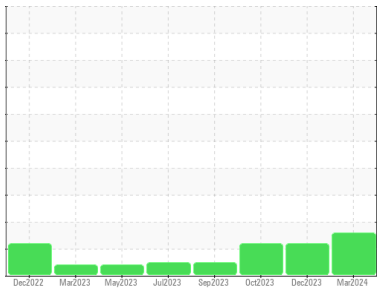
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Area
K5 CONSTRUCTION CORPORATION - HODGKINS IL
Machine Id
4367
Component
Diesel Engine
Fluid
LEAHY WOLF PREMIUM 15W40 (5 GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0122079**	LW0008342	LW0008418
Sample Date		Client Info		**28 Mar 2024**	11 Dec 2023	27 Oct 2023
Machine Age	hrs	Client Info		**1665**	1463	1251
Oil Age	hrs	Client Info		**202**	212	214
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ATTENTION**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**31**	19	22
Chromium	ppm	ASTM D5185m	>20	**1**	1	1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**95**	94	95
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**3**	2	3
Lead	ppm	ASTM D5185m	>40	**0**	<1	<1
Copper	ppm	ASTM D5185m	>330	**1**	1	2
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	1	1
Cadmium	ppm	ASTM D5185m		**0**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**62**	81	65
Barium	ppm	ASTM D5185m		**0**	12	<1
Molybdenum	ppm	ASTM D5185m		**0**	2	1
Manganese	ppm	ASTM D5185m		**1**	<1	<1
Magnesium	ppm	ASTM D5185m		**765**	674	724
Calcium	ppm	ASTM D5185m		**1354**	1270	1282
Phosphorus	ppm	ASTM D5185m		**1053**	933	1029
Zinc	ppm	ASTM D5185m		**1206**	1122	1221
Sulfur	ppm	ASTM D5185m		**4049**	3647	4228

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	9	14
Sodium	ppm	ASTM D5185m		**3**	0	6
Potassium	ppm	ASTM D5185m	>20	**2**	5	4
Fuel	%	ASTM D3524	>5	**3.4**	7.7	6.4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.5**	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**11.8**	10.5	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.6**	20.9	22.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.1**	16.6	20.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.1**	7.2	6.5

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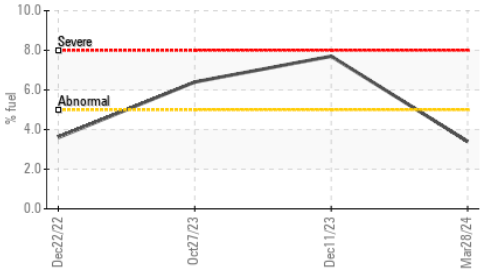
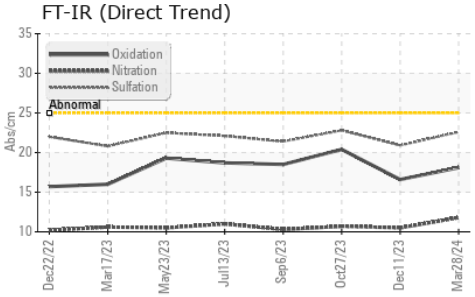
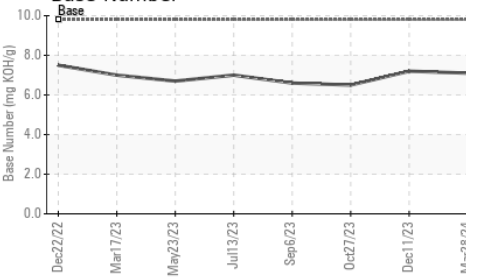
Fuel Dilution



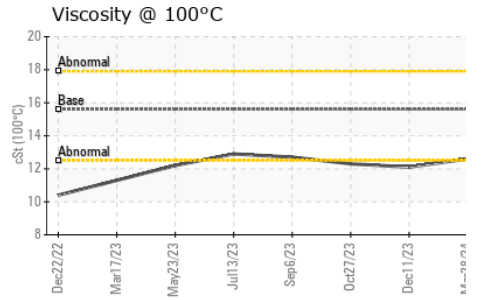
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

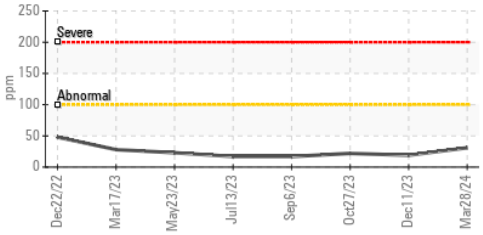


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

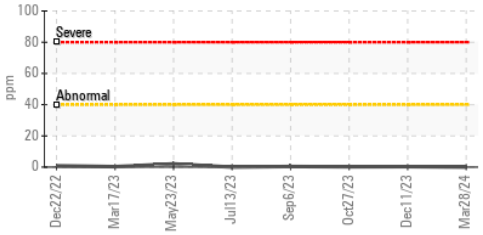
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	**12.6**	▲ 12.1	▲ 12.3

GRAPHS

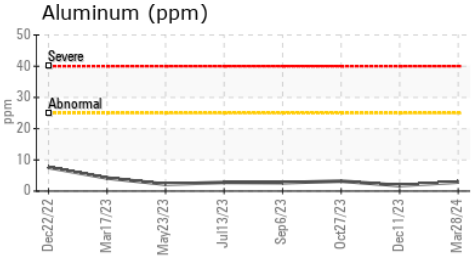
Iron (ppm)



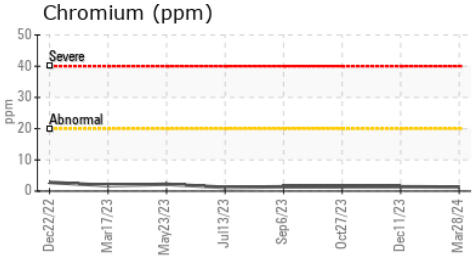
Lead (ppm)



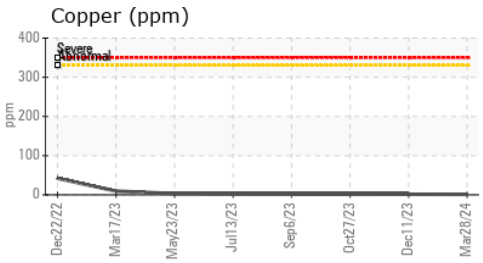
Aluminum (ppm)



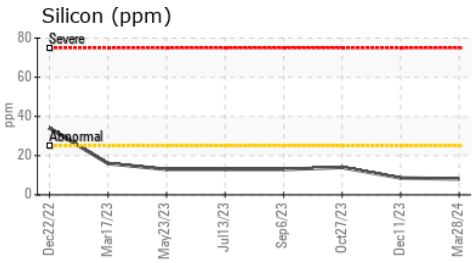
Chromium (ppm)



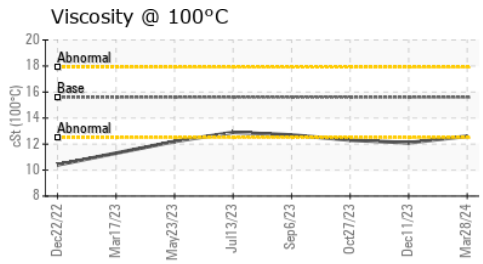
Copper (ppm)



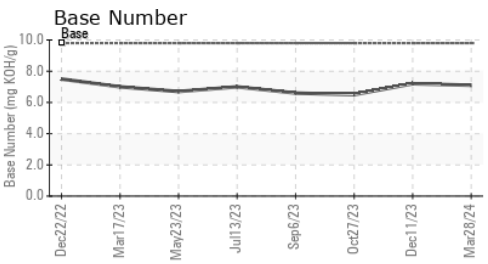
Silicon (ppm)



Viscosity @ 100°C



Base Number



ANAB ACCREDITED TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0122079
Lab Number : 06137103
Unique Number : 10956568
Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

Received : 03 Apr 2024
Tested : 05 Apr 2024
Diagnosed : 05 Apr 2024 - Wes Davis

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)

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Report Id: K5CWES [WUSCAR] 06137103 (Generated: 04/09/2024 15:23:30) Rev: 1

Submitted By: NOELLE TERRAULT