



# OIL ANALYSIS REPORT

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

Machine Id  
**DOOSAN DX140LCR5 EX83 (S/N DHKCEBBSJG0001513)**  
 Component  
**Diesel Engine**  
 Fluid  
**DURAMAX 15W40 (3 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0034923</b>	DC0029800	DC0023104
Sample Date		Client Info		<b>19 Mar 2024</b>	14 Jul 2023	19 Oct 2022
Machine Age	hrs	Client Info		<b>4799</b>	4291	3752
Oil Age	hrs	Client Info		<b>500</b>	500	500
Filter Age	hrs	Client Info		<b>500</b>	500	500
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>21</b>	19	14
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	3	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>30	<b>4</b>	4	4
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

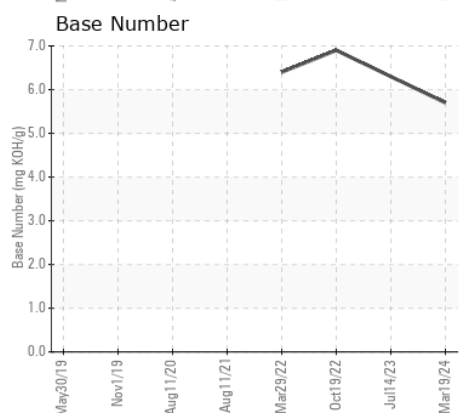
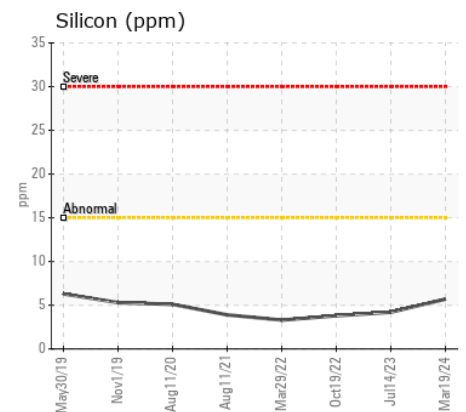
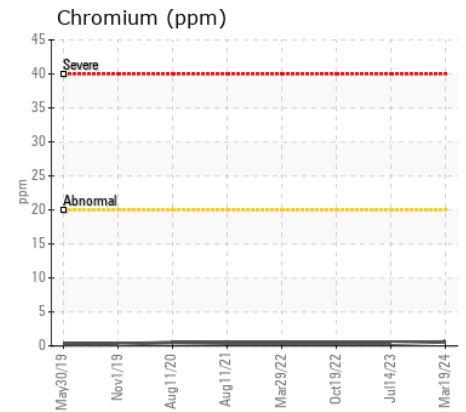
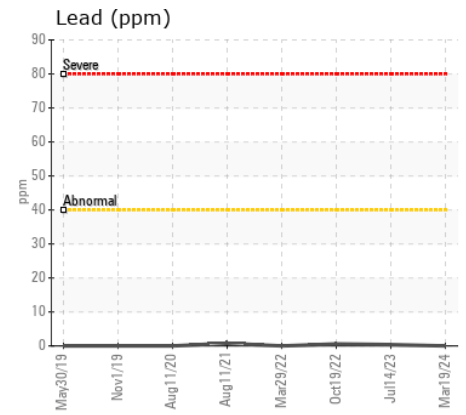
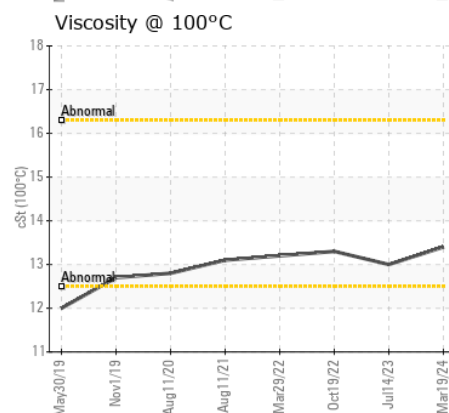
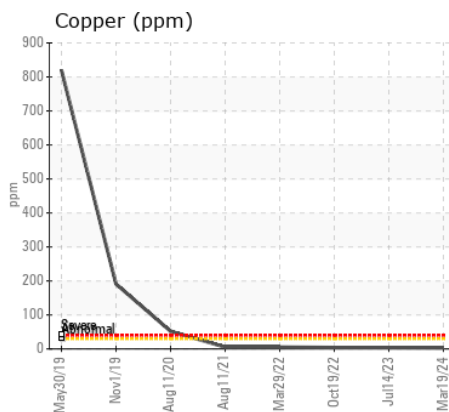
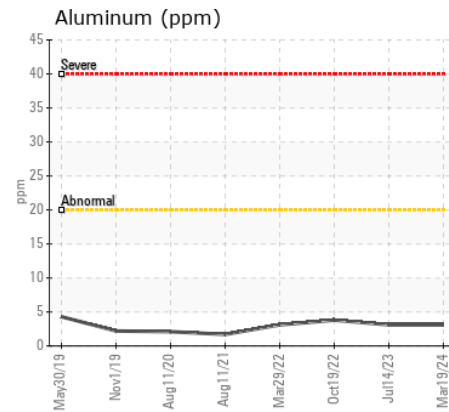
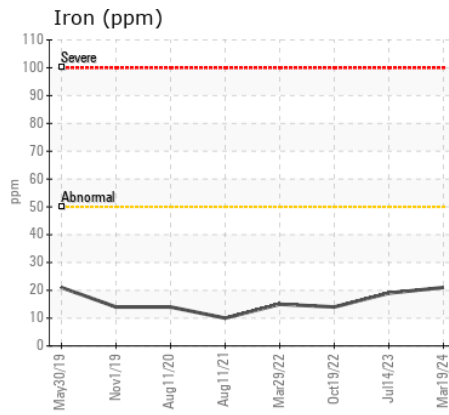
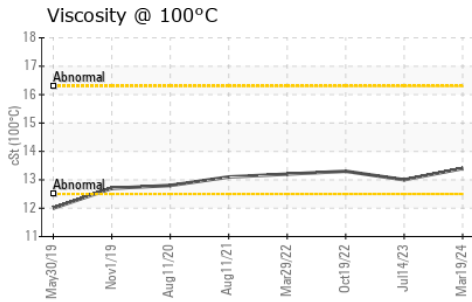
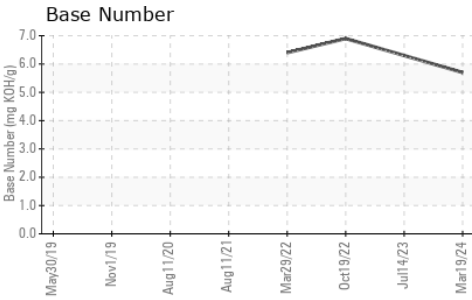
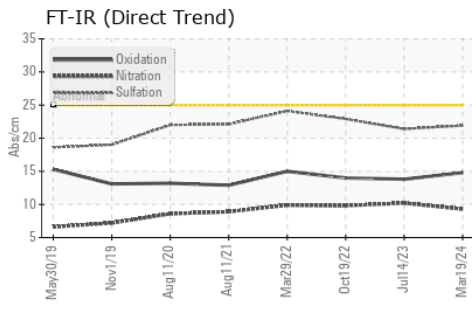
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>6</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	0
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.3</b>	10.2	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.9</b>	21.4	22.9
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	>0.1	<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		<b>1</b>	3	2
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	<1	2
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>5</b>	3	4
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>62</b>	53	53
Calcium	ppm	ASTM D5185m		<b>2572</b>	2479	2470
Phosphorus	ppm	ASTM D5185m		<b>983</b>	922	852
Zinc	ppm	ASTM D5185m		<b>1145</b>	1158	1162
Sulfur	ppm	ASTM D5185m		<b>3821</b>	4312	4223
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.8</b>	13.8	14.0
Base Number (BN)	mg KOH/g	ASTM D2896		<b>5.7</b>	6.3	6.9
Visc @ 100°C	cSt	ASTM D445		<b>13.4</b>	13.0	13.3



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0034923 **Received** : 15 Apr 2024  
**Lab Number** : 06148491 **Tested** : 16 Apr 2024  
**Unique Number** : 10978569 **Diagnosed** : 16 Apr 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**ROSS CONTRACTING INC.**  
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Certificate L2367  
 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)