MAR II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
Z-3301A F-33104
Component
Hydraulic System
Fluid
IRVING HYDRAULIC OIL LP 32 (--- GAL)

RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

WEAR

All component wear rates are normal.

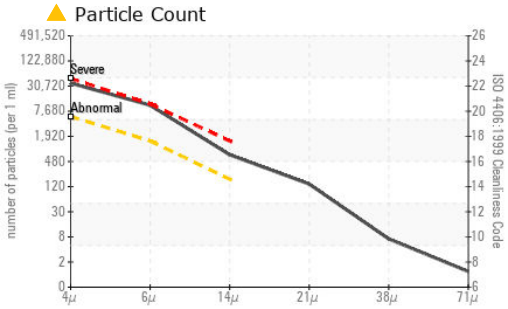
CONTAMINATION

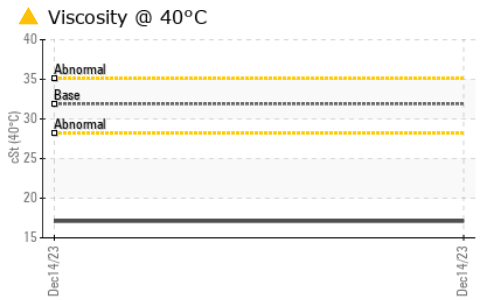
There is a moderate amount of particulates (2 to 100 microns in size) present in the oil.

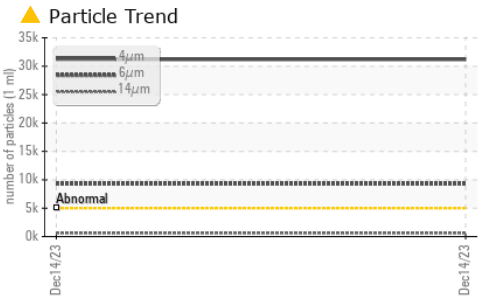
FLUID CONDITION

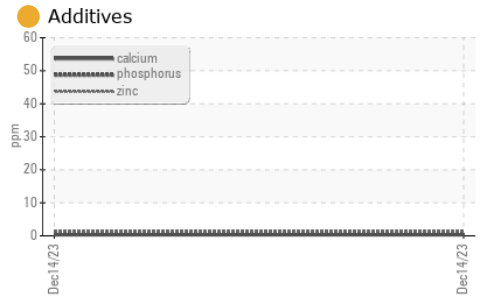
Viscosity of sample indicates oil is within ISO 15 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

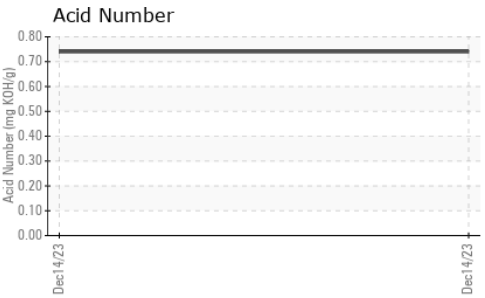
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PP	---	---
Sample Date		Client Info		14 Dec 2023	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---
Iron	ppm	ASTM D5185(m)	>20	0	---	---
Chromium	ppm	ASTM D5185(m)	>10	0	---	---
Nickel	ppm	ASTM D5185(m)	>10	<1	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>10	<1	---	---
Lead	ppm	ASTM D5185(m)	>20	0	---	---
Copper	ppm	ASTM D5185(m)	>20	0	---	---
Tin	ppm	ASTM D5185(m)	>10	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Silicon	ppm	ASTM D5185(m)	>15	0	---	---
Potassium	ppm	ASTM D5185(m)	>20	13	---	---
Water		WC Method	>0.05	NEG	---	---
Particles >4µm		ASTM D7647	>5000	▲ 31193	---	---
Particles >6µm		ASTM D7647	>1300	▲ 9287	---	---
Particles >14µm		ASTM D7647	>160	▲ 611	---	---
Particles >21µm		ASTM D7647	>40	▲ 122	---	---
Particles >38µm		ASTM D7647	>10	6	---	---
Particles >71µm		ASTM D7647	>3	1	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/20/16	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.05	NEG	---	---
Sodium	ppm	ASTM D5185(m)		0	---	---
Boron	ppm	ASTM D5185(m)		0	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		0	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		<1	---	---
Calcium	ppm	ASTM D5185(m)		<1	---	---
Phosphorus	ppm	ASTM D5185(m)		● 1	---	---
Zinc	ppm	ASTM D5185(m)	400	● 1	---	---
Sulfur	ppm	ASTM D5185(m)		● 425	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*		0.74	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	31.9	▲ 17.1	---	---

