



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**TRONAIR 06-5041-3610 6331160801**

Component  
**Hydraulic System**  
Fluid  
**SKYDROL LD-4 (8 GAL)**

### RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

### WEAR

All component wear rates are normal.

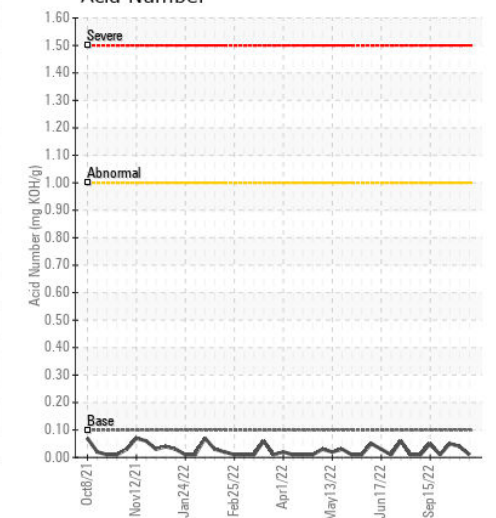
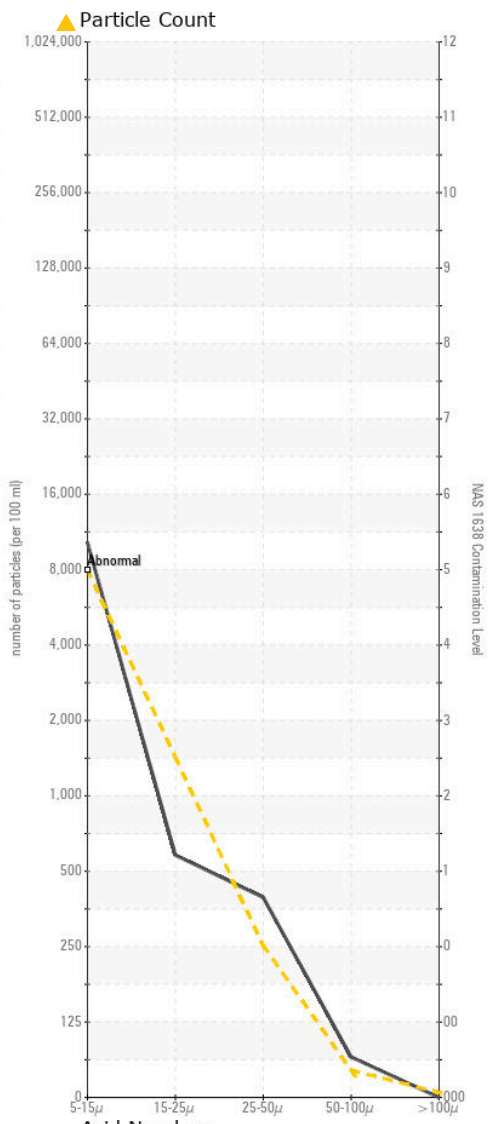
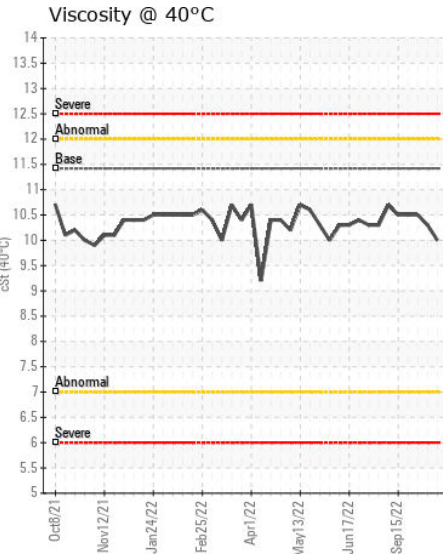
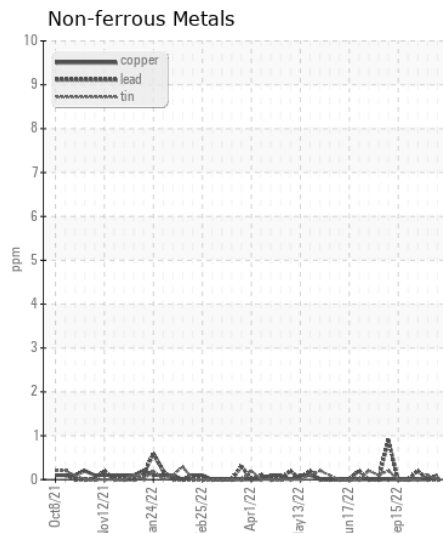
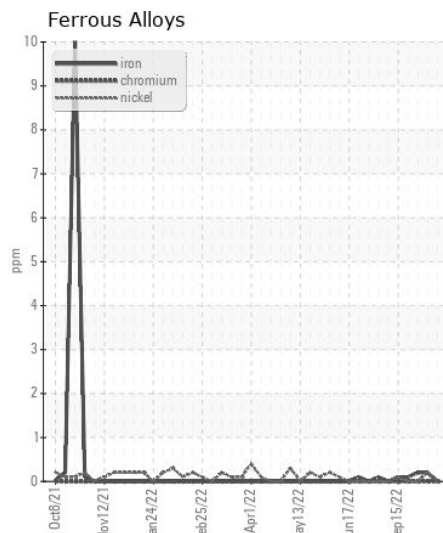
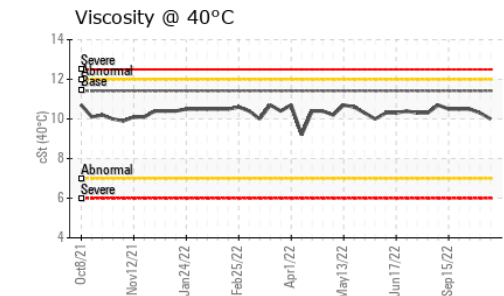
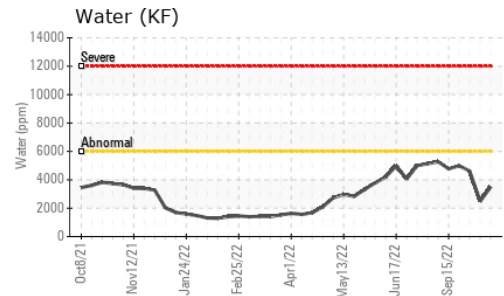
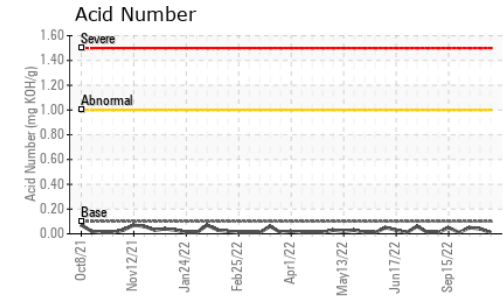
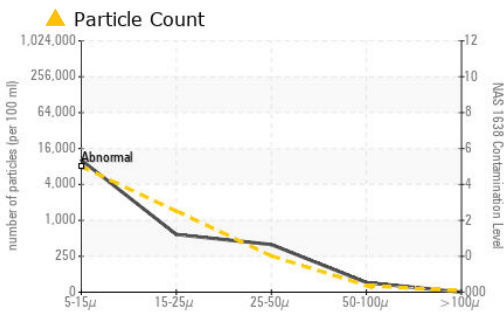
### CONTAMINATION

