CHALMERS Lubrication Service
(704) 660-LUBE(5823)

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
22
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (5 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

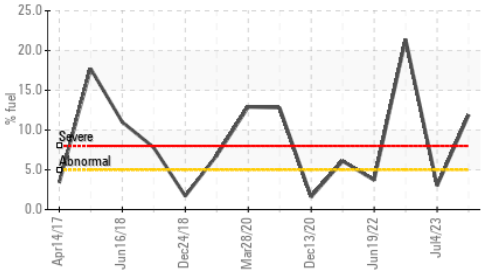
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

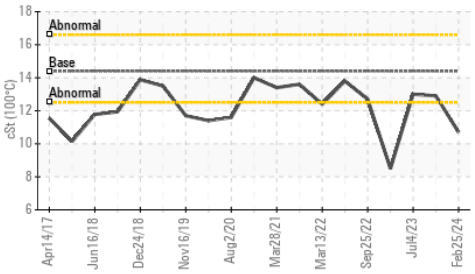
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**CL0005206**	CL0004834	CL0004450
Sample Date		Client Info		**25 Feb 2024**	22 Oct 2023	04 Jul 2023
Machine Age	mls	Client Info		**330345**	317625	307690
Oil Age	mls	Client Info		**12720**	0	0
Filter Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	MARGINAL
Iron	ppm	ASTM D5185m	>80	**19**	10	20
Chromium	ppm	ASTM D5185m	>5	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>30	**6**	5	7
Lead	ppm	ASTM D5185m	>30	**0**	<1	0
Copper	ppm	ASTM D5185m	>150	**<1**	<1	1
Tin	ppm	ASTM D5185m	>5	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	**6**	6	6
Potassium	ppm	ASTM D5185m	>20	**5**	4	11
Fuel	%	ASTM D3524	>5	▲ **11.9**	<1.0	▲ 3.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.8**	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**11.2**	10.6	11.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.5**	21.7	25.4
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	>158	**22**	18	53
Boron	ppm	ASTM D5185m	250	**24**	25	28
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**74**	82	84
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**31**	30	21
Calcium	ppm	ASTM D5185m	3000	**1885**	2060	2261
Phosphorus	ppm	ASTM D5185m	1150	**882**	966	1014
Zinc	ppm	ASTM D5185m	1350	**1054**	1184	1286
Sulfur	ppm	ASTM D5185m	4250	**2954**	3346	4264
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.6**	18.0	22.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**4.9**	5.5	5.5
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **10.7**	12.9	13.0

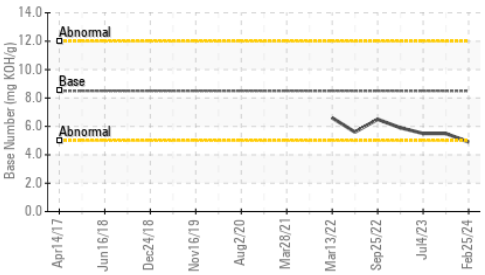
Fuel Dilution



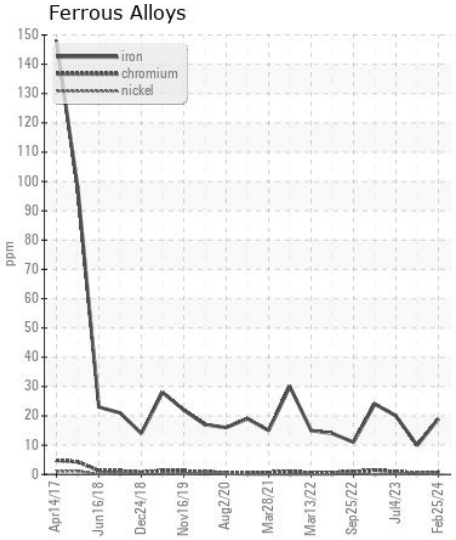
Viscosity @ 100°C



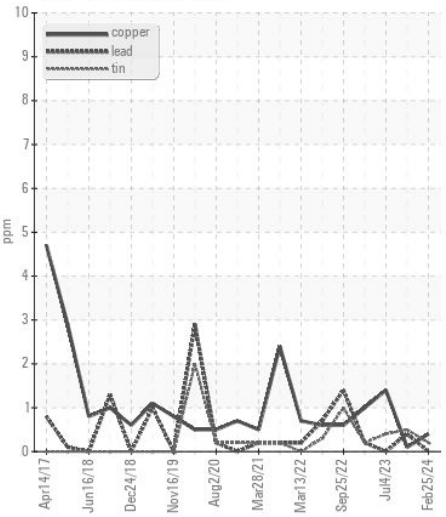
Base Number



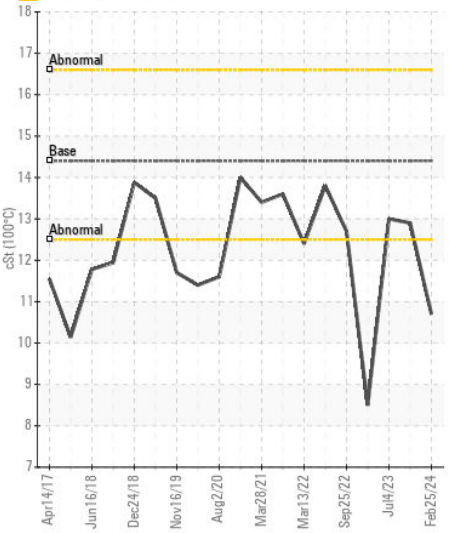
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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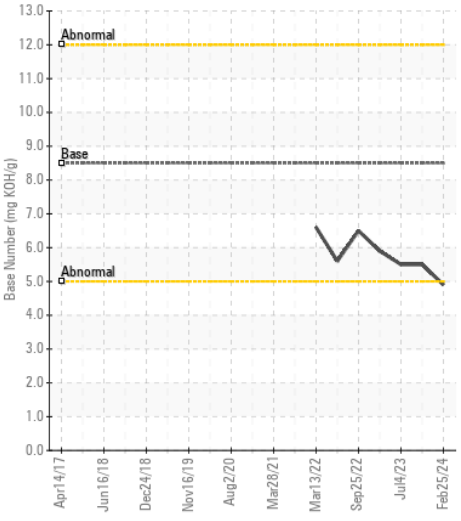

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : CL0005206
Lab Number : 06103621
Unique Number : 10901851
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

Received : 28 Feb 2024
Tested : 04 Mar 2024
Diagnosed : 04 Mar 2024 - Wes Davis

RACE CITY STEEL
4052 N HWY 16
DENVER, NC
US 28037
Contact: SERVICE MANAGER

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - 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)

T:
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