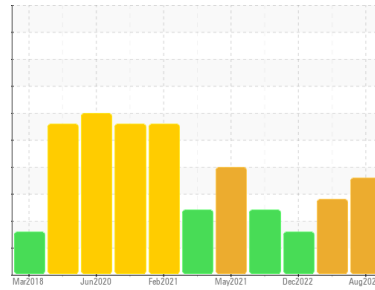


# PROBLEM SUMMARY

Sample Rating Trend



**DIRT**



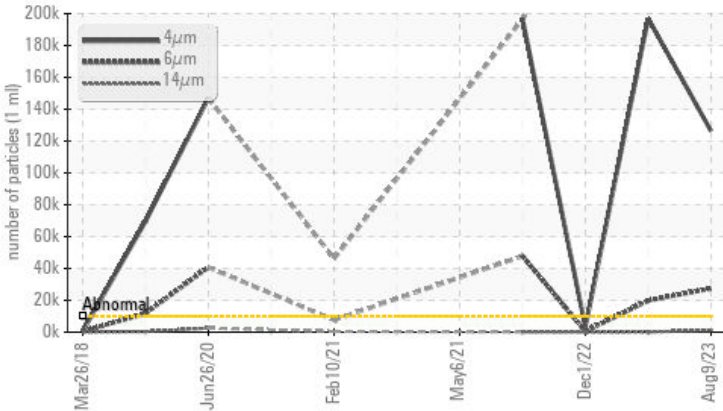
Machine Id  
**VILTER B**

Component  
**Compressor**

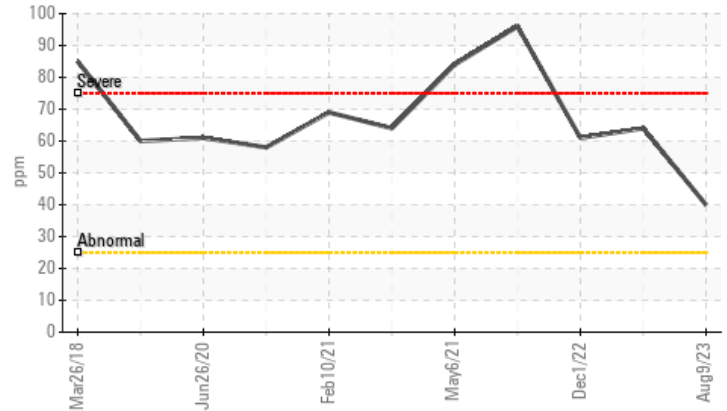
Fluid  
**TULCO LUBSOIL LPG WI 100 (--- GAL)**

## COMPONENT CONDITION SUMMARY

▲ Particle Trend



▲ 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			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL
Silicon	ppm	ASTM D5185m >25	▲ <b>40</b>	▲ 64	▲ 61
Particles >4µm		ASTM D7647 >10000	▲ <b>126390</b>	▲ 196882	3365
Particles >6µm		ASTM D7647 >1300	▲ <b>27455</b>	▲ 19816	594
Particles >14µm		ASTM D7647 >320	▲ <b>1153</b>	74	31
Particles >21µm		ASTM D7647 >80	▲ <b>227</b>	16	9
Oil Cleanliness		ISO 4406 (c) >20/17/15	▲ <b>24/22/17</b>	▲ 25/21/13	19/16/12

Customer Id: MELMELTX  
Sample No.: TO60001323  
Lab Number: 05924357  
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

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 19 Jul 2023 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.

view report



### 01 Dec 2022 Diag: Angela Borella

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. Elemental level of silicon (Si) above normal indicating ingress of seal material. 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 acceptable for the time in 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.

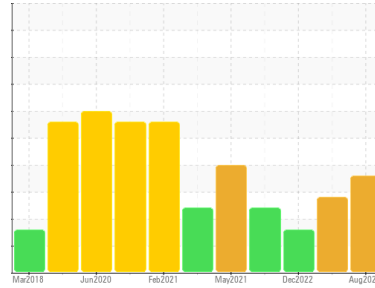
view report



Machine Id  
**VILTER B**

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**

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.

**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>TO60001323</b>	TO60000430	TO50000125
Sample Date	Client Info	<b>09 Aug 2023</b>	19 Jul 2023	01 Dec 2022
Machine Age	wks	Client Info	0	0
Oil Age	wks	Client Info	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>	6	0
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m >25	<b>&lt;1</b>	0	<1
Lead	ppm	ASTM D5185m >25	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>0</b>	<1	0
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185m	<b>---</b>	---	---
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	0
Barium	ppm	ASTM D5185m	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m 0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m 0	<b>5</b>	0	2
Calcium	ppm	ASTM D5185m	<b>0</b>	0	0
Phosphorus	ppm	ASTM D5185m 0	<b>4</b>	0	36
Zinc	ppm	ASTM D5185m 0	<b>0</b>	0	4
Sulfur	ppm	ASTM D5185m 0	<b>11990</b>	15649	6098

**CONTAMINANTS**

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>▲ 40</b>	▲ 64	▲ 61
Sodium	ppm	ASTM D5185m	<b>0</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>1</b>	<1	0
Water	%	ASTM D6304 >2.26	<b>0.440</b>	0.473	0.301
ppm Water	ppm	ASTM D6304 >22600	<b>4407.7</b>	4736.8	3017.4

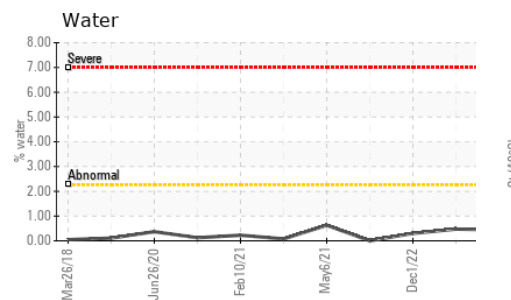
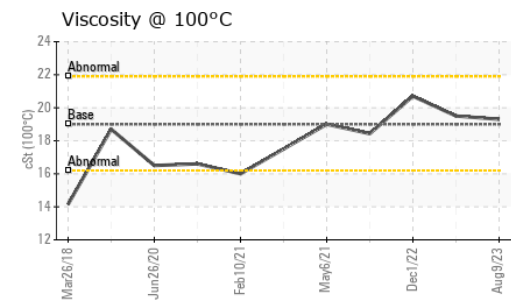
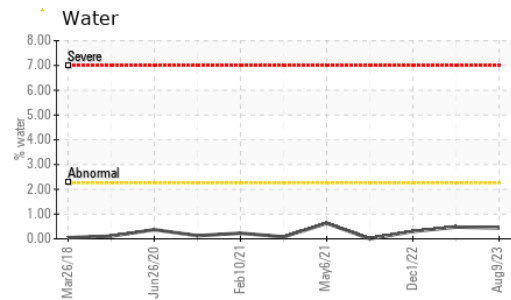
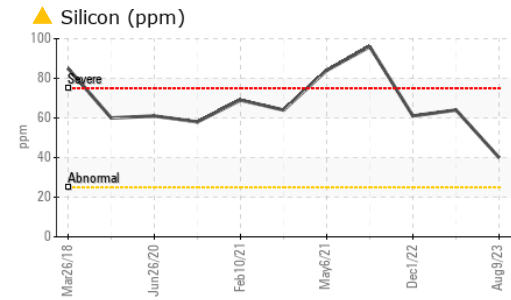
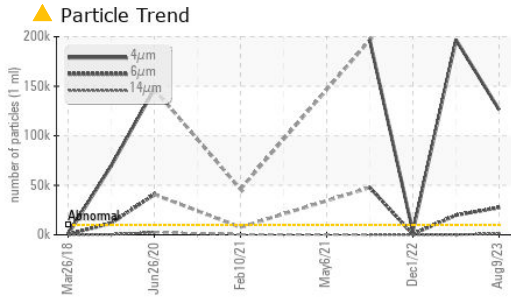
**FLUID CLEANLINESS**

