



LIEBHERR

OIL ANALYSIS REPORT



Machine Id
LIEBHERR LH26M 124532-1252

Component
Hydraulic System

Fluid
PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (200 LTR)

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0181005	LH0240688	LH0215077
Sample Date		Client Info		10 Jan 2023	06 Sep 2022	04 Apr 2022
Machine Age	hrs	Client Info		3035	2544	1978
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ATTENTION

WEAR

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
Iron	ppm	ASTM D5185(m)	>60	▲ 106	▲ 73	57
Chromium	ppm	ASTM D5185(m)	>40	1	<1	<1
Nickel	ppm	ASTM D5185(m)	>10	<1	0	<1
Titanium	ppm	ASTM D5185(m)		<1	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>5	<1	<1	1
Lead	ppm	ASTM D5185(m)	>5	2	2	2
Copper	ppm	ASTM D5185(m)	>15	6	6	5
Tin	ppm	ASTM D5185(m)	>5	0	0	<1
Vanadium	ppm	ASTM D5185(m)		<1	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

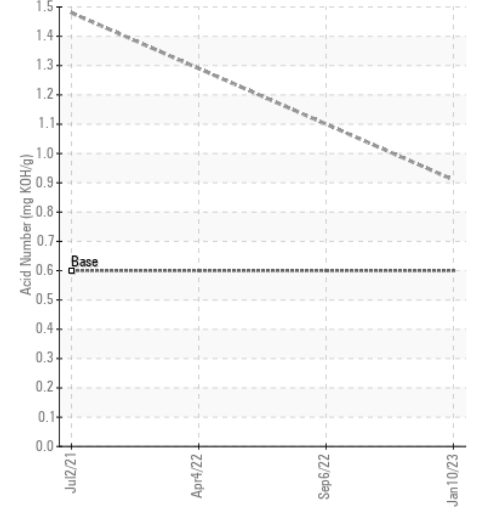
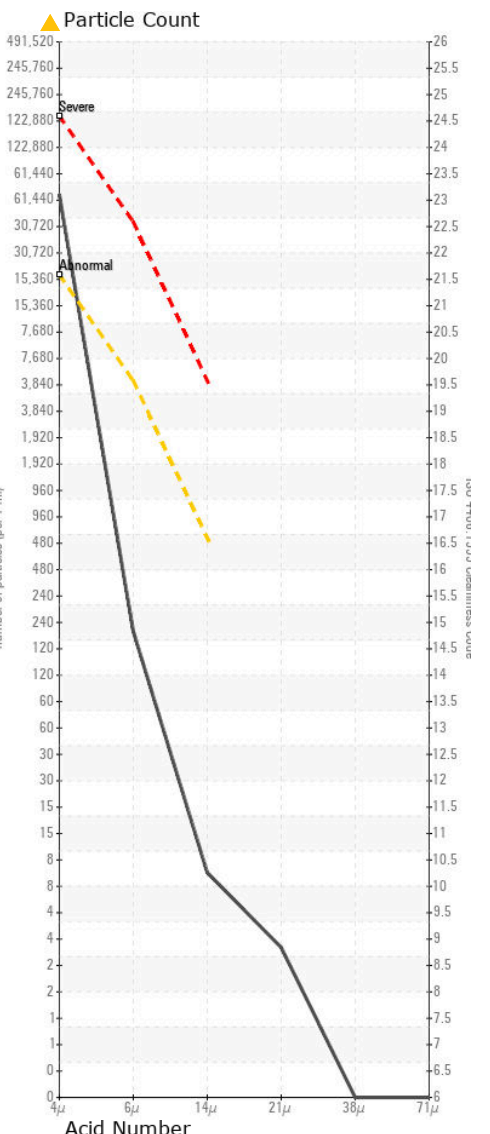
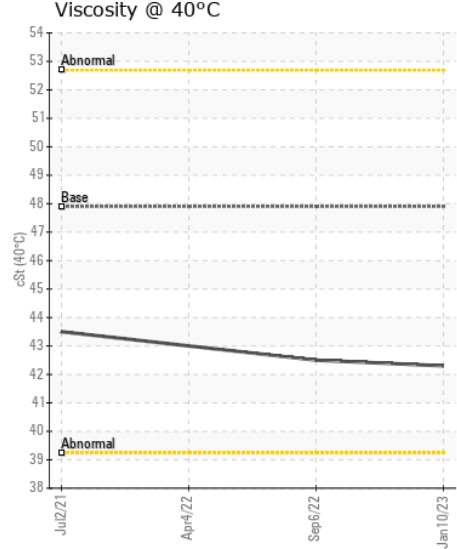
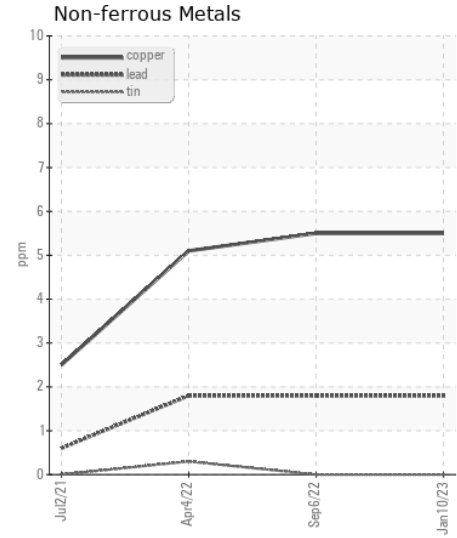
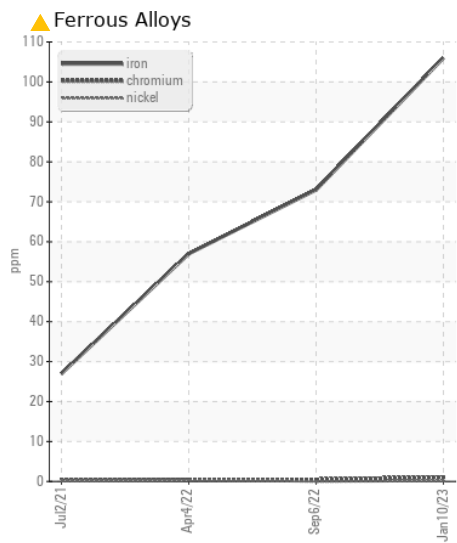
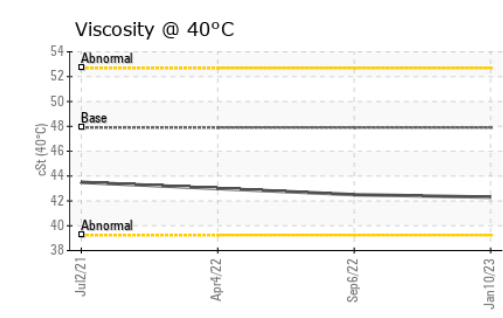
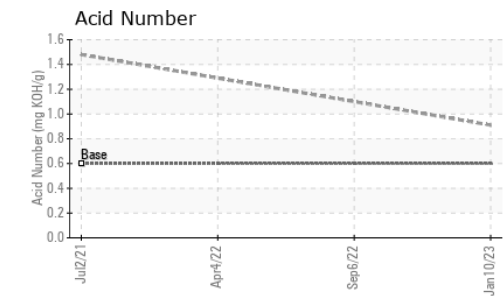
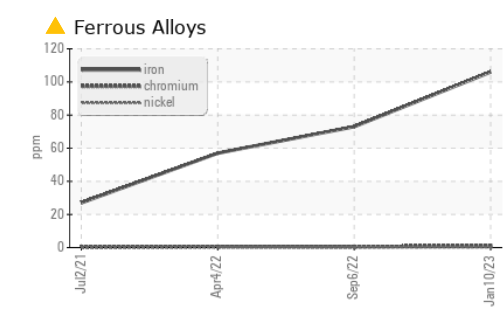
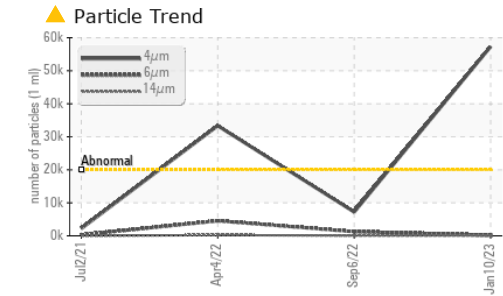
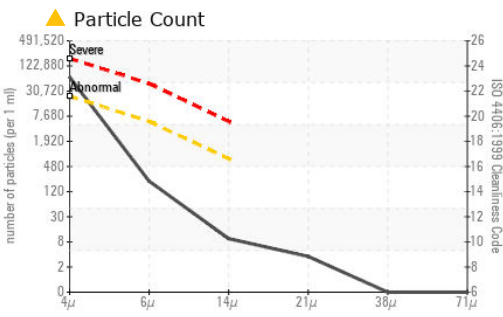
Particles >4µm and oil cleanliness are abnormally high.

