



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LB28 115625

Component
Pump Drive

Fluid
PETRO CANADA TRAXON XL SYN BLEND 75W90 (--- LTR)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA TRAXON XL SYN BLEND 75W90, however, a fluid match indicates that this fluid is SAE 80 Gear Oil. Please confirm the oil type and grade on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0250432	---	---
Sample Date		Client Info		12 Dec 2023	---	---
Machine Age	hrs	Client Info		8962	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>500	12	---	---
Chromium	ppm	ASTM D5185(m)	>15	0	---	---
Nickel	ppm	ASTM D5185(m)	>10	0	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>20	<1	---	---
Lead	ppm	ASTM D5185(m)		0	---	---
Copper	ppm	ASTM D5185(m)	>35	<1	---	---
Tin	ppm	ASTM D5185(m)	>4	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

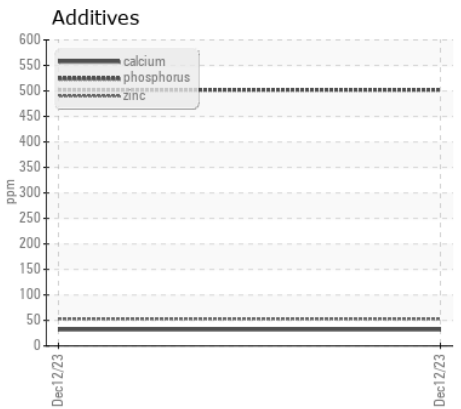
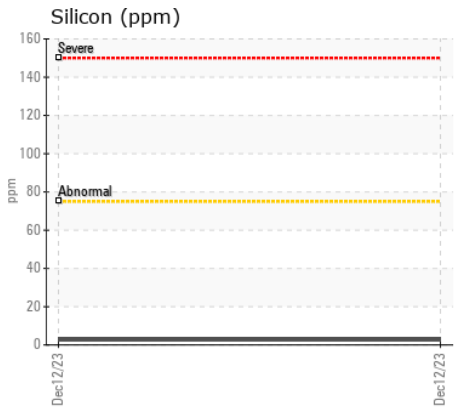
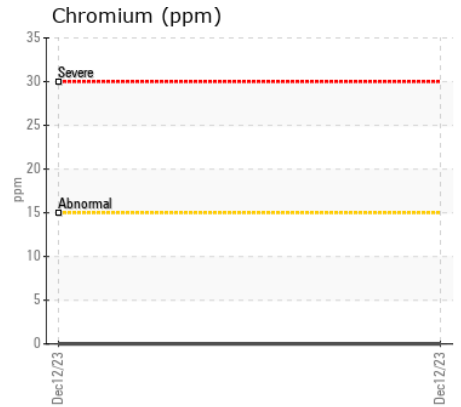
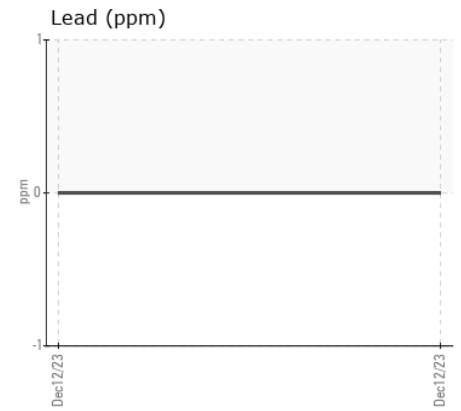
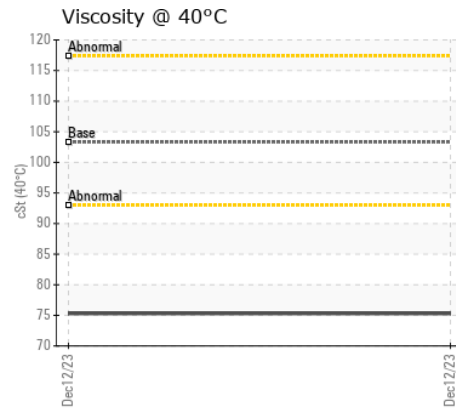
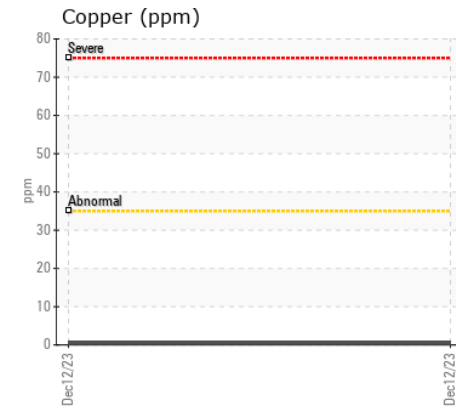
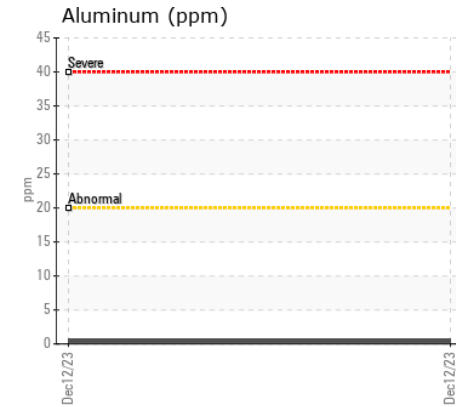
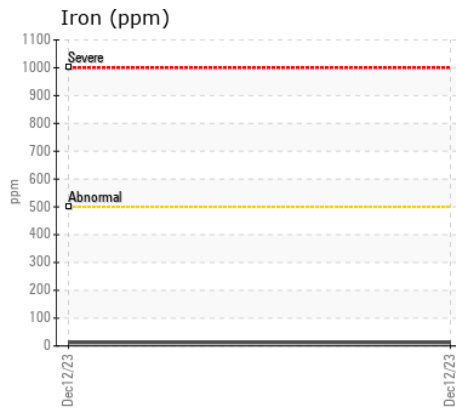
