



# OIL ANALYSIS REPORT

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

Area  
**Store 9 - Marietta**

Machine Id  
**KENWORTH 44**

Component  
**Diesel Engine**

Fluid  
**SHELL ROTELLA T 15W40 (10 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0050207</b>	LEC0048270	LEC0045857
Sample Date		Client Info		<b>21 May 2024</b>	09 Apr 2024	26 Feb 2024
Machine Age	mls	Client Info		<b>1077300</b>	1067399	1055118
Oil Age	mls	Client Info		<b>10000</b>	10000	10000
Filter Age	mls	Client Info		<b>10000</b>	10000	10000
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	>100	<b>20</b>	25	21
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>2</b>	1	0
Silver	ppm	ASTM D5185m	>3	<b>1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	4	5
Lead	ppm	ASTM D5185m	>40	<b>4</b>	10	12
Copper	ppm	ASTM D5185m	>330	<b>2</b>	1	<1
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

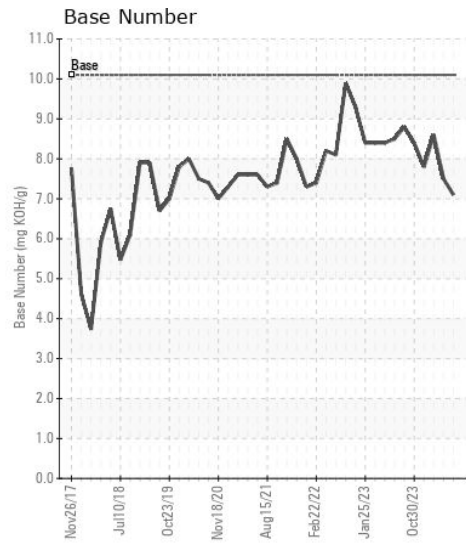
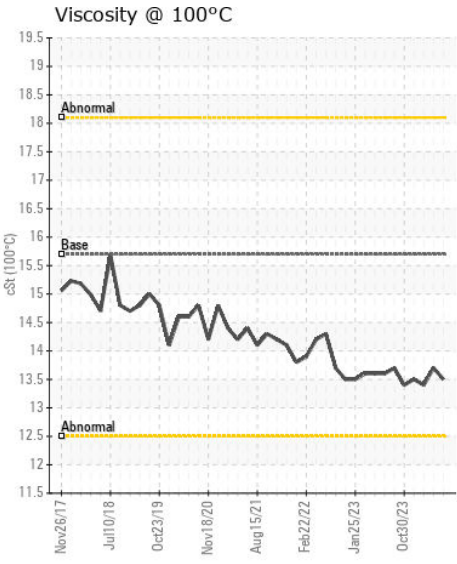
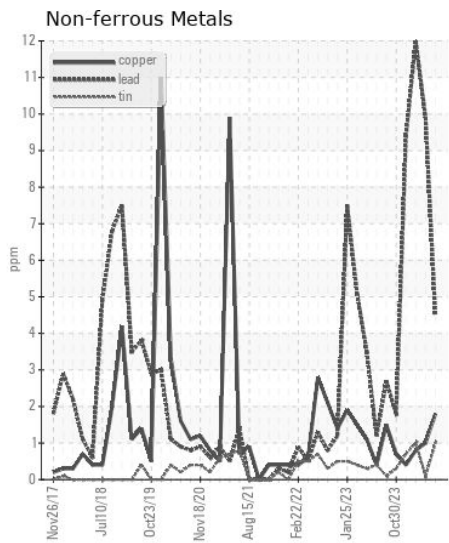
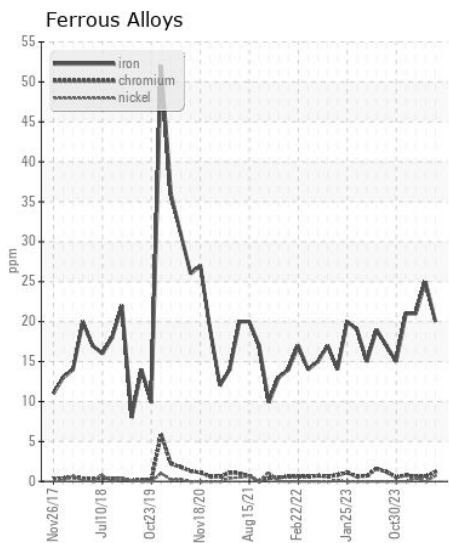
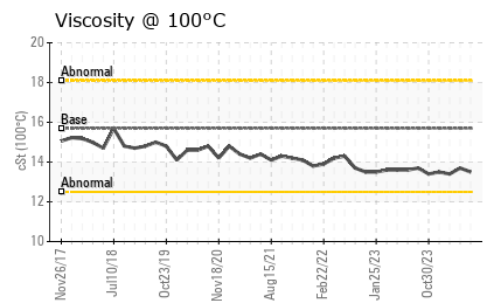
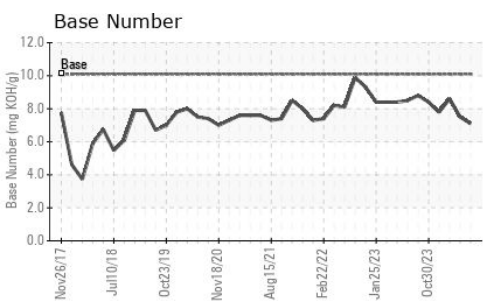
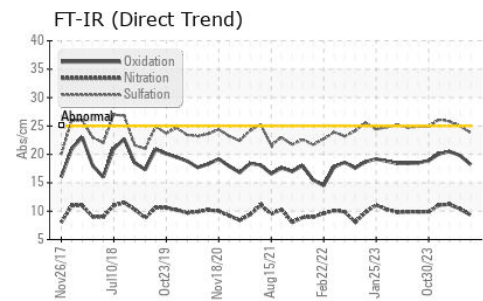
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	<b>7</b>	8	6
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	3	4
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>0.6</b>	0.9	1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.3</b>	10.4	11.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.8</b>	25.0	25.8
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>1</b>	<1	2
Boron	ppm	ASTM D5185m	316	<b>290</b>	206	195
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>93</b>	109	129
Manganese	ppm	ASTM D5185m		<b>1</b>	0	<1
Magnesium	ppm	ASTM D5185m	24	<b>479</b>	559	680
Calcium	ppm	ASTM D5185m	2292	<b>1473</b>	1573	1466
Phosphorus	ppm	ASTM D5185m	1064	<b>1028</b>	976	744
Zinc	ppm	ASTM D5185m	1160	<b>1204</b>	1106	870
Sulfur	ppm	ASTM D5185m	4996	<b>3781</b>	2955	2500
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.2</b>	19.8	20.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.1</b>	7.5	8.6
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.5</b>	13.7	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0050207  
**Lab Number** : 06193639  
**Unique Number** : 11050391  
**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 29 May 2024  
**Tested** : 30 May 2024  
**Diagnosed** : 30 May 2024 - Sean Felton

**HALL DRILLING LLC**  
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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)