



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ABNORMAL

Area
ORIN CONTRACTORS

Machine Id
191

Component
Diesel Engine

Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0265859	---	---
Sample Date		Client Info		24 Jun 2023	---	---
Machine Age	hrs	Client Info		9967	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	11	---	---
Chromium	ppm	ASTM D5185(m)	>20	<1	---	---
Nickel	ppm	ASTM D5185(m)	>4	0	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)	>3	0	---	---
Aluminum	ppm	ASTM D5185(m)	>20	2	---	---
Lead	ppm	ASTM D5185(m)	>40	7	---	---
Copper	ppm	ASTM D5185(m)	>330	1	---	---
Tin	ppm	ASTM D5185(m)	>15	<1	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---

CONTAMINATION

Light fuel dilution occurring.

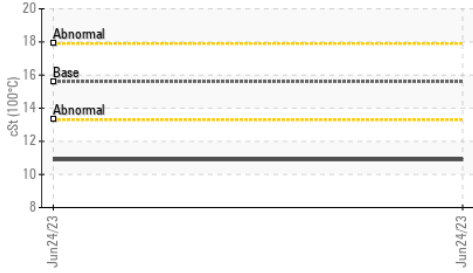
Silicon	ppm	ASTM D5185(m)	>25	5	---	---
Potassium	ppm	ASTM D5185(m)	>20	74	---	---
Fuel	%	ASTM D7593*	>5	▲ 3.3	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol	%	ASTM D7922*		0.0	---	---
Soot %	%	ASTM D7844*	>3	0.2	---	---
Nitration	Abs/cm	ASTM D7624*	>20	9.2	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.3	---	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---	---

FLUID CONDITION

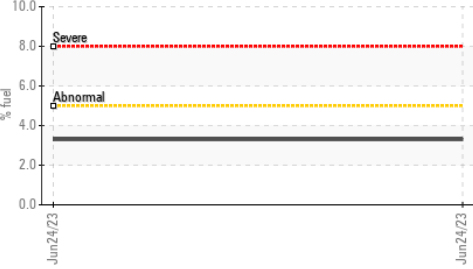
Fuel is present in the oil and is lowering the viscosity. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		7	---	---
Boron	ppm	ASTM D5185(m)	0	23	---	---
Barium	ppm	ASTM D5185(m)	0	0	---	---
Molybdenum	ppm	ASTM D5185(m)	60	57	---	---
Manganese	ppm	ASTM D5185(m)	0	<1	---	---
Magnesium	ppm	ASTM D5185(m)	1010	393	---	---
Calcium	ppm	ASTM D5185(m)	1070	1788	---	---
Phosphorus	ppm	ASTM D5185(m)	1150	1035	---	---
Zinc	ppm	ASTM D5185(m)	1270	1176	---	---
Sulfur	ppm	ASTM D5185(m)	2060	2532	---	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.9	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	▲ 10.9	---	---

