



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Area  
**KANSAS/44/FD - DOZER**  
Machine Id  
**35.100L [KANSAS^44^FD - DOZER]**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0832346</b>	WC0781165	WC0746020
Sample Date		Client Info		<b>27 Jul 2023</b>	16 May 2023	19 Jan 2023
Machine Age	hrs	Client Info		<b>8151</b>	7862	7532
Oil Age	hrs	Client Info		<b>7277</b>	7277	7277
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>10</b>	18	16
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>4</b>	4	6
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	1	1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

There is no indication of any contamination in the oil.

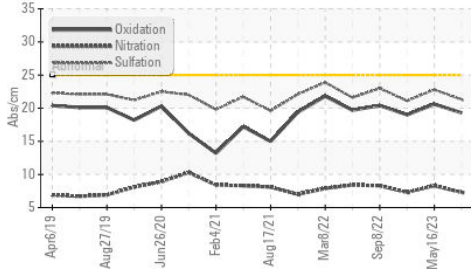
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	1	1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.6	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.3</b>	8.3	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.3</b>	22.8	21.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

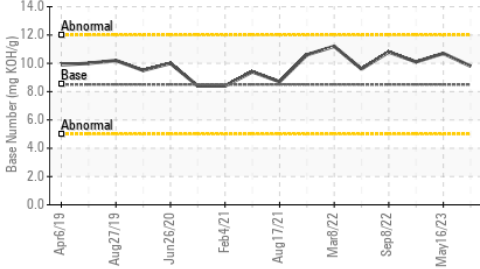
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	<b>2</b>	2	4
Boron	ppm	ASTM D5185m	250	<b>38</b>	50	51
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m	100	<b>38</b>	39	38
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>540</b>	539	533
Calcium	ppm	ASTM D5185m	3000	<b>1722</b>	1760	1654
Phosphorus	ppm	ASTM D5185m	1150	<b>762</b>	923	757
Zinc	ppm	ASTM D5185m	1350	<b>943</b>	1121	920
Sulfur	ppm	ASTM D5185m	4250	<b>3184</b>	3437	3147
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.3</b>	20.6	19.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>9.8</b>	10.7	10.1
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.3</b>	13.4	13.4

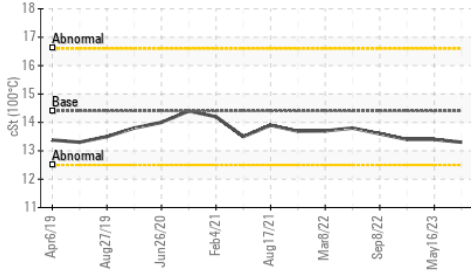
**FT-IR (Direct Trend)**



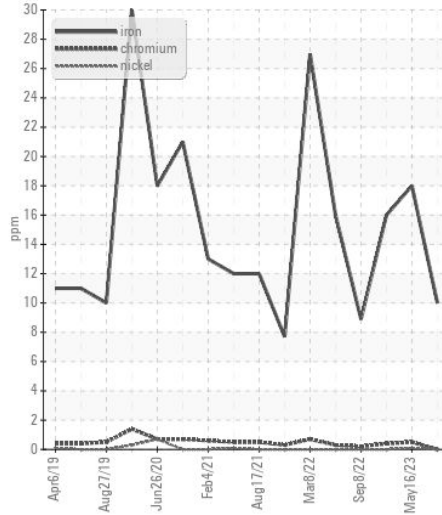
**Base Number**



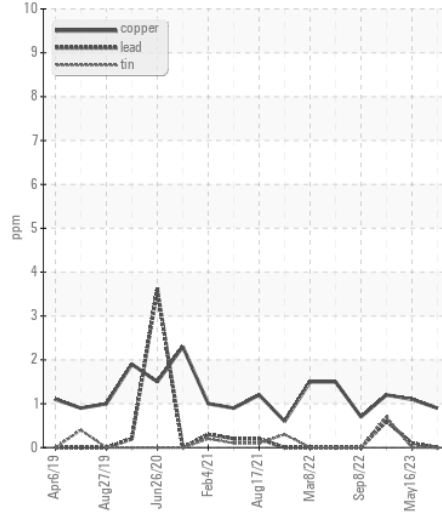
**Viscosity @ 100°C**



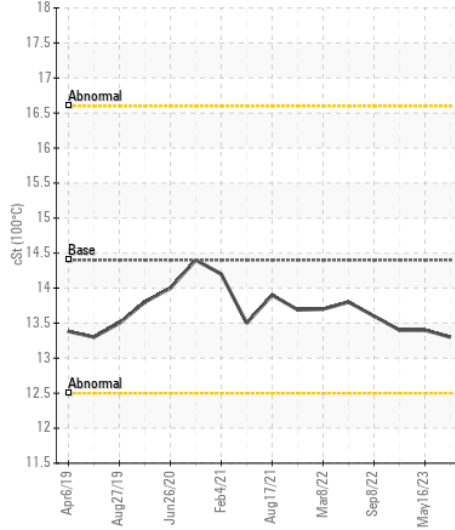
**Ferrous Alloys**



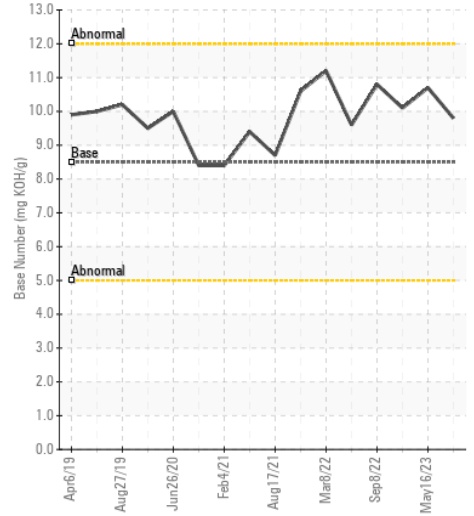
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0832346 **Received** : 01 Aug 2023  
**Lab Number** : 05912279 **Tested** : 02 Aug 2023  
**Unique Number** : 10578931 **Diagnosed** : 02 Aug 2023 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**SHERWOOD CONSTRUCTION CO INC**  
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 US 67213  
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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)