



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR R922 56035

Component
Hydraulic System

Fluid
PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (180 LTR)

RECOMMENDATION

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0288105	LH0281033	LH0242008
Sample Date		Client Info		17 May 2024	19 Mar 2024	21 Dec 2023
Machine Age	hrs	Client Info		2509	2105	1506
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

Copper and lead ppm levels are abnormal. Bearing and/or bushing wear is indicated.

Iron	ppm	ASTM D5185(m)	>50	12	10	8
Chromium	ppm	ASTM D5185(m)	>15	8	12	7
Nickel	ppm	ASTM D5185(m)	>5	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>8	<1	<1	2
Lead	ppm	ASTM D5185(m)	>5	▲ 8	▲ 10	▲ 7
Copper	ppm	ASTM D5185(m)	>15	▲ 75	▲ 78	▲ 55
Tin	ppm	ASTM D5185(m)	>5	3	3	2
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	▲ VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

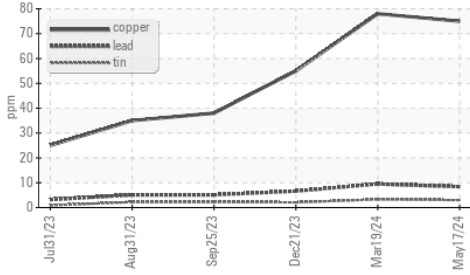
Silicon	ppm	ASTM D5185(m)	>25	6	5	8
Potassium	ppm	ASTM D5185(m)	>20	<1	2	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	8006	● 23253	▲ 95889
Particles >6µm		ASTM D7647	>5000	567	416	▲ 20169
Particles >14µm		ASTM D7647	>640	23	24	● 959
Particles >21µm		ASTM D7647	>160	4	4	208
Particles >38µm		ASTM D7647	>40	0	1	7
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/16/12	● 22/16/12	▲ 24/22/17
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE	NONE
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*	>0.1	NEG	NEG	NEG

FLUID CONDITION

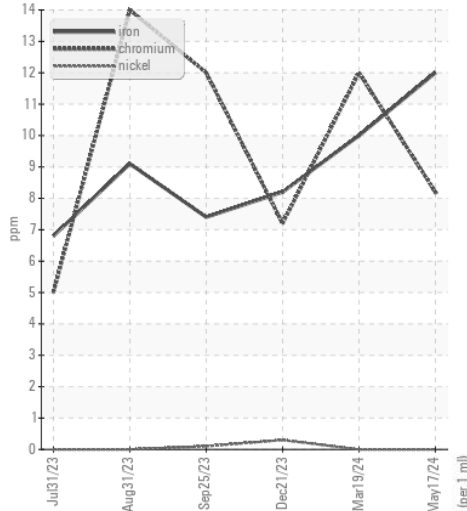
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		3	3	3
Boron	ppm	ASTM D5185(m)	0	9	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	1	<1	0	0
Magnesium	ppm	ASTM D5185(m)	0	5	3	3
Calcium	ppm	ASTM D5185(m)	100	1275	1215	1201
Phosphorus	ppm	ASTM D5185(m)	670	617	580	589
Zinc	ppm	ASTM D5185(m)	850	713	678	682
Sulfur	ppm	ASTM D5185(m)	1600	2236	2400	2610
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	40.8	41.4	52.0

