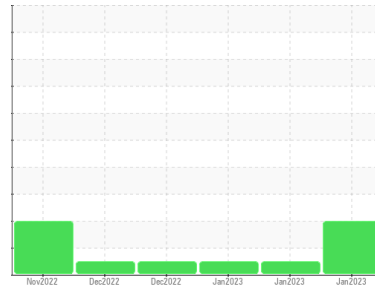




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
FP12E
 Component
Diesel Engine
 Fluid
 {not provided} (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

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		KL0009712	KL0009703	KL0009580
Sample Date	Client Info		26 Jan 2023	17 Jan 2023	04 Jan 2023
Machine Age	hrs	Client Info	21126	20962	20696
Oil Age	hrs	Client Info	0	837	571
Oil Changed	Client Info		N/A	Not Changd	Not Changd
Sample Status			ABNORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
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	17	13	9
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >4	<1	<1	<1
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	<1	2
Lead	ppm	ASTM D5185m >40	12	7	7
Copper	ppm	ASTM D5185m >330	1	<1	<1
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	161	171	221
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	50	48	59
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	224	217	257
Calcium	ppm	ASTM D5185m	1264	1152	1291
Phosphorus	ppm	ASTM D5185m	608	612	709
Zinc	ppm	ASTM D5185m	809	791	917
Sulfur	ppm	ASTM D5185m	2686	2525	2743

CONTAMINANTS

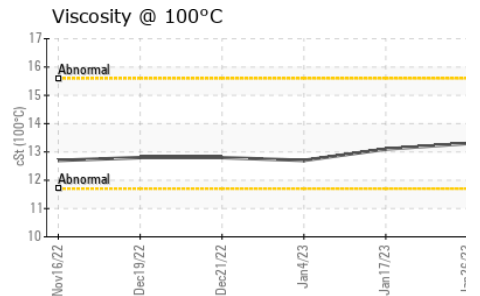
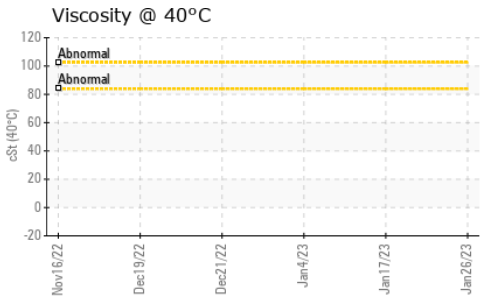
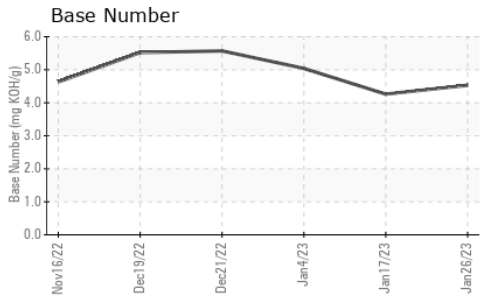
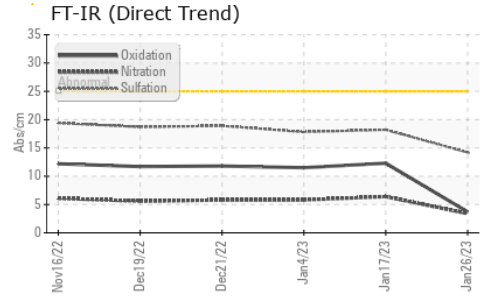
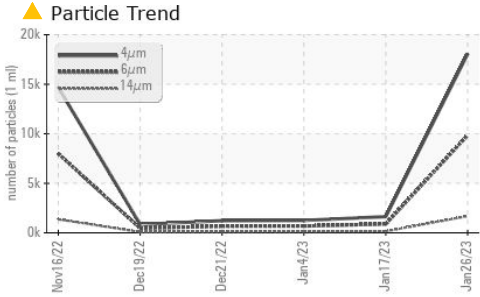
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	3	4
Sodium	ppm	ASTM D5185m	2	2	1
Potassium	ppm	ASTM D5185m >20	<1	2	0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0	0.5	0.3
Nitration	Abs/cm	*ASTM D7624 >20	3.4	6.4	5.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	14.2	18.2	17.8



OIL ANALYSIS REPORT



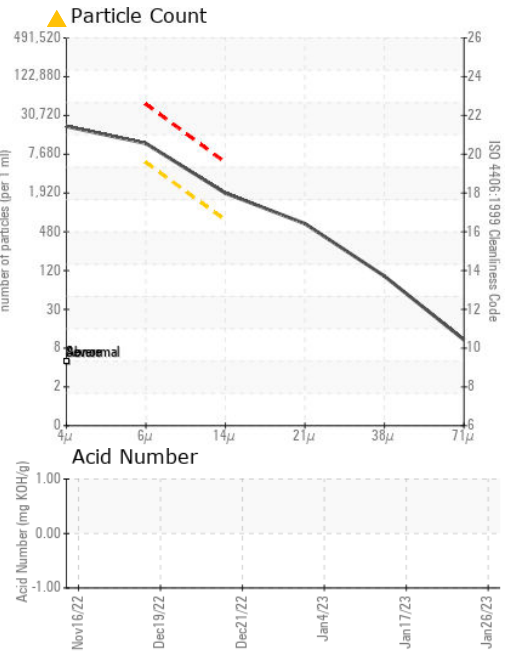
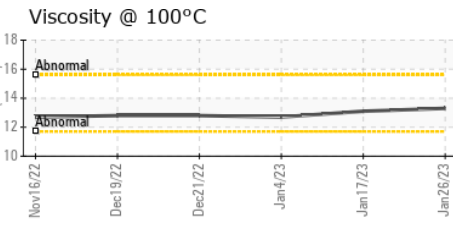
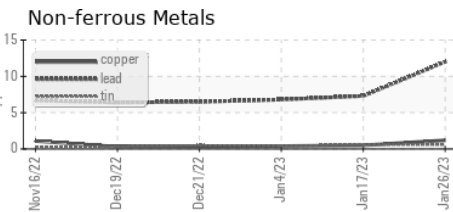
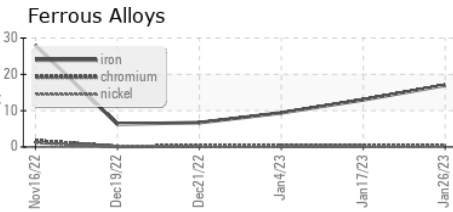
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		18061	1633	1251
Particles >6µm	ASTM D7647	>5000	9839	890	681
Particles >14µm	ASTM D7647	>640	1674	151	116
Particles >21µm	ASTM D7647	>160	564	51	39
Particles >38µm	ASTM D7647	>40	87	8	6
Particles >71µm	ASTM D7647	>10	9	1	1
Oil Cleanliness	ISO 4406 (c)	>19/16	20/18	17/14	17/14

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm *ASTM D7414	>25	3.7	12.3	11.5
Base Number (BN)	mg KOH/g ASTM D2896		4.53	4.26	5.04

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		13.3	13.1	12.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0009712 **Received** : 01 Feb 2023
Lab Number : 05755796 **Tested** : 01 Feb 2023
Unique Number : 10320403 **Diagnosed** : 01 Feb 2023 - Doug Bogart
Test Package : MOB 2 (Additional Tests: KV40, PrtCount)

PUREFRAC LLC
 13216 TX-191
 MIDLAND, TX
 US 79707
 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)