



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**VOLVO ECR235EL E30 (S/N 311579)**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC MOLY XL PRO-SPEC III SYNTHETIC15W40 (--- QTS)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06191248</b>	TR06086205	TR06003775
Sample Date		Client Info		<b>20 May 2024</b>	05 Feb 2024	31 Oct 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>306</b>	591	314
Filter Age	hrs	Client Info		<b>306</b>	591	314
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>8</b>	23	12
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>5</b>	6	4
Lead	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	1
Copper	ppm	ASTM D5185m	>15	<b>1</b>	1	2
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<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**

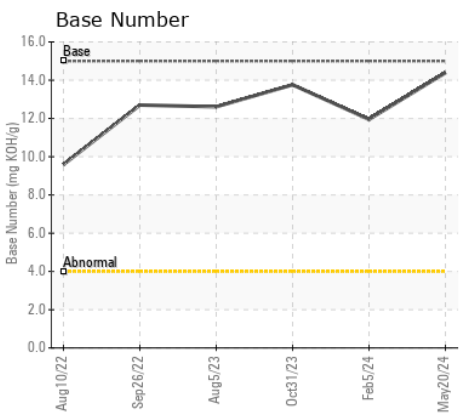
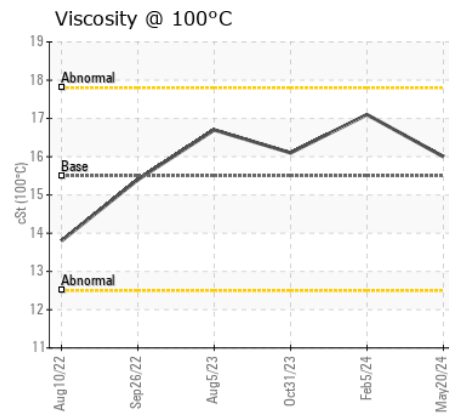
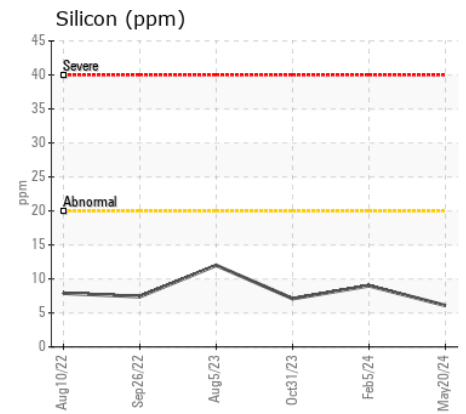
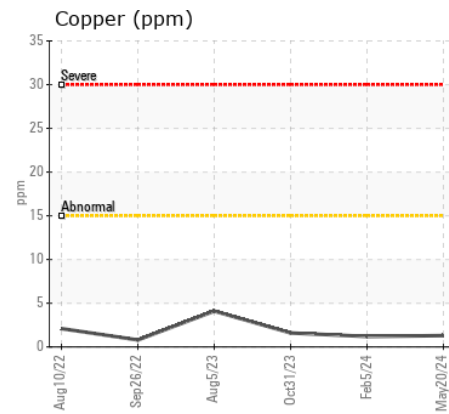
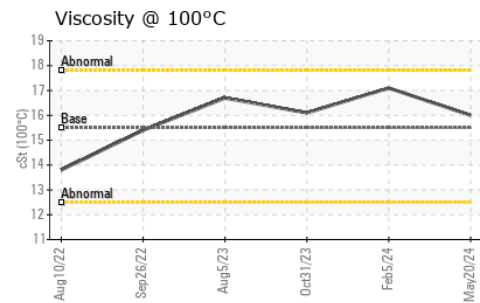
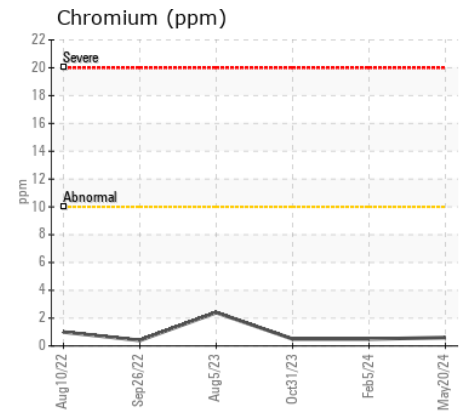
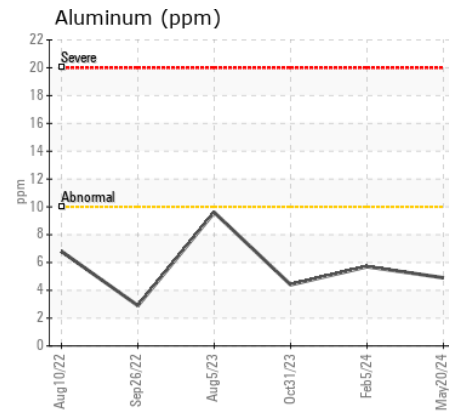
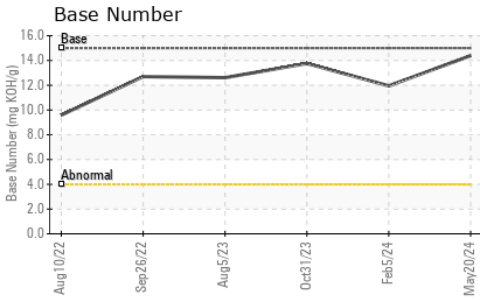
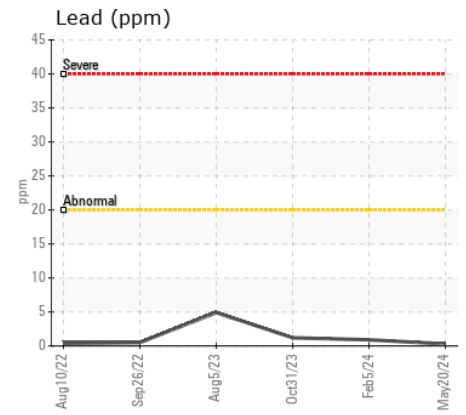
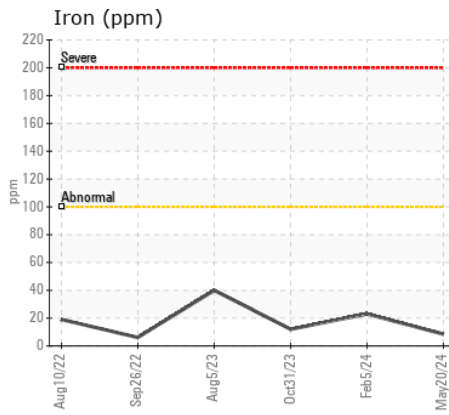
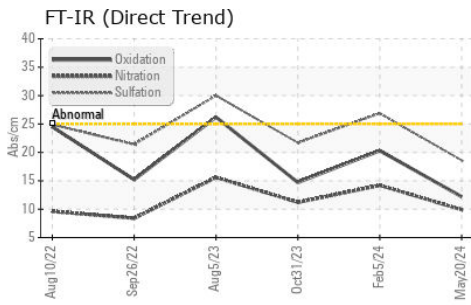
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>6</b>	9	7
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	2