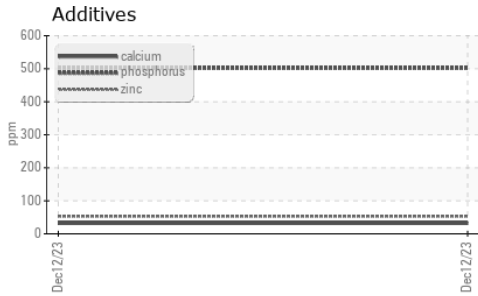
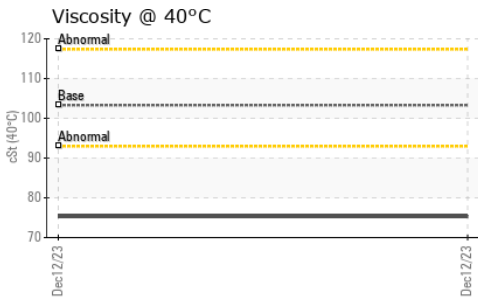
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>75	3	---	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---	---
Water		WC Method	>0.2	NEG	---	---
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*	>0.2	NEG	---	---

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 80 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<1	---	---
Boron	ppm	ASTM D5185(m)	291	32	---	---
Barium	ppm	ASTM D5185(m)	1	0	---	---
Molybdenum	ppm	ASTM D5185(m)		0	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)	1	2	---	---
Calcium	ppm	ASTM D5185(m)	1	32	---	---
Phosphorus	ppm	ASTM D5185(m)	1121	502	---	---
Zinc	ppm	ASTM D5185(m)	1	53	---	---
Sulfur	ppm	ASTM D5185(m)	20900	16411	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	103.3	75.3	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0250432
Lab Number : 02625760
Unique Number : 5750879
Test Package : MOB 1
Received : 01 Apr 2024
Tested : 01 Apr 2024
Diagnosed : 02 Apr 2024 - Kevin Marson

DOUBLESTAR DRILLING
 608 13TH AVE SE
 CALGARY, ON
 CA T2G 1C5
 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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F: