



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 328D-LCR 567811 (S/N RMX00229)

Component
Hydraulic System

Fluid
CAT DEO 0W40 (210 LTR)

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		TR02607027	TR02498071	---
Sample Date		Client Info		19 Dec 2023	04 Jun 2022	---
Machine Age	hrs	Client Info		7054	6290	---
Oil Age	hrs	Client Info		1753	989	---
Filter Age	hrs	Client Info		1753	989	---
Oil Changed		Client Info		Not Changed	Not Changed	---
Filter Changed		Client Info		Changed	Not Changed	---
Sample Status				ATTENTION	ATTENTION	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>20	8	7	---
Chromium	ppm	ASTM D5185(m)	>10	<1	0	---
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	---
Titanium	ppm	ASTM D5185(m)		0	<1	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>10	2	2	---
Lead	ppm	ASTM D5185(m)	>10	1	<1	---
Copper	ppm	ASTM D5185(m)	>75	7	3	---
Tin	ppm	ASTM D5185(m)	>10	<1	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

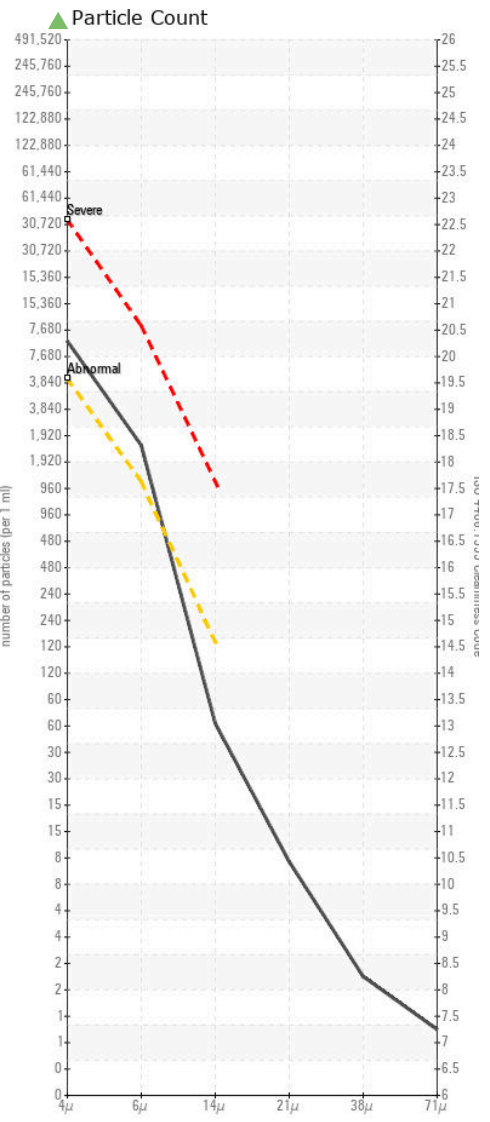
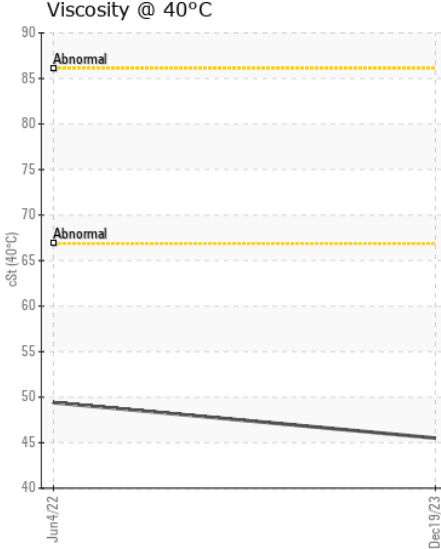
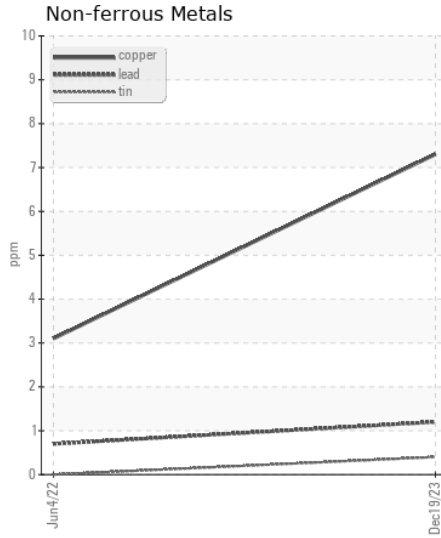
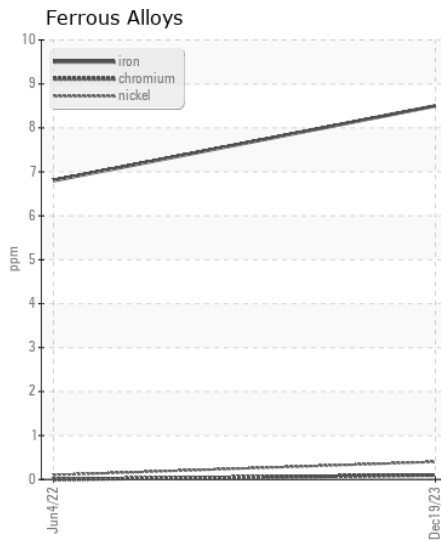
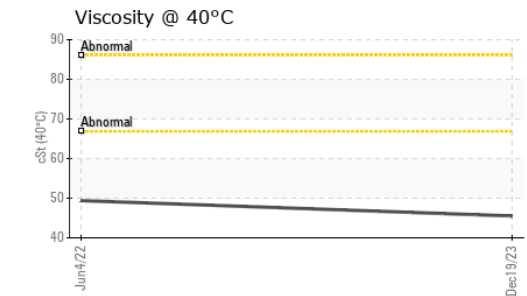
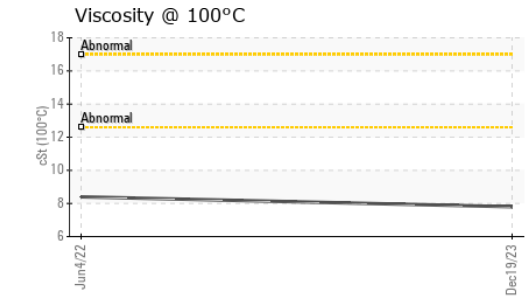
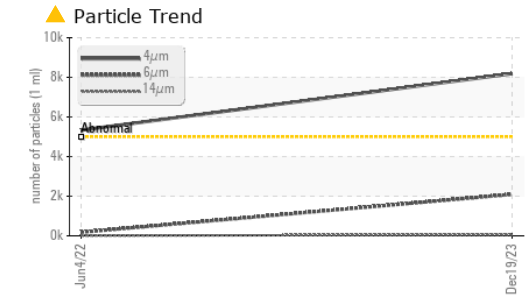
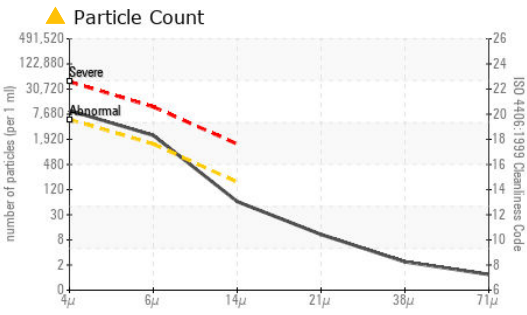
There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>20	3	4	---
Potassium	ppm	ASTM D5185(m)	>20	2	5	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>5000	▲ 8186	▲ 5334	---
Particles >6µm		ASTM D7647	>1300	▲ 2091	179	---
Particles >14µm		ASTM D7647	>160	55	7	---
Particles >21µm		ASTM D7647	>40	9	2	---
Particles >38µm		ASTM D7647	>10	2	1	---
Particles >71µm		ASTM D7647	>3	1	1	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 20/18/13	▲ 20/15/10	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	---

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		4	2	---
Boron	ppm	ASTM D5185(m)		4	4	---
Barium	ppm	ASTM D5185(m)		0	0	---
Molybdenum	ppm	ASTM D5185(m)		<1	1	---
Manganese	ppm	ASTM D5185(m)		0	<1	---
Magnesium	ppm	ASTM D5185(m)		16	16	---
Calcium	ppm	ASTM D5185(m)		2290	2314	---
Phosphorus	ppm	ASTM D5185(m)		912	899	---
Zinc	ppm	ASTM D5185(m)		1056	1032	---
Sulfur	ppm	ASTM D5185(m)		3417	3274	---
Visc @ 40°C	cSt	ASTM D7279(m)		45.5	49.4	---
Visc @ 100°C	cSt	ASTM D7279(m)		7.8	8.4	---
Viscosity Index (VI)	Scale	ASTM D2270*		141	145	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : TR02607027 **Received** : 08 Jan 2024
Lab Number : **02607027** **Diagnosed** : 09 Jan 2024
Unique Number : 5708113 **Diagnostician** : Kevin Marson
Test Package : MOB 2 (Additional Tests: KV100, VI)

WILCO CONTRACTORS
 3031 ARTHUR ST
 ROSSLYN, ON
 CA P7K 0P2
 Contact: David Cramer

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)

T: (807)475-5951
 F: (807)475-8619