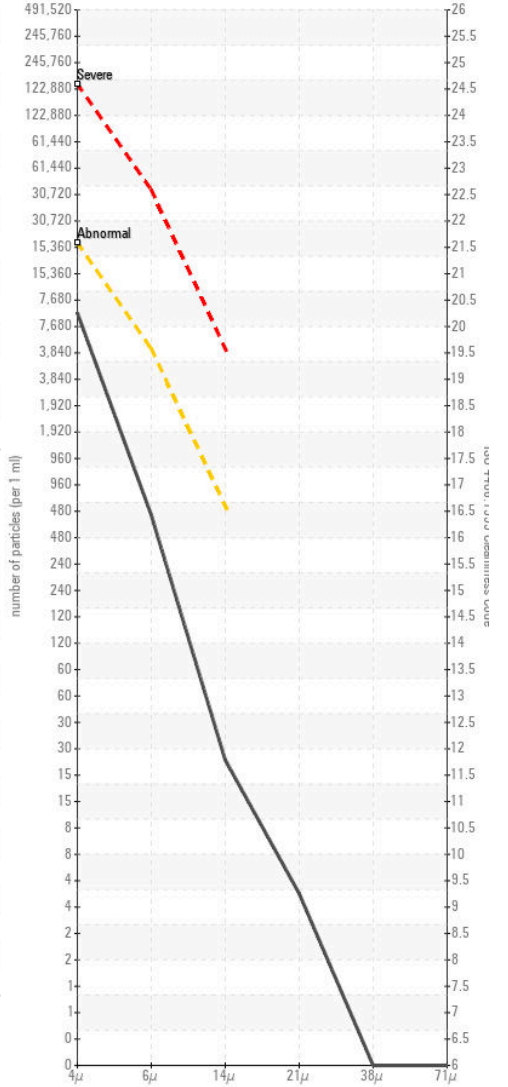
▲ Non-ferrous Metals



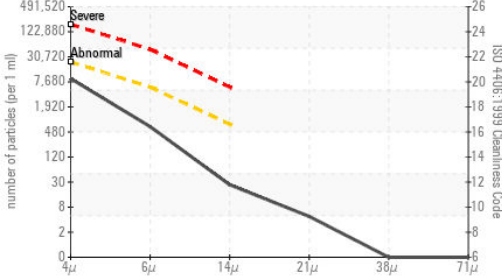
Ferrous Alloys



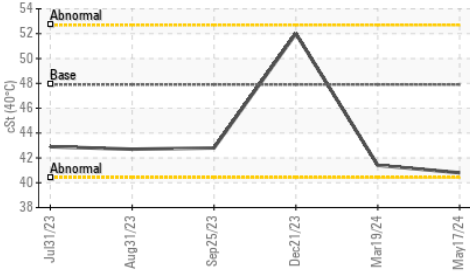
Particle Count



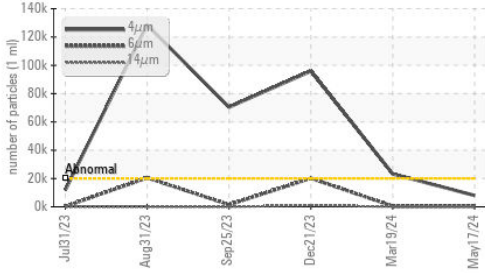
Particle Count



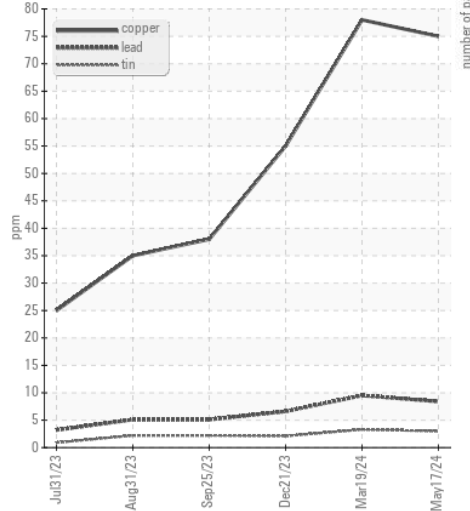
Viscosity @ 40°C



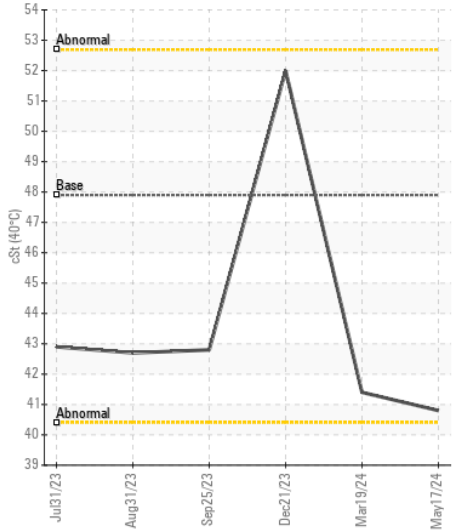
Particle Trend



▲ Non-ferrous Metals



Viscosity @ 40°C



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0288105
Lab Number : 02638518
Unique Number : 5787680
Test Package : MOB 1 (Additional Tests: PrtCount)

MITCHELL METAL RECYCLING
 12100 MITCHELL RD
 RICHMOND, BC
 CA V6V 1MB
 Contact: Service Manager

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.

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