TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
1988 INTERNATIONAL 4
Component
Diesel Engine
Fluid
TRC MOLY XL PROSPEC III 15W40 (--- QTS)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

The aluminum level has decreased, but is still abnormal. All other component wear rates are normal.

CONTAMINATION

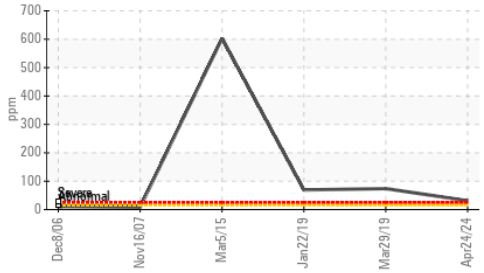
There is a trace of moisture present in the oil.

FLUID CONDITION

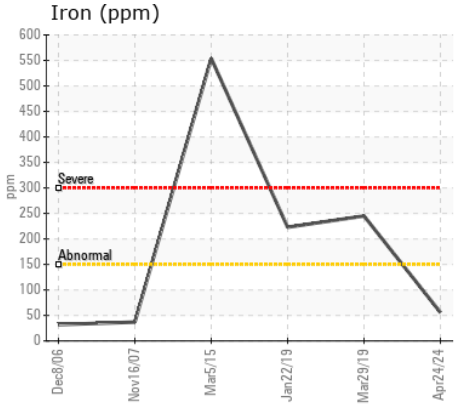
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06177402	TR04692616	TR04660742
Sample Date		Client Info		24 Apr 2024	29 Mar 2019	22 Jan 2019
Machine Age	hrs	Client Info		87826	46247	45331
Oil Age	hrs	Client Info		9713	10013	9097
Filter Age	hrs	Client Info		9713	10013	9097
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>150	56	▲ 245	▲ 223
Chromium	ppm	ASTM D5185m	>15	<1	1	2
Nickel	ppm	ASTM D5185m	>4	2	5	5
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	▲ 31	▲ 74	▲ 69
Lead	ppm	ASTM D5185m	>70	6	7	4
Copper	ppm	ASTM D5185m	>175	6	9	6
Tin	ppm	ASTM D5185m	>5	<1	0	2
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	23	8	6
Potassium	ppm	ASTM D5185m	>20	26	10	12
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water	%	ASTM D6304	>0.2	0.127	0.119	---
ppm Water	ppm	ASTM D6304	>2000	1270	1190	---
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	1.4	1.4
Nitration	Abs/cm	*ASTM D7624	>20	15.4	22.2	24.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	30.4	32.5	30.6
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	0.2%	NEG	NEG
Sodium	ppm	ASTM D5185m		11	6	10
Boron	ppm	ASTM D5185m		0	7	7
Barium	ppm	ASTM D5185m		10	<1	<1
Molybdenum	ppm	ASTM D5185m		1813	798	912
Manganese	ppm	ASTM D5185m		<1	2	2
Magnesium	ppm	ASTM D5185m		24	630	693
Calcium	ppm	ASTM D5185m	4500	5025	2107	1812
Phosphorus	ppm	ASTM D5185m		1166	864	948
Zinc	ppm	ASTM D5185m	1400	1191	1203	1105
Sulfur	ppm	ASTM D5185m		6289	3793	4477
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.6	30.3	30.3
Base Number (BN)	mg KOH/g	ASTM D2896	15	11.71	7.85	7.32
Visc @ 100°C	cSt	ASTM D445	15.5	15.5	15.08	15.6

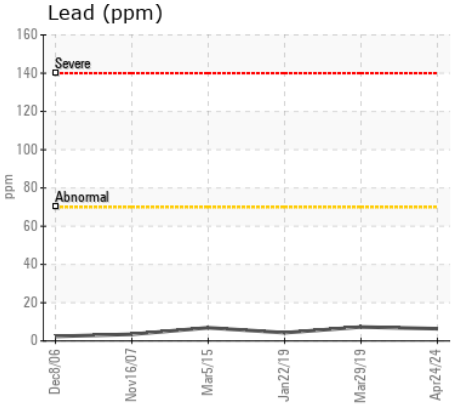
Aluminum (ppm)



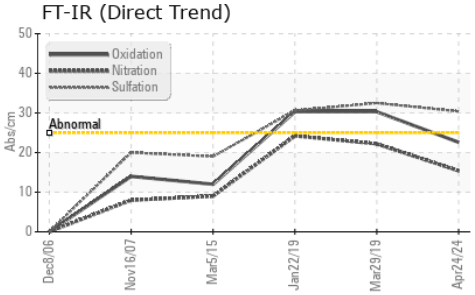
Iron (ppm)



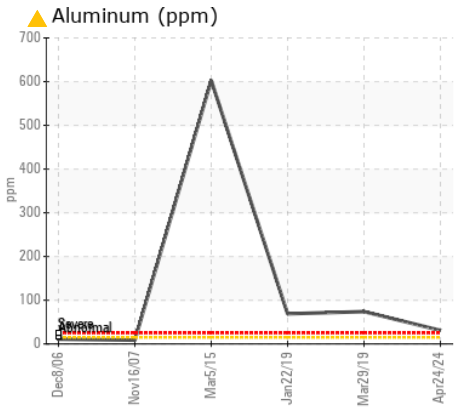
Lead (ppm)



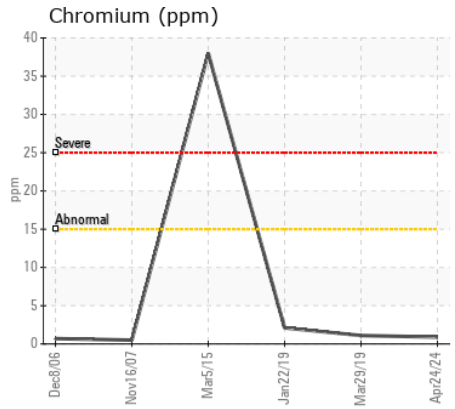
FT-IR (Direct Trend)



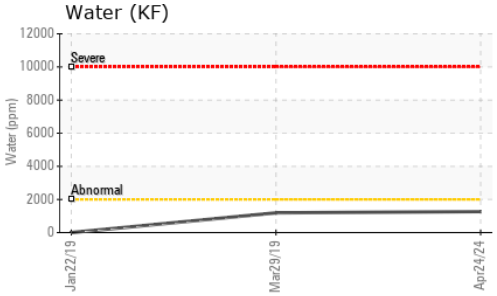
Aluminum (ppm)



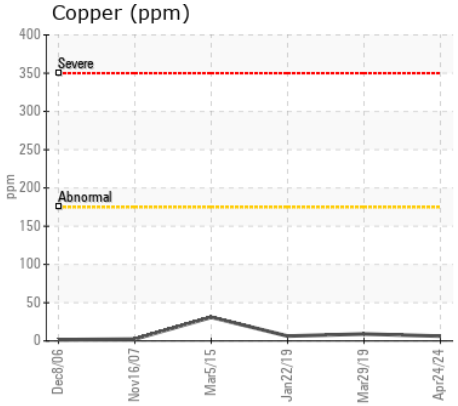
Chromium (ppm)



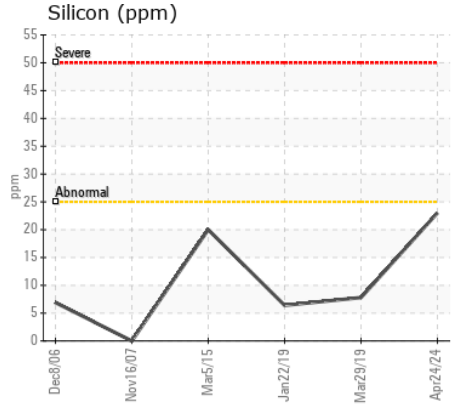
Water (KF)



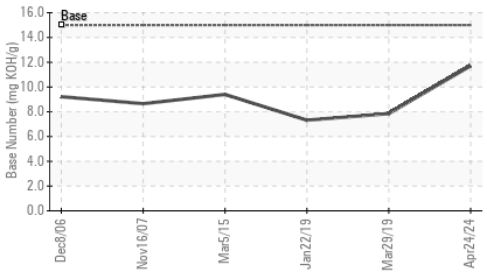
Copper (ppm)



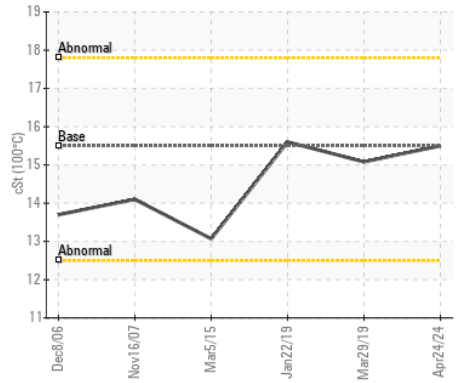
Silicon (ppm)



Base Number



Viscosity @ 100°C



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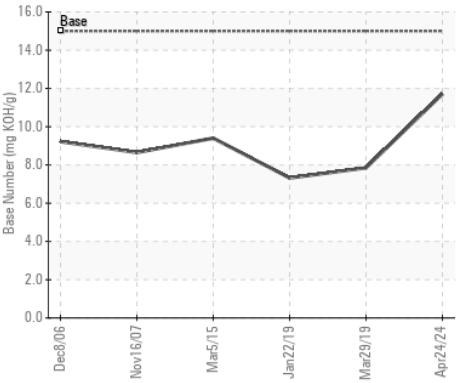

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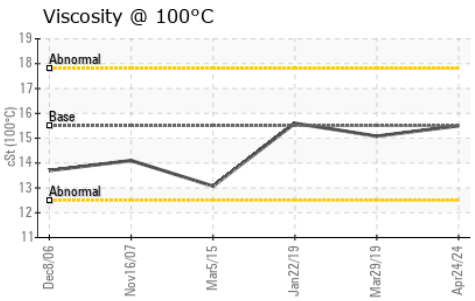

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06177402
Lab Number : 06177402
Unique Number : 11023455
Test Package : MOB 2 (Additional Tests: Glycol, KF)

Received : 13 May 2024
Tested : 15 May 2024
Diagnosed : 15 May 2024 - Don Baldridge

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)