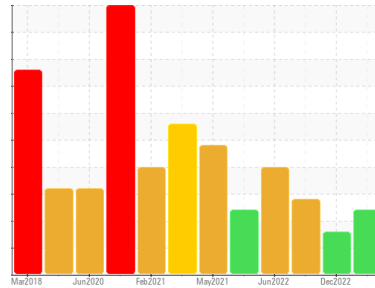


# PROBLEM SUMMARY

Sample Rating Trend



**DIRT**



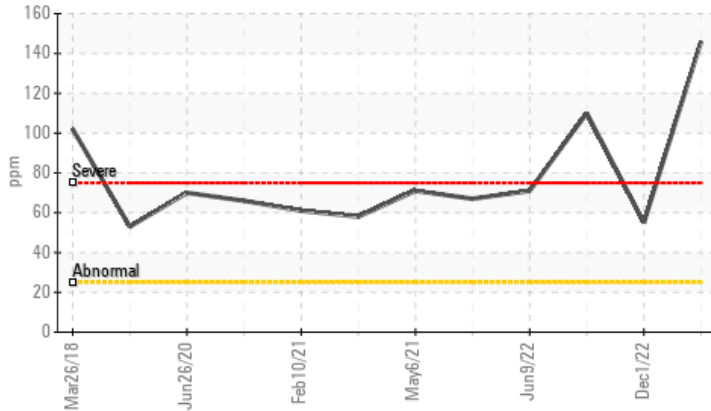
Machine Id  
**VILTER A**

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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL
Silicon	ppm	ASTM D5185m	>25	▲ <b>146</b>	▲ 55	▲ 71
Silt	scalar	*Visual	NONE	▲ <b>MODER</b>	NONE	NONE

**Customer Id:** MELMELTX  
**Sample No.:** TO60000421  
**Lab Number:** 05905469  
**Test Package:** IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.

HISTORICAL DIAGNOSIS

01 Dec 2022 Diag: Doug Bogart

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. Elemental level of silicon (Si) above normal. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



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

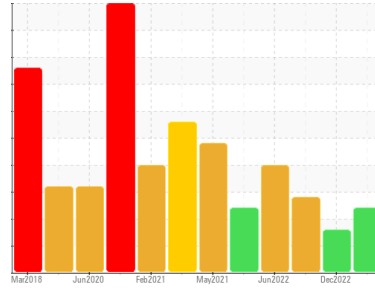
DIRT



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





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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

**Wear**  
All component wear rates are normal.

**Contamination**  
Elemental level of silicon (Si) above normal. There is a moderate amount of visible silt present in the sample.

**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	<b>TO60000421</b>	TO50000126	TO50000129
Sample Date	Client Info	<b>19 Jul 2023</b>	01 Dec 2022	09 Jun 2022
Machine Age	wks Client Info	<b>0</b>	0	0
Oil Age	wks Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>Filtered</b>	Filtered	Filtered
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >50	<b>3</b>	<1	1
Chromium	ppm ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Titanium	ppm ASTM D5185m	<b>0</b>	0	0
Silver	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Aluminum	ppm ASTM D5185m >25	<b>0</b>	0	<1
Lead	ppm ASTM D5185m >25	<b>0</b>	0	<1
Copper	ppm ASTM D5185m >50	<b>0</b>	0	0
Tin	ppm ASTM D5185m >15	<b>1</b>	1	1
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>0</b>	0	2
Barium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Molybdenum	ppm ASTM D5185m 0	<b>0</b>	0	<1
Manganese	ppm ASTM D5185m	<b>0</b>	0	0
Magnesium	ppm ASTM D5185m 0	<b>0</b>	2	1
Calcium	ppm ASTM D5185m	<b>0</b>	0	<1
Phosphorus	ppm ASTM D5185m 0	<b>0</b>	36	6
Zinc	ppm ASTM D5185m 0	<b>0</b>	4	0
Sulfur	ppm ASTM D5185m 0	<b>9421</b>	8505	4058

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>▲ 146</b>	▲ 55	▲ 71
Sodium	ppm ASTM D5185m	<b>0</b>	4	0
Potassium	ppm ASTM D5185m >20	<b>1</b>	0	<1
Water	% ASTM D6304 >2.26	<b>2.406</b>	0.271	0.667
ppm Water	ppm ASTM D6304 >22600	<b>24061.4</b>	2717.5	6670

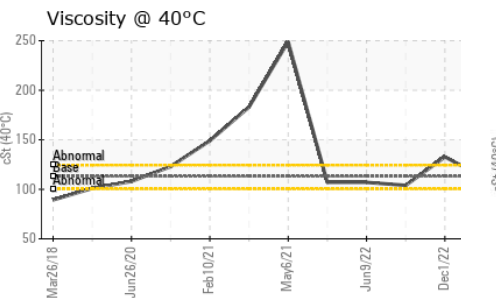
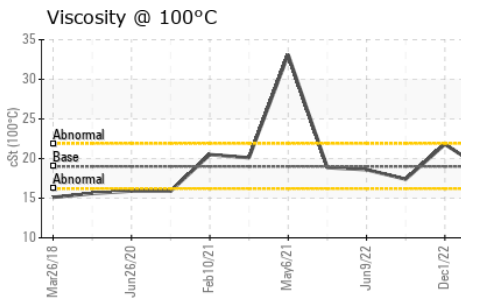
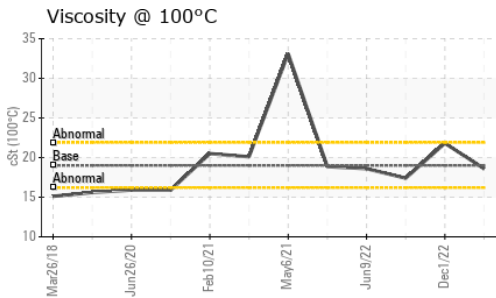
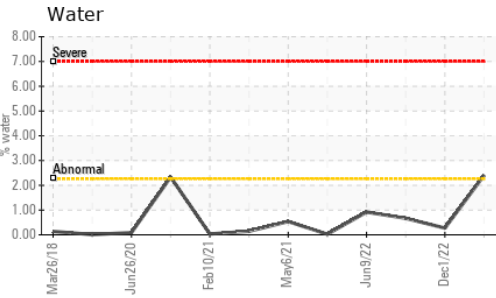
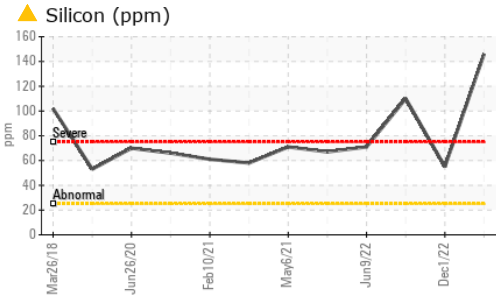
## FLUID CLEANLINESS

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

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045	<b>0.624</b>	1.40	0.581

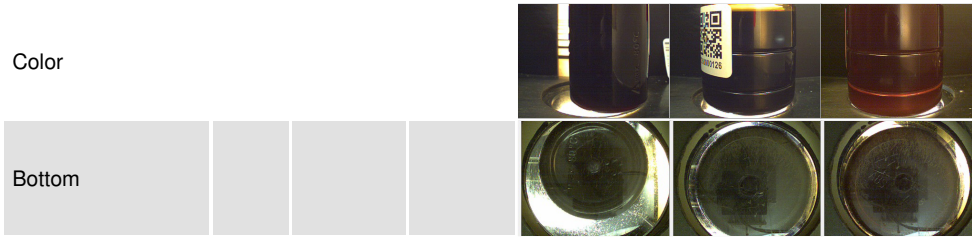
# OIL ANALYSIS REPORT



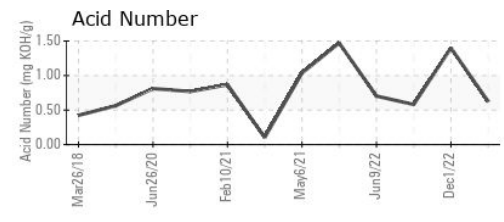
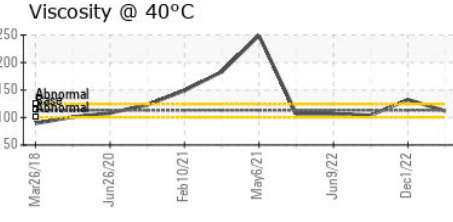
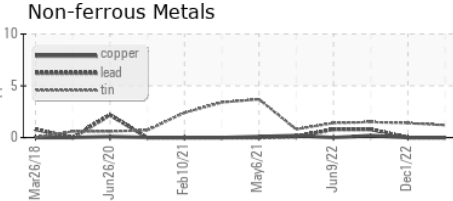
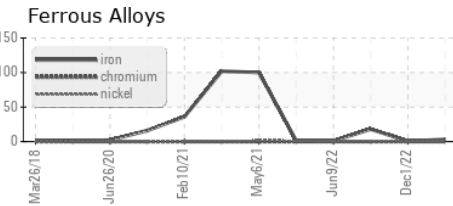
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	▲ MODER	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	113	112	132.6
Visc @ 100°C	cSt	ASTM D445	19	18.6	21.81
Viscosity Index (VI)	Scale	ASTM D2270	189	186	192

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO60000421 **Received** : 24 Jul 2023  
**Lab Number** : 05905469 **Diagnosed** : 26 Jul 2023  
**Unique Number** : 10566825 **Diagnostician** : Don Baldrige  
**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)