIPING										
Shape: 90° Elbow	Min	8.66	8.61	9.601	1.372	10.973			0.010	0.157
OD: 168.275	Avg		9.17							
Spec: ASME B31.3	Comments: THINNING NOTED								Remaining Life:	Retirement Date:

CML Description	Baseline	2014	2019	Flag	Flange ANSI: CA	Nominal	Material: SA-234-WPB	T Min	STCR mm/yr	LTCR mm/yr
55 PIPING										
Shape: 90° Elbow	Min	4.85	4.98	4.845	0.692	5.537			0.000	0.037
OD: 60.325	Avg		5.23							
Spec: ASME B31.3	Comments: ASSUMED NOMINAL, THINNING NOTED								Remaining Life:	Retirement Date:



Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: Jan 30, 2019

Streamline Report #: STL-190060-DMS 28

Inspector: Colin Davies

LSD: 02-20-050-18W5	Area: RAVEN CREEK	Location: FIELD
Jur #: A0516664	Tag Number: 222149	Vessel Name: INLET SEPARATOR
CRN: R9125.213	Year Built: 2004	Serial Number: 136-02-04
RT: 1	Vessel CA: 3.180 mm	Manufacturer: MARQUINN INDUSTRIES
	Shell MAWP: 5102 KPA	Tube MAWP: KPA
	MAWT: 38 °C	MAWT: °C
		Pipe/Plate PLATE

CML Description	Baseline	2014	2019	Flag	Flange ANSI: CA	Nominal	Material: SA-234-WPB	T Min	STCR mm/yr	LTCR mm/yr
60 PIPING										
Shape: 90° Elbow	Min	8.56	8.36	7.490	1.070	8.560			0.041	0.014
OD: 114.3	Avg		8.51						Remaining Life:	
Spec: ASME B31.3	Comments:								Retirement Date:	

CML Description	Baseline	2014	2019	Flag	Flange ANSI: CA	Nominal	Material: SA-234-WPB	T Min	STCR mm/yr	LTCR mm/yr
65 PIPING										
Shape: 90° Elbow	Min	5.38	5.33	4.845	0.692	5.537			0.009	0.014
OD: 60.325	Avg		5.49						Remaining Life:	
Spec: ASME B31.3	Comments: ASSUMED NOMINAL								Retirement Date:	

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11516664

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSEL
(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only
As required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and Certified by MAR QUINN INDUSTRIES LTD., 7115 SPARROW DRIVE, LEDUC, ALBERTA, CANADA, T9E 7L1

2. Manufactured for: Enerflex Leasing Ltd. 4700-47 Street S.E. Calgary AB T2B 3R1

3. Location of installation: stock

4. Type: Separator (Mfg's serial No. 138-02-04) (ASME No. R9125 213) (Drawing No. 330 Rev C) (Part No. N/A) (Year Built 2004)

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 (Year 2001)

to 2003 (Addenda (date)) (Code Case No s N/A) (Special Service per UG-120(d) N/A)

6. Shell: SA-516-70N (Mat'l (Spec. No., Grade)) (Nom Thk (In.) 1.375) (Corr. Allow. (In.) 0.125) (Diam. I. D. (ft. & In.) 60 in. OD) (Length (overall) (ft. & In.) 23'-10.375")

7. Seams: Type 1 (Lung (Welded Dbl. Snq'l. Laps. Full)) (R. T. (Spot. 100)) (H. T. Temp. (F) 1150) (Time (hr.) 1.5) (Type # 1) (Girth (Welded, Dbl., Snq'l., Laps. Full)) (R. T. (Spot. 2)) (No. of Courses 2)

8. Heads: (a) Mat'l SA-516-70N (Spec. No., Grade) (b) Mat'l SA-516-70N (Spec. No., Grade)

Location (Top, Bottom, Ends)	Minimum Thickness	C.A.	Crown Radius	Knuckle Radius	Elliptical Radius	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a) TOP	1.3125	0.125	N/A	N/A	2:1	N/A	N/A	N/A	Concave
(b) BOTTOM	1.3125	0.125	N/A	N/A	2:1	N/A	N/A	N/A	Concave

If removable, bolts used (describe other fastenings) N/A
(Mat'l., Spec., No., Gr., Size., No.)

9. MAWP 740 psi at max. temp. 100 °F
Min. design metal temp. -20 °F at 740 psi. Hydro., pneu., or comb. test pressure 962 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Mat'l	Nom. Thk.	Reinforcement Mat'l	How Attached	Location
Gas Inlet/Insp.	1	10 in. NPS	300#RFWN	SA105N/SA106B	0.593 in.	SA-516-70N	UW16.1 (c)	Shell
Gas Out	1	8 in. NPS	300#RFWN	SA105N/SA106B	0.500 in.	SA-516-70N	UW16.1 (c)	Shell
Water/Cond. Out	2	4 in. NPS	300#RFWN	SA105N/SA106B	0.531	N/A	UW16.1 (c)	Shell
Spare	1	4 in. NPS	300#RFWN	SA105N/SA106B	0.531	N/A	UW16.1 (c)	Boot Shell
HLSD	1	3 in. NPS	300#RFWN	SA105N/SA106B	0.438	N/A	UW16.1 (c)	Shell
See Attached U-4								

11. Supports: Skirts NO (Yes or No) (No.) I Lugs N/A (No.) Legs N/A (No.) Other SADDLES Attached: SHELL by Welding (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: N/A
(Name of part, Item number, Mfg's name, and identifying stamp)
Volume: 409 cu.ft. Construction Dwg # 138-02-04-A Rev 3. Impact test per UG-84 on shell/heads, rest exempt per UG-20(f)1-5 and UCS-66(a) (b) and note (e). Hydrostatic test conducted in the horizontal position RT per UW-51. Horizontal Three Phase Separator. PSV by others

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 Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization No. 33,420 expires 9-Jul-05

Date Oct 26 2004 Co. name: Mar-Quinn Industries Ltd. Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

Vessel constructed by Mar-Quinn Industries Ltd. at 7115 - Sparrow Drive Leduc Alberta Can. T9E 7L1
I, the undersigned, hold 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 Alberta Boilers Safety Association

have inspected the component described in this Manufacturer's Data Report on OCT 26 2004, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code Section VIII, Division 1. By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection.

Date OCT 26 2004 Signed [Signature] Commissions AB#144
(Authorized Inspector) (National Board Incl. Endorsement, State, Prov. Assn. No.)

④ 516664

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET
As Required by the provisions of the ASME Code Rules, Section VIII, Division 1

Manufactured and certified by: MAR-QUINN INDUSTRIES LTD., 7115 SPARROW DRIVE, LEDUC, AB., CANADA T9E 7L1
(Name and address of Manufacturer)

Manufactured for: Enerflex Leasing Ltd. 4700-47 St. S.E. Calgary AB T2B 3R1
(Name and address of purchaser)

Location of installation: STOCK
(Name and address)

Type:	<u>Horizontal</u> (Horiz., vert., or sphere)	<u>Separator</u> (Tank, separator, heat exh., ect.)	<u>138-02-04</u> (Mfg.'s. serial number)
	<u>R9125.2</u> (CRN)	<u>138-02-04-A</u> (Drawing No.)	<u>N/A</u> (Nat'l Bd. No.)
			<u>2004</u> (Year built)

DATA REPORT ITEM NUMBER	REMARKS
PSV,TI,PI, Bridles	2"NPS 300#RFWN SA-105N/SA-106-B 0.344Nom.Thk. on Shell using UW-16.1(c)
Manway	18"300#RFWN SCH60(0.75) with 18"SCH(0.75) SA-333-Gr.6 Neck UW-16.1(c) on Shell
Manway Repad	SA-516-70N material 37.5"O.D. X 1.0" thick
Boot Shell	20" O.D. X 27.5" X 0.785" thick SA-516-70N on Shell using Fig UW-16.1(c)
Boot Head	20" O.D. X 0.875" thick SA-516-70N 2:1 ELLIPTICAL RADIUS,CONCAVE to pressure,1/8 Corr. All.
Boot Repad	SA-516-70N material 36"O.D. X 1.0" thick

Certificate of Authorization: Type: "U" Certificate No.: 33,420 Expires: 9-Jul-05

Date: Oct 16, 2004 Name: Mar-Quinn Ind. Ltd. Signed: [Signature]
(Manufacturer) (Representative)

Date: OCT 26 2004 Name: [Signature] Commis: AB #141A
(Authorized Inspector) (Nat'l Board Incl. Endorsement, State, Province and No.)