TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
KOMATSU 5696-15
Component
Hydraulic System
Fluid
CENTRAL CANADA INDUSTRIES DRIVETRAIN 10W (200 LTR)

RECOMMENDATION

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where dirt can enter the system. 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.

WEAR

All component wear rates are normal.

CONTAMINATION

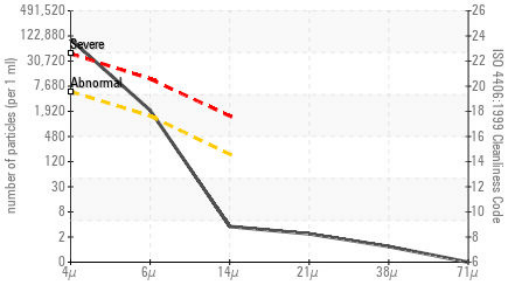
There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

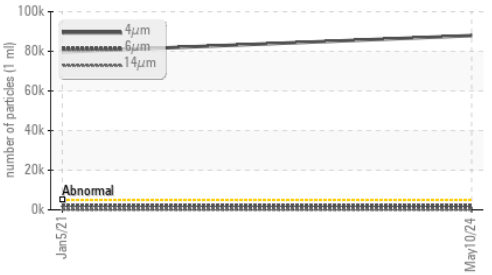
The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR02637647	TR02408061	---
Sample Date		Client Info		10 May 2024	05 Jan 2021	---
Machine Age	hrs	Client Info		3754	3602	---
Oil Age	hrs	Client Info		152	0	---
Filter Age	hrs	Client Info		152	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				SEVERE	SEVERE	---
Iron	ppm	ASTM D5185(m)	>20	19	▲ 34	---
Chromium	ppm	ASTM D5185(m)	>10	7	▲ 14	---
Nickel	ppm	ASTM D5185(m)	>10	0	<1	---
Titanium	ppm	ASTM D5185(m)		<1	1	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>10	8	▲ 13	---
Lead	ppm	ASTM D5185(m)	>10	<1	2	---
Copper	ppm	ASTM D5185(m)	>75	5	9	---
Tin	ppm	ASTM D5185(m)	>10	0	<1	---
Vanadium	ppm	ASTM D5185(m)		0	<1	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185(m)	>20	▲ 25	▲ 49	---
Potassium	ppm	ASTM D5185(m)	>20	16	3	---
Water		WC Method	>0.1	NEG	NEG	---
Soot %	%	ASTM D7844*		0	0	---
Nitration	Abs/cm	ASTM D7624*		3.7	4.0	---
Sulfation	Abs/.1mm	ASTM D7415*		25.5	34.6	---
Particles >4µm		ASTM D7647	>5000	▲ 87933	▲ 79665	---
Particles >6µm		ASTM D7647	>1300	● 1773	● 1933	---
Particles >14µm		ASTM D7647	>160	3	5	---
Particles >21µm		ASTM D7647	>40	2	2	---
Particles >38µm		ASTM D7647	>10	1	0	---
Particles >71µm		ASTM D7647	>3	0	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 24/18/9	▲ 23/18/10	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	VLITE	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	---
Sodium	ppm	ASTM D5185(m)		5	4	---
Boron	ppm	ASTM D5185(m)		2	2	---
Barium	ppm	ASTM D5185(m)		<1	<1	---
Molybdenum	ppm	ASTM D5185(m)		2	5	---
Manganese	ppm	ASTM D5185(m)		<1	<1	---
Magnesium	ppm	ASTM D5185(m)		146	276	---
Calcium	ppm	ASTM D5185(m)		1854	673	---
Phosphorus	ppm	ASTM D5185(m)		815	600	---
Zinc	ppm	ASTM D5185(m)		951	742	---
Sulfur	ppm	ASTM D5185(m)		3069	2552	---
Oxidation	Abs/.1mm	ASTM D7414*		15.1	26.5	---
Visc @ 40°C	cSt	ASTM D7279(m)		39.0	42.6	---
Visc @ 100°C	cSt	ASTM D7279(m)		6.8	7.5	---
Viscosity Index (VI)	Scale	ASTM D2270*		132	143	---

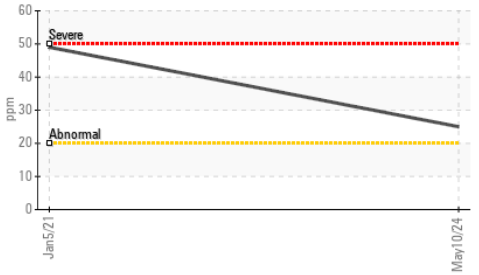
Particle Count



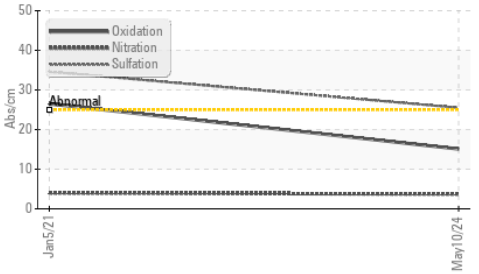
Particle Trend



Silicon (ppm)

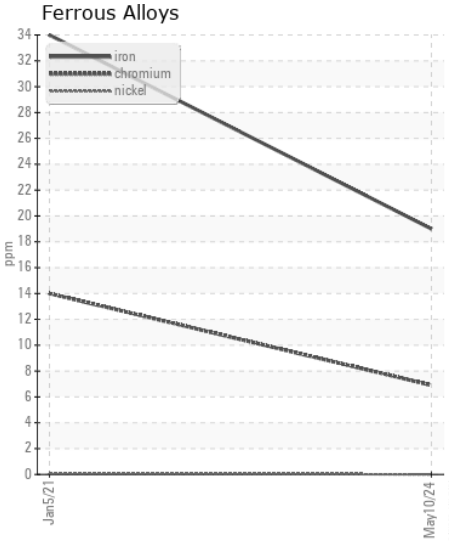


FT-IR (Direct Trend)

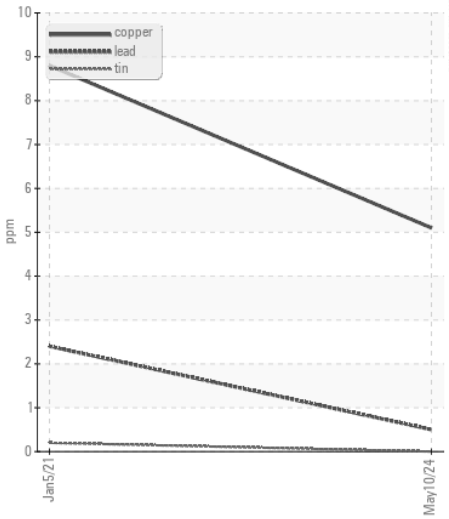


Viscosity @ 100°C

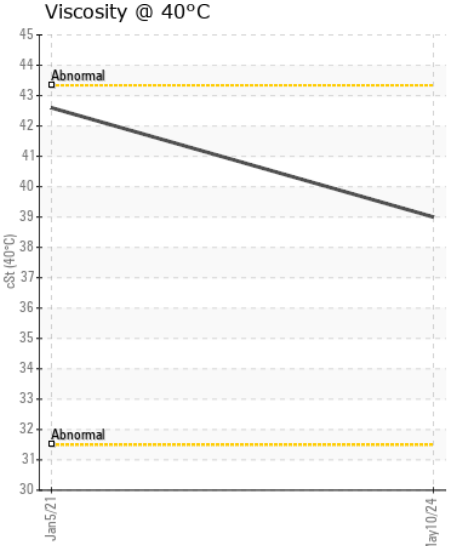
Ferrous Alloys



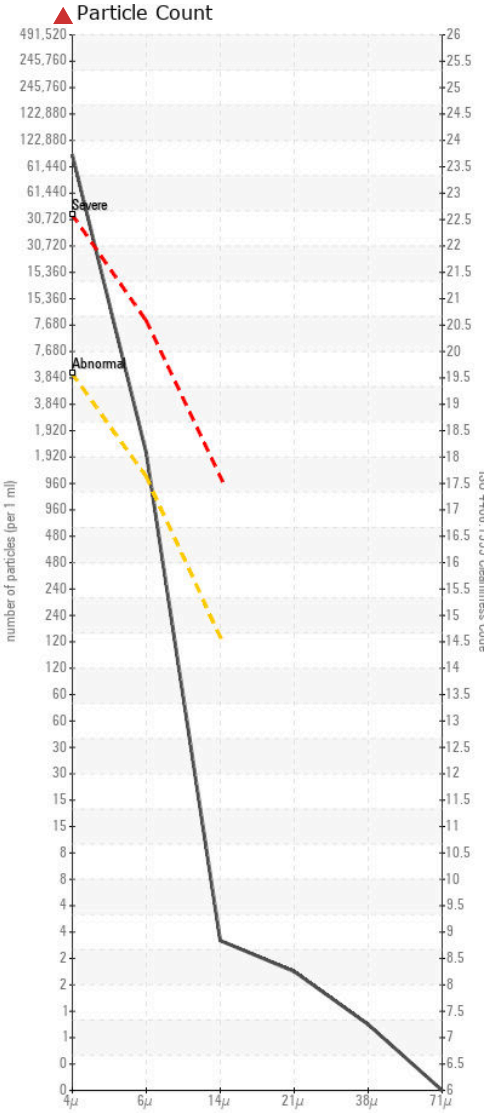
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : TR02637647 **Received** : 27 May 2024
Lab Number : 02637647 **Tested** : 30 May 2024
Unique Number : 5786809 **Diagnosed** : 30 May 2024 - Kevin Marson
Test Package : MOB 2 (Additional Tests: FT-IR, KV100, 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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