



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Area
KANSAS/44/EG - EXCAVATOR
Machine Id
20.146L [KANSAS^44^EG - EXCAVATOR]
Component
Diesel Engine
Fluid
CAT DIESEL ENGINE OIL 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0821448	---	---
Sample Date		Client Info		16 Apr 2024	---	---
Machine Age	hrs	Client Info		8	---	---
Oil Age	hrs	Client Info		8	---	---
Filter Age	hrs	Client Info		8	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				ABNORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	10	---	---
Chromium	ppm	ASTM D5185m	>20	<1	---	---
Nickel	ppm	ASTM D5185m	>4	0	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	3	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	13	---	---
Tin	ppm	ASTM D5185m	>15	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

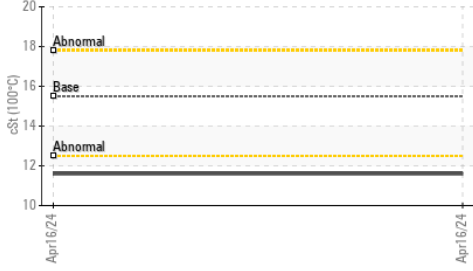
Silicon	ppm	ASTM D5185m	>25	13	---	---
Potassium	ppm	ASTM D5185m	>20	1	---	---
Fuel	%	ASTM D3524	>5	0.2	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	4.6	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0	---	---
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	>0.2	NEG	---	---

FLUID CONDITION

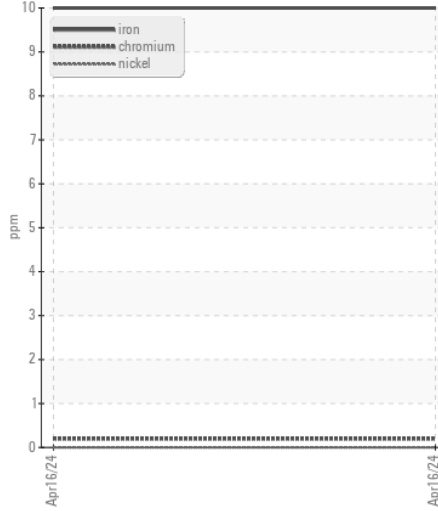
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		4	---	---
Boron	ppm	ASTM D5185m		73	---	---
Barium	ppm	ASTM D5185m		9	---	---
Molybdenum	ppm	ASTM D5185m		35	---	---
Manganese	ppm	ASTM D5185m		3	---	---
Magnesium	ppm	ASTM D5185m		503	---	---
Calcium	ppm	ASTM D5185m		1540	---	---
Phosphorus	ppm	ASTM D5185m		925	---	---
Zinc	ppm	ASTM D5185m	1460	1054	---	---
Sulfur	ppm	ASTM D5185m		3438	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.3	10.1	---	---
Visc @ 100°C	cSt	ASTM D445	15.5	▲ 11.6	---	---

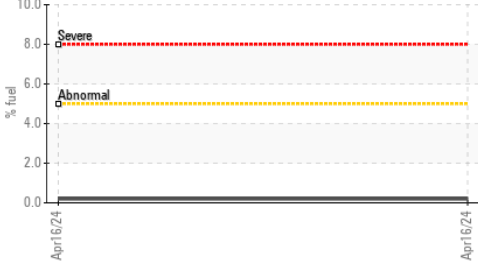
▲ Viscosity @ 100°C



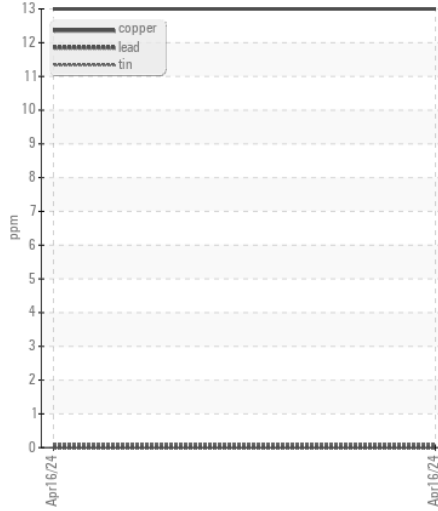
Ferrous Alloys



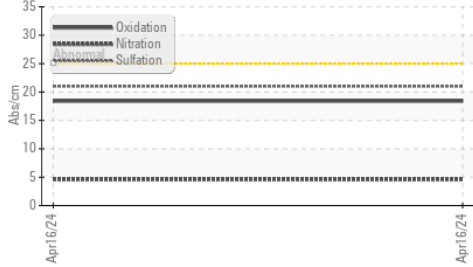
Fuel Dilution



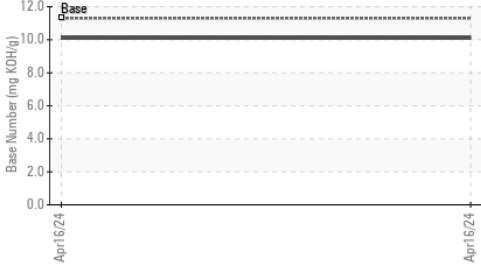
Non-ferrous Metals



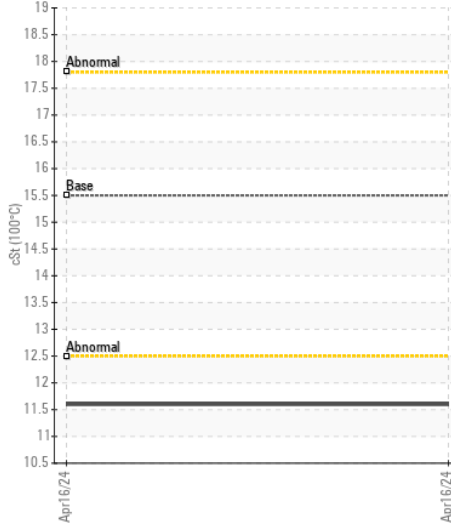
FT-IR (Direct Trend)



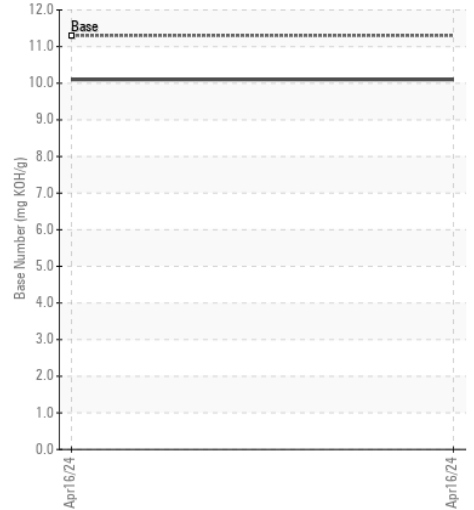
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0821448 **Received** : 22 Apr 2024
Lab Number : 06155633 **Tested** : 25 Apr 2024
Unique Number : 10991056 **Diagnosed** : 25 Apr 2024 - Angela Borella
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

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 F: x:

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)