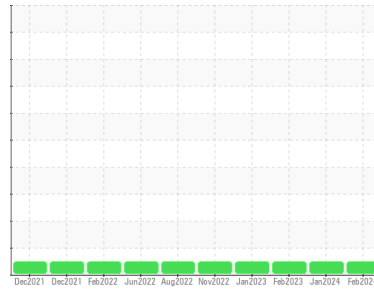




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
BARGE TRANSPORTATION
 Machine Id
BARRY GRIFFITH - PGEN
 Component
Port Genset
 Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination 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	KFS0002961	KFS0002651	KFS0001264
Sample Date	Client Info	13 Feb 2024	22 Jan 2024	09 Feb 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	500	500
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >4.0	<1.0	<1.0	<1.0
Water	WC Method >0.1	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >50	8	12	7
Chromium	ppm ASTM D5185m >4	1	<1	<1
Nickel	ppm ASTM D5185m >2	<1	0	0
Titanium	ppm ASTM D5185m	<1	<1	0
Silver	ppm ASTM D5185m >5	0	0	0
Aluminum	ppm ASTM D5185m >12	2	<1	2
Lead	ppm ASTM D5185m >17	4	3	6
Copper	ppm ASTM D5185m >70	<1	<1	<1
Tin	ppm ASTM D5185m >15	1	<1	<1
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	0	<1	<1
Barium	ppm ASTM D5185m	<1	0	0
Molybdenum	ppm ASTM D5185m	57	60	60
Manganese	ppm ASTM D5185m	<1	<1	<1
Magnesium	ppm ASTM D5185m	968	970	917
Calcium	ppm ASTM D5185m	1107	1049	1151
Phosphorus	ppm ASTM D5185m	1034	982	1002
Zinc	ppm ASTM D5185m	1242	1210	1237
Sulfur	ppm ASTM D5185m	3194	2767	2988

CONTAMINANTS

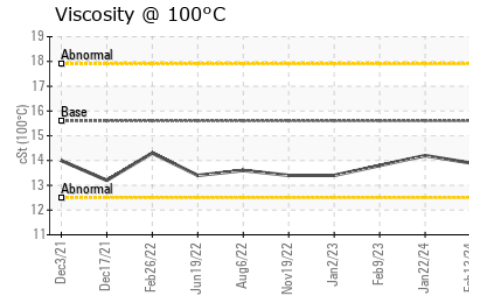
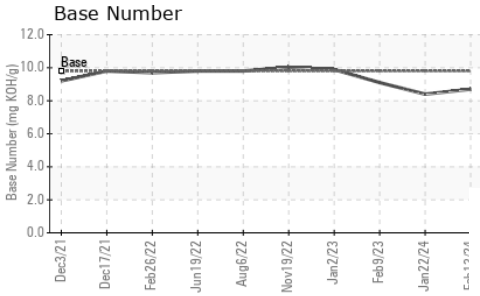
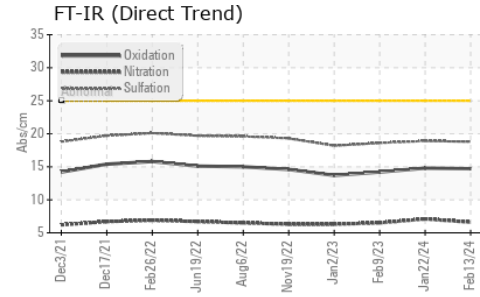
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	4	4
Sodium	ppm ASTM D5185m	2	2	3
Potassium	ppm ASTM D5185m >20	2	0	2

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.3	0.1
Nitration	Abs/cm *ASTM D7624 >20	6.6	7.1	6.5
Sulfation	Abs/.1mm *ASTM D7415 >30	18.8	18.9	18.6

FLUID DEGRADATION

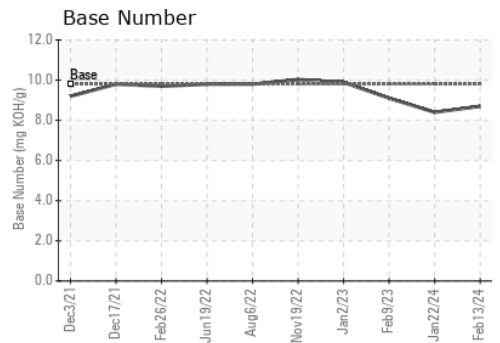
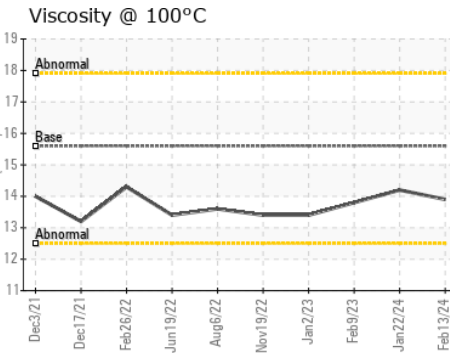
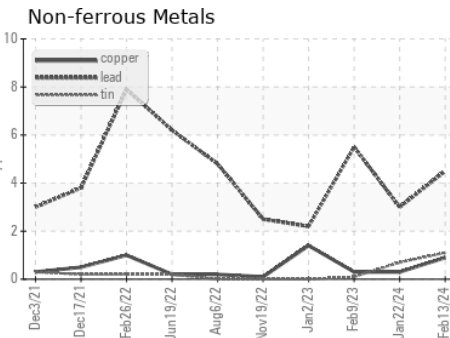
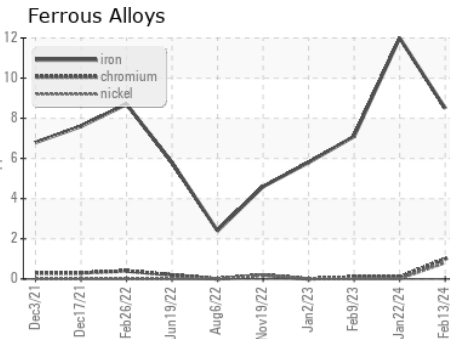
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.7	14.8	14.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.7	8.4	9.1



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	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	13.9	14.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0002961 **Received** : 09 Apr 2024
Lab Number : 06142863 **Tested** : 10 Apr 2024
Unique Number : 10967671 **Diagnosed** : 11 Apr 2024 - Don Baldrige
Test Package : FLEET

M/V BARRY GRIFFITH
 3501 STARLITE DR
 PADUCAH, KY
 US 42003

Contact: BARRY GRIFFITH
 bgriffith@hflines.com

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:
F: