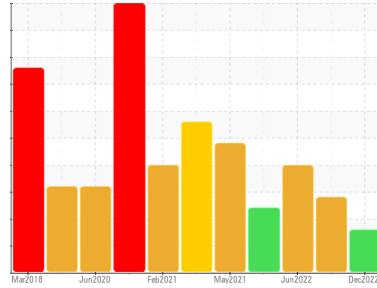


PROBLEM SUMMARY

Sample Rating Trend



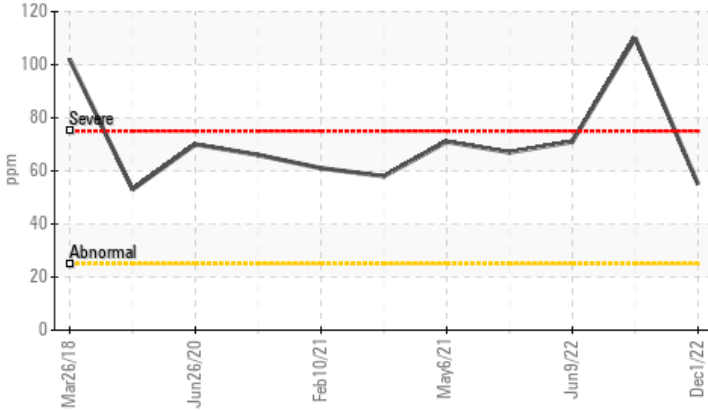
Machine Id
VILTER A

Component
Compressor

Fluid
TULCO LUBSOIL LPG WI 100 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Silicon (ppm)



RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status	ASTM D5185m	>25	ABNORMAL	ABNORMAL	ABNORMAL
Silicon	ppm	>25	▲ 55	▲ 71	▲ 110

Customer Id: MELMELTX
Sample No.: TO50000126
Lab Number: 05708435
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

09 Jun 2022 Diag: Don Baldrige

DIRT



No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



09 Jun 2022 Diag: Jonathan Hester

DIRT



The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



31 Jan 2022 Diag: Doug Bogart

DIRT



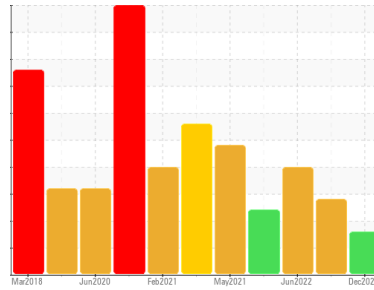
We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
VILTER A
 Component
Compressor
 Fluid
TULCO LUBSOIL LPG WI 100 (--- GAL)

DIAGNOSIS

Recommendation
 No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
 All component wear rates are normal.

Contamination
 Elemental level of silicon (Si) above normal. The amount and size of particulates present in the system are acceptable.

Fluid Condition
 The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	TO50000126	TO50000129	TO50000128
Sample Date	Client Info	01 Dec 2022	09 Jun 2022	09 Jun 2022
Machine Age	mths Client Info	0	0	0
Oil Age	mths Client Info	0	0	0
Oil Changed	Client Info	Filtered	Filtered	Filtered
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185m	>50	<1	1	18
Chromium ppm ASTM D5185m	>10	0	0	0
Nickel ppm ASTM D5185m		<1	<1	<1
Titanium ppm ASTM D5185m		0	0	0
Silver ppm ASTM D5185m		0	0	0
Aluminum ppm ASTM D5185m	>25	0	<1	<1
Lead ppm ASTM D5185m	>25	0	<1	<1
Copper ppm ASTM D5185m	>50	0	0	<1
Tin ppm ASTM D5185m	>15	1	1	2
Antimony ppm ASTM D5185m		---	---	---
Vanadium ppm ASTM D5185m		0	0	0
Cadmium ppm ASTM D5185m		0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m	0	0	2	3
Barium ppm ASTM D5185m		0	0	0
Molybdenum ppm ASTM D5185m	0	0	<1	<1
Manganese ppm ASTM D5185m		0	0	<1
Magnesium ppm ASTM D5185m	0	2	1	10
Calcium ppm ASTM D5185m		0	<1	13
Phosphorus ppm ASTM D5185m	0	36	6	7
Zinc ppm ASTM D5185m	0	4	0	0
Sulfur ppm ASTM D5185m	0	8505	4058	6757

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>25	▲ 55	▲ 71	▲ 110
Sodium ppm ASTM D5185m		4	0	1
Potassium ppm ASTM D5185m	>20	0	<1	<1
Water % ASTM D6304	>2.26	0.271	0.667	0.919
ppm Water ppm ASTM D6304	>22600	2717.5	6670	9190