Silicon	ppm	ASTM D5185(m)	>15	3	3	3
Potassium	ppm	ASTM D5185(m)	>20	1	<1	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	▲ 57305	7196	● 33335
Particles >6µm		ASTM D7647	>5000	188	1263	4560
Particles >14µm		ASTM D7647	>640	8	41	231
Particles >21µm		ASTM D7647	>160	3	8	40
Particles >38µm		ASTM D7647	>40	0	0	2
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 23/15/10	20/17/13	● 22/19/15
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	VLITE
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 AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		2	2	2
Boron	ppm	ASTM D5185(m)	0	<1	1	1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	<1
Manganese	ppm	ASTM D5185(m)	1	2	1	<1
Magnesium	ppm	ASTM D5185(m)	0	4	4	5
Calcium	ppm	ASTM D5185(m)	100	792	872	990
Phosphorus	ppm	ASTM D5185(m)	670	582	600	609
Zinc	ppm	ASTM D5185(m)	850	650	658	702
Sulfur	ppm	ASTM D5185(m)	1600	2547	2743	2927
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.91	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	42.3	42.5	43.0



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0181005 **Received** : 13 Jan 2023
Lab Number : 02533114 **Tested** : 16 Jan 2023
Unique Number : 5514113 **Diagnosed** : 16 Jan 2023 - Kevin Marson
Test Package : MOBCE (Additional Tests: PQ)

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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.