



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO EC380EL E-27 (S/N 314740)

Component
Diesel Engine

Fluid
TRC MOLY XL PRO-SPEC III SYNTHETIC15W40 (52 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06223660	TR06212580	TR06084354
Sample Date		Client Info		22 Jun 2024	10 Jun 2024	29 Jan 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		1112	983	313
Filter Age	hrs	Client Info		1112	983	313
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	16	12	7
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	4	4	2
Lead	ppm	ASTM D5185m	>20	3	2	<1
Copper	ppm	ASTM D5185m	>15	4	2	<1
Tin	ppm	ASTM D5185m	>10	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

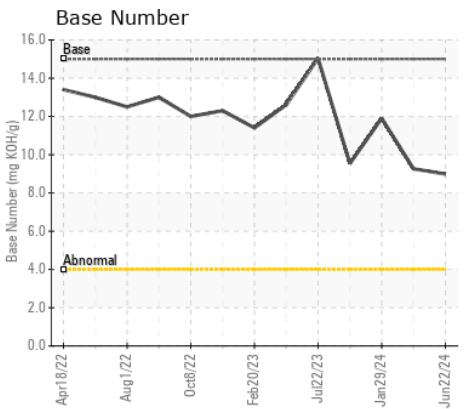
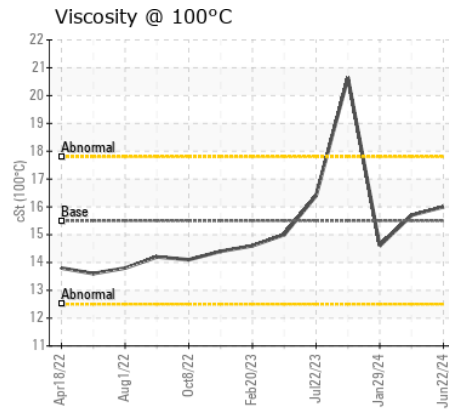
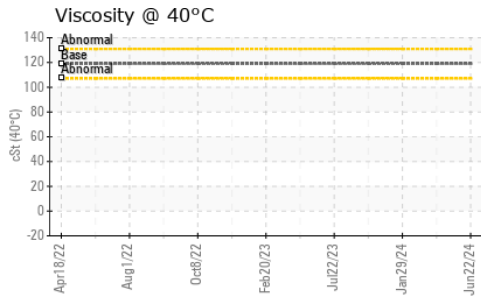
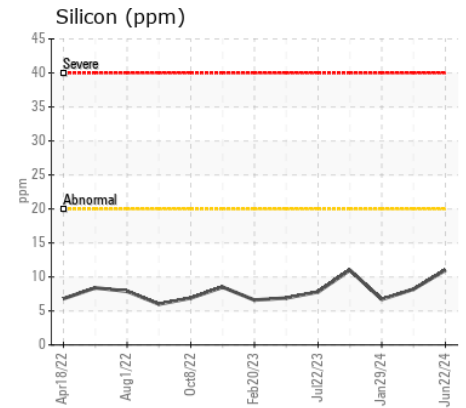
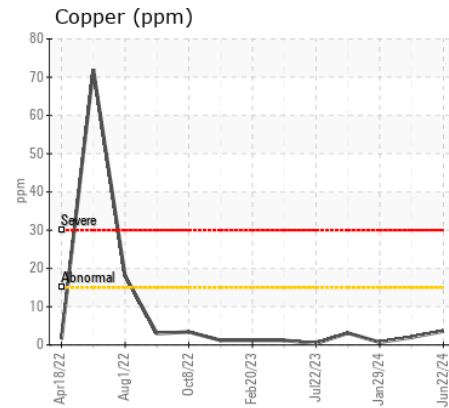
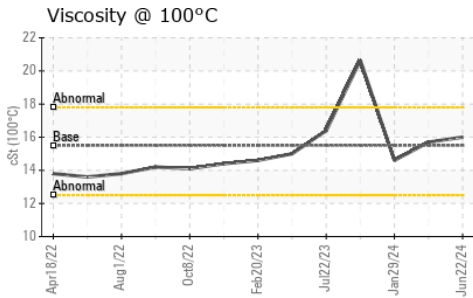
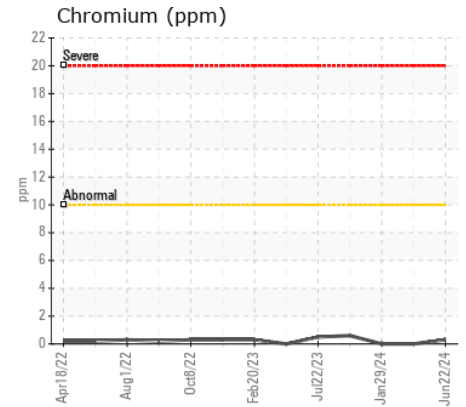
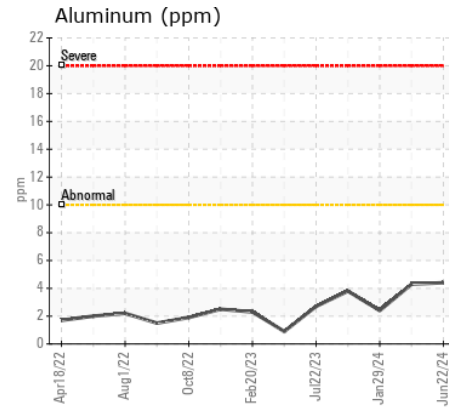
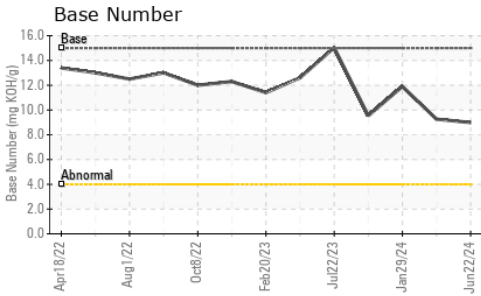
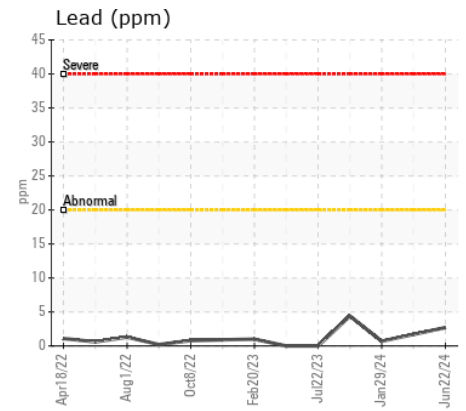
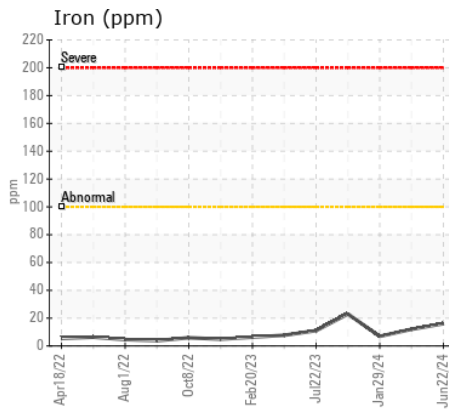
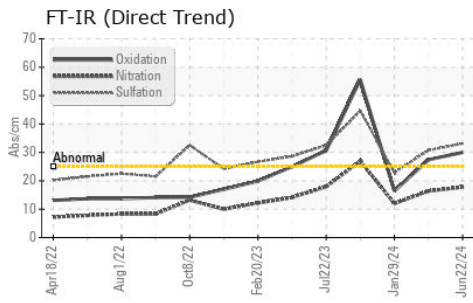
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	11	8	7
Potassium	ppm	ASTM D5185m	>20	5	4	<1
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	17.8	16.4	12.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	33.1	30.7	22.9
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	>0.1	NEG	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		8	6	4
Boron	ppm	ASTM D5185m		32	34	47
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		152	151	132
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m		148	151	137
Calcium	ppm	ASTM D5185m	4500	4702	4600	3935
Phosphorus	ppm	ASTM D5185m		1015	1037	921
Zinc	ppm	ASTM D5185m	1400	1140	1150	1036
Sulfur	ppm	ASTM D5185m		5097	5285	4050
Oxidation	Abs/.1mm	*ASTM D7414	>25	30.0	27.4	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	15	8.99	9.26	11.90
Visc @ 100°C	cSt	ASTM D445	15.5	16.0	15.7	14.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06223660
Lab Number : 06223660
Unique Number : 11101857
Test Package : MOB 2 (Additional Tests: KV40)

Received : 28 Jun 2024
Tested : 01 Jul 2024
Diagnosed : 01 Jul 2024 - Jonathan Hester

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)

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