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible. The system cleanliness is above the acceptable limit for the target SAE AS4059 (replaces NAS 1638) cleanliness code.

### FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0221449</b>	LH0221448	LH0221447
Sample Date		Client Info		<b>27 Jun 2023</b>	27 Feb 2023	01 Nov 2022
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	<1
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	0	<1
Copper	ppm	ASTM D5185(m)	>75	<b>&lt;1</b>	0	0
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	1
Potassium	ppm	ASTM D5185(m)	>20	<b>17</b>	17	18
Water	%	ASTM D6304*	>0.6	<b>0.350</b>	0.248	0.461
ppm Water	ppm	ASTM D6304*	>6000	<b>3503.6</b>	2485.1	4617.4
Particles 5-15µm	count	NAS 1638	>8000	<b>▲ 10273</b>	4560	▲ 10300
Particles 15-25µm	count	NAS 1638	>1425	<b>580</b>	340	436
Particles 25-50µm	count	NAS 1638	>253	<b>▲ 393</b>	220	98
Particles 50-100µm	count	NAS 1638	>45	<b>▲ 67</b>	20	12
Particles >100µm	count	NAS 1638	>8	<b>0</b>	0	▲ 126
NAS 1638	Class	NAS 1638	>5	<b>6</b>	5	9
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.6	<b>NEG</b>	NEG	NEG
Sodium	ppm	ASTM D5185(m)		<b>2</b>	3	3
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	3	6
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Calcium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	<1
Phosphorus	ppm	ASTM D5185(m)	20000	<b>31584</b>	31132	27830
Zinc	ppm	ASTM D5185(m)	0	<b>1</b>	<1	<1
Sulfur	ppm	ASTM D5185(m)	1900	<b>1514</b>	1611	1574
Acid Number (AN)	mg KOH/g	ASTM D974*	0.10	<b>0.01</b>	0.04	0.05
Visc @ 40°C	cSt	ASTM D7279(m)	11.42	<b>10.0</b>	10.3	10.5



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0221449  
**Lab Number** : 02567446  
**Unique Number** : 5604492  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCountNAS, TAN Man )

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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.