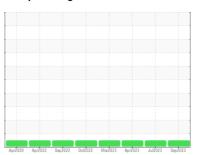


# **OIL ANALYSIS REPORT**

## **Sample Rating Trend**









# DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor.

#### Wear

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 oil.

## **Fluid Condition**

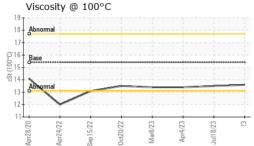
The condition of the oil is acceptable for the time in service.

N SHP 15W40 (	- GAL)	Apr2020 A	Apr2022 Sep2022 Oct202	12 Mar2023 Apr2023 Jul2023	Sep2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0093932	GFL0062926	GFL0062917
Sample Date		Client Info		24 Sep 2023	18 Jul 2023	04 Apr 2023
Machine Age	hrs	Client Info		8792	8396	7849
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	14	17	6
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>2	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>30	4	3	2
Lead	ppm	ASTM D5185(m)	>30	<1	0	0
Copper	ppm	ASTM D5185(m)	>150	<1	1	<1
Tin	ppm	ASTM D5185(m)	>5	0	0	<1
Antimony	ppm	ASTM D5185(m)		0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	6	8	13
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	58	59	59
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	909	928	911
Calcium	ppm	ASTM D5185(m)	1070	1033	1037	1069
Phosphorus	ppm	ASTM D5185(m)	1150	941	992	1040
Zinc	ppm	ASTM D5185(m)	1270	1140	1143	1086
Sulfur	ppm	ASTM D5185(m)	2060	2405	2444	2656
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	4	5	4
Sodium	ppm	ASTM D5185(m)		7	7	4
Potassium	ppm	ASTM D5185(m)	>20	8	3	2
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.2	0.3	0
Nitration	Abs/cm	ASTM D7624*	>20	8.9	9.7	7.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.7	21.0	20.9
FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.3	17.4	14.2

Submitted By: Shane Cater



## **OIL ANALYSIS REPORT**



VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPE	RTIES	method				history2
FLUID PROPE Visc @ 100°C	RTIES cSt	method ASTM D7279(m)	limit/base	current 13.6	history1 13.5	history2 13.4

FLUIL	PROPE	ERTIES	method	limit/ba	ase	current		nist	ory1		history	/2
Visc @ 1	00°C	cSt	ASTM D7279(m)	15.4		13.6		13.5		1	3.4	
GRAF	PHS											
Iron (p	pm)					ead (ppm	)					
140 Severe					70 T S	evere	1	1	777		177	
100					50							
Abnormal												
g 60					a 30 A	bnormal						
40-					20-							
20		<u></u>	<u></u>		10							
8/20 +	5/22-	Oct20/22 -	Apr4/23 -	Sep24/23 -	8/20	Apr24/22 -	5/22	0ct20/22	Mar8/23	Apr4/23	Jul18/23	Sep24/23
Apr28/20 Apr24/22	Sep15/22	Oct20/22	Apr	Sep 2	Apr28/20	Apr2	Sep15/22	Oct2	Mar	Apr	ll l	Sep 2
Alumin	um (ppm)				12 C	hromium	(ppm	)				
Severe					10	evere						
40					8							
Abnormal					E .							
20					4	bnormal						
10					2							
0					0		_	_	_		_	_
Apr28/20	Sep15/22	0ct20/22	Apr4/23	Sep24/23	Apr28/20	Apr24/22	Sep15/22	0ct20/22	Mar8/23	Apr4/23	Jul18/23	Sep24/23
		Oct	Ar	Sep				Oct	M	Α̈́	7	Sep
300	(ppm)				Si 40 T	licon (pp	m)					
Severe 250					35 - 3	evere			-			
200					30-							
Abnormal					25 - 4 E 20 - A	bnormal						
100					15-							
50					10		_		^			
0					ما					_		
Apr28/20 Apr24/22	Sep15/22	0ct20/22	Apr4/23 -	Sep24/23	Apr28/20	Apr24/22	Sep15/22.	0ct20/22	Mar8/23	Apr4/23 -	Jul18/23	Sep24/23 -
	່ ຶ ty @ 100°ເ	0	4 1	S		oot %	S	ŏ	2	4	Ť	S
19	ry @ 100*				6.0 T	JOC 76						
18 - Abnormal					5.0 - \$	evere			-			
016					4.0							
(2-001) 353 14			***************************************		% t3.0 - A	bnormal						
Albormal					2.0							
13 0					1.0							
11	2	3	m m		0.0	2-	2	2	33			3
128/20	p15/22	:t20/22	vpr4/23 -	p24/23	r28/20	124/22	p15/22	:£20/25	lar8/23	vpr4/23	.118/23	p24/23



**CALA** ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5645913

: 02584848

: GFL0093932

Test Package : MOB 1

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 777 - Belleville-Municipal waste Received : 25 Sep 2023 Diagnosed

Diagnostician : Wes Davis

197 Putman Industrial Road : 25 Sep 2023

Belleville, ON CA K8N 4Z6 Contact: Andrea Michael amichael@gflenv.com T: (613)962-7144 F: (613)962-1994

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

Submitted By: Shane Cater