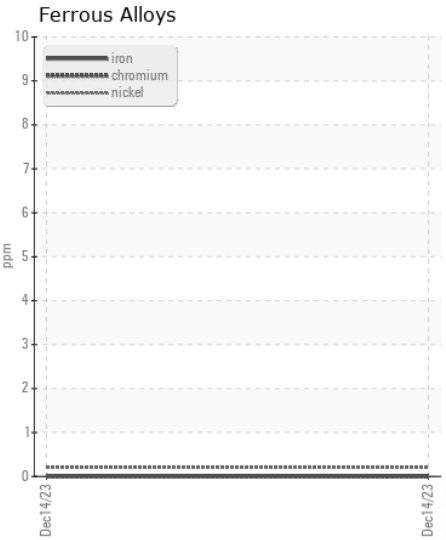


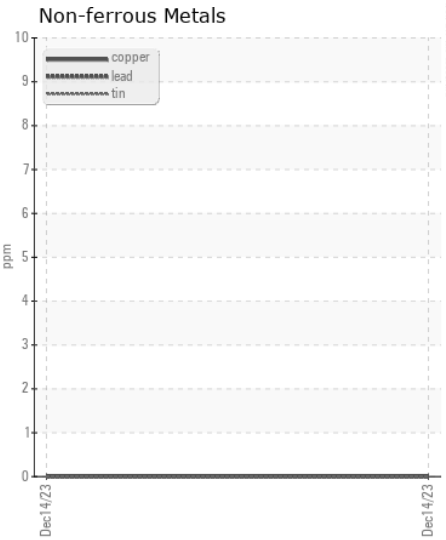


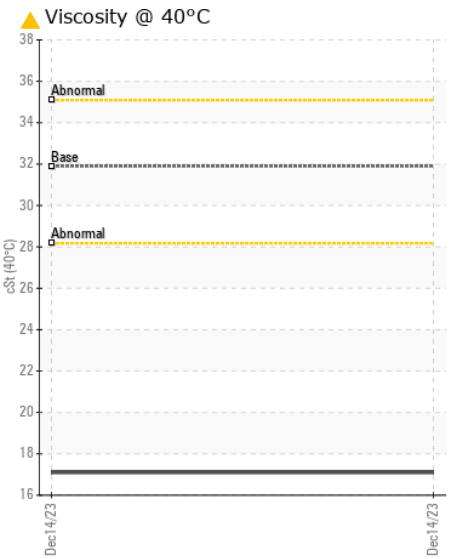


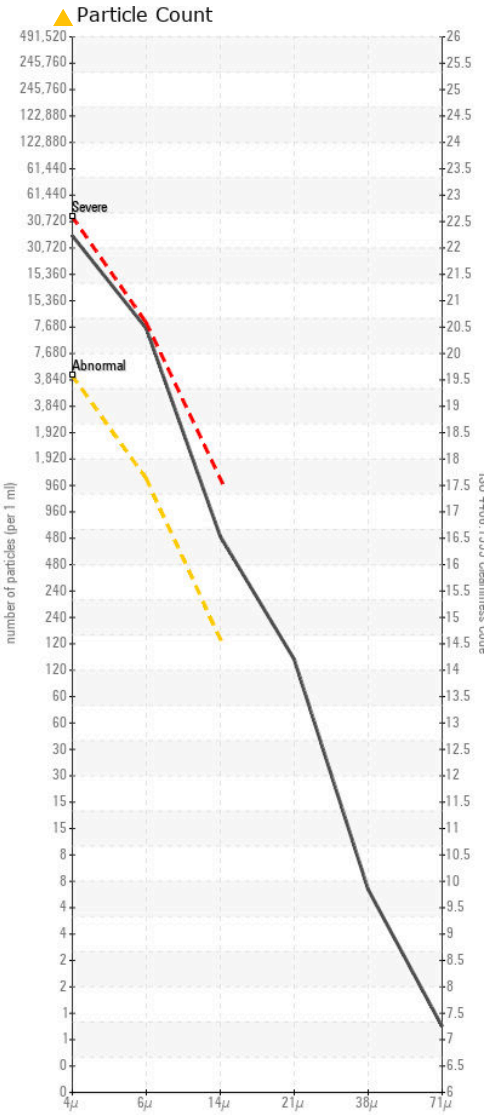


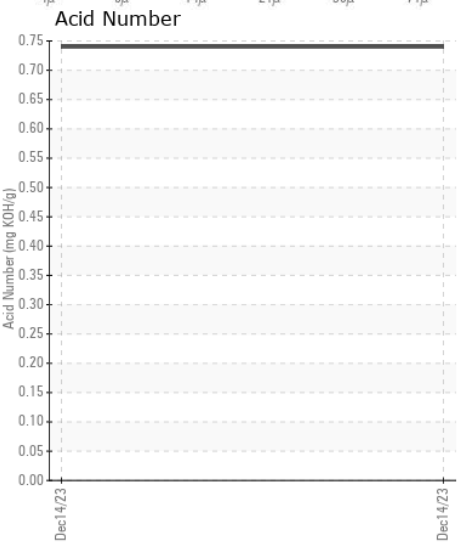












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02605936
Unique Number : 5707022
Test Package : MAR 2 (Additional Tests: TAN Man)

Received : 02 Jan 2024
Tested : 03 Jan 2024
Diagnosed : 04 Jan 2024 - Kevin Marson

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.

HIBERNIA MGMT & DEVELOPMENT CO. LTD
SUITE 1000,, 100 NEW GOWER STREET
ST.JOHNS, NL
CA A1C 6K3
Contact: Sam Nash
samantha.m.nash@exxonmobil.com
T:
F: (709)722-3766