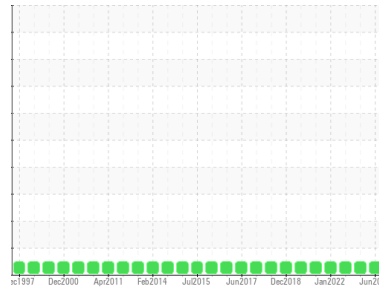




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**LINDE CITATION SIMULATOR**

Component  
**Hydraulic System**

Fluid  
**SHELL TELLUS S2 MX 46 (400 GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

#### Wear

Component wear rates appear to be normal (unconfirmed).

#### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is 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			<b>WC0850472</b>	WC0850462	WC0512073
Sample Date	Client Info			<b>27 Jun 2024</b>	12 Feb 2024	03 Aug 2023
Machine Age	mths	Client Info		<b>0</b>	0	0
Oil Age	mths	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.1	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	<1
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>&lt;1</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>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>10	<b>7</b>	8	8
Copper	ppm	ASTM D5185(m)	>75	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	<1
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	70	<b>2</b>	2	2
Calcium	ppm	ASTM D5185(m)	10	<b>29</b>	29	30
Phosphorus	ppm	ASTM D5185(m)	300	<b>282</b>	294	313
Zinc	ppm	ASTM D5185(m)	325	<b>294</b>	295	307
Sulfur	ppm	ASTM D5185(m)	665	<b>2091</b>	2273	2154
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

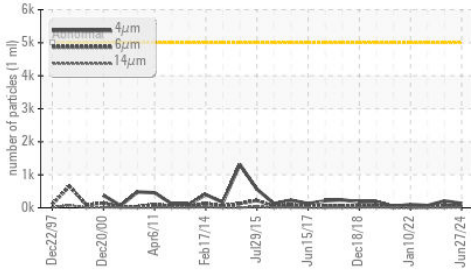
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	<1
Sodium	ppm	ASTM D5185(m)		<b>1</b>	1	2
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	1	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	<b>133</b>	209	69
Particles >6µm		ASTM D7647	>1300	<b>54</b>	76	29
Particles >14µm		ASTM D7647	>160	<b>11</b>	7	5
Particles >21µm		ASTM D7647	>40	<b>4</b>	2	2
Particles >38µm		ASTM D7647	>10	<b>1</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>14/13/11</b>	15/13/10	13/12/10

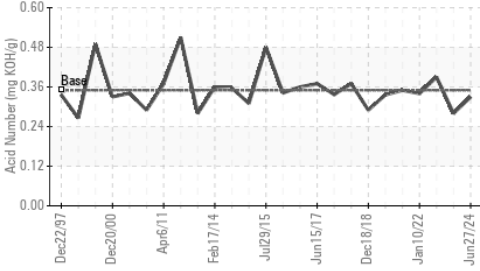


# OIL ANALYSIS REPORT

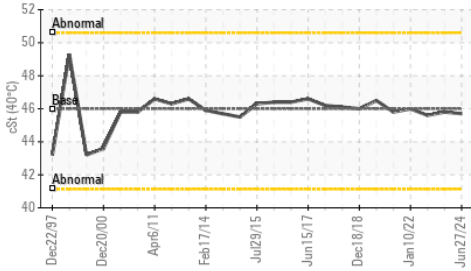
Particle Trend



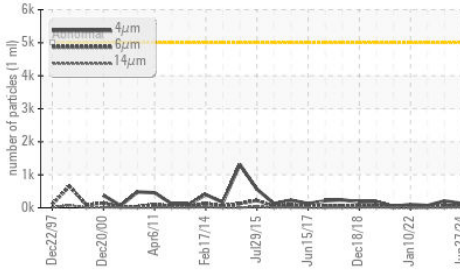
Acid Number



Viscosity @ 40°C



Particle Trend



**FLUID DEGRADATION**    method    limit/base    current    history1    history2

Acid Number (AN)    mg KOH/g    ASTM D974\*    0.35    **0.33**    0.28    0.39

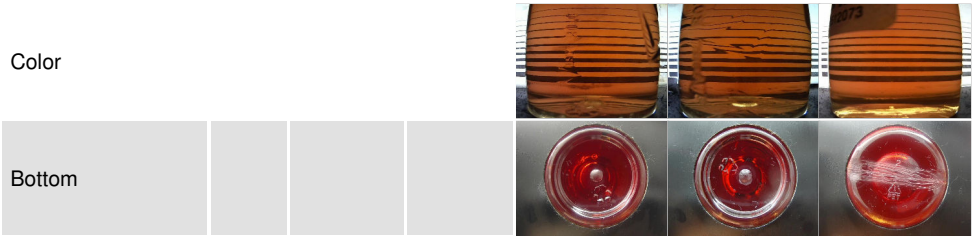
**VISUAL**    method    limit/base    current    history1    history2

White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
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*	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

**FLUID PROPERTIES**    method    limit/base    current    history1    history2

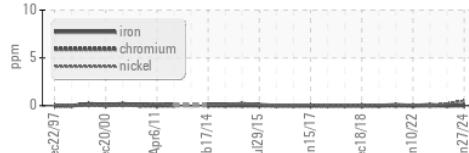
Visc @ 40°C    cSt    ASTM D7279(m)    46.0    **45.7**    45.8    45.6

**SAMPLE IMAGES**    method    limit/base    current    history1    history2

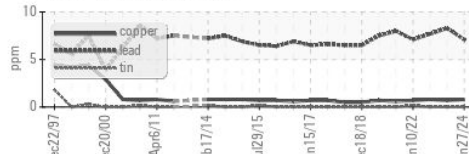


**GRAPHS**

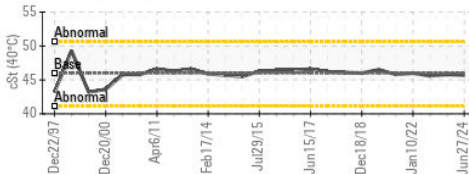
Ferrous Alloys



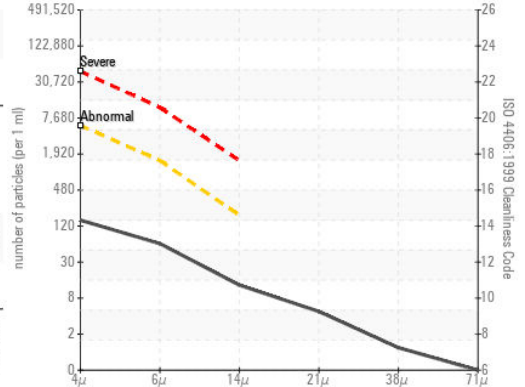
Non-ferrous Metals



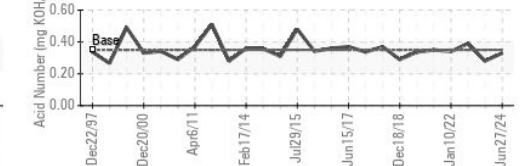
Viscosity @ 40°C



Particle Count



Acid Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0850472    **Received** : 02 Jul 2024  
**Lab Number** : **02644818**    **Tested** : 03 Jul 2024  
**Unique Number** : 5802357    **Diagnosed** : 03 Jul 2024 - Kevin Marson  
**Test Package** : IND 2

**TRANSPORT CANADA**  
 200 COMET PRIVATE, FLIGHT SIMULATORS  
 OTTAWA, ON  
 CA K1V 9B2

Contact: Raghwinder Singh  
 raghwindersingh.sohi@tc.gc.ca  
 T: (613)864-9967  
 F: (613)998-8779

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.