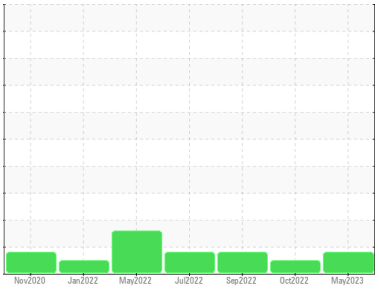
OIL ANALYSIS REPORT

Area
OKLAHOMA/102/EG - DOZER
Machine Id
38.83 [OKLAHOMA^102^EG - DOZER]
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: 8662 hrs)

Wear
The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

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		**WC0746730**	WC0673602	WC0738539
Sample Date		Client Info		**10 May 2023**	03 Oct 2022	10 Sep 2022
Machine Age	hrs	Client Info		**8662**	8217	8217
Oil Age	hrs	Client Info		**8217**	8217	288
Oil Changed		Client Info		**N/A**	Not Changd	Changed
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**42**	25	22
Chromium	ppm	ASTM D5185m	>20	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**6**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>25	**1**	<1	4
Lead	ppm	ASTM D5185m	>40	**6**	0	<1
Copper	ppm	ASTM D5185m	>330	▲ **352**	225	▲ 585
Tin	ppm	ASTM D5185m	>15	**3**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**23**	43	27
Barium	ppm	ASTM D5185m	10	**0**	0	2
Molybdenum	ppm	ASTM D5185m	100	**42**	40	39
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**520**	486	444
Calcium	ppm	ASTM D5185m	3000	**1860**	1758	1694
Phosphorus	ppm	ASTM D5185m	1150	**763**	743	739
Zinc	ppm	ASTM D5185m	1350	**968**	886	914
Sulfur	ppm	ASTM D5185m	4250	**2362**	2956	2249

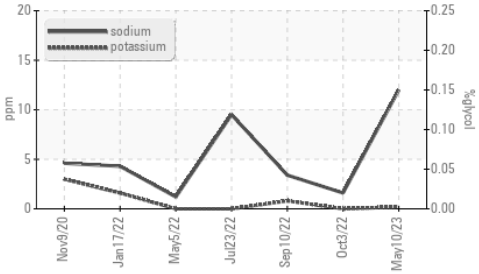
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**9**	4	6
Sodium	ppm	ASTM D5185m	>158	**12**	2	3
Potassium	ppm	ASTM D5185m	>20	**<1**	0	<1
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.4**	0.5	1.2
Nitration	Abs/cm	*ASTM D7624	>20	**11.6**	7.2	11.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.2**	24.2	23.9

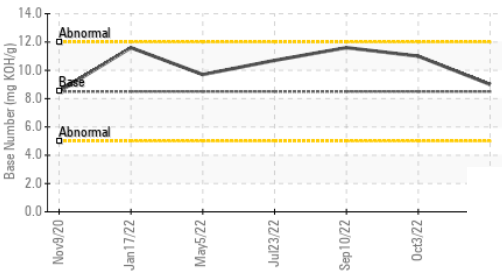
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.8**	20.6	20.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**9.0**	11.0	11.6

OIL ANALYSIS REPORT

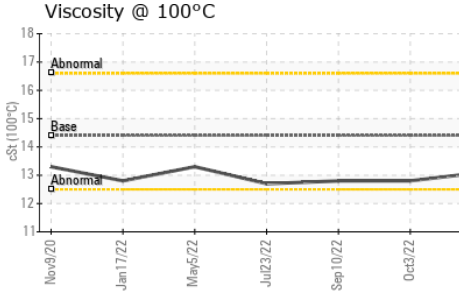
Glycol Contamination



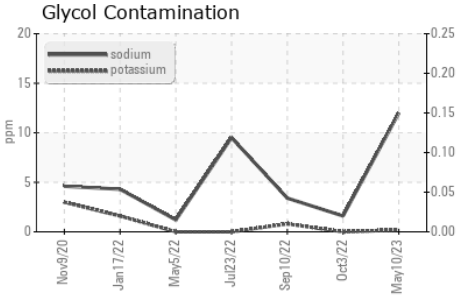
Base Number



Viscosity @ 100°C



Glycol Contamination

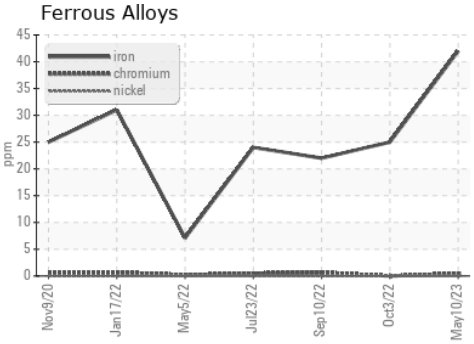


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

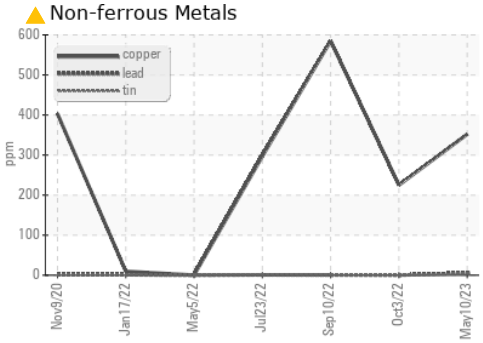
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**13.1**	12.8	12.8

GRAPHS

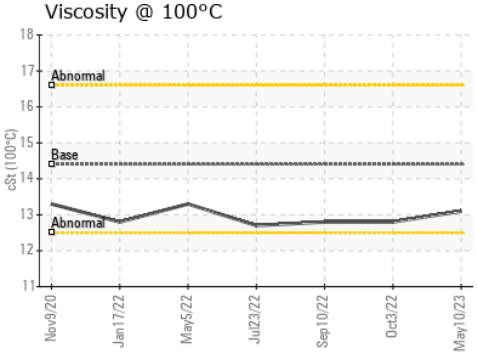
Ferrous Alloys



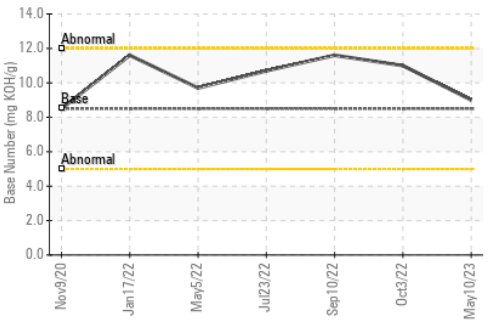
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0746730 **Recieved** : 15 May 2023
Lab Number : 05847977 **Diagnosed** : 18 May 2023
Unique Number : 10472084 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: Glycol, 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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