TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2001 IHC 9
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

Metal levels are typical for a new component breaking in.

CONTAMINATION

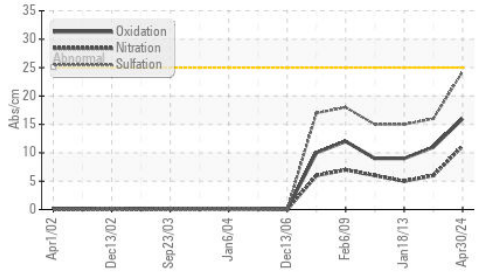
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

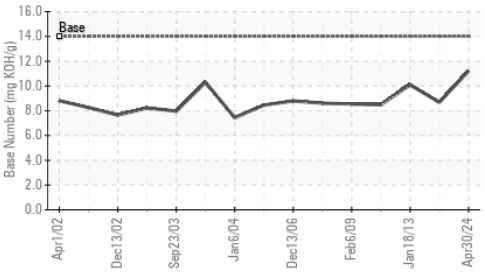
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06177399	TR03781465	AL03221268
Sample Date		Client Info		30 Apr 2024	05 May 2015	18 Jan 2013
Machine Age	mls	Client Info		20987	188837	173000
Oil Age	mls	Client Info		13856	8313	12000
Filter Age	mls	Client Info		13856	8313	12000
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	77	44	43
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	47	4	6
Lead	ppm	ASTM D5185m	>40	<1	5	3
Copper	ppm	ASTM D5185m	>330	11	4	4
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	44	7	9
Potassium	ppm	ASTM D5185m	>20	143	13	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	11.2	6.	5.
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.3	16.	15.
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	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		0	30	29
Boron	ppm	ASTM D5185m		2	1	<1
Barium	ppm	ASTM D5185m		9	0	0
Molybdenum	ppm	ASTM D5185m		1253	203	217
Manganese	ppm	ASTM D5185m		2	<1	1
Magnesium	ppm	ASTM D5185m		73	881	802
Calcium	ppm	ASTM D5185m	1300	4096	1246	1129
Phosphorus	ppm	ASTM D5185m		1000	1187	1045
Zinc	ppm	ASTM D5185m	1300	1037	1331	1196
Sulfur	ppm	ASTM D5185m		5415	3264	2884
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.0	11.	9.
Base Number (BN)	mg KOH/g	ASTM D2896	14	11.23	8.68	10.1
Visc @ 100°C	cSt	ASTM D445	15.5	14.3	12.63	12.93

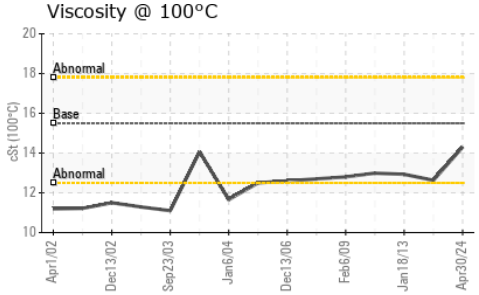
FT-IR (Direct Trend)



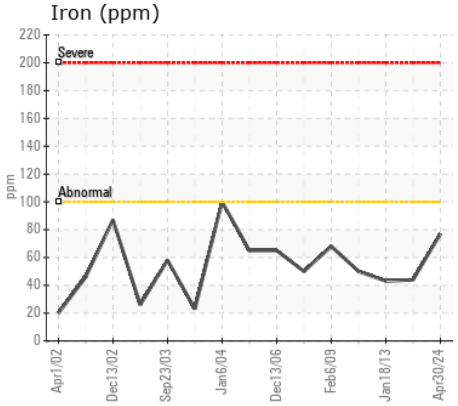
Base Number



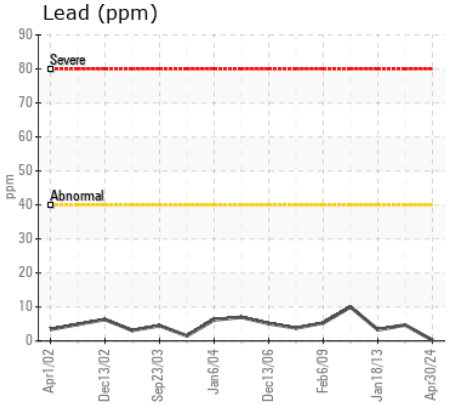
Viscosity @ 100°C



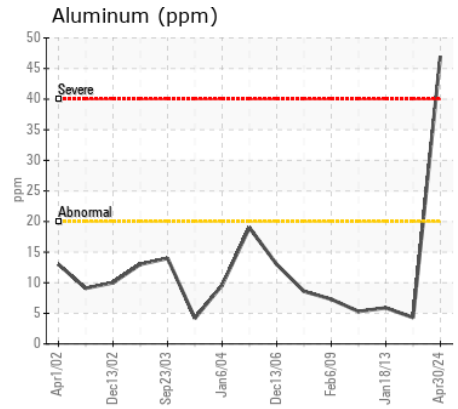
Iron (ppm)



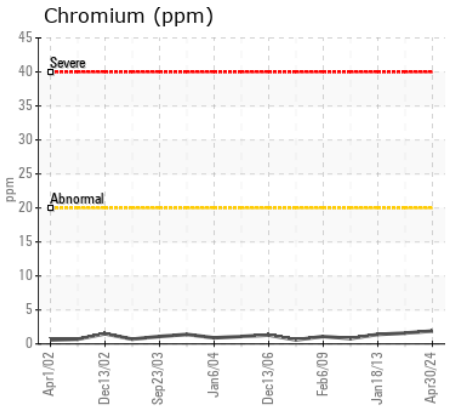
Lead (ppm)



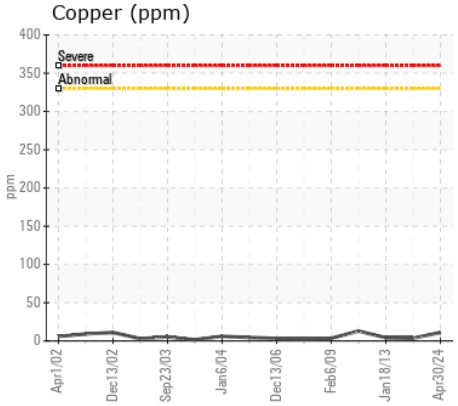
Aluminum (ppm)



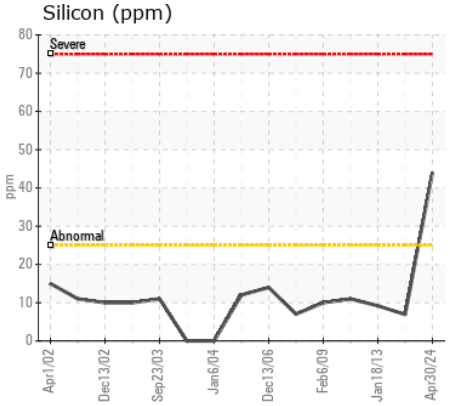
Chromium (ppm)



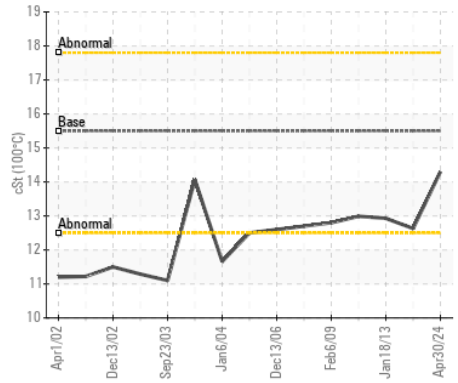
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



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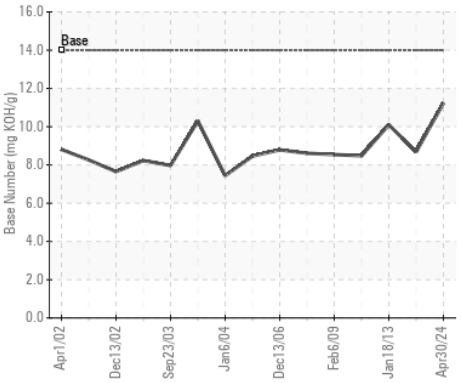

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06177399
Lab Number : 06177399
Unique Number : 11023452
Test Package : MOB 2

Received : 13 May 2024
Tested : 14 May 2024
Diagnosed : 14 May 2024 - Wes Davis

ALEXANDER SCHOOLS
6091 AYERS RD
ALBANY, OH
US 45710
Contact: DEAN WISE

T:
F:

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)