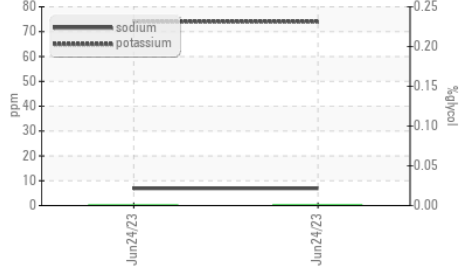
▲ Viscosity @ 100°C



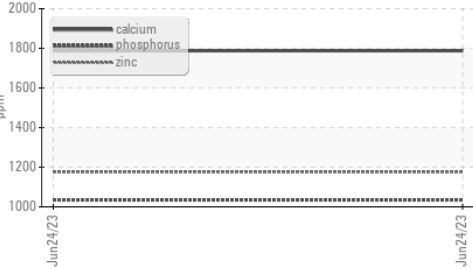
▲ Fuel Dilution



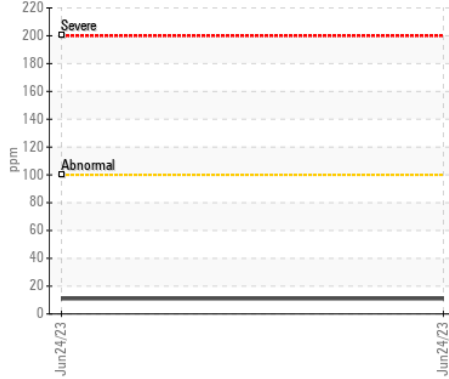
Glycol Contamination



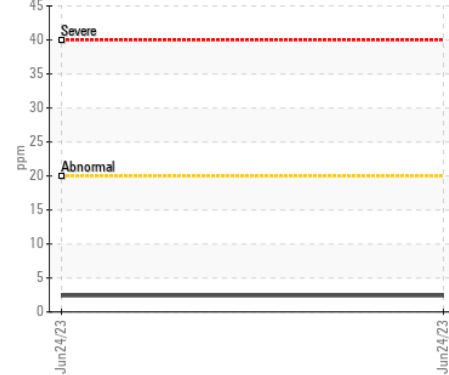
Additives



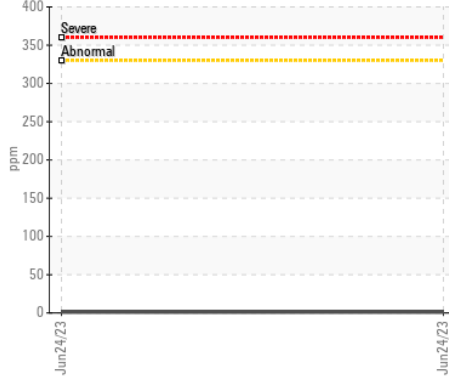
Iron (ppm)



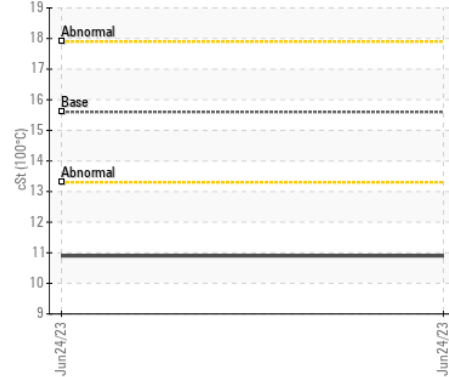
Aluminum (ppm)



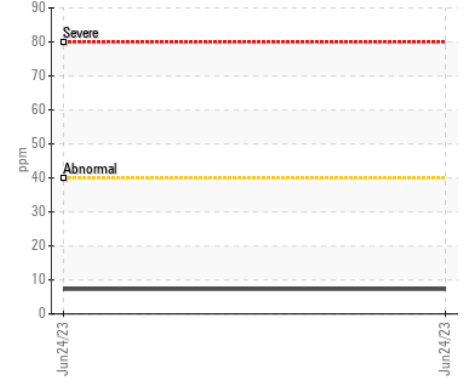
Copper (ppm)



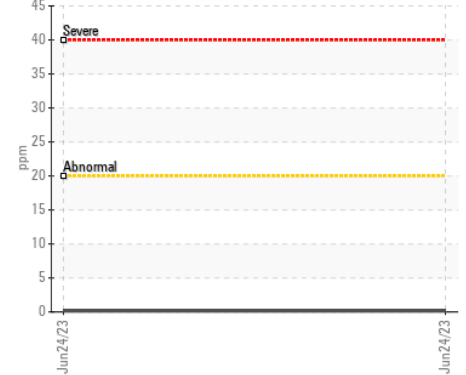
▲ Viscosity @ 100°C



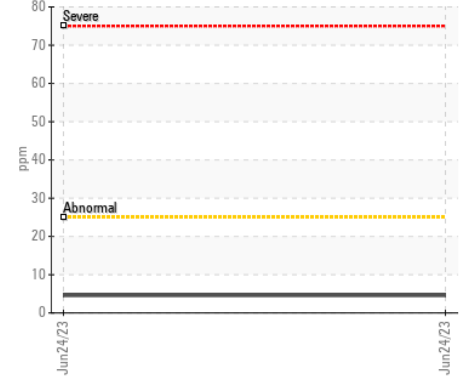
Lead (ppm)



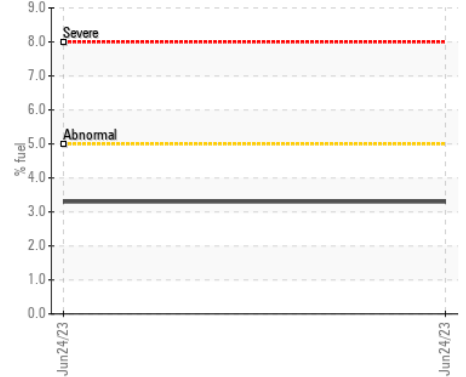
Chromium (ppm)



Silicon (ppm)



▲ Fuel Dilution



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0265859 **Received** : 28 Jun 2023
Lab Number : 02566827 **Tested** : 29 Jun 2023
Unique Number : 5603873 **Diagnosed** : 29 Jun 2023 - Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel)

RONI/IRON SHORE EXCAVATING LTD.
 100 MACINTOSH BLVD
 VAUGHAN, ON
 CA L4K 4P3
 Contact: Service Team
 service.team@roni.ca

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.