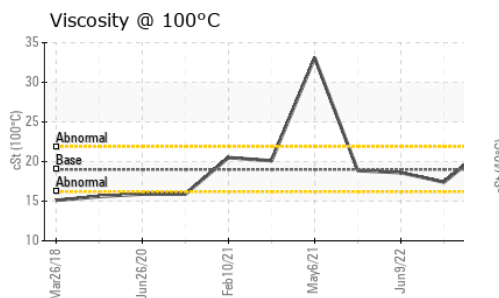
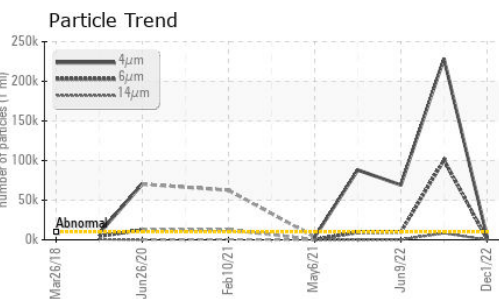
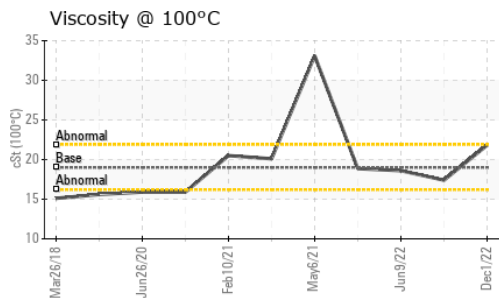
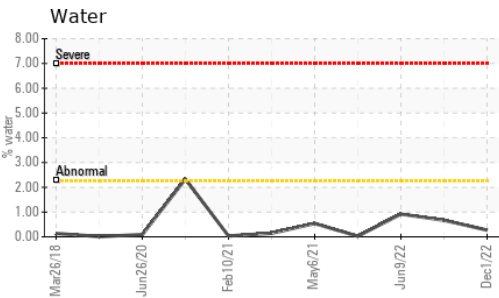
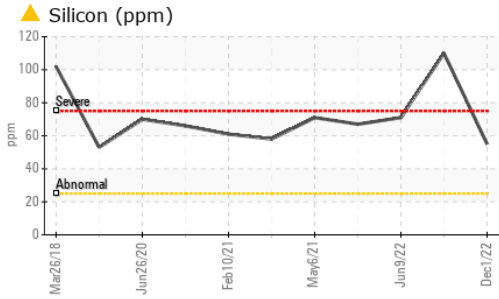
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm ASTM D7647	>10000	3776	▲ 69132	▲ 228588
Particles >6µm ASTM D7647	>2500	736	▲ 9887	▲ 100747
Particles >14µm ASTM D7647	>320	42	256	▲ 8313
Particles >21µm ASTM D7647	>80	14	47	▲ 2126
Particles >38µm ASTM D7647	>20	0	1	▲ 36
Particles >71µm ASTM D7647	>4	0	0	0
Oil Cleanliness ISO 4406 (c)	>20/18/15	19/17/13	▲ 23/20/15	▲ 25/24/20

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045		1.40	0.581	0.703

OIL ANALYSIS REPORT



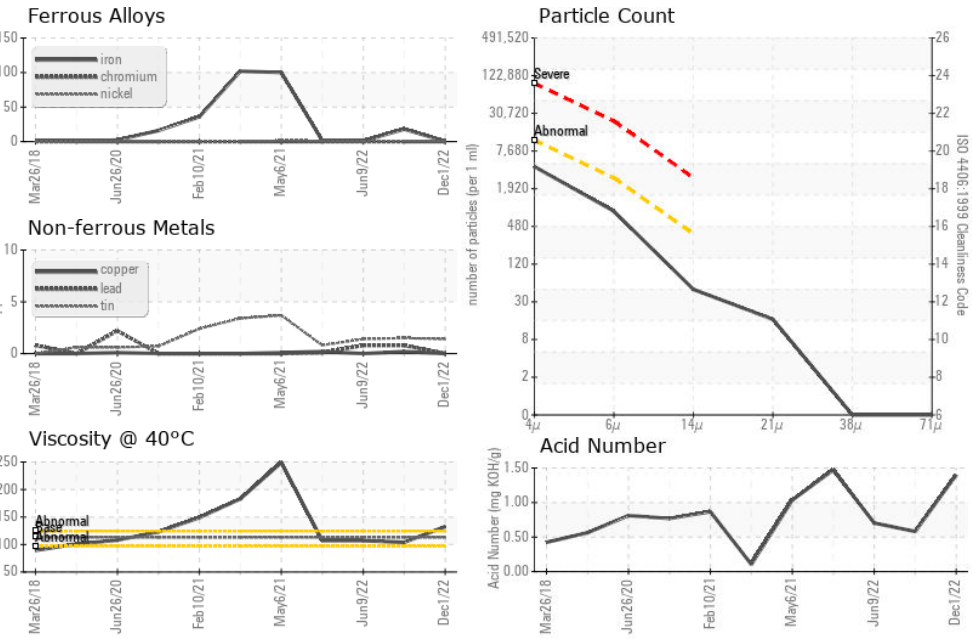
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>2.26	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	113	132.6	104	107
Visc @ 100°C	cSt	ASTM D445	19	21.81	17.4	18.6
Viscosity Index (VI)	Scale	ASTM D2270	189	192	184	194

SAMPLE IMAGES

method	limit/base	current	history1	history2
Color				
Bottom				

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO50000126 **Received** : 05 Dec 2022
Lab Number : **05708435** **Diagnosed** : 09 Dec 2022
Unique Number : 10243010 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

MELISSA RENEWABLES
 3820 SAM RAYBURN HWY
 MELISSA, TX
 US 75454
 Contact: BILL PALMER
 bpalmer@morrowenergy.com
 T: (972)529-8442
 F:

Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)