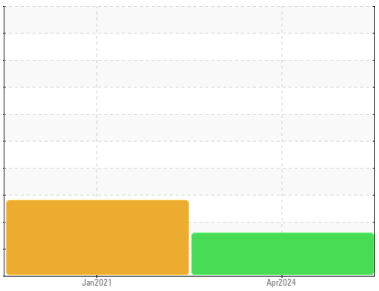
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
OAKLAND BEACH
Component
Diesel Engine
Fluid
{not provided} (--- GAL)

DIAGNOSIS

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

Wear
All component wear rates are normal.

Contamination
Elemental level of silicon (Si) above normal indicating ingress of seal material.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP151995**	RP0016572	---
Sample Date		Client Info		**22 Apr 2024**	22 Jan 2021	---
Machine Age	hrs	Client Info		**48**	12	---
Oil Age	hrs	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**13**	13	---
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	---
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	---
Titanium	ppm	ASTM D5185m		**3**	12	---
Silver	ppm	ASTM D5185m	>3	**0**	<1	---
Aluminum	ppm	ASTM D5185m	>20	**4**	5	---
Lead	ppm	ASTM D5185m	>40	**4**	6	---
Copper	ppm	ASTM D5185m	>330	**9**	21	---
Tin	ppm	ASTM D5185m	>15	**1**	<1	---
Antimony	ppm	ASTM D5185m		**---**	0	---
Vanadium	ppm	ASTM D5185m		**<1**	<1	---
Cadmium	ppm	ASTM D5185m		**<1**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	2	---
Barium	ppm	ASTM D5185m		**1**	0	---
Molybdenum	ppm	ASTM D5185m		**143**	22	---
Manganese	ppm	ASTM D5185m		**2**	2	---
Magnesium	ppm	ASTM D5185m		**870**	45	---
Calcium	ppm	ASTM D5185m		**2814**	2073	---
Phosphorus	ppm	ASTM D5185m		**373**	631	---
Zinc	ppm	ASTM D5185m		**425**	679	---

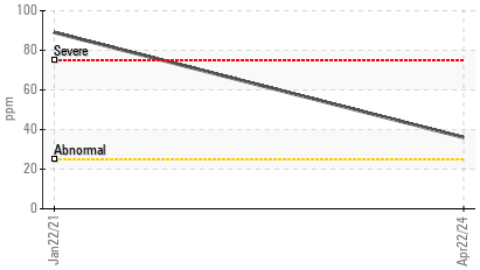
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **36**	▲ 89	---
Sodium	ppm	ASTM D5185m		**32**	● 145	---
Potassium	ppm	ASTM D5185m	>20	**5**	8	---
Fuel	%	ASTM D3524	>5	**<1.0**	0.4	---
Water	%	ASTM D6304	>0.2	**NEG**	NEG	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	**7.2**	4.9	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**35.4**	16.2	---

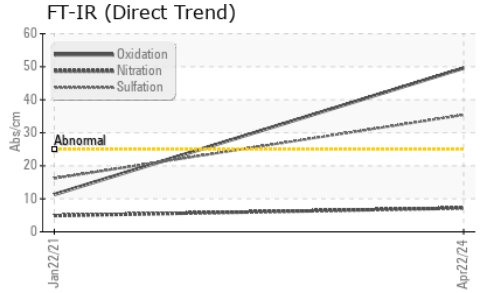
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**49.6**	11.3	---
Acid Number (AN)	mg KOH/g	ASTM D8045		**---**	0.656	---
Base Number (BN)	mg KOH/g	ASTM D2896		**13.10**	8.34	---

OIL ANALYSIS REPORT

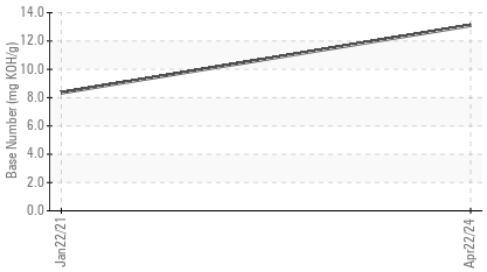
Silicon (ppm)



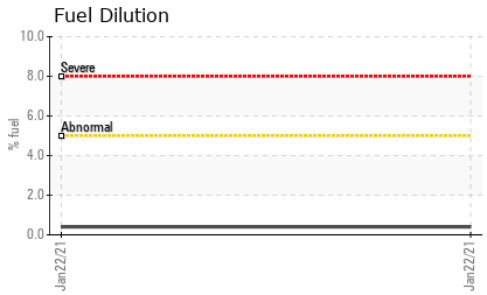
FT-IR (Direct Trend)



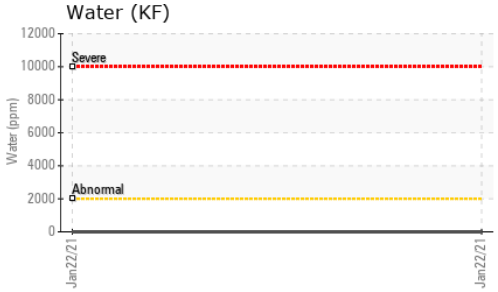
Base Number



Fuel Dilution



Water (KF)

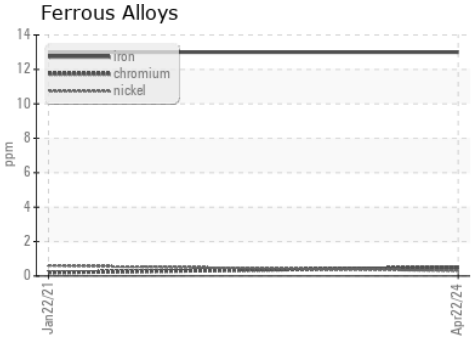


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

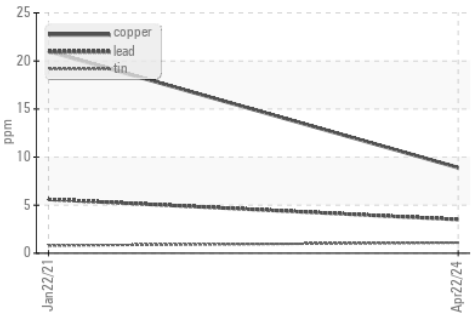
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**12.3**	9.95	---

GRAPHS

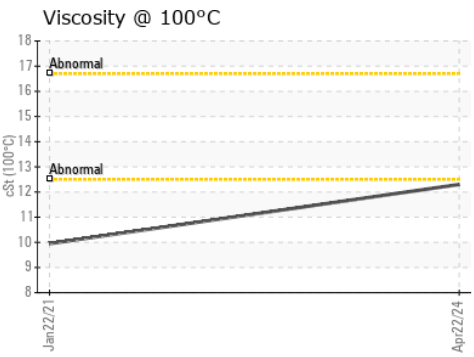
Ferrous Alloys



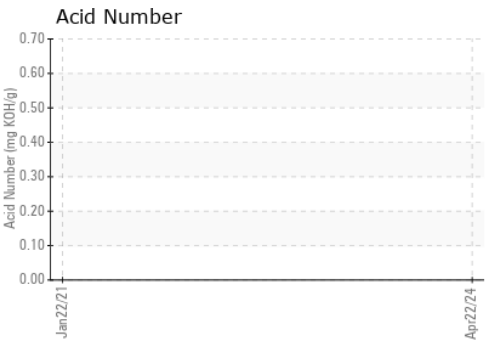
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP151995
Lab Number : 06179530
Unique Number : 11030856
Test Package : IND 2 (Additional Tests: FT-IR, FuelDilution, KV100, TBN)

Received : 14 May 2024
Tested : 17 May 2024
Diagnosed : 17 May 2024 - Sean Felton

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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