Fuel		WC Method	>6.0	<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>0.1</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.9</b>	14.2	11.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.6</b>	26.9	21.7
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>	2	2
Boron	ppm	ASTM D5185m		<b>0</b>	17	26
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>139</b>	164	149
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>25</b>	107	100
Calcium	ppm	ASTM D5185m	4500	<b>4289</b>	5029	4459
Phosphorus	ppm	ASTM D5185m		<b>993</b>	1015	979
Zinc	ppm	ASTM D5185m	1400	<b>1086</b>	1298	1174
Sulfur	ppm	ASTM D5185m		<b>4983</b>	4695	4473
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.2</b>	20.3	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	15	<b>14.39</b>	11.95	13.76
Visc @ 100°C	cSt	ASTM D445	15.5	<b>16.0</b>	17.1	16.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06191248  
**Lab Number** : 06191248  
**Unique Number** : 11048000  
**Test Package** : MOB 2  
**Received** : 24 May 2024  
**Tested** : 31 May 2024  
**Diagnosed** : 31 May 2024 - Sean Felton

**NUTTER ENTERPRISES INC**  
 28 STONE RD  
 BELMONT, NH  
 US 03220  
 Contact: DON PERCY

To discuss this sample report, contact Customer Service at 1-800-827-0711.

\* - 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)

T:  
F: