TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
MCCORMICK MCCORMICK X16
Component
Hydraulic System
Fluid
{not provided} (30 LTR)

RECOMMENDATION

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

CONTAMINATION

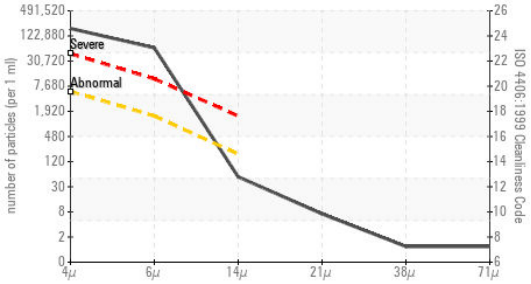
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

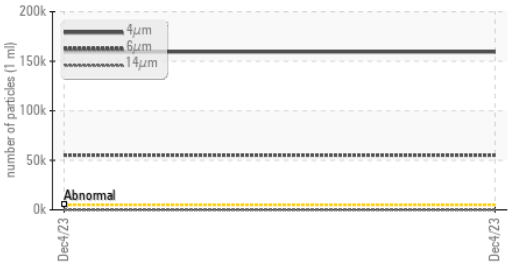
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR02607132	---	---
Sample Date		Client Info		04 Dec 2023	---	---
Machine Age	hrs	Client Info		2085	---	---
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				SEVERE	---	---
PQ		ASTM D8184*		6	---	---
Iron	ppm	ASTM D5185(m)	>20	▲ 41	---	---
Chromium	ppm	ASTM D5185(m)	>10	<1	---	---
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	2	---	---
Lead	ppm	ASTM D5185(m)	>10	2	---	---
Copper	ppm	ASTM D5185(m)	>75	13	---	---
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)	>20	17	---	---
Potassium	ppm	ASTM D5185(m)	>20	2	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>5000	⬢ 159484	---	---
Particles >6µm		ASTM D7647	>1300	⬢ 55169	---	---
Particles >14µm		ASTM D7647	>160	46	---	---
Particles >21µm		ASTM D7647	>40	6	---	---
Particles >38µm		ASTM D7647	>10	1	---	---
Particles >71µm		ASTM D7647	>3	1	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	⬢ 24/23/13	---	---
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*	>0.1	NEG	---	---
Sodium	ppm	ASTM D5185(m)		3	---	---
Boron	ppm	ASTM D5185(m)		91	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		0	---	---
Manganese	ppm	ASTM D5185(m)		<1	---	---
Magnesium	ppm	ASTM D5185(m)		23	---	---
Calcium	ppm	ASTM D5185(m)		3577	---	---
Phosphorus	ppm	ASTM D5185(m)		1103	---	---
Zinc	ppm	ASTM D5185(m)		1388	---	---
Sulfur	ppm	ASTM D5185(m)		4964	---	---
Visc @ 40°C	cSt	ASTM D7279(m)		48.0	---	---
Visc @ 100°C	cSt	ASTM D7279(m)		7.7	---	---
Viscosity Index (VI)	Scale	ASTM D2270*		127	---	---

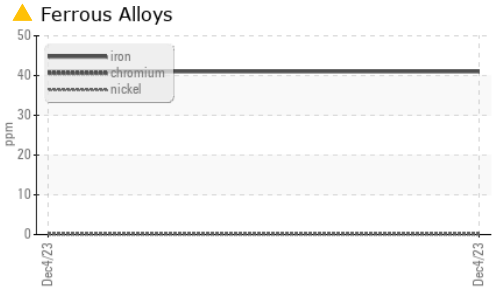
Particle Count



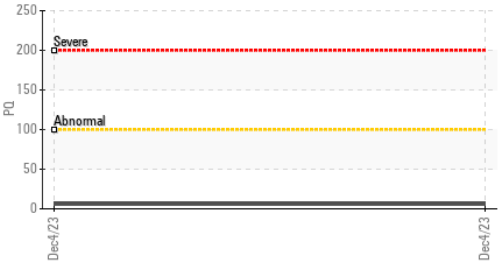
Particle Trend



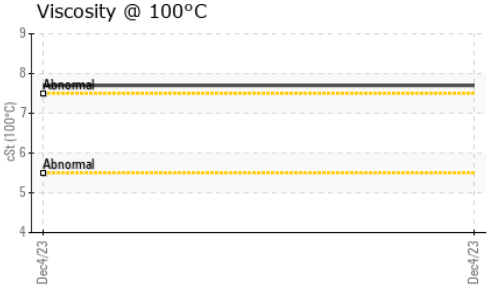
Ferrous Alloys



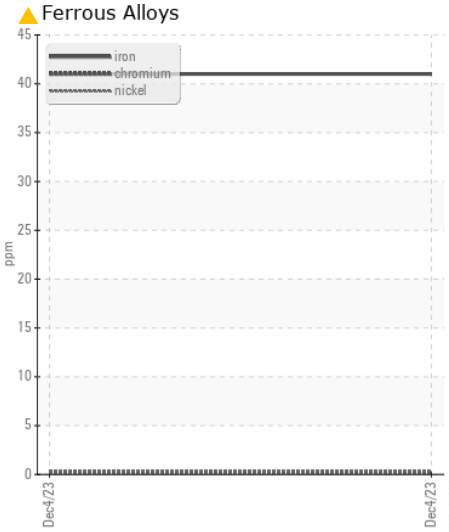
PQ



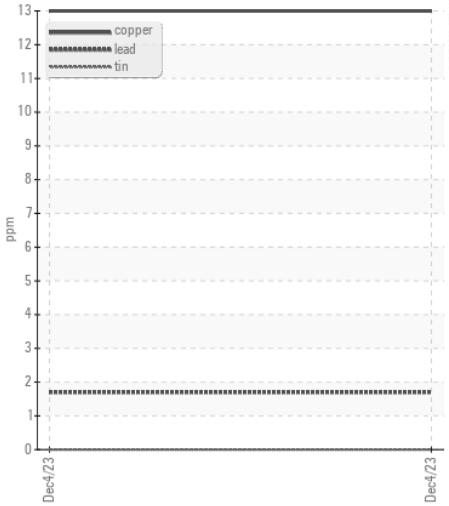
Viscosity @ 100°C



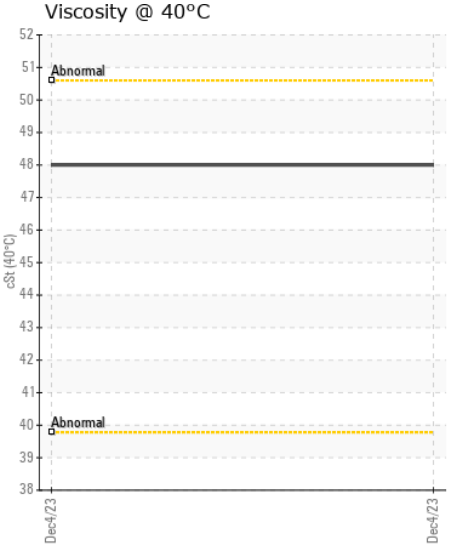
Ferrous Alloys



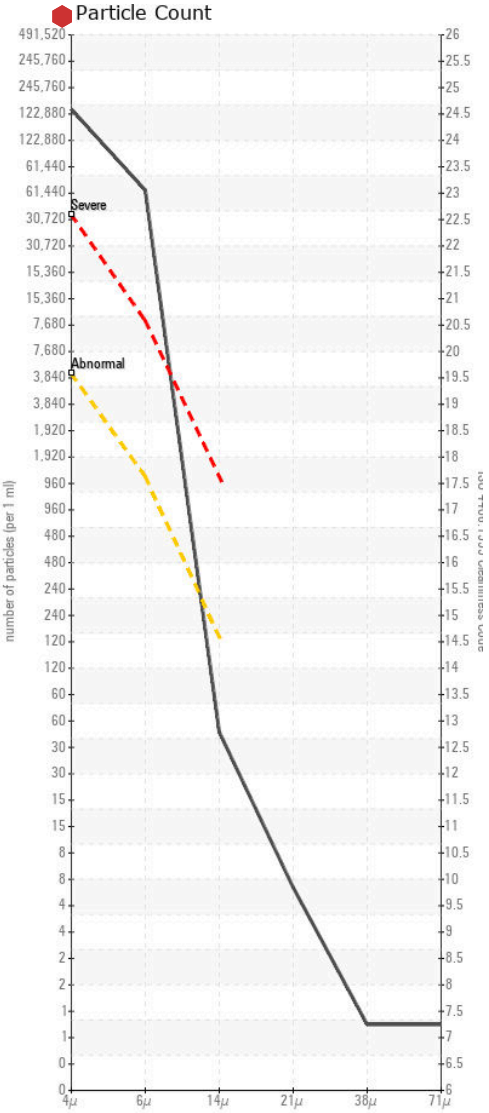
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : TR02607132 **Recieved** : 08 Jan 2024
Lab Number : 02607132 **Diagnosed** : 09 Jan 2024
Unique Number : 5708218 **Diagnostician** : Kevin Marson
Test Package : MOB 2 (Additional Tests: KV100, PQ, VI)

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)

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