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >10000	<b>▲ 126390</b>	▲ 196882	3365
Particles >6µm	ASTM D7647 >1300	<b>▲ 27455</b>	▲ 19816	594
Particles >14µm	ASTM D7647 >320	<b>▲ 1153</b>	74	31
Particles >21µm	ASTM D7647 >80	<b>▲ 227</b>	16	9
Particles >38µm	ASTM D7647 >20	<b>4</b>	1	1
Particles >71µm	ASTM D7647 >4	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >20/17/15	<b>▲ 24/22/17</b>	▲ 25/21/13	19/16/12

**FLUID DEGRADATION**

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.97</b>	0.77	1.02

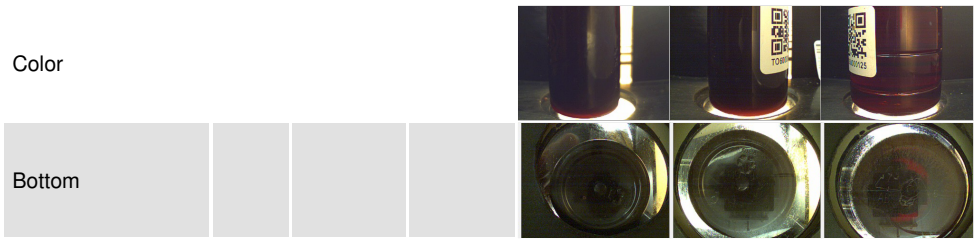
# OIL ANALYSIS REPORT



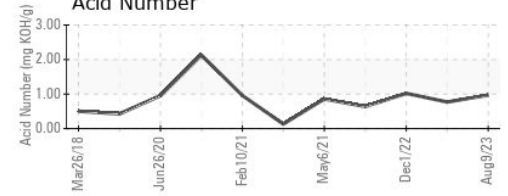
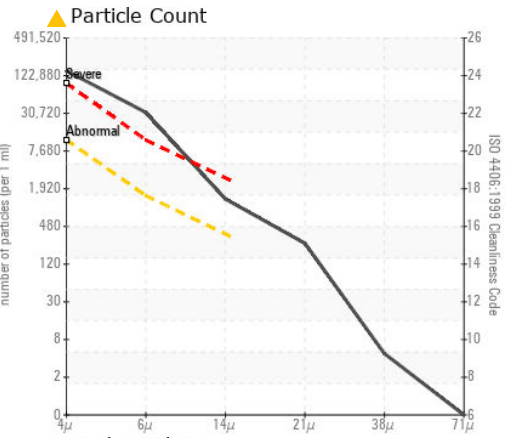
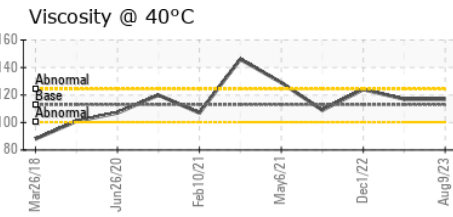
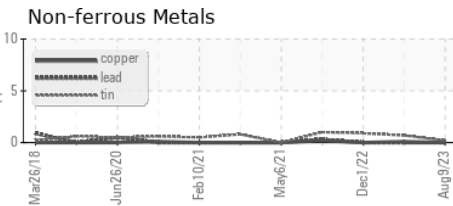
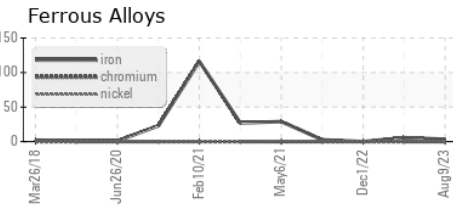
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	LIGHT	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	117	124
Visc @ 100°C	cSt	ASTM D445	19	19.5	20.7
Viscosity Index (VI)	Scale	ASTM D2270	189	189	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.** : TO60001323 **Received** : 14 Aug 2023  
**Lab Number** : 05924357 **Diagnosed** : 16 Aug 2023  
**Unique Number** : 10604304 **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:

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)