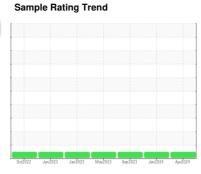


OIL ANALYSIS REPORT







DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the

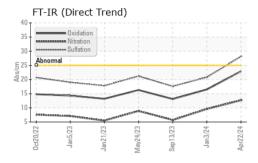
Fluid Condition

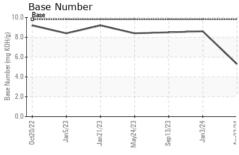
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

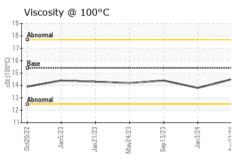
Sample Date Client Info 22 Apr 2024 03 Jan 2024 13 Sep 2023 Machine Age hrs Client Info 5133 4395 3654	N SHP 15W40 (- GAL)	Oct2022	Jan 2023 Jan 2023	May2023 Sep2023 Jan2024	Apr2024	
Sample Date Client Info 22 Apr 2024 03 Jan 2024 13 Sep 2023 Machine Age hrs Client Info 5133 4395 3654	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 5133 4395 3654 Oil Age hrs Client Info 600 600 600 600 Sample Status Client Info Changed Changed Changed Changed NORMAL NORMAL CONTAMINATION method limit base current history1 history2 Fuel WC Method >5 <1.0	Sample Number		Client Info		GFL0114636	GFL0092588	GFL0092574
Dil Age	Sample Date		Client Info		22 Apr 2024	03 Jan 2024	13 Sep 2023
Client Info Changed Changed Changed NORMAL NORMAL NORMAL NORMAL NORMAL	Machine Age	hrs	Client Info		5133	4395	3654
CONTAMINATION	Oil Age	hrs	Client Info		600	600	600
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method >0.2 NEG NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 37 11 3 Chromium ppm ASTM D5185m >5 2 <1	CONTAMINATI	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 37 11 3 Chromium ppm ASTM D5185m >5 2 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>80	37	11	3
Description	Chromium	ppm	ASTM D5185m	>5	2	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	Titanium	ppm	ASTM D5185m		0	0	<1
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >150 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Aluminum	ppm	ASTM D5185m	>30	11	4	1
Tin	_ead	ppm	ASTM D5185m	>30	0	4	<1
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 2 4 3 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 60 65 62 61 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 931 902 973 Calcium ppm ASTM D5185m 1070 1158 1125 1201 Phosphorus ppm ASTM D5185m 1270 1278 1283 1290 Sulfur ppm ASTM D5185m 2060 3198 3008 3832 CONTAMINANTS method limit/base current <th< td=""><td>Copper</td><td>ppm</td><td>ASTM D5185m</td><td>>150</td><th>0</th><td><1</td><td><1</td></th<>	Copper	ppm	ASTM D5185m	>150	0	<1	<1
ADDITIVES	Γin	ppm	ASTM D5185m	>5	<1	<1	1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	<1
Boron	Cadmium	ppm	ASTM D5185m		0	0	<1
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 65 62 61 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	2	4	3
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 931 902 973 Calcium ppm ASTM D5185m 1070 1158 1125 1201 Phosphorus ppm ASTM D5185m 1150 1084 1040 1077 Zinc ppm ASTM D5185m 1270 1278 1283 1290 Sulfur ppm ASTM D5185m 2060 3198 3008 3832 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cmm *ASTM	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 931 902 973 Calcium ppm ASTM D5185m 1070 1158 1125 1201 Phosphorus ppm ASTM D5185m 1150 1084 1040 1077 Zinc ppm ASTM D5185m 1270 1278 1283 1290 Sulfur ppm ASTM D5185m 2060 3198 3008 3832 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION *ASTM D74	Molybdenum	ppm	ASTM D5185m	60	65	62	61
Calcium ppm ASTM D5185m 1070 1158 1125 1201 Phosphorus ppm ASTM D5185m 1150 1084 1040 1077 Zinc ppm ASTM D5185m 1270 1278 1283 1290 Sulfur ppm ASTM D5185m 2060 3198 3008 3832 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 1084 1040 1077 Zinc ppm ASTM D5185m 1270 1278 1283 1290 Sulfur ppm ASTM D5185m 2060 3198 3008 3832 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation A	Magnesium	ppm		1010	931	902	973
Zinc ppm ASTM D5185m 1270 1278 1283 1290 Sulfur ppm ASTM D5185m 2060 3198 3008 3832 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m 6 4 2 Potassium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D	Calcium	ppm	ASTM D5185m	1070	1158	1125	1201
Sulfur ppm ASTM D5185m 2060 3198 3008 3832 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m 6 4 2 Potassium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	Phosphorus	ppm	ASTM D5185m		1084		1077
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m 6 4 2 Potassium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	Zinc	ppm	ASTM D5185m	1270	1278	1283	1290
Silicon ppm ASTM D5185m >20 4 4 5 Sodium ppm ASTM D5185m 6 4 2 Potassium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1			ASTM D5185m	2060	3198	3008	3832
Sodium ppm ASTM D5185m 6 4 2 Potassium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 43 7 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	Silicon	ppm	ASTM D5185m	>20	4	4	5
INFRA-RED	Sodium	ppm	ASTM D5185m		6	4	2
Soot % % *ASTM D7844 >3 2.3 0.5 0.1 Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	Potassium	ppm	ASTM D5185m	>20	43	7	3
Nitration Abs/cm *ASTM D7624 >20 12.7 9.6 5.7 Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 28.1 20.8 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	Soot %	%	*ASTM D7844	>3	2.3	0.5	0.1
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 22.9 16.5 13.1	Nitration	Abs/cm	*ASTM D7624	>20	12.7	9.6	5.7
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	28.1	20.8	17.6
	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 5.3 8.6 8.5	Oxidation	Abs/.1mm	*ASTM D7414	>25	22.9	16.5	13.1
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.3	8.6	8.5



OIL ANALYSIS REPORT



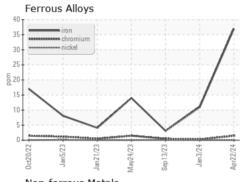


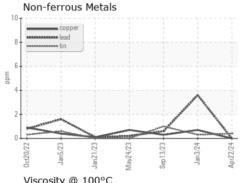


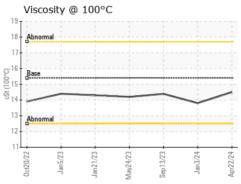
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

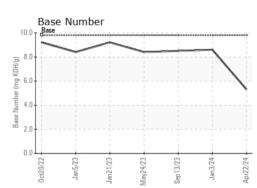
FLUID PROPI	ERIIES	method			History i	nistoryz
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	13.8	14.39

GRAPHS













Certificate 12367

Laboratory Sample No.

: GFL0114636 Lab Number : 06160172

Unique Number : 10995595 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 25 Apr 2024

Tested : 26 Apr 2024 Diagnosed : 26 Apr 2024 - Wes Davis

GFL Environmental - 885 - Orlando

1263 W Landstreet Rd Orlando, FL

US 32824

Contact: Brian Bou Diaz bboudiaz@gflenv.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: