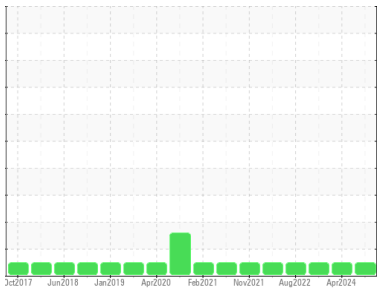
OIL ANALYSIS REPORT

Area
KANSAS/15/EG - EXCAVATOR
Machine Id
20.135L [KANSAS^15^EG - EXCAVATOR]
Component
Diesel Engine
Fluid
CAT DIESEL ENGINE OIL 10W30 (--- GAL)

Sample Rating Trend



NORMAL

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		**WC0918245**	WC0918412	WC0712234
Sample Date		Client Info		**06 Jun 2024**	24 Apr 2024	12 May 2023
Machine Age	hrs	Client Info		**7856**	7825	7354
Oil Age	hrs	Client Info		**31**	471	364
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**8**	36	28
Chromium	ppm	ASTM D5185m	>20	**<1**	1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>25	**3**	6	5
Lead	ppm	ASTM D5185m	>40	**0**	2	0
Copper	ppm	ASTM D5185m	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>15	**<1**	2	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	2	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	145	**73**	44	75
Barium	ppm	ASTM D5185m	0.0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0.0	**38**	36	43
Manganese	ppm	ASTM D5185m		**0**	1	<1
Magnesium	ppm	ASTM D5185m	248	**475**	530	513
Calcium	ppm	ASTM D5185m	2203	**1619**	1819	1795
Phosphorus	ppm	ASTM D5185m	731	**795**	1018	1016
Zinc	ppm	ASTM D5185m	1460	**906**	1208	1168
Sulfur	ppm	ASTM D5185m	5088	**2628**	3760	3282

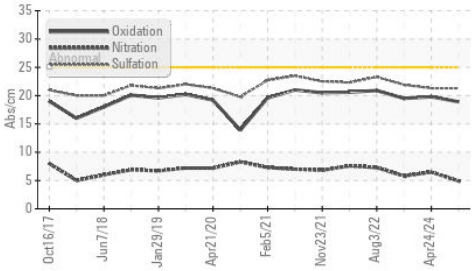
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	6	9
Sodium	ppm	ASTM D5185m		**2**	12	5
Potassium	ppm	ASTM D5185m	>20	**2**	3	3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**4.9**	6.5	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.3**	21.3	21.9

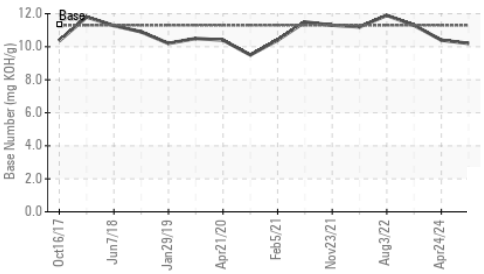
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.9**	19.8	19.5
Base Number (BN)	mg KOH/g	ASTM D2896	11.3	**10.2**	10.4	11.3

OIL ANALYSIS REPORT

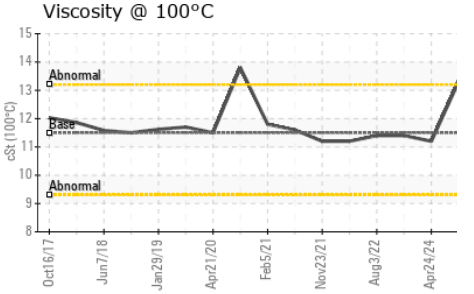
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

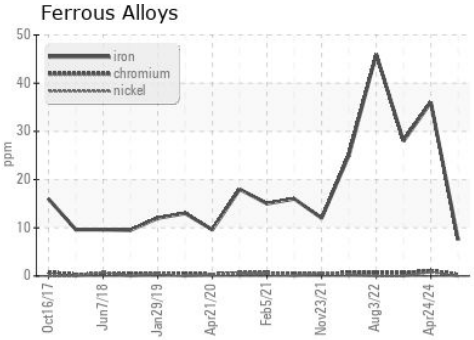


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

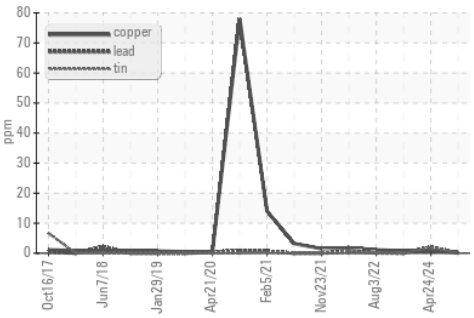
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.5	**13.3**	11.2	11.4

GRAPHS

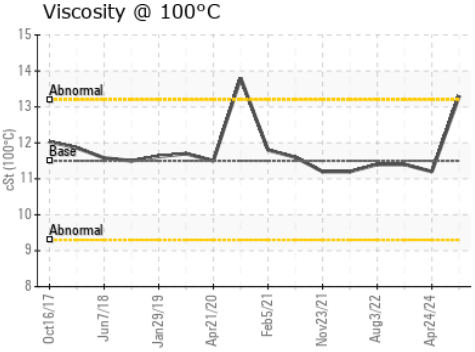
Ferrous Alloys



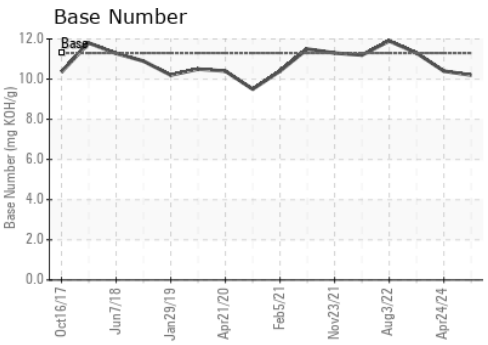
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0918245 **Received** : 13 Jun 2024
Lab Number : 06208414 **Tested** : 14 Jun 2024
Unique Number : 11075875 **Diagnosed** : 14 Jun 2024 - Angela Borella
Test Package : CONST (Additional Tests: TBN)

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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Report Id: SHEWIC [WUSCAR] 06208414 (Generated: 06/15/2024 12:10:58) Rev: 1

Submitted By: JAMES MOORE