



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER FLD CLASSIC 62 (S/N Y95312)

Component
Diesel Engine

Fluid
TRC PRO-SPEC IV SYNTHETIC BLEND 15W40 (11 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06228137	TR05776230	TR05462759
Sample Date		Client Info		25 Nov 2023	11 Jun 2022	23 Oct 2021
Machine Age	mls	Client Info		1238006	219225	1162565
Oil Age	mls	Client Info		23000	9225	28835
Filter Age	mls	Client Info		23000	9225	28835
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	120	9	23
Chromium	ppm	ASTM D5185m	>20	9	<1	1
Nickel	ppm	ASTM D5185m	>2	1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	4	1	6
Lead	ppm	ASTM D5185m	>30	7	1	1
Copper	ppm	ASTM D5185m	>30	7	<1	2
Tin	ppm	ASTM D5185m	>15	7	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

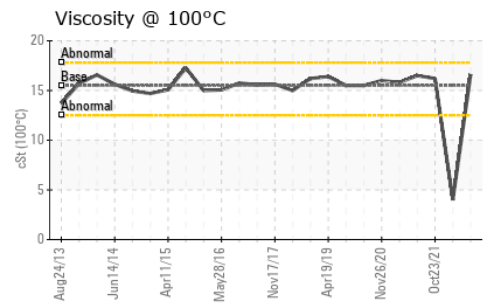
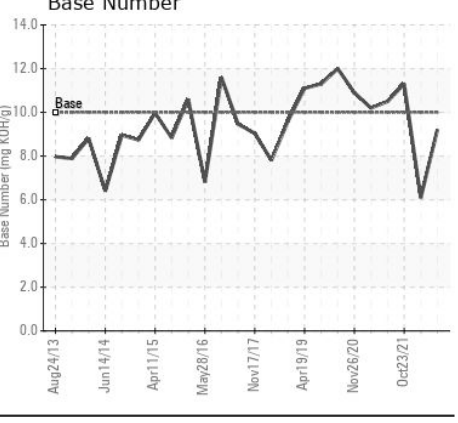
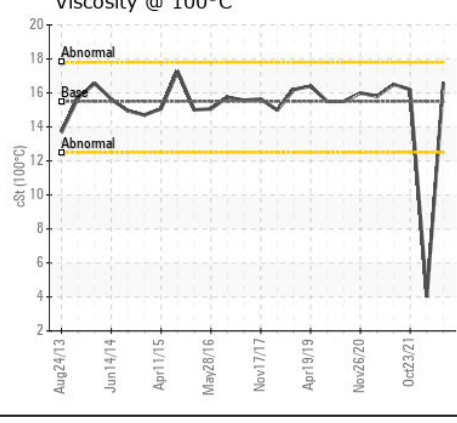
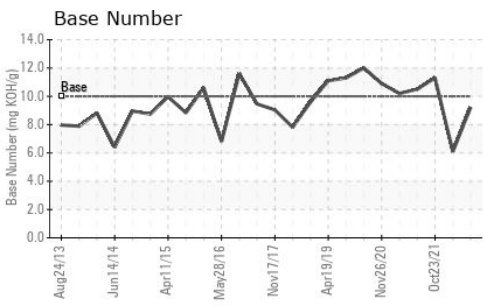
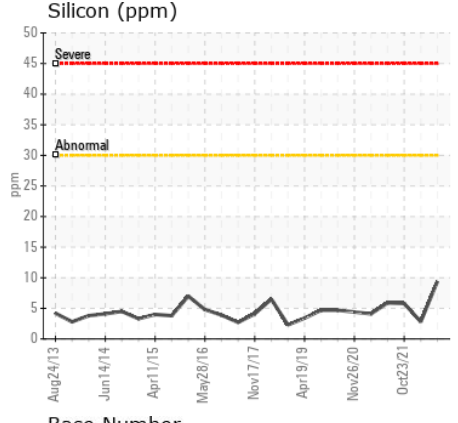
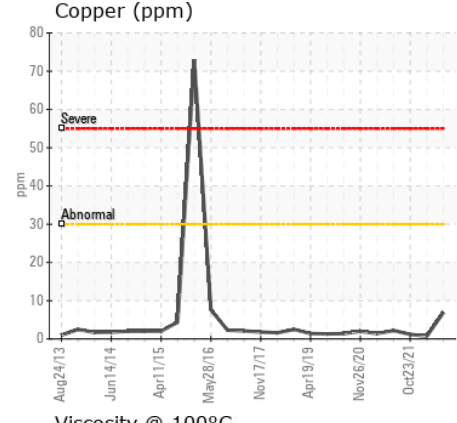
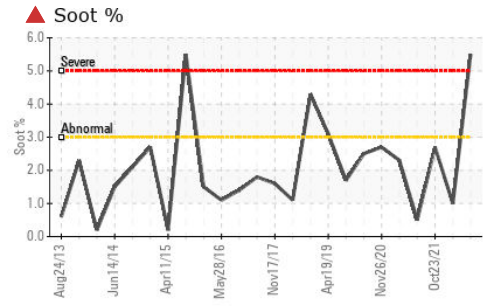
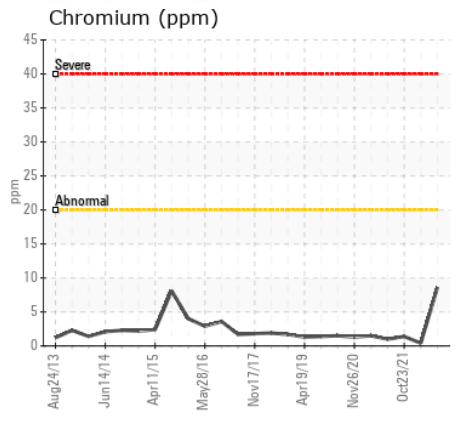
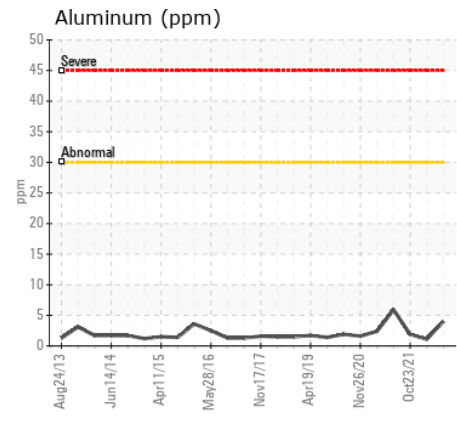
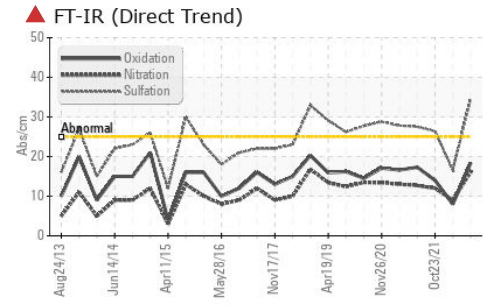
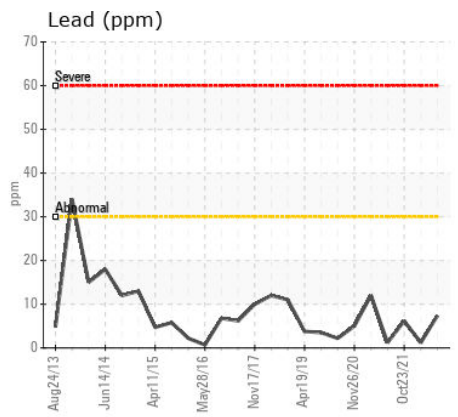
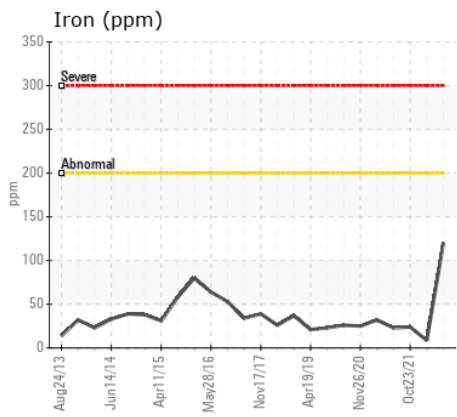
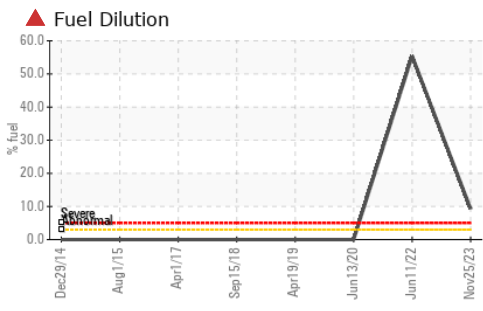
There is a high amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>30	9	3	6
Potassium	ppm	ASTM D5185m	>20	3	0	8
Fuel	%	ASTM D3524	>3.0	▲ 9.3	▲ 55.4	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	▲ 5.5	1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	16.0	9.0	12.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	34.6	16.6	27.5
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

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		4	2	2
Boron	ppm	ASTM D5185m		<1	0	1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	2	<1
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m		21	7	21
Calcium	ppm	ASTM D5185m	2300	5190	2121	4579
Phosphorus	ppm	ASTM D5185m		972	424	930
Zinc	ppm	ASTM D5185m	1200	1214	479	1071
Sulfur	ppm	ASTM D5185m		4487	2075	3390
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	8.0	17.3
Base Number (BN)	mg KOH/g	ASTM D2896	10	9.21	6.09	10.5
Visc @ 100°C	cSt	ASTM D445	15.5	16.6	▲ 4	16.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06228137
Lab Number : 06228137
Unique Number : 11111630
Test Package : MOB 2 (Additional Tests: PercentFuel)
Received : 03 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 09 Jul 2024 - Wes Davis

ZACHRY FARMS
 15231 COUNTY FARM RD
 CARLYLE, IL
 US 62231
 Contact: CHARLES FLATT

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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