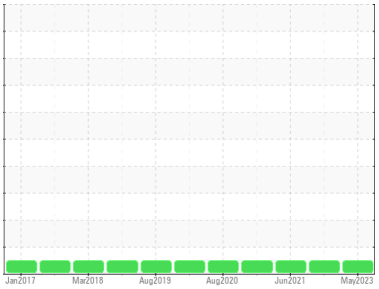
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
KOMATSU PC228USLC EX-208 (S/N 50761)
Component
Diesel Engine
Fluid
CITGO CITGARD 700 15W40 (6 GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0705253**	WC0588195	WC0355605
Sample Date		Client Info		**26 May 2023**	03 May 2022	08 Jun 2021
Machine Age	hrs	Client Info		**5328**	4832	4341
Oil Age	hrs	Client Info		**500**	500	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**18**	22	14
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**2**	2	0
Lead	ppm	ASTM D5185m	>40	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>330	**1**	<1	<1
Tin	ppm	ASTM D5185m	>15	**<1**	1	<1
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	20	**8**	9	15
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	59	**61**	61	56
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	783	**935**	1120	834
Calcium	ppm	ASTM D5185m	1238	**1304**	1406	1118
Phosphorus	ppm	ASTM D5185m	949	**1068**	1227	993
Zinc	ppm	ASTM D5185m	1116	**1320**	1379	1084
Sulfur	ppm	ASTM D5185m	2909	**3980**	3723	2672

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**3**	4	2
Sodium	ppm	ASTM D5185m		**2**	2	0
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**7.3**	7.1	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.5**	19.0	19

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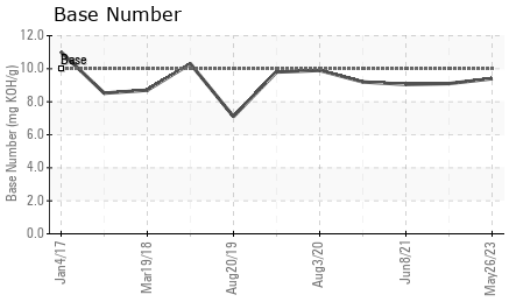
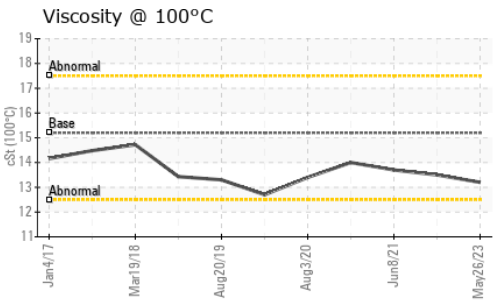




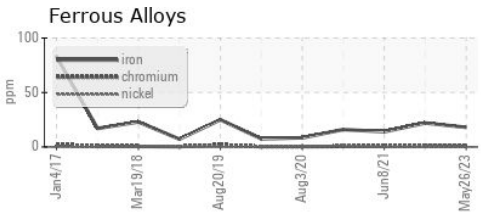
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**---**	---	6020
Particles >6µm		ASTM D7647	>5000	**---**	---	3280
Particles >14µm		ASTM D7647	>640	**---**	---	558
Particles >21µm		ASTM D7647	>160	**---**	---	188
Particles >38µm		ASTM D7647	>40	**---**	---	29
Particles >71µm		ASTM D7647	>10	**---**	---	3
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**---**	---	20/19/16

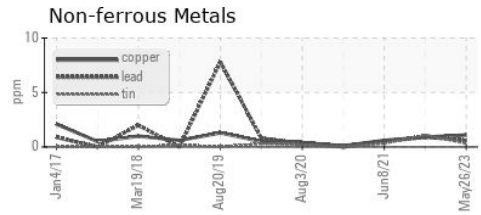
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.5**	14.1	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	10	**9.4**	9.1	9.05

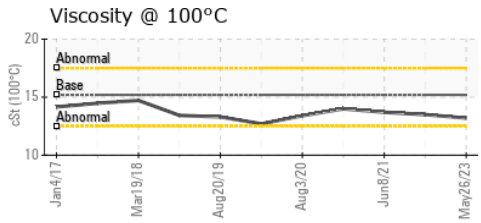
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

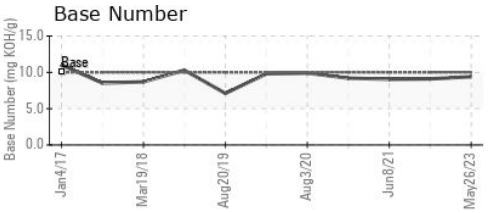
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.2	**13.2**	13.5	13.7

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0705253 **Received** : 18 Jul 2023
Lab Number : 05900987 **Diagnosed** : 19 Jul 2023
Unique Number : 10562343 **Diagnostician** : Don Baldridge
Test Package : FLEET (Additional Tests: PrtCount)

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - 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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