



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR LH30 LH30

Component
Hydraulic System

Fluid
CHEVRON RANDO HD 32 (--- GAL)

RECOMMENDATION

The filter 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		TR02627401	---	---
Sample Date		Client Info		04 Apr 2024	---	---
Machine Age		Client Info		20000	---	---
Oil Age		Client Info		2200	---	---
Filter Age		Client Info		500	---	---
Oil Changed		Client Info		Not Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ATTENTION	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>50	23	---	---
Chromium	ppm	ASTM D5185(m)	>5	2	---	---
Nickel	ppm	ASTM D5185(m)	>2	0	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>2	<1	---	---
Lead	ppm	ASTM D5185(m)	>4	0	---	---
Copper	ppm	ASTM D5185(m)	>10	4	---	---
Tin	ppm	ASTM D5185(m)	>2	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

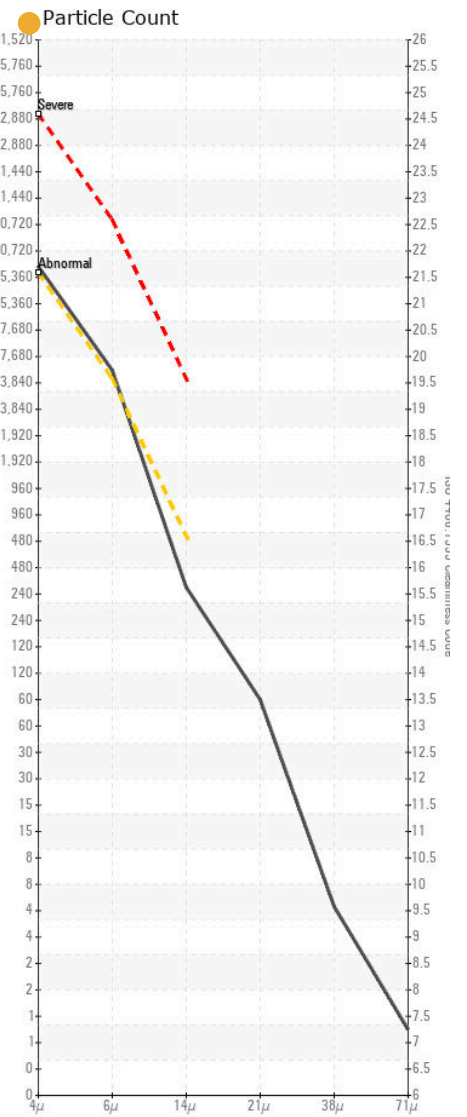
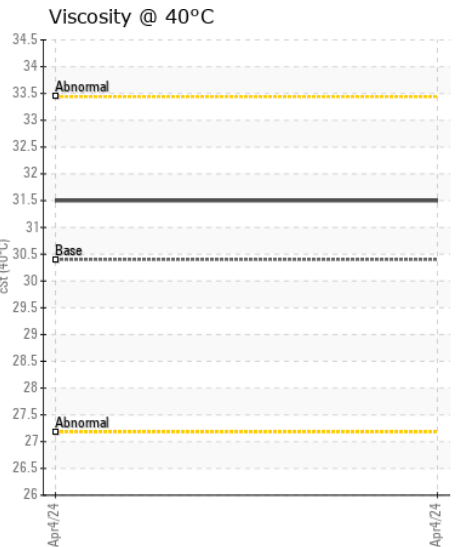
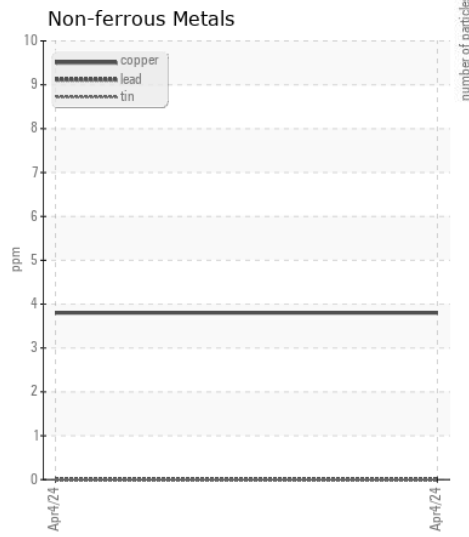
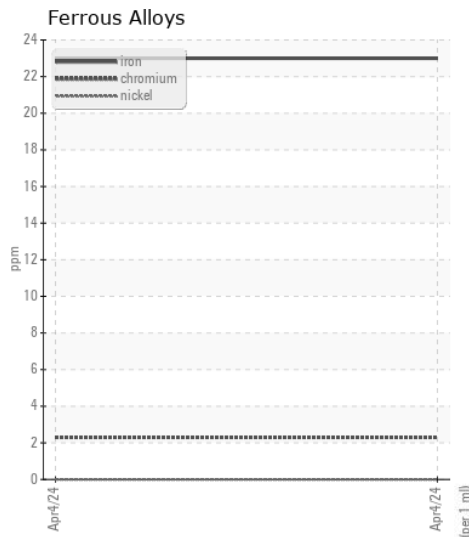
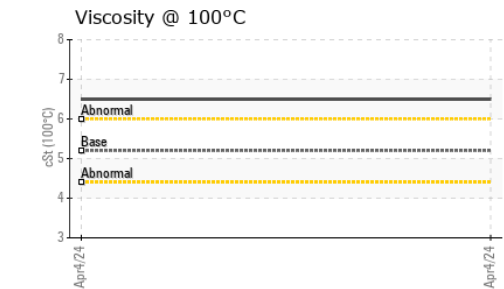
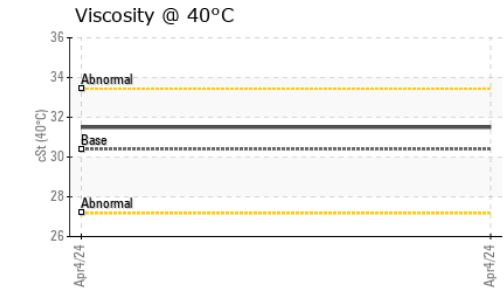
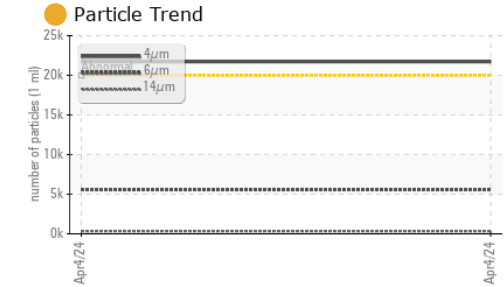
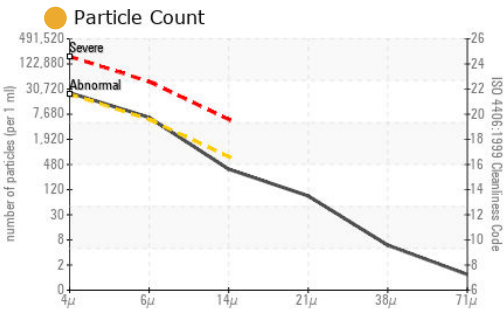
There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>17	<1	---	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>20000	21720	---	---
Particles >6µm		ASTM D7647	>5000	5586	---	---
Particles >14µm		ASTM D7647	>640	326	---	---
Particles >21µm		ASTM D7647	>160	75	---	---
Particles >38µm		ASTM D7647	>40	5	---	---
Particles >71µm		ASTM D7647	>10	1	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	22/20/16	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	VLITE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.1	NEG	---	---

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		1	---	---
Boron	ppm	ASTM D5185(m)		<1	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		0	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		2	---	---
Calcium	ppm	ASTM D5185(m)		116	---	---
Phosphorus	ppm	ASTM D5185(m)		373	---	---
Zinc	ppm	ASTM D5185(m)		480	---	---
Sulfur	ppm	ASTM D5185(m)		1015	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	30.4	31.5	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	5.2	6.5	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	99	166	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : TR02627401 **Received** : 08 Apr 2024
Lab Number : 02627401 **Tested** : 10 Apr 2024
Unique Number : 5760533 **Diagnosed** : 10 Apr 2024 - Kevin Marson
Test Package : MOB 2 (Additional Tests: KV100, VI)

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To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)