



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 001

Component
Front Diesel Engine

Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (12 QTS)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06237084	TR06167674	TR06045115
Sample Date		Client Info		06 Jul 2024	26 Apr 2024	21 Dec 2023
Machine Age	hrs	Client Info		7272	6700	6550
Oil Age	hrs	Client Info		572	150	1357
Filter Age	hrs	Client Info		572	150	1357
Oil Changed		Client Info		Not Chngd	Changed	Not Chngd
Filter Changed		Client Info		Not Chngd	Changed	Not Chngd
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	▲ 132	49	▲ 208
Chromium	ppm	ASTM D5185m	>6	2	<1	3
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	11	5	14
Lead	ppm	ASTM D5185m	>95	0	0	0
Copper	ppm	ASTM D5185m	>85	2	1	1
Tin	ppm	ASTM D5185m	>9	0	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

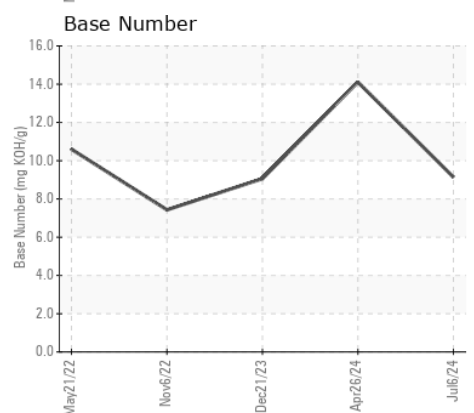
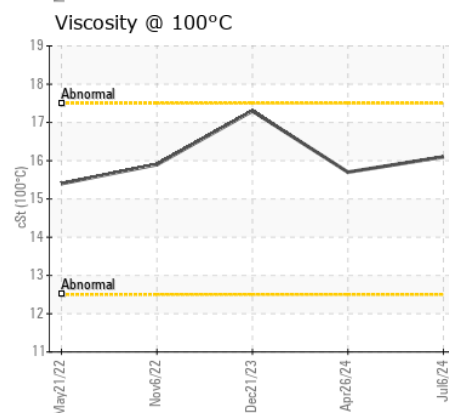
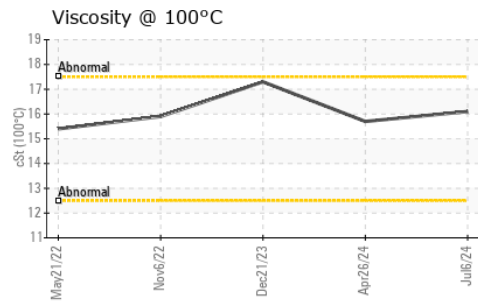
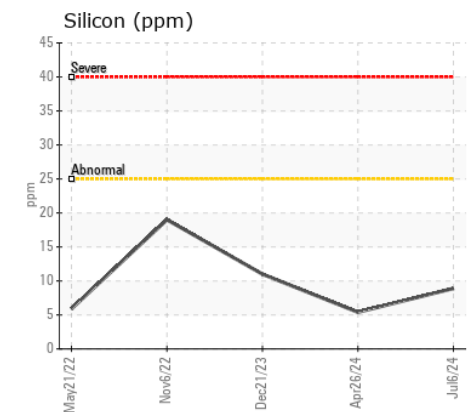
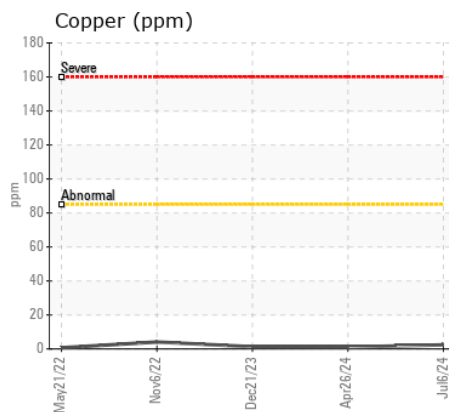
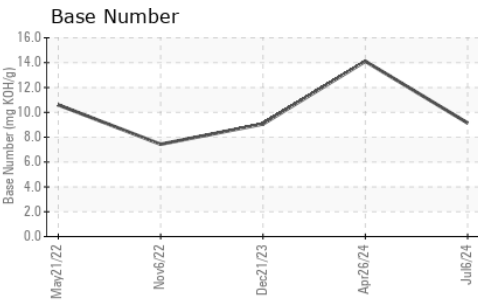
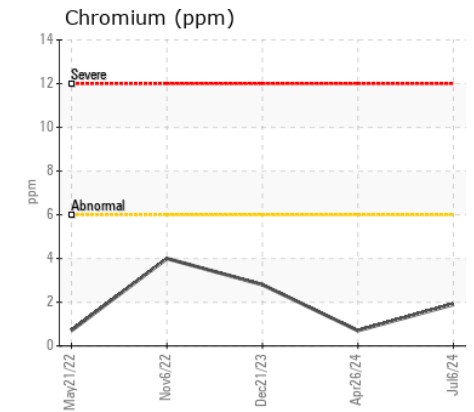
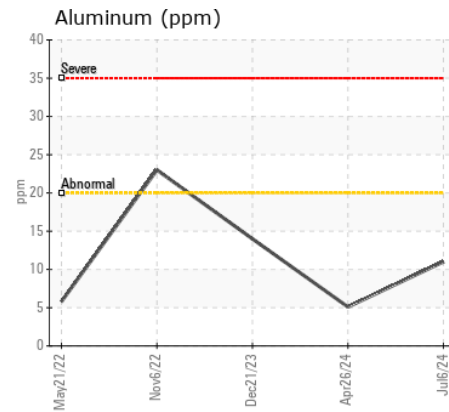
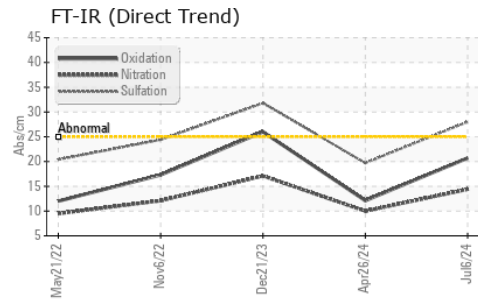
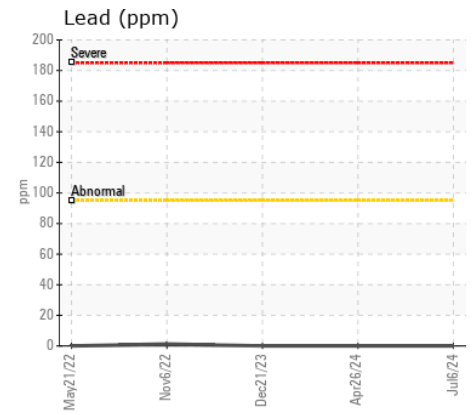
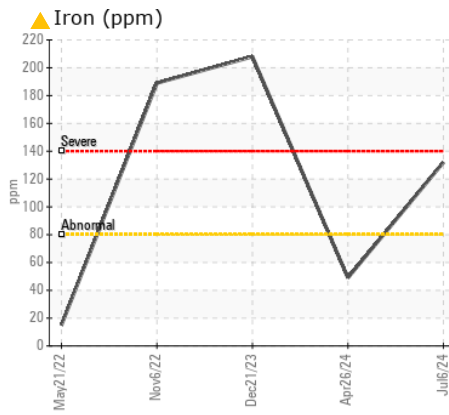
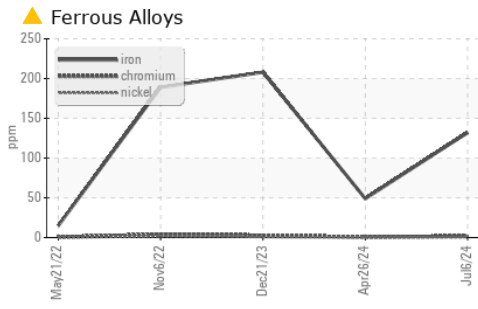
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	9	5	11
Potassium	ppm	ASTM D5185m	>20	13	4	16
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.9	0.4	1.1
Nitration	Abs/cm	*ASTM D7624	>20	14.4	10.0	17.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.0	19.7	31.8
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		3	2	3
Boron	ppm	ASTM D5185m		2	0	4
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		146	135	132
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m		29	18	24
Calcium	ppm	ASTM D5185m		4253	4081	4420
Phosphorus	ppm	ASTM D5185m		876	838	966
Zinc	ppm	ASTM D5185m		1086	981	1131
Sulfur	ppm	ASTM D5185m		3996	4727	4329
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.7	12.1	26.0
Base Number (BN)	mg KOH/g	ASTM D2896		9.14	14.11	9.06
Visc @ 100°C	cSt	ASTM D445		16.1	15.7	17.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06237084
Lab Number : 06237084
Unique Number : 11125918
Test Package : MOB 2
Received : 15 Jul 2024
Tested : 17 Jul 2024
Diagnosed : 17 Jul 2024 - Don Baldrige

GBD ENTERPRISE LLC
 7 ROOKERY RD
 MILTON, NH
 US 03851
 Contact: DON PERCY

Certificate